KORG

HAVIAN 30 | User Manual

E 4

ENGLISH | OS Version 2.0 | MAN0010096

Important safety instructions

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- WARNING – This apparatus shall be connected to a mains socket outlet with a protective earthing connection.
- Turning off the standby switch does not completely isolate this product from the power line, so remove the plug from the socket if not using it for extended periods of time, or before cleaning. Please ensure that the mains plug or appliance couple remains readily accessible.
- Mains powered apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.
- Install this product near the wall socket and keep the power plug easily accessible.
- Do not install this equipment in a confined space such as a box for the conveyance or similar unit.

CAUTION – HAVIAN 30 is for use only with the KORG ST-H30-BK stand. Use with other stands may result in loss of stability, and may cause injury.

ATTENTION – HAVIAN 30 est conçu pour être utilisé avec le support KORG ST-H30-BK. L'utilisation avec d'autres supports peut causer une déstabilisation et provoquer des blessures.

Other notices

Automatic power-off

To avoid wasting power, HAVIAN 30 will by default automatically enter standby mode after two hours of non-active use (playing, pressing buttons or using the touch-screen). Please save your data (Performances, Styles, Songs, and so on) before taking a prolonged pause.

Data handling

Data in memory may sometimes be lost due to incorrect user action. Be sure to save important data to the internal memory or to an external USB device. KORG will not be responsible for damages caused by data loss.

Cleaning

If the exterior becomes dirty, wipe it with a clean, dry cloth. Do not use liquid cleaners such as benzene or thinner, or cleaning compounds or flammable polishes.

Use a soft cotton cloth to clean the display. Some materials, such as paper towels, could cause scratches and damage it. Computer wipes are also suggested, provided they are specifically designed for LCD screens.

Do not spray any liquid on the LCD screen directly. Always apply the solution to your cloth first, then clean the screen.

Example screens

Some pages of the manuals show snapshots of the screen along with an explanation of functions and operations. All sound, style, song or parameter names, as well as shown values, are merely examples and may not always match the actual display you are working on.

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Open source notice

Portions of this product's software are copyright ©2007 "The FreeType Project" (www.freetype.org). All rights reserved.

Disclaimer

The information contained in this manual have been carefully revised and checked through. Due to our constant efforts to improve our products, the specifications might differ to those in the manual. KORG is not responsible for any differences found between the specifications and the contents of the instruction manual – all specifications being subject to change without prior notice.

Liability

KORG products are manufactured under strict specifications and voltages required by each country. These products are warranted by the KORG distributor only in each country. Any KORG product not sold with a warranty card or carrying a serial number disqualifies the product sold from the manufacturer's/distributor's warranty and liability. This requirement is for your own protection and safety.

Service and user's assistance

For service, please contact your nearest Authorized KORG Service Center. For more information on KORG products, and to find software and accessories for your keyboard, please contact your local Authorized KORG distributor. For up-to-date information, please point your web browser to our web site.

Keep your keyboard up-to-date

Your instrument can be constantly updated as new versions of the operating system are released by KORG. You can download the operating system from our web site. Please, read the instructions supplied with the operating system.

Contents

PART I: LET'S START!

01   Introduction

Welcome to HAVIAN 30!

Many thanks, and congratulation on purchasing the KORG HAVIAN 30 Digital Ensemble Piano. We're sure it'll give you countless hours of great piano and band instrument tones that will feel as good as they sound!

The real piano experience

So much of the HAVIAN 30 digital ensemble piano has been designed to give you a great piano experience. The high-quality, weighted piano-like keybed gives you a completely authentic feel and touch. The grand piano, recorded in multiple dynamic levels, sounds absolutely natural. You will feel you are playing a real piano – no matter what your musical tastes are.

More than just grand piano

To broaden your choice of piano sounds beyond the meticulously crafted grand piano, HAVIAN 30 features an intimate upright piano, an evocative honky-tonk, and an extensive selection of electric pianos. A realistic harpsichord is also included, and can be tuned by choosing one of the carefully crafted period tunings. From ragtime to R'n'B, from classic rock to modern jazz, from early keyboard music to the latest piano hits, you'll find what is needed to play centuries of great music.

Listen the natural way

All HAVIAN 30 sounds go through studio-quality effect processors that further refine your sound before coming through high-quality stereo audio outputs and integrated speakers for an amazing listening experience. The sound is clear and detailed even at the lowest volume level, for the pleasure of the late-night rehearsing musician.

As good in tour or at home

HAVIAN 30 is a compact, lightweight digital piano that you can comfortably take with you on stage. But add the optional modern, stylish dedicated stand, with support for the damper pedal (included) and a pair of (optional) headphones, and you will be able to have it anywhere in your home – a stylish piece of furniture.

Use it for rehearsing or practicing guided by the built in programmable metronome. Or let the included bank of dedicated Piano Styles play along with you, to make a study session feel like an onstage experience.

Easy to use, like a real piano

Using your HAVIAN 30 is easy, thanks to the touch screen and the clean, clearly laid-out user interface. This easy-to-use, handy technology, driving every aspect of the instrument, will make advanced features seem as easy as touching real objects in the real world.

If you are not comfortable with the touch display, then the innovative tactile display navigation system will let anybody's fingers, even if blind or visually impaired, quickly find a reference to the display content.

A band always ready to play with you

Ultra-realistic sounds in the HAVIAN 30 are always ready to play along with you, in the music style best fitting your music. The high number of included Styles will satisfy any music genre, but can also be expanded by adding new Styles. You may also create your Styles, or customize the existing ones.

There are eight Accompaniment parts which will follow your chords. You can play in the simplest way or with the rich harmonization of a competent jazz player. We have programmed them to sound natural, and give you the feeling of a real band, ready to play with you at any time.

Play and write songs

Play Songs in MID and MP3 formats. With Songs, you can show lyrics for your singer and chords for your fellow guitarist. Any MIDI Song track can be converted into a readable score. Markers allow for jumping back to a passage you wish to repeat, for example in a piece you are studying or rehearsing.

You can record a MIDI Song using a full-featured Sequencer, or by using the Styles to record your live performance. Even easier, just record what you play as an MP3 file, and listen to it anywhere you like – even while driving to a party with friends!

Your music book

What is a huge collection of Styles and Songs, without an effective form of organization? The HAVIAN 30 has the one most known to musicians: the SongBook, a music database allowing for fast song retrieving based on name, artist, genre or tempo. Styles and Songs are easily recalled by the SongBook.

The SongBook can even be edited from a personal computer through our free editor. It can also be synchronized with most modern tablets to become your handy external digital music sheet reader (third-party software needed).

Open to the world, ready to the future

The USB ports allow for connecting the HAVIAN 30 to any external storage device or personal computer, smartphone or tablet without the need for a dedicated MIDI interface. The use of standard MID or MP3 file formats opens a world of possibilities when exchanging files.

Enjoy your musical life with the new HAVIAN 30!

Before starting to play...

What's in the box

After you get your HAVIAN 30, please check that all the following items are included in the package. If any of the following items is missing, please contact your KORG dealer immediately.

- HAVIAN 30
- Music stand
- DS2H damper pedal (with half-pedaling)
- DC power supply unit
- AC power cable
- Quick Guide
- Accessory Disc, containing the Video Manuals, the full User Manual, the Piano Solo Collection (offering a selection of progressive piano studies) and software utilities

What you can add

After having purchased HAVIAN 30, you might want to add these other fine options:

- The elegant KORG piano stand, recommended for safety and comfort, perfectly matching your piano design. The stand will let you keep all your cables in order, by hiding the power supply unit and adding a bar to keep the damper pedal firmly in place. It also supports your headphones when they are not in use.
- One of the sturdy pedals and footswitches of the KORG catalogue.

Contacts

Your KORG dealers not only deliver this instrument, but also carry hardware and software accessories, as well as useful information on how to use these products. Ask them for any help you should eventually need.

Our international web site is www.korg.com. A list of all KORG Distributors can be found in our dedicated web site (www.korg.com/us/corporate/distributors/).

Making a safety copy of your data

In case you like to customize your musical resources, we suggest you use the Media > Utility > Full Resources Backup command to make frequent backup copies into compact and easy-to-store archives.

Also, you can use the Media > Save All command to save individual files that you can separately reload one by one.

Restoring a safety copy

To restore a backup, use the Media > Utility > Resources Restore command.

If you saved your data with the Media > Save All command, use the Media > Load operations to reload them.

Restoring the original factory data

In case you want to restore the original factory data, use the Media > Utility > Factory Restore command.

Warning: This operation will overwrite all the Factory, Local, Favorite and User data!

Loading the Operating System

Your HAVIAN 30 can be constantly updated as new versions of the operating system are released by KORG. You can download the most up-to-date operating system from our web site. Please, read the instructions supplied with the operating system on the site.

You can see which version of the operating systems is installed in your HAVIAN 30 by going to the Media > Utility page.

Warning: Do not install an OS other than the official OS supplied by KORG for the HAVIAN 30. Trying to install an OS created for different models or downloaded from unofficial web sites may cause data loss and permanent damage to the instrument. KORG is not responsible for any damage caused by improper installation of the OS.

Overview of the instrument

The following pages show the functional areas of the front and real panels.

Front panel

The front panel is where you can find the instrument's controls, the loud-speakers and the music stand.

Loudspeakers   Music stand holes   Loudspeakers
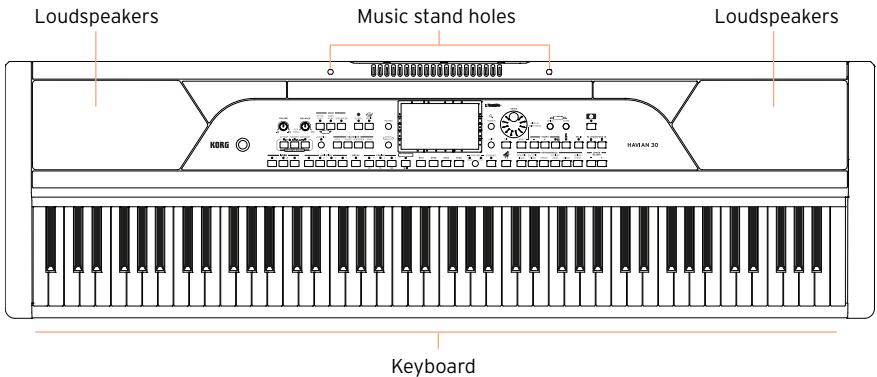
Keyboard

Loudspeakers

The output volume of the integrated loudspeakers can be controlled via the VOLUME knob.

The speakers are automatically deactivated when connecting the head-phones.

Keyboard

Use the keyboard to play notes and chords. Depending on the SPLIT indicator, the keyboard may be joint or split between different sounds.

Music stand holes

A music stand comes standard with your HAVIAN 30. Use these holes to insert the supplied music stand, as shown on page 13.

Control panel

The control panel is the part of the front panel where you can find the instrument's controls.

Display   Navigation area   Metronome and Tempo area

Styles area   Player area   Sounds area
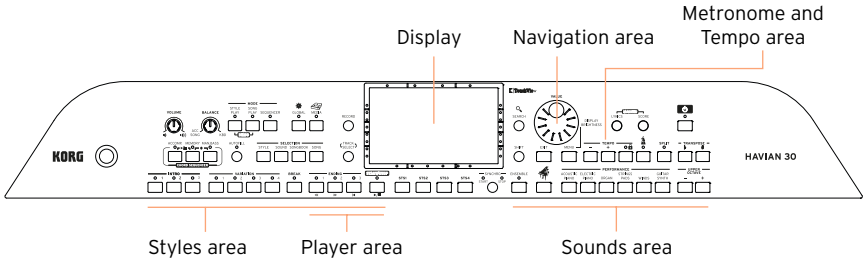
Display

Use this touchscreen display to interact with the instrument.
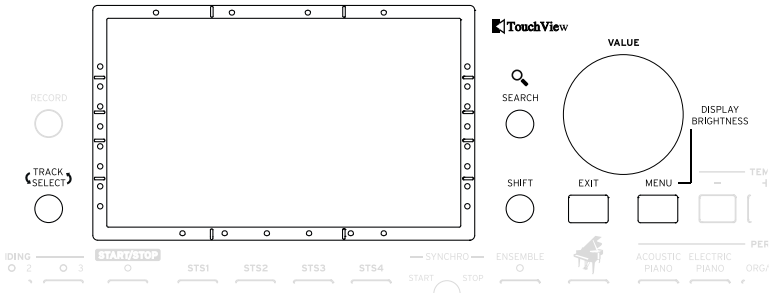
Display navigation aids for blinds and visually impaired

Marks on the border of the display will help you build a virtual grid of references, to quickly locate objects on the screen with your fingers. The (optional) support kit will make its use even more immediate. See Selecting the musical resources on page 38.
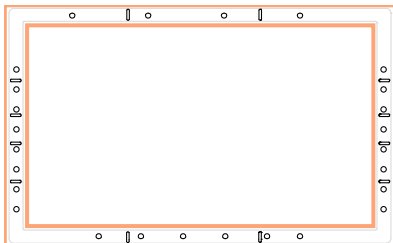
Styles area

Styles supply the automatic Accompaniment with a virtual band (see page 59).
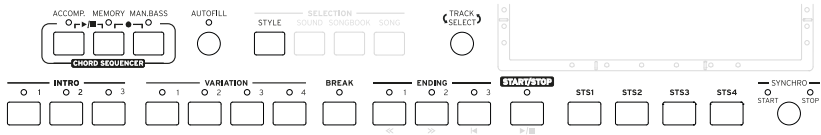
Player area

Songs can be played and controlled by the Player (see page 71).
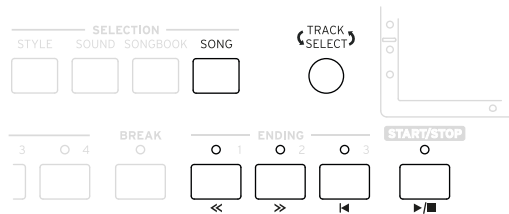
Sounds area

Sounds, organized in Performances and STSs, are what you can play on the keyboard (see page 48).
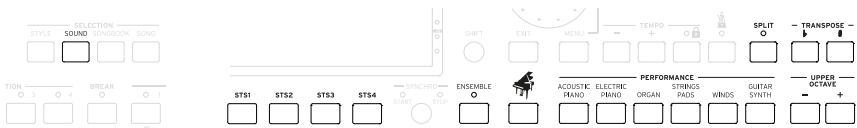
Navigation area

Use these controls to go though the menus, pages and parameters, and search for the various musical resources (see page 27).
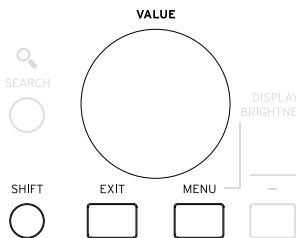
Metronome and Tempo area

Use these controls to practice with the metronome and control the Tempo of the metronome, the Styles and the Songs (see page 54).
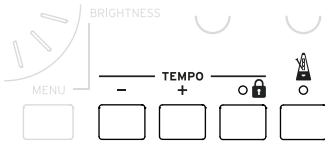
Rear panel

The rear panel is where you can find the various connections (see page 19).

Music stand holes

Connectors

USB connectors

Phones/Line Out connector

Power cable holder

Pedal connector

Power supply connector
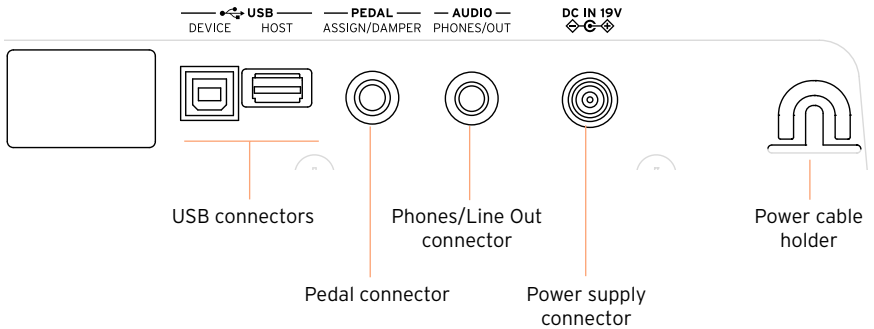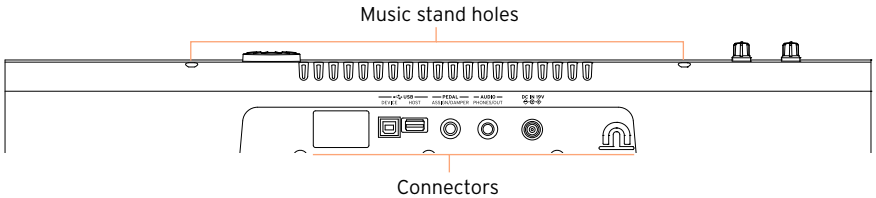
USB connectors

Use these connectors to connect your HAVIAN 30 to a personal computer (DEVICE) or to connect an USB memory device, like an USB pendrive (HOST).

Pedal connector

This is where you will connect the supplied DS2H damper pedal, or any other pedal or footswitch.

Phones/Line Out connector

This connector will serve as an Headphone connector (default setting) or a Line Out connector (see page 20).

Power supply connector and Power cable holder

Use this port to connect the power supply unit, and the cable holder to keep the cable in order.

02   Setting up the accessories

Connecting the damper pedal

Connecting the DS2H damper pedal

Use the PEDAL connector to connect the supplied KORG DS2H damper pedal. This pedal supports all the nuances of half-pedaling on some Grand Piano sounds. You can experiment how it works by gradually pressing it down, and gradually releasing it, while playing one of the Grand Piano RX Sounds.

As an alternative, you can connect any other footswitch pedal like the (optional) KORG PS1, PS3 or DS1H, or a continuous pedal like the (optional) KORG XVP-10 Volume pedal or EXP-2 Expression pedal.

By default, this connector will work as a Damper (Sustain) pedal. If you want to change the assigned function, or you need to change the pedal's polarity and calibrate it, go to the Global > Controllers > Foot Controllers page.

What if the pedal does not behave correctly?

From time to time, you might want to recalibrate the pedal. See how to do in Calibrating the pedal and setting its polarity on page 645.

Connecting the audio outputs

Connecting the headphones

Connect a pair of headphones to the PHONES/AUDIO OUT connector. You can use headphones with an impedance of 16-200 Ohms (50 Ohms suggested). When connecting the headphones, the speakers are automatically deactivated.

Adjust the output level with the VOLUME knob.

In case the connector was set to work as a Line Out, you can choose the Headphone option by using the Phones/Audio Out > Level parameter in the Global > Audio & EQ > MP3/Speakers page (see below).

Connecting the audio outputs

Use the PHONES/AUDIO OUT connector to send the audio output to a mixer, a set of powered monitors, or an audio amplification system. Use a stereo jack to send the final stereo mix to an external device.

When using a home audio amplifier, connect the other end of the cable to the CD, LINE IN or TAPE/AUX input of your audio system. Don't use the PHONO inputs of your audio system!

Adjust the output level with the VOLUME knob.

In case the connector is set to work as a Phone Out (it is by default), you can choose the Line Out option by using the Level parameter in the Global > Audio & EQ > MP3/Speakers page.

Set the output level to Line Out (or back to Headphones)

1   Go to the Global > Audio & EQ > MP3/Speakers page.
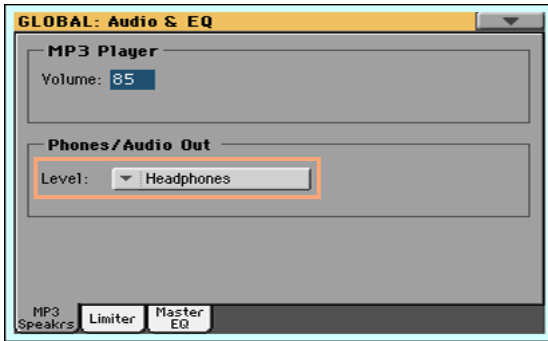
2   Choose the output level by using the Phones/Audio Out > Level pop-up menu.

3   Press the EXIT button to return to the previous page.

Assembling the music stand

To assemble the music stand, insert its legs into the dedicated holes on the back of the instrument.
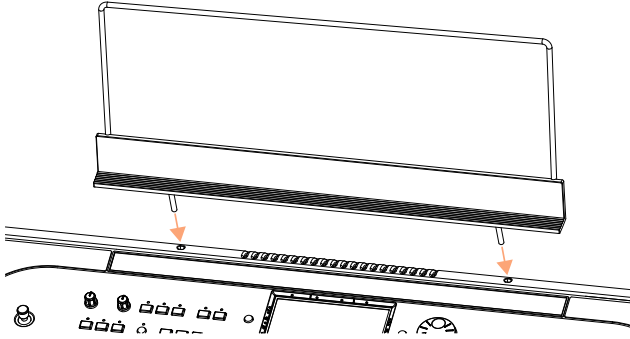
03   Powering

Turning the instrument on

Connecting the power adapter

Plug the supplied power adapter AC cable into a wall power socket, and the DC power adapter cable into the DC IN 15V connector on the back of the instrument.

To avoid cable jamming, fix the power cable to the dedicated cable holder.

When the cable is connected, the instrument is in standby.

Warning: When the instrument is in standby, it is still connected to the power line. Accessing the inside of the instrument can be dangerous. To completely disconnect the instrument from the power, unplug the power plug from the power socket on the wall.

Turning the power on or off

Turn the instrument on

▪ Press the POWER (⏻) button to turn the instrument on (that is, 'exit from standby'). After you turn the instrument on, a welcome screen will be shown for a few seconds, then the main page of the Style Play mode will appear.

Turn the instrument off (standby)

▪ Keep the POWER (⏻) button pressed for about one second, then release it when the screen appears dimmed. The shutdown procedure will begin and last for a few seconds. Please do not disconnect the power cable during this procedure.

Calibrating the touch screen

Calibrating the screen

From time to time (for example, after loading a new operating system), calibrating your Color TouchView™ display may be necessary to make pointing more precise.

To be more accurate, use a tablet stylus or the tip of a pen cap.

Warning: Do not use sharp objects, or you will damage your screen!

1   Keep the GLOBAL button pressed, until the Touch Panel Calibration page appears.
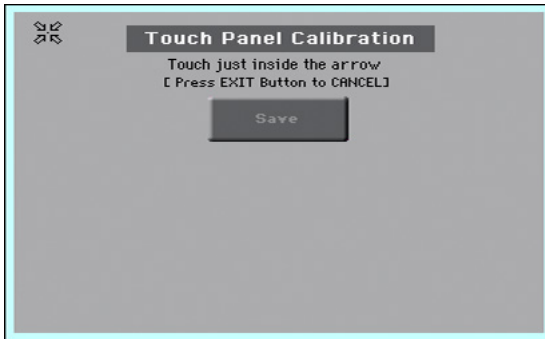
2   First touch exactly inside the set of arrows in the upper left corner of the display.

3   The arrows will subsequently move to the other corners of the display. Touch exactly inside them.

4   Finally, touch Save to confirm the new calibration.

▪   In case you want to exit and cancel the calibration, press the EXIT button before completing the procedure.

Listening to the Demo Songs

Playing the Demo Songs

Access the Demo mode

■ Press the DEMO buttons together.
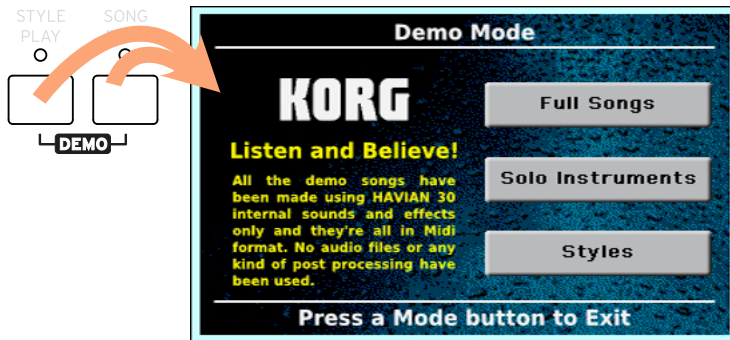
Listen to all the Demo Songs

■ After accessing the Demo mode, do not press any button. All the Demo Songs will be played back.

Choose a single Demo Song

■ Touch one of the options on the display (Full Songs, Solo Instruments, Styles), then choose one of the Demo Songs.
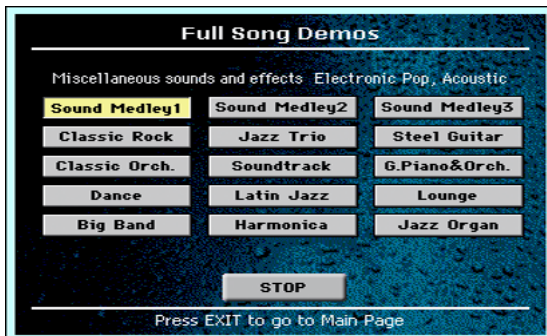
Exit from the Demo mode

▪ Press any of the MODE buttons.

04   Interface basics

The main page

The Main page of the Style Play mode appears when turning the instrument on. You can return to this page by pressing the EXIT button while in Style Play mode, or the STYLE PLAY button when in a different mode.

Title bar

Page menu

Selected Style

Selected Song

Selected Performance (may change to Selected STS)

Right-hand/ Upper Sounds

Left-hand/ Lower Sound

STYLE PLAY   MT: 0   <no chord>

STYLE
UnpluggedBallad1

Unplugged
Meter: 4/4 L: 12   ♩ = 94

PLAY
MIDI
<no song>

PS
Perf: Grand Piano

Grand Piano RX 1

Dark Pad
MUTE

Movie Strings 2
MUTE

Movie Strings 1
BACKING

UP1

UP2

UP3

L

STS 1   STS 3
Nylon Guitar   STS 2   Trumpet & Muted   STS 4
Distortion Gtr   Electric Piano

STS Name | Volume | Split | Sub Scale

Tabs recalling other panes

STS pane

The user interface in detail

Display and user interface elements

Color TouchView graphical user interface

HAVIAN 30 features our exclusive easy-to-use TouchView™ graphic interface, based on a touch panel LCD screen. By touching items on the LCD screen, you can select pages, tabs, and parameters, and set parameter values via on screen menus and buttons.

Operative modes

The pages of HAVIAN 30 are grouped in various operating modes. Each mode is accessed by pressing the corresponding button in the MODE section on the control panel.

Each operating mode is marked with a different color code, that helps you understand where you are at first sight.
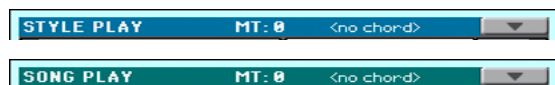
Two special modes (Global and Media) overlap the current operating mode, that remains active in the background.

The Record mode can be accessed from the Style Play, Sequencer and Sound modes, and allows for creating new Styles, Songs or Sounds.

Edit menus and sections

Pages are grouped in sections, to be selected by touching the corresponding buttons in the edit menu that opens up when you press the MENU button.
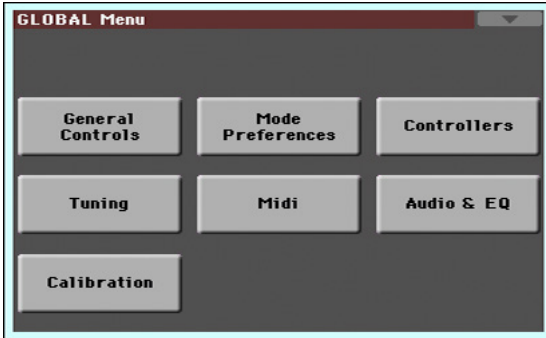
Pages and tabs

Parameters are grouped into separate pages, to be selected by touching the corresponding tabs on the lower area of the display.

Overlapping windows

Several windows, like the Style Select, the Global, the Media, or the Lyrics, overlap the current window. After you select an item in the window, or press the EXIT button, the window closes, and the underlying page is shown again. (The following example is the Performance Select window).
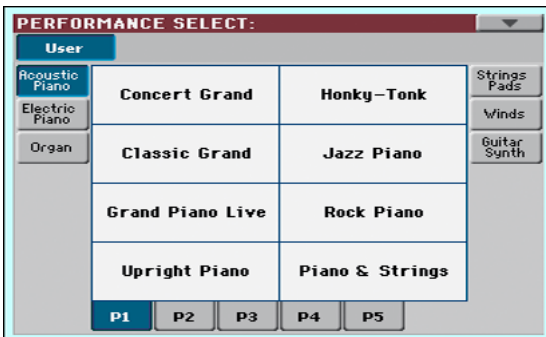
Dialogs

Similar to selecting windows, dialogs overlap the underlaying page. Touch one of the button on the display to give HAVIAN 30 an answer, and the dialog will close.

Page menus

Touch the down-pointing arrow icon on the upper right corner of each page, and a menu with suitable commands for the current page will appear.

Touch one of the available commands to select it. (Or, touch anywhere else on the screen to make it disappear, with no command selected).
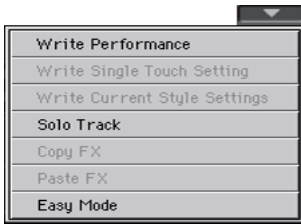
Pop-up menus

When a down-pointing arrow appears next to a parameter name, either touch the arrow to open the pop-up menu and choose an option from there, or use the VALUE dial to scroll the list of options.

If you want to make the menu disappear without selecting anything, touch anywhere else on the display.
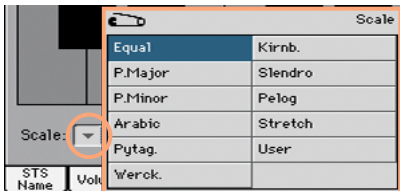
Lists and scrollbars

Files on storage media, as well as other kinds of data, are shown as lists. Use the scrollbar to scroll the list content. Also, you can use the VALUE dial to scroll.

When the Name label is selected on top of a list, keep the SHIFT button pressed while touching one of the arrows on the scrollbar, to jump to the next or previous alphabetic section.

Selected label

Selected item

List

Scrollbar
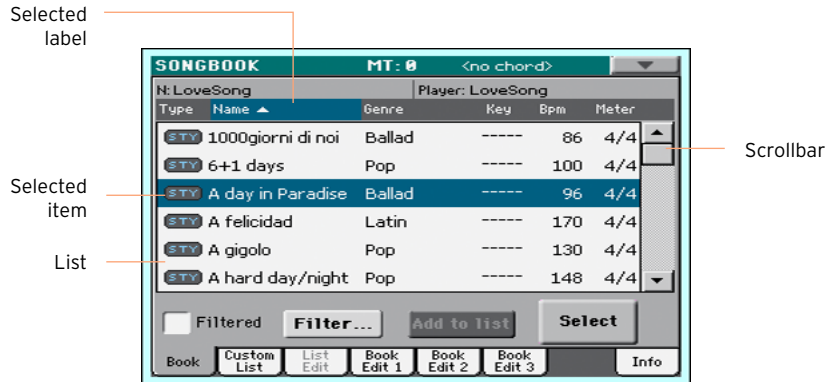
Parameters

Checkboxes

This kind of parameters are on/off switches. Touch them to change their status.

■ Global

☐ Global
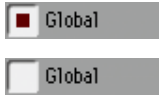
Editable names

When the Text Edit (**T**) button appears next to a name, touch it to open the Text Edit window and edit the name.

The virtual keyboard works exactly as a personal computer's keyboard. Some of the symbols are context-sensitive, and only appear when they can actually be used.

Numeric fields

When a numeric value can be edited, touch it a second time to open the Numeric Keypad.

The virtual numeric keypad works exactly as the numeric keypad of a personal computer.

As an alternative, touch a numeric field and keep it held. Then move your fingers up (or right) to increase the value, or move it down (or left) to decrease it.

This also includes the Tempo numeric field in various pages.

Icons

Various icons help identifying the type of a file, a folder, a Song. For example:

Icon	Meaning
	Folder
	File of Style bank
	MID file

Selected, highlighted items

Any operation on parameters, data or list entries, is executed on highlighted items. First touch the parameter or item to select it, then execute the operation.

Non-available, dimmed parameters

When a parameter or command is not currently available, it is shown dimmed on the display. This means it cannot be selected, but may become available when a different option is selected, or you switch to a different page.

Virtual controllers

Virtual sliders

To change a virtual slider's position, touch it and keep it held, then slide up or down to change its position. As an alternative, touch it, then use the VALUE dial to change its position.

Virtual knobs

To change a virtual knob's position, touch it and keep it held, then slide your finger up (or right) to rotate it clockwise, or slide it down (or left) to rotate the knob counter-clockwise. As an alternative, touch it, then use the VALUE dial to change its position.

Shortcuts

Some commands or pages can be recalled by keeping the SHIFT button pressed, and pressing other buttons or elements in the display. See Shortcuts on page 799 for a list of the available shortcuts.

Navigating through the pages

Going to a page

Through this manual, page addresses are shown as in the following example:

Style Play > Mixer/Tuning > EQ Gain

Mode   Edit section   Page
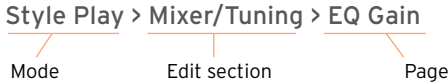
Here is how the above works:

1   Press the STYLE PLAY button to go to the Style Play mode. When the instrument turns on, it is already in this mode (this the Main page of the Style Play mode).
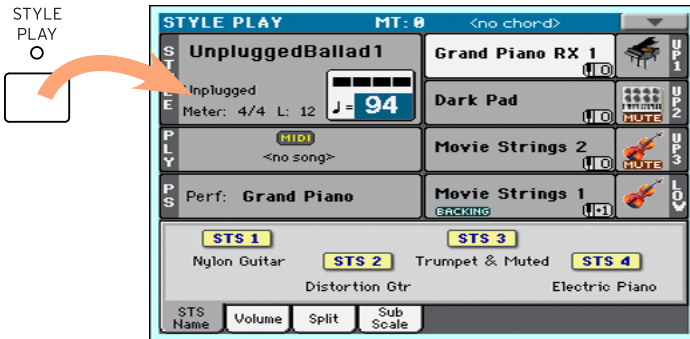
2   Press the MENU button on the control panel to see the edit menu of the Style Play mode.
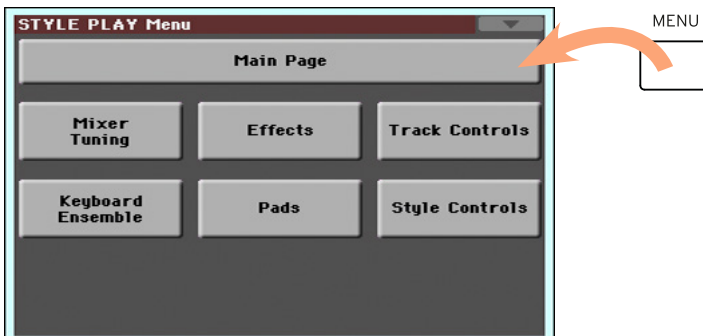
3 Touch the Mixer/Tuning button in the edit menu to choose the Mixer/Tuning section.
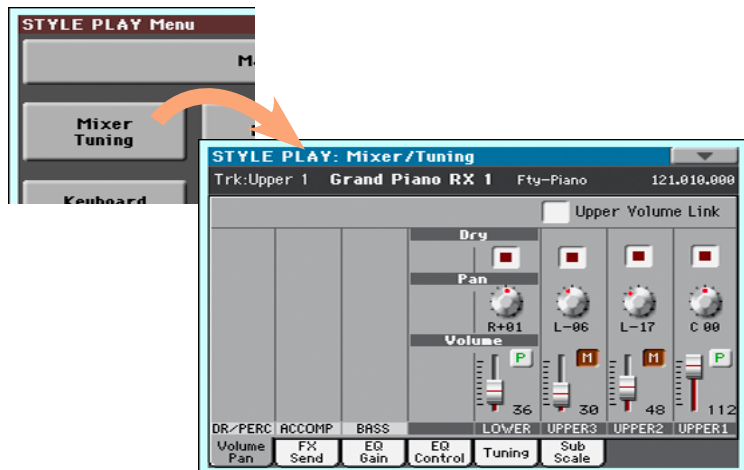
The selected edit section is always shown in the title bar:

4 If the page is not yet shown in the display, touch the EQ Gain tab to choose the EQ Gain page.
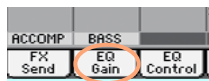
5 Edit the parameters.
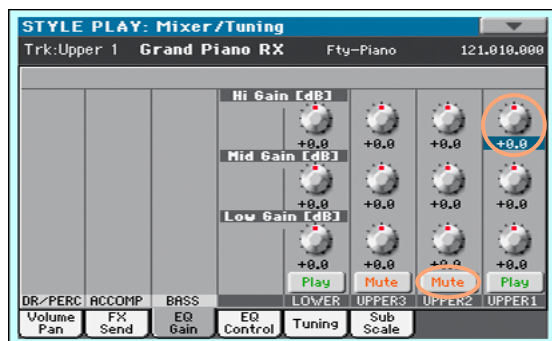
6 Try a different page in the same edit section. Touch the Volume/Pan tab to go to the Volume/Pan page, and edit the parameters.
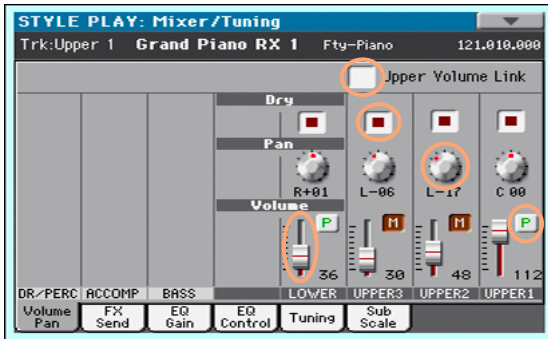
7 Press the EXIT button to return to the main page of the Style Play mode.

If you were in Song Play mode, pressing EXIT would have returned to the main page of the Song Play mode.

Selecting the musical resources

Opening a Select window

When you press the STYLE, SOUND, or one of the PERFORMANCE buttons, the corresponding Select window appears. For example, this is the Sound Select window:
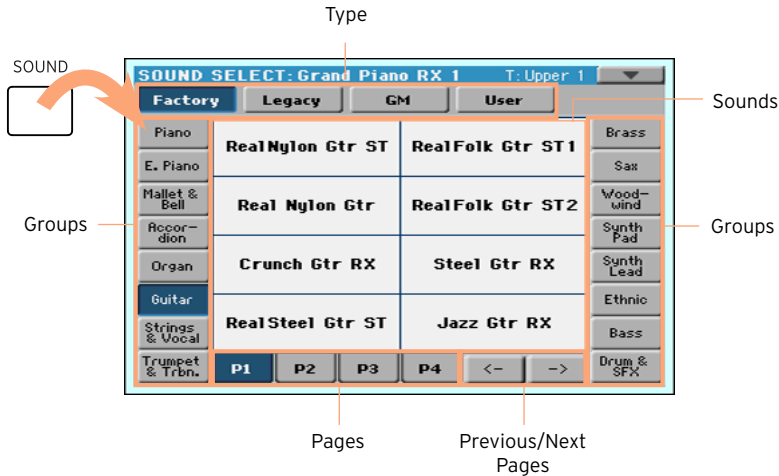
You can always exit from this window by pressing the EXIT button.

In HAVIAN 30, Select windows automatically close after a few seconds, or after you select something. If you prefer they stay always open until you press the EXIT button, turn the Display Hold parameter on (see Display Hold on page 52).

Using the display navigation aids

If you are blind or visually impaired, you can explore and use the Select windows with your fingers, thanks to the reference marks around the display. We suggest you to leave the Display Hold parameter on.

Choosing the type

The upper row of dots corresponds to the type of elements (Factory, User, etc...).
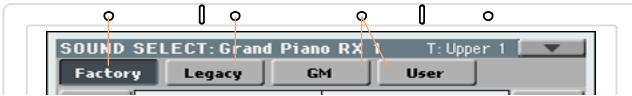
Choosing the group

The dots on the sides correspond to the groups of elements (for example, the family of instruments or the musical genre).

Choosing the page

The dots in the lower row correspond to the pages inside the selected group.
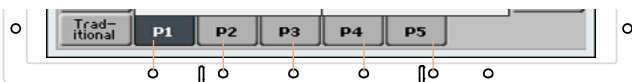
Sometimes, there are more than six pages, and you can scroll them by using the left and right arrows, corresponding to the two rightmost lower dots.
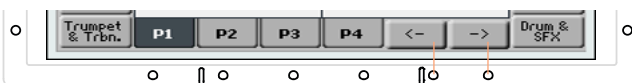
Choosing the element

When you are in the desired page, you can choose the element with the help of the grid created intersecting the lines coming from the small linear marks around the display.

PART II:
PLAYING AND SINGING

05   The Easy Mode

Turning the Easy Mode on or off

You can turn the Easy Mode on or off by using the page menu.

Turn the Easy Mode on

1   Touch the little down-pointing arrow on the top right corner of the display to open the page menu.

Write Performance
Write Single Touch Setting
Write Current Style Settings
Solo Track
Copy FX
Paste FX
Easy Mode
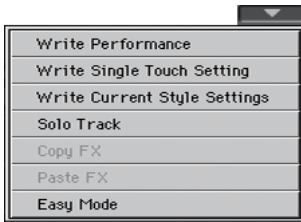
2   Touch the Easy Mode menu item to make the checkmark appear next to it, and activate the Easy Mode.

✓ Easy Mode

Turn the Easy Mode off

1   Touch the little down-pointing arrow on the top right corner of the display to open the page menu.

2   Touch the Easy Mode menu item to make the checkmark disappear.

Easy Mode

At this point, all the parameters of the complete Main page will appear.

The Easy Style Play page

Title bar

Page menu

Selected Style

Right-hand/
Upper Sounds

Selected
Performance
(may change to
Selected STS)

Left-hand/
Lower Sound

Touch to open
the Mixer page

Touch to set
the split point

Touch to open
the Effects
page

STSs
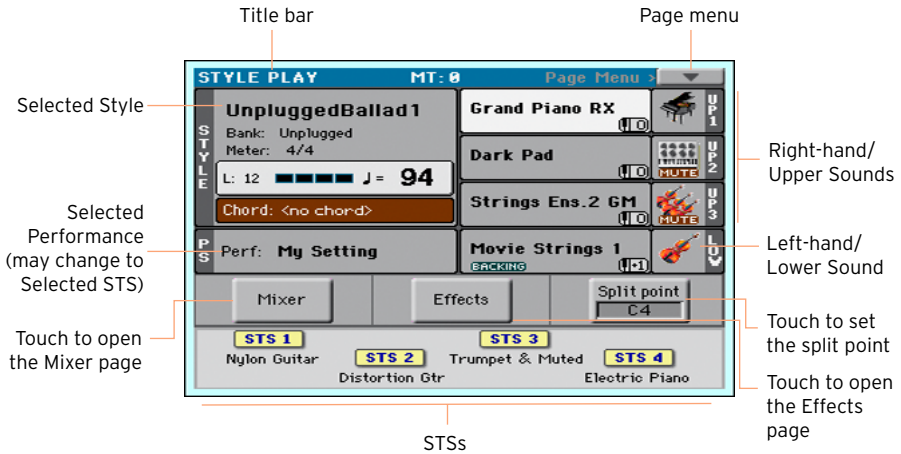
Switching to the Style Play mode

This is the operative mode automatically selected when turning the instrument on. If you are not there, press the STYLE PLAY button.

Selected Style

Touch here to open the Style Select window and choose a different Style. Under the Style name you can see its Bank, the Style's Meter (or Time Signature), the Measure Length, the current Beat, the Tempo and recognized chord.

Selected Performance (or STS)

Touch here to open the Performance Select window and choose a different Performance. This area may change to STS.

Right-hand (Upper) and Left-hand (Lower) Sounds

Touch any of these to open the Sound Select window and choose a different Sound. The right hand can have up to three Sounds assigned, the left one a single Sound.

Play/Mute icon

The Mute (MUTE) icon may appear on the right of the Sound's name. Touch the instrument family icon to turn the Sound on (Play) or off (Mute).

Mixer

Touch the Mixer button to adjust the Sound volume and pan.

Effects

Touch the Effects button to choose and adjust the effects.

Split Point

Touch the Split Point button, and play the lowest note of the Upper part of the keyboard to set the new split point.

STS

Use these icons to see the name of the available STSs. Touch them to select the corresponding STS.

The Easy Song Play page

Title bar

Page menu

Selected Song

Selected Performance (may change to Selected STS)

Touch to open the Mixer page

Right-hand/Upper Sounds

Left-hand/Lower Sound

Touch to set the split point

Touch to open the Effects page

STSs
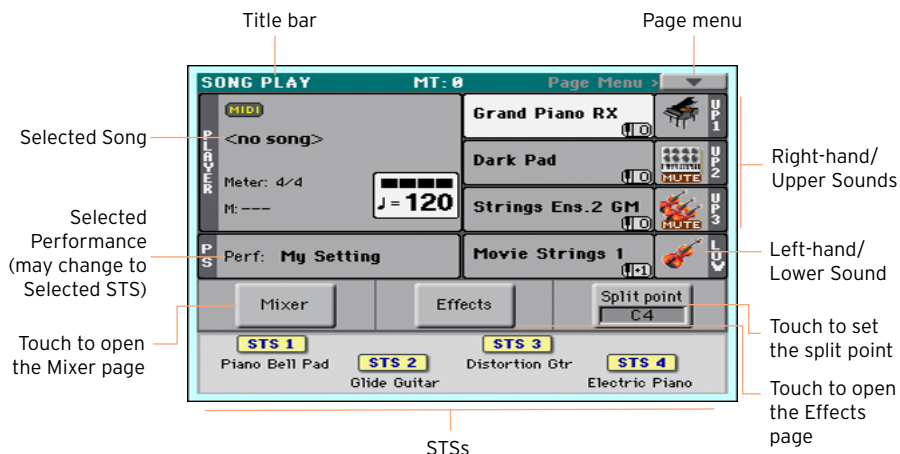
Switching to the Song Play mode

To go to this operative mode, press the SONG PLAY button.

Selected Song

Touch here to open the Song Select window and choose a different Song. Under the Song name you can see the current Meter (or Time Signature), the current Measure, the current Beat, the Tempo.

Selected Performance (or STS)

Touch here to open the Performance Select window and choose a different Performance. This area may change to STS.

Right-hand (Upper) and Left-hand (Lower) Sounds

Touch any of these to open the Sound Select window and choose a different Sound. The right hand can have up to three Sounds assigned, the left one a single Sound.

Play/Mute icon

The Mute (MUTE) icon may appear on the right of the Sound's name. Touch the instrument family icon to turn the Sound on (Play) or off (Mute).

Mixer

Touch the Mixer button to adjust the Sound volume and pan.

Effects

Touch the Effects button to choose and adjust the effects.

Split Point

Touch the Split Point button, and play the lowest note of the Upper part of the keyboard to set the new split point.

STS

Use these icons to see the name of the available STSs. Touch them to select the corresponding STS.

06   Playing the Sounds

Playing Grand Piano

Choosing the Grand Piano Sound

■ Press the GRAND PIANO ( ) button to choose the Grand Piano Sound.

Choosing the Sounds

Choosing a Performance

You can choose a Performance from the control panel or from the display.

Open the Performance Select window from the control panel

■ Press one of the buttons of the PERFORMANCE section. You will notice that each of them has an instrument family name printed over it.
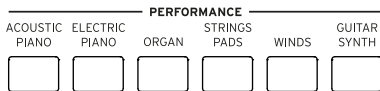
Open the Performance Select window from the display

■ While in the Main page, touch the name of the selected Performance.
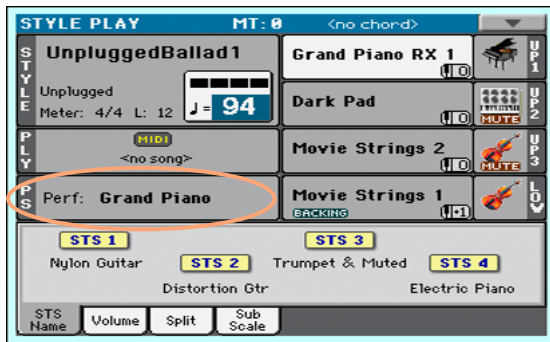
Select a Performance

As soon as you press the button or touch the display, the Performance
Select window appears.
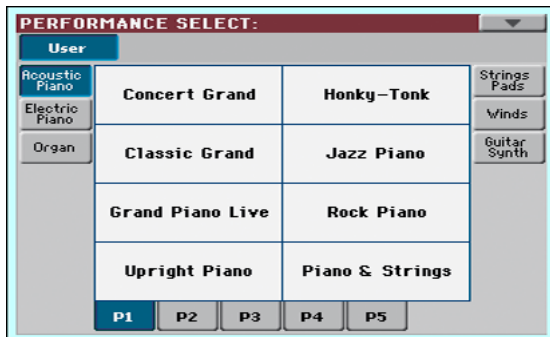
1   In case you want to choose a different group of Performances, either press a different button in the PERFORMANCE section, or touch one of the tabs on the sides of the Performance Select window.
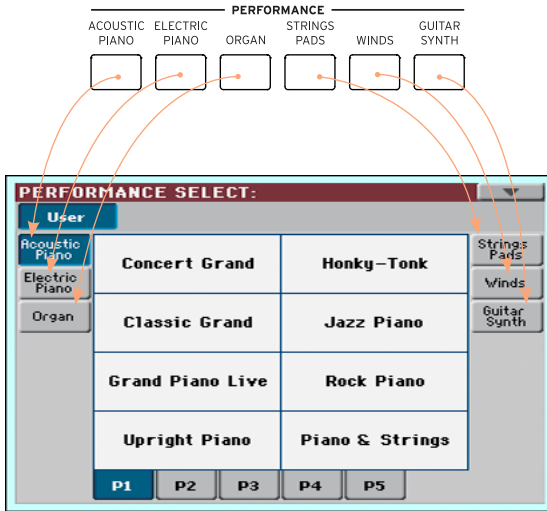
2   To choose one of the available pages in the selected Performance group, either touch one of the P1…P5 tabs at the bottom of the window, or repeatedly press the button of the selected group of Performances in the PERFORMANCE section of the control panel.
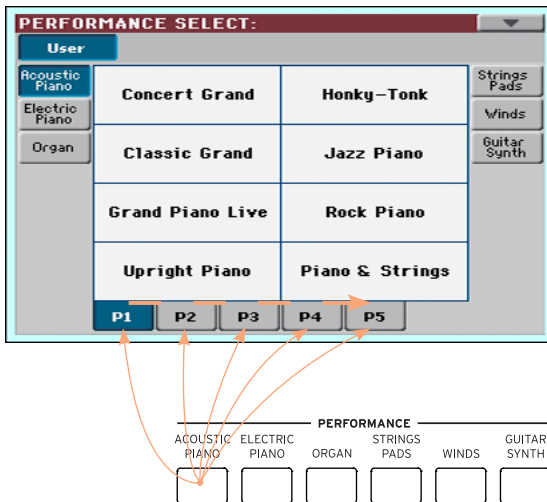
3   Touch the name of the Performance you want to choose.
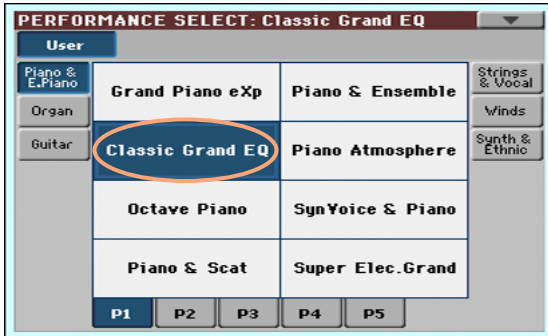
4   If you want to close the Performance Select window (and it does not close by itself), press the EXIT button.

In the end, you will see the name of the selected Performance in the dedicated area of the Main page. The Sounds assigned to the keyboard (shown in the right half of the display) will change.

Choosing an STS

You can choose an STS from the control panel or from the display.

Choose an STS from the control panel

▪ Press one of the buttons in the STS section.

STS1 STS2 STS3 STS4
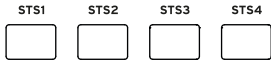
Select an STS from the display

1 While in the Main page, be sure the STS Name pane is selected. If it isn't, touch the STS Name tab to select it.
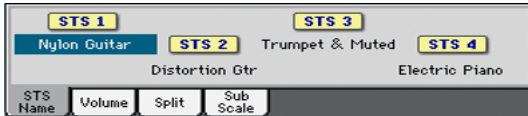
2 Touch one of the STS names in the display to select it.

You will see the name of the selected STS highlighted in the dedicated area of the Main page. The Sounds assigned to the keyboard (shown on the right half of the display) will change.

Display Hold

You may prefer to leave a Select window open after you have chosen a Sound, Performance, STS or Style, to continue trying other elements in that window. Or, you may prefer it automatically closes after you have completed your choice. This is determined by the Display Hold parameter.

Turning the Display Hold parameter on or off

1 Go to the Global > General Controls > Interface page.

2 Turn the Display Hold parameter on of off:

▪ Select the Display Hold On checkbox to turn it on. Sound, Performance, STS or Style Select windows will remain open on the display, until you press the EXIT button.

▪ Deselect the Display Hold On checkbox to turn it off. Sound, Performance, STS or Style Select windows will automatically close after you choose an element.

3 Press the EXIT button to return to the previous page.

Sound, Performance, STS

Sounds are the basic element of what you hear from your instrument. A set of Sounds can be memorized into a Performance or STS.

A Performance is a single memory location that can remember the Keyboard Sounds and all their transposition, effects, etc… A Performance can be stored in one of the Performance bank locations.

Single Touch Settings (STS) are similar to Performances, but are associated to a Style or SongBook Entry. Therefore, a set of four STSs is recalled each time you select a Style or SongBook Entry.

Factory, User, Favorite

Across the pages, you will find words like Factory, Favorite, User. These terms refer to the type of protection from writing, or how much you can customize them.

- **Factory** (Sounds, Styles) are elements that you cannot normally overwrite or modify. They are meant to warrant that musical resources (like SongBook Entries) will always find linked musical resources (like Styles).

- **User** (Sounds, Styles) are elements that you can overwrite or modify. Performances are always of the User type.

- **Favorite** (Styles) are User elements, whose banks you can freely rename to create your own categories.

07   Tempo and Metronome

Tempo

Setting the Tempo value

While an optimal Tempo value is saved with each Style or Song, you can freely adjust it at your will. This will also set the Tempo for the Metronome.

Adjust the Tempo value from the control panel

■ Use the TEMPO controls to adjust the Tempo value (or the speed of the MP3 Song).

Adjust the Tempo value from the display

1   If it is not highlighted, touch the Tempo value in the display.
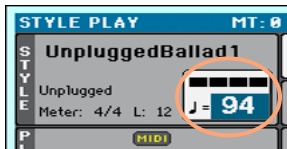
2   Use the VALUE dial to adjust the Tempo value.

Reset the Tempo value

■ Press both TEMPO buttons at the same time.

The Tempo value memorized in the Style or the MIDI Song will be recalled. With MP3 Songs, the original speed of the Song will be restored.

Beating ('tapping') the Tempo value

In Style Play mode, you can beat the Tempo value.

Activate the Tap Tempo function

▪ While the Accompaniment is not playing, keep the SHIFT button pressed and press the METRO button. The Tap Tempo window will open.

Beat the Tempo value

▪ Beat the Tempo on the START/STOP button. Beat as many times as indicated by the Tap indicator.

At the end, the Accompaniment will start playing with the 'tapped' Tempo.

Deactivate the Tap Tempo function

The Tap Tempo function will be automatically turned off after you have beaten the Tempo.

If you want to deactivate the Tap Tempo function without using it, press the EXIT button.

Locking the Tempo value

You can prevent the Tempo value from automatically changing when choosing a different Style or MIDI Song. MP3 Songs are not affected by this 'lock', and will always play at the recorded Tempo.

You are free to continue setting the Tempo manually, including beating the value with the Tap Tempo function. Please note that there is a separate Tempo for the Style Play and Song Play modes.

Prevent the Tempo value from changing

▪ Press the TEMPO > LOCK (🔒) button to light up its indicator. The Tempo will not change when choosing a different Style or Song. You can still manually change the Tempo value (as seen above).

Let the Style or Song change the Tempo value

■ Press the TEMPO > LOCK (🔒) button again to turn its indicator off. When choosing a different Style or Song, the memorized Tempo value will be re-called.

Tempo Change events found in the Style pattern or the MIDI Song may still change the Tempo.

Metronome

Turning the metronome on and off

Turn the metronome on

■ Press the METRONOME ( ) button to turn its indicator on. The Metronome window will open, and the metronome will start playing, beating the current Tempo.
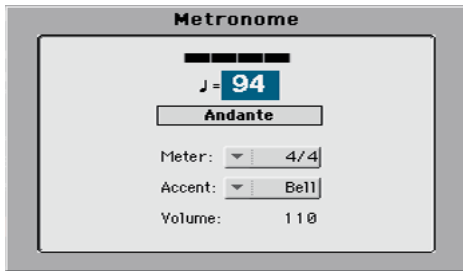
Turn the metronome off

■ Press the METRONOME ( ) button to turn its indicator off. The metronome will stop.

Setting the meter, accent and volume

You can mark the beginning of the measure, by setting the meter and accent.

Open the Metronome window

■ Press the METRONOME ( ) button.

Set the meter (time signature)

■ Choose the meter (time signature) by using the Meter parameter.

Turn the accent on or off

■ Choose the accent by using the Accent parameter.

Metronome Mode	Meaning
Normal	No accent.
Accent	The first beat of each measure is accented.
Bell	A bell sound is heard at the first beat of each measure.

Adjust the metronome volume

■ Adjust the metronome volume by using the Volume parameter.

Exit the Metronome window

■ Press the EXIT button to exit the window without stopping the metronome.

■ Press the METRONOME button to exit the window and stop the metronome.

08   Playing the Styles

Choosing the Styles

Choosing a Style

You can choose a Style from the control panel or from the display.

Go to the Style Play mode

- When turning the instrument on, you are already in Style Play mode. If you are not, press the STYLE PLAY button in the control panel.

- If you are not in the main page of the Style Play mode, press the EXIT button to return to the Main page.
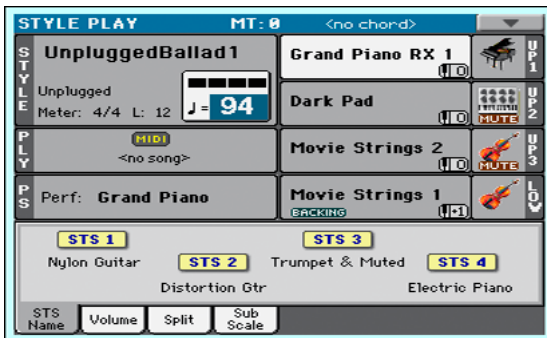
Open the Style Select window from the control panel

- Press the STYLE button.

Open the Style Select window from the display

▪ Touch the name of the Style in the display.
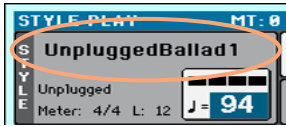
Choose a Style

1 Browse through the Styles in the Style Select window.
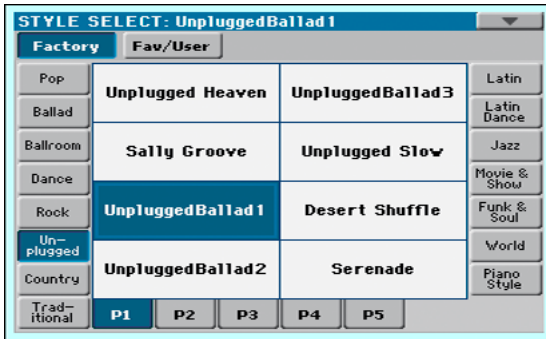
▪ To choose one of the available types of Styles, touch the buttons at the top of the window.

Type of Styles	Meaning
Factory	Standard Styles, that cannot be modified.
User	Locations where you can load new Styles from an external device, or save new or edited Styles.
Favorite	User Styles banks whose name can be edited to create custom banks.

■ To choose a different group of Styles, touch one of the tabs on the sides of the window.
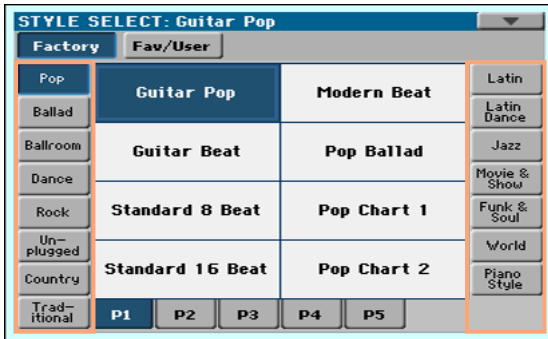
■ To choose one of the available pages in the selected Style group, touch one of the P1...P5 tabs at the bottom of the window.

As an alternative, press again the STYLE button.

2 Touch the name of the Style you want to choose.

3 If you want to close the Style Select window (and it does not close by itself), press the EXIT button. (When a window does not close by itself, it means the Display Hold is turned on. See Display Hold on page 52).

In the end, you will see the name of the selected Style in the dedicated area of the main screen.

What is a Style?

Styles are collections of musical patterns in a particular music genre – or 'musical style' – offering an eight-parts automatic Accompaniment, similar to an eight-member band playing with you. Chords you play on the keyboard will be recognized and will adapt the patterns to suit the music. Different sections can be selected to let you create a complete song in realtime.

Accompaniment parts

Accompaniment parts are like the members of a band. With HAVIAN 30 you get five pitched instrument players (for example: guitar, piano, strings, synthesizers), a bass player, a percussion player, and a drum player.

Chords and patterns

Accompaniment patterns are repeating musical sequences (like a bass groove, a guitar riff or a piano chord progression) that are dynamically adapted to match the recognized chords. They may vary depending on the type of chord (like C Maj, C min, or 7th).

Sections

Songs are made of different sections (Intro, Verse 1, Bridge, Chorus 1 and so on). There are different patters for each song section, and they are collected under the Style Element buttons (INTRO, VARIATION, AUTOFILL, BREAK, ENDING). While the name of the Intro, Fill, Break and Ending are the same as the name of the corresponding song section, Variations can be used either for Verse, Bridge, Chorus or Special sections. The arrangement becomes denser the higher the element numbers go.

Autofill

HAVIAN 30 automatically matches each Variation with a Fill having the same number. When the AUTOFILL indicator is on, going from a Variation to a different one means that the Fill having the same number of the first Variation is automatically selected. For example, when going from Variation 2 to Variation 3, Fill 2 is automatically selected.

The Piano Styles

To enjoy a very light accompaniment, choose the Styles in the Piano Style bank. These will offer a simple left hand Piano accompaniment for those times when you just want to practice your right hand; or the classic jazz trio, with just bass, drums, and a Piano.

You can turn off any of the accompaniment part by using the Mute/Play buttons in the Main > Volume pane. For example, you may want to mute the ACCOMP (Accompaniment) group to play with the backing of the drums and bass alone.
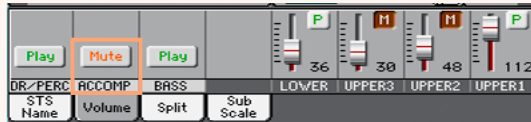
Playing a Style

Starting and stopping the Style

You can manually start and stop the Accompaniment.

Start the Accompaniment

1   Press the START/STOP button.

2   Play some chords with your left hand, while playing a melody with your right hand.

    While the Accompaniment is playing, please note the various indicators in the display.

Beat indicator   Recognized chord

Pattern length in   Tempo value
measures
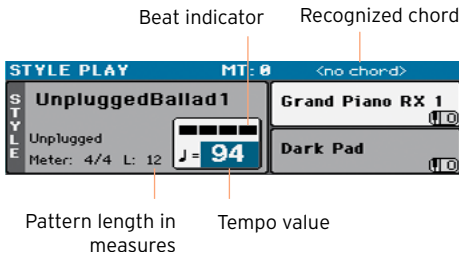
Stop the Accompaniment

■   Press again the START/STOP button.

Automatic start and stop

You can let the Accompaniment automatically start or stop by just playing on the keyboard, without having to press the START/STOP button. This leaves your hands free for playing.

Make the Accompaniment start automatically (Synchro Start)

1   Press the SYNCHRO > START/STOP button to light up the START indicator.

2   Play a chord, and see how the Accompaniment will start automatically.

■   Stop the Accompaniment by pressing the START/STOP button.

Make the Accompaniment start and stop automatically (Synchro Start and Stop)

1   Press the SYNCHRO > START/STOP button again, to light up both the START and STOP indicators.

2   Play a chord to start the Accompaniment, and keep the keys pressed.

3   Lift your hands from the keyboard, and see how the Accompaniment will automatically stop.

Make the Accompaniment stop automatically (Synchro Stop)

1   Press the SYNCHRO > START/STOP button again, to leave only the STOP indicator lightened.

2   Press the START/STOP button to start the Accompaniment, then play a chord and keep the keys pressed.

3   Lift your hands from the keyboard, and see how the Accompaniment will automatically stop.

Deactivate the Synchro Start/Stop functions

▪   Press the SYNCHRO > START/STOP button again to turn both indicators off.

Choosing an Intro

An Intro is the introduction of the song. To choose the right Intro for your song, please note that Intro 1 plays a short sequence with a prerecorded chord sequence and a prerecorded melody, while Intro 2 plays on the chord recognized on the keyboard. Intro 3 is usually a one-bar Count In.

Style Element	Suggested use
Intro 1	Intro with prerecorded chord sequence and prerecorded melody.
Intro 2	Intro with chord recognized on the keyboard.
Intro 3	One-measure Count In.

▪   Press one of the INTRO buttons on the control panel to 'book' one of the Intro sections. The button's indicator will be on, meaning it is waiting for the start command.

While the Accompaniment will be playing, you will see how many measures will remain before the end of the Intro ('L' parameter).

Choosing a Variation to play a Verse or Chorus

Variations can be used for verses, choruses, bridges or specials. To choose the right Variation for your verse, please note that Variations are of growing 'density' and 'loudness'. This means that Variation 1 will be the 'sparsest' and the 'quietest' of the arrangements, while Variation 4 will be the 'densest' and 'loudest' of them. Usually, you will use Variation 1 for the first verse, Variation 4 for the last chorus.

Style Element	Suggested use
Variation 1	Verse, Bridge, Chorus or Special (lowest density)
Variation 2	Verse, Bridge, Chorus or Special (medium-low density)
Variation 3	Verse, Bridge, Chorus or Special (medium-high density)
Variation 4	Verse, Bridge, Chorus or Special (highest density)

■ While the Intro is playing, press one of the VARIATION buttons to choose the Variation you want to use for the first verse. The button's indicator will be flashing, meaning the Variation is waiting to start.

When the Intro ends, the Variation will start playing. The button's indicator will stay lit.

While the Accompaniment is going, you can see the Variation's length in the display ('L' parameter).

Automatically choosing a Fill

If you like, you can let HAVIAN 30 automatically choose a Fill when you choose a Variation.

Style Element	Suggested use
Fill 1	Fill (lowest density)
Fill 2	Fill (medium-low density)
Fill 3	Fill (medium-high density)
Fill 4	Fill (highest density)

While the Accompaniment will be playing, you will see how many measures will remain before the end of the Fill ('L' parameter).

Turn the Autofill function on

■ Press the AUTOFILL button to light up its indicator.

Automatically play a Fill, then a Variation

- Press one of the VARIATION buttons. The Fill with the same number of the previous Variation will be automatically selected. For example, if you are going from Variation 2 to Variation 3, Fill 2 will be automatically selected.

Turn the Autofill function off

- When you no longer need this function, press the AUTOFILL button again to turn the indicator off.

Choosing a Break

A break introduces a short pause in your song, creating a suspension and a sense of surprise.

Style Element	Suggested use
Break	One-measure break

- When the Variation is nearing its end, press the BREAK button to play a short musical break.

Choosing an Ending

To choose the right Ending for your song, please note that Ending 1 plays a sequence with a prerecorded chord sequence and a prerecorded melody, while Ending 2 plays on the chord recognized on the keyboard. Contrary to the others (starting at the end of the Variation), Ending 3 starts immediately, without waiting for the Variation to finish, and is just two measures long.

Style Element	Suggested use
Ending 1	Ending with prerecorded chord sequence and prerecorded melody. Starts at the end of the Variation.
Ending 2	Ending with the chord recognized on the keyboard. Starts at the end of the Variation.
Ending 3	Two-measure Ending, starting immediately, without waiting for the Variation to end.

- While the Variation is playing, press one of the ENDING buttons on the control panel to 'book' one of the Ending sections.

At the end of the Ending, the Style will automatically stop.

While the Accompaniment will be playing, you will see how many measures will remain before the end of the Ending ('L' parameter).

Looping sections

If you feel that an Intro or an Ending should last longer than the recorded pattern, you can put it in a cycling loop.

Set a Style Element to loop

- Press twice the button of the Intro or Ending to put in loop.

  The indicator on the button will start flashing, and the pattern will start repeating.

Exit from the loop

Do one of the following:

- Press the same Style Element button again, or
- Select a different Style Element.

Keep a Style Element in loop while its button is pressed

- Keep an Intro or Ending button pressed to loop it. Release it when you want the Intro or Ending to exit from the loop.
- Keep a Variation button pressed to loop the corresponding Fill. Release it when you want the Fill to exit from the loop, and the Variation to start playing.

Balancing the Accompaniment against the keyboard

While playing, you may want to balance the Keyboard Sounds against the Accompaniment Sounds, to make the soloist stand out of the background or go back in the mix.

Balance the Accompaniment against the Keyboard Sounds

- While the Accompaniment is playing, use the BALANCE knob to balance between the Accompaniment (ACC) and the Keyboard (KBD) Sounds.

The Chord Sequencer

Recording a Chord Sequence

You can record a Chord Sequence, that will remain in memory until you turn the instrument off.

Record a Chord Sequence

1   Press the START/STOP button to start the Accompaniment.

2   Press the CHORD SEQUENCER > RECORD (●) buttons together to start recording.
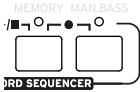
3   Start playing your Chord Sequence at the beginning of the next measure. While recording, you will see a red icon flashing in the display.

4   When the Chord Sequence is done, press the CHORD SEQUENCER > RECORD (●) buttons together to stop recording.

If you want the Chord Sequence playback to start immediately, without any gap between recording an playing back, do not stop recording as described in this step. Instead, start playback immediately as explained below.

Playing back a Chord Sequence

You can play back the Chord Sequence in memory. The chords driving the automatic accompaniment will be performed by the recorded sequence.

Play the recorded Chord Sequence

1 Press the CHORD SEQUENCER > PLAY/STOP (▶/■) buttons together to start playback.
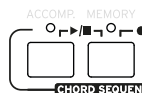
The indicators of the two buttons will start flashing. The Chord Sequence will be played back in loop starting from the next measure. Recorded chords will be sent to the arranger, and the Accompaniment will play following the recorded chords.

2 Play your solo part, while the Chord Sequence plays the chords for you.

During Chord Sequence looping, you can freely select any Fill or Variation, as if you where playing chords with your hands.

3 Press the CHORD SEQUENCER > PLAY/STOP (▶/■) buttons together to stop playback.

As an alternative, press the START/STOP button to stop both the Chord Sequence and the automatic accompaniment.

The Chord Sequence will remain in memory until you record a new Chord Sequence, or you turn the instrument off.

09   Playing the Songs

Choosing the Songs

Choosing a Song from the list

Switch to the Song Play mode
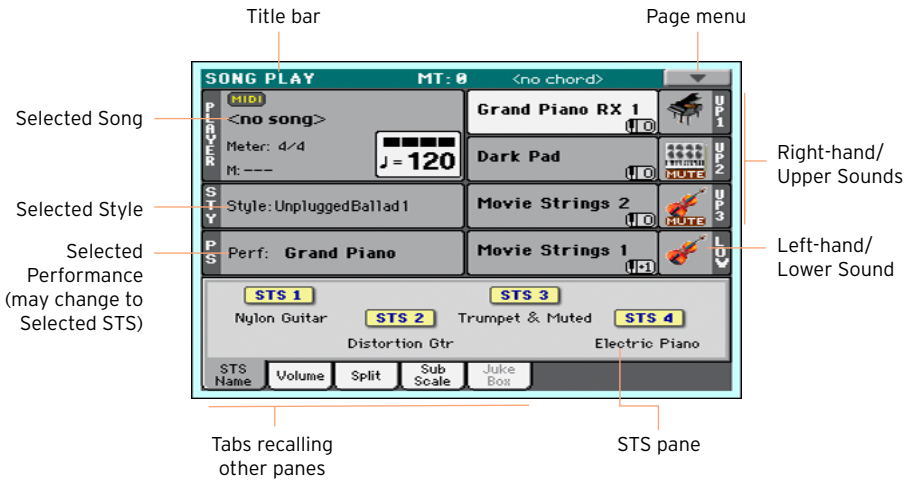
Press the SONG PLAY button.

Title bar

Page menu

Selected Song

Right-hand/
Upper Sounds

Selected Style

Selected
Performance
(may change to
Selected STS)

Left-hand/
Lower Sound

Tabs recalling
other panes

STS pane

Open the Song Select window from the control panel

▪ Press the SONG button.

Open the Song Select window from the display

▪ Touch the name of the Song on the display.
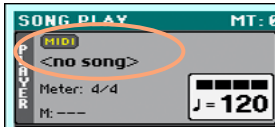
Browse through the Songs

While in the Song Select window, browse through the files to find the Song you are looking for.

▪ Choose a storage device by using the Device menu.

If the Song is contained in an external USB device, connect the device to the USB HOST port.

Device	Type
DISK	Internal memory
USB	Optional device connected to the USB Host port

The actual name (label) of the device will appear within square brackets.

▪ Scroll the list by using the scrollbar. As an alternative, use the VALUE dial (if the focus is on the Device selector, touch any item in the list before using the dial).

▪ Open the selected folder/directory by touching the Open button.

▪ Go to the upper folder/directory by touching the Close button.

▪ Jump to the folder/directory, containing the Song currently assigned to the Player, by touching the Locate button.

Jump to a different alphabetical section

1 If it is not selected, touch the Name label on top of the list.

2 Keep the SHIFT button pressed and touch one of the arrows of the scrollbar to jump to the previous or next alphabetical section.

Change the list ordering

■ Reorder the items according to a different criterion (Type, Name, Size, Date) by touching the corresponding label on top of the list.

■ By touching the label again, the order of the files will switch between ascending and descending.

Select the Song

1 Touch the name of the Song you want to choose to highlight it.

2 Touch the Select button. If a Song is already playing, it will stop, and the new Song will be ready to play. You will return to the main page of the Song Play mode.

When a Song has been selected, it will appear in the Song area.

■ MIDI Song selected:

Meter (Time Signature)

Current measure   Tempo

■ MP3 Song selected:

Total time
Elapsed time

Tempo variation
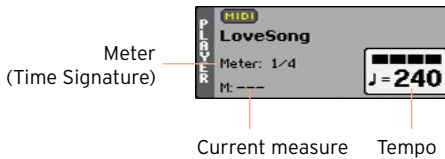
What is a MIDI Song

MIDI Songs' jargon name is Standard MIDI File, often abbreviated as SMF. The filename extension is .mid. The Standard MIDI File is the industry standard format for songs, and is used by HAVIAN 30 as the native file format when playing and recording MIDI Songs.

The MIDI Karaoke File (.kar) is an extension of the SMF format, and is also supported. It always contains lyrics.

MIDI   MID file   KAR file
Song   on disk   on disk

What is an MP3 Song

MP3 Songs' real name is even funnier: MPEG Layer-3, usually abbreviated as MP3. The filename extension is .mp3. This is a compressed audio file, used to store recorded songs in the smallest amount of space, without losing too much audio quality. At the highest quality, MP3 files are usually impossible to distinguish from a non-compressed audio file. HAVIAN 30 can play and record MP3 files.

MP3   MP3 file
Song   on disk

Choosing a Song by ID number

Each Song in a folder on a device has a progressive ID number assigned (up to 9,999). When the ID numbers are shown in the Song Select window, you can enter this number to select the corresponding Song.

Showing the ID number

1   Open the Song Select window.

2   Touch the page menu icon to open the menu, then touch the Show Song Number item to show (or hide) the ID numbers.

The Song's ID number will appear before each Song's name in the Song Select window.

0007 CANYON.MID

Choosing a Song by number

1   Open the numeric keypad.

▪   While in the Song Select window, press the SONG button.

▪   While in any page of the Song Play (or Style Play) mode, press the SONG button twice.

2   Enter the ID number (included in the 0001~9999 range) corresponding to the Song to be selected, then touch the OK button to confirm. The Song will be selected.

If no Song corresponds to the number entered, a message will warn that the Song is not available.

Viewing the Song's filename extension

While you can recognize the type of files from the self-explanatory icons next to their names, you may prefer to also see the filename extension.

Make the filename extension appear

1   Open the Song Select window.

2   Touch the page menu icon, then touch the Show Song Extension menu item to make the checkmark appear next to it.

The filename extension will appear at the end of each file.

Make the filename extension disappear

▪   Deselect the Show Song Extension menu item.

Playing a Song

Starting, stopping and controlling the Player

Start the Player

▪ Press the PLAY/STOP (▶/■) button.

While the Song is playing, the indicators on the display will show the current position. On the button, a red indicator will mark the first beat, while a green indicator will mark the other beats of the measure.

Fast Forward the Song

▪ Press the FAST FORWARD (≫) button once to jump to the next measure (MIDI Song) or to the next second (MP3 Song).

▪ Keep the FAST FORWARD (≫) button pressed to scroll the Song continuously. Release it when you have reached the desired location.

Rewind the Song

▪ Press the REWIND (≪) button once to jump to the previous measure (MIDI Song) or to the previous second (MP3 Song).

▪ Keep the REWIND (≪) button pressed to scroll the Song continuously. Release it when you have reached the desired location.

Pause and resume playback

▪ Press the PLAY/STOP (▶/■) button to stop the Song at the current position. The button's indicator will turn off.

▪ Press the PLAY/STOP (▶/■) button again to resume playback. The indicator will turn on again.

Stop the Player and return to the beginning of the Song

▪ Press the HOME (◀) button to stop the Player and move to the beginning of the Song. The button's indicator will turn off.

Balancing the Song against the keyboard

While playing, you may want to balance the Keyboard Sounds against the Song, to make the soloist stand out of the background or go back in the mix.

Balance the Song against the keyboard

■   While the Song is playing, use the BALANCE knob to balance between the Song (SONG) and the Keyboard (KBD).

Setting the general volume of the MP3 Songs

You can balance the volume of MP3 Songs against that of MIDI Songs and Styles.

1   Go to the Global > Audio & EQ > MP3/Speakers page.

2   Use the MP3 Player > Volume parameter to set the maximum volume of the MP3 Player.

MP3 Volume	Meaning
0 … 100	Max volume in percentage

Playing along with the Song

Play along with the Song

■   While the Song is playing, play on the keyboard.

Choose different Sounds

■   Choose a different Performance from the PERFORMANCE section of the control panel.

■   Choose a different STS from the STS section of the control panel, or from the STS pane of the main page.

The available STSs are those contained inside the most recently selected Style or SongBook Entry.

Playing all the Songs in a folder

Open the Song Select window from the control panel

▪ Press the SONG button.

Open the Song Select window from the display

▪ Touch the name of the Song on the display.

Select the folder containing the Songs to play

1 Browse through the files, until you find the folder containing the Songs to play, and open it.

2 Touch the Play All button to pre-select all the Songs in the folder.

A Jukebox file will be automatically generated and assigned to the Player. The order in which the Songs will be played back will depend on how they appear in the Song Select window.

Play the list of Songs

3 Start and stop the Songs by pressing the PLAY/STOP (▶/■) button.

4 Use the standard PLAYER controls to play, pause, stop, fast forward and rewind the Songs.

Move through the Songs

▪ Jump to the next Song in the list by keeping the SHIFT button pressed and pressing the FAST FORWARD (≫) button.

▪ Jump to the previous Song by keeping the SHIFT button pressed and pressing the REWIND (≪) button.

■ Press the HOME (◄) button to go back to the beginning of the current Song.

Save the list as a Jukebox file

■ If you want to save the list, go to the Song Play > Jukebox Editor edit page and save it as a JBX file. (See below for more information).

Playing a Jukebox list

Creating and editing a Jukebox list

Create a Jukebox list

1   Go to the Song Play > Jukebox Editor page.
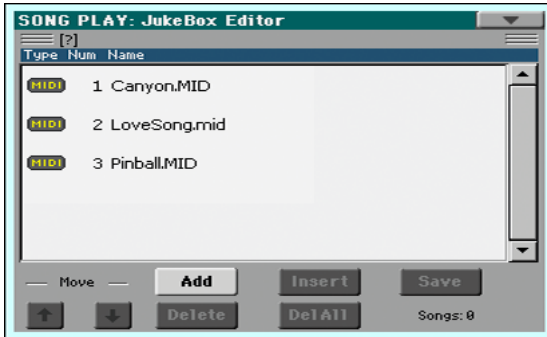
2   If a list of Songs already exists (because you selected an existing Jukebox file, or used the Song Select > Play All function), touch the Del All button to delete all from the list.

3   Touch the Add or Insert button to open the Song Select window.

▪   Add will append a Song at the end of the list.

▪   Insert will insert a Song between the selected item and the previous one.

4   While in the Song Select window, browse the MID, KAR and MP3 files in the folder, and select the Songs to be added.

If you like, you can choose another Jukebox (JBX) file, and add all its Songs to the Jukebox list you are editing.

5   Confirm by touching the OK button.

6   Continue adding Songs to the list.

Please note that you can only add Songs from the same folder, and that a Jukebox list can only include up to 127 Songs.

Edit the Jukebox list

▪   Use the Move > Down (⬇) and Move > Up (⬆) buttons on the display to move the selected Song to a different position in the list.

- Touch the Delete button to delete the selected Song from the list.

- Touch the Del All button to delete all Songs from the list.

Save the Jukebox list

1 Touch the Save button to open the Write Jukebox File dialog.
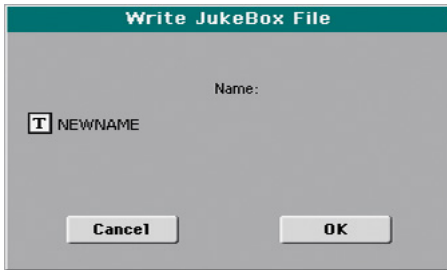
Please note that you can only save the JBX file in the same folder containing the Song files included in the list. The Jukebox file and Songs will have to be in the same folder.

2 While in the Write Jukebox File dialog, touch the Text Edit (T) button if you want to assign the Jukebox file a new name.

If you are saving a new list, the NEWNAME.JBX name is automatically assigned, and you can edit it.

Otherwise, the existing name is proposed. If the existing name is not edited, the old Jukebox file will be overwritten.

3 When done, touch the OK button to confirm.

Playing a Jukebox list

Instead of single Songs, you can assign a Jukebox file to the Player.

Open the Song Select window from the control panel

- Press the SONG button.

Open the Song Select window from the display

- Touch the name of the Song on the display.

Select the Jukebox file

- Browse through the files, until you find the Jukebox (.jbx) file, and open it.

The selected Jukebox list contains pointers to Songs residing in the same folder as the Jukebox file. Please do not move nor delete the Songs, nor disconnect any connected USB storage device containing the Songs.

Play the Jukebox list

4   While in the main page of the Song Play mode, touch the Jukebox tab to show the Jukebox pane and see the list of Songs contained inside the selected Jukebox list.

5   Touch the name of the Song you want to start from, then touch the Select button to assign it to the Player.

6   Start and stop the Songs by pressing the PLAY/STOP (▶/■) button.

7   All the Songs in the list will continue playing one after the other, until you don't stop them.

8   Use the standard PLAYER controls to play, pause, stop, fast forward and rewind the Songs.

Move through the Songs

■   Touch a different Song in the list, then touch the Select button to jump to that Song.

■   Jump to the next Song in the list by keeping the SHIFT button pressed and pressing the FAST FORWARD (≫) button.

■   Jump to the previous Song by keeping the SHIFT button pressed and pressing the REWIND (≪) button.

■   Press the HOME (|◀) button to go back to the beginning of the current Song.

What if a Song in the list if missing?

If a Song in the list is missing, the Player will stop and a warning message will appear in the display. Go to the Song Play > Jukebox pane, and select a different Song.

10 Lyrics, chords, score and markers

Reading lyrics and chords

Where are lyrics and chords contained?

Inside the MIDI Songs

Lyrics and chords may be contained inside MIDI Songs. They are included as MIDI events.

Inside the MP3 Songs

Lyrics may be contained into MP3 Songs. They are included as ID3/Lyrics3 and ID3/Frames tags. Lyrics and chords may also be contained into MP3 Songs as CDG graphic files.

In TXT files associated to a MIDI or MP3 Song

Lyrics and chords may be contained in a TXT file associated to a MIDI Song or an MP3 Song. You can load this text file even while playing the Song.

In TXT files linked to a SongBook Entry

A TXT file can be linked to a SongBook Entry.

Reading the lyrics and chords contained in a Song

Open the Lyrics page

■ Press the LYRICS button on the control panel. The Lyrics page will appear.
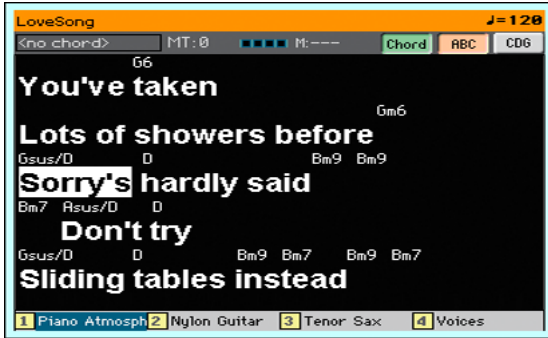
Read the lyrics

■ While the Song is playing, lyrics contained in a MIDI or MP3 Song will auto-
matically scroll in the display, in time with the music. Lyrics at the current
position will be highlighted.

Adjusting the text size

■ Use the ABC button in the Lyrics page to change the font size.

Read the chord abbreviations in the MIDI Songs

You can show or hide the chord abbreviations included as Lyrics events.

■ Be sure the Chord button is pressed in the Lyrics page to see the chord ab-
breviations. Chord abbreviations (if any) will appear above the lyrics, in time
with the music.

■ Be sure the Chord button is not pressed in the Lyrics page to hide the chord
abbreviations.

Chord transposition

When transposing the Song, chord abbreviations will usually be automatically transposed. However, be sure Transpose is activated on the Player, but not on the keyboard.

Activate the chord transposition

1   Go to the Global > Tuning > Transpose Control page.

2   Activate Transpose on the Player, and deactivate it on the Style and Keyboard tracks.
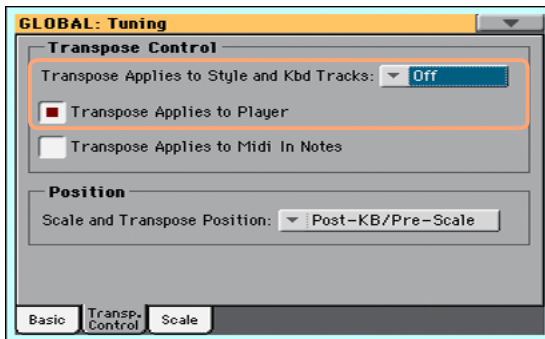
Reading the lyrics and chords loaded as a text file

If the text has been linked or loaded as a text (TXT) file, it will not scroll automatically while the Song is playing back. You can manually scroll it in one of the following ways.

Scroll the text on the display

▪   Scroll the text by using the VALUE dial or the vertical scrollbar.

Scroll the text with a footswitch

1   Go to the Global > Controllers > Foot Controller page, and assign the Text Page Down commands to the footswitch.

2   Return to the Lyrics page, and scroll the text by using the programmed footswitch.

Loading a text file with the same name of the Song

Lyrics and chords may be contained in a TXT file having the same name of a MIDI Song or an MP3 Song. For example, if a 'MySong.txt' file exists in the same folder as the 'MySong.mid' file or 'MySong.mp3' file, loading this latter will load the TXT Lyrics file as well.

Text files have be formatted with monospaced, non-proportional fonts (like Courier, Courier New, Letter Gothic, Lucida Sans, Menlo, Monaco, Vera Sans, or any other monospaced font). Up to 24 characters can fit a single line of text when using the bigger font size, 41 when using the smaller font size.

Linking text files to SongBook Entries

Lyrics and chords may be contained in a TXT file linked to a SongBook Entry. The same formatting rules described above apply. See Linking text files to SongBook Entries on page 87 for more information.

On-the-fly loading of Lyrics and chords from an external text file

When no lyrics or chords are contained or associated to the Style or Song, you can load a text (TXT) file after having chosen a Style or Song.

Load a TXT file on-the-fly

The 'No lyrics' message will appear when you press the LYRICS button in one of the following cases:

- You are in Style Play mode.

- The Song does not contain lyrics and chords.

- No external file is associated to the Style or the Song.
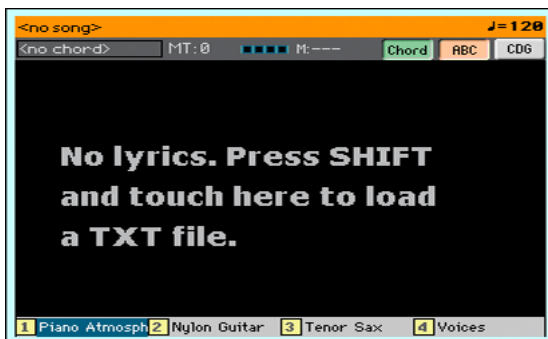
In this case, do the following:

▪ Keep the SHIFT button pressed and touch the center of the display. The file selector will appear, and will let you choose a TXT file to be loaded.

Reading the lyrics and chords loaded as a CDG file

CDGs are graphic files that change in time with the associated MP3 Song.

Read the lyrics and chords in the CDG file

▪ Be sure the CDG button is pressed in the Lyrics page.

Loading a CDG file with the same name of the Song

Lyrics and chords may be contained into MP3 Songs as a CDG graphic file with the same name of an MP3 Song (MP3+G Song format). For example, if a "MySong.cdg" file exists in the same folder as the "MySong.mp3" file, loading this latter will load the CDG Lyrics file as well.

Reading the music score

Creating and reading the music score

Create the music score

1   While in Song Play mode, choose a MIDI Song to play.

2   Press the SCORE button to open the Score page. A score of the selected track will be generated.

Depending on the content of the track, either notes or chords are shown in the staff.

Choose a different track

■   Choose a different track to be seen as music score by using the Trk menu.

Usually, the melody is track #4.

Choose the clef

■   Choose a different clef by using the Clef menu.

Usually, the correct clef is automatically assigned by the score generator.

Clef	Meaning
Treble	Standard Treble clef.
Treble+8	Treble clef with transposition one octave upper.
Treble-8	Treble clef with transposition one octave lower.
Bass	Standard Bass clef.
Bass-8	Bass clef with transposition one octave lower.

Exit from the Score page

■ When done with the score, press either the SCORE or the EXIT button.

Intelligent display of the score

Score generation is smart enough to 'clean-up' a track with automatic quantization, syncopation, key and clef generation. Even non-quantized tracks will be shown in a very readable way.

Several automatic operations are carried on to clean-up the score: HAVIAN 30 automatically quantizes to 1/16 notes, detects triplets, avoids note over-laps, correctly notates syncopation, and draws beams according to the time signature. In addition, spacing and measure length are dynamic, and single, double and end measure bars are automatically added.

If a KeySign (Key Signature) event is found at the beginning of the Song (position '001.01.000' of the Song's Master track), the correct key signature is also shown.

Following the Song

You can always see where you are in the score by watching at these indicators:

■ A red vertical line, showing indicating the current staff in play.

■ A red triangle, showing the current position.

Show lyrics, chords, note names

Read the Lyrics

■ Touch the Lyrics button to make the lyrics (if available) appear or disappear.

Read the chords

■ Touch the Chord button to make the chord symbols (if available) appear or disappear.

Chords are shown either according to the English or Italian system, depending on the selected language. (See Choosing the chords and keyboard language on page 621 for information on how to choose a different language).

Read the note names

■ Touch the Note button to make the note name appear or disappear next to each note.

Note names are shown either according to the English or Italian system, depending on the selected language. (See Choosing the chords and keyboard language on page 621 for information on how to choose a different language).

Muting the selected track

Mute the selected track

■ Touch the Play/Mute (Play / Mute) button to listen or mute the selected track.

Mute the track if you are going to play or sing it live. This will avoid overlapping between your playing or singing and the internal Sounds.

Saving the Play/Mute status

To prevent the Play/Mute status of the Song tracks when choosing a different MIDI Song, write it to memory.

■ Go to the Global > Mode Preferences > Song page, and touch the Save Track & FX button.

Muting a Song's Sound with a footswitch

You can mute the melody track of a Song by assigning the Melody Mute function to a footswitch. This function mutes a track defined as the melody track. If the Song has the melody part assigned to the same track number, you can mute or unmute it by using the assigned footswitch.

- To choose a Song Melody track, go to Global > Mode Preferences > Song & Sequencer page.

- To program the footswitch, go to the Global > Controllers > Foot Controller page.

Music score and transposition

The Score page shows the actual MIDI notes. Using the TRANSPOSE buttons or transposing the selected track does not affect the music score.

Moving through a Song with the markers

Using the markers

Song Marker events contained in a MID file (that is, a MIDI Song) can be read by HAVIAN 30. They are immediately shown in the Markers page.

Jump to a marker

1   While in Song Play mode, press the MARKER buttons.

2   If you like, start the Player by pressing the PLAY/STOP (▶/■) button.

You can jump to a marker even if the Player is not running.

3   When you want to jump to a marker, touch it in the markers list. At the beginning of the next measure, the Song will jump to the saved position.

Make the markers list scroll automatically

Select the Auto Scroll parameter, to let the markers list scroll automatically, and always let the current marker be shown in the display.

Mark the beginning of a repeating section

You can use markers to jump at the beginning of a passage you need practicing.

1   When you reach the beginning of the point you need practicing, touch the Add button to create a new marker.

Usually, you will create the marker one or two measures before the actual starting point.

2   Start the Player, and use the marker to jump to the beginning of the passage you need practicing.

3   If you no longer need it, delete the marker. In any case, it will be automatically removed when choosing a different Song or turning off the instrument.

Creating and editing markers

You can add your own marker points to a MIDI Song, then save them into the MID file.

Open the Markers page

▪ While in Song Play mode, press the MARKER buttons.
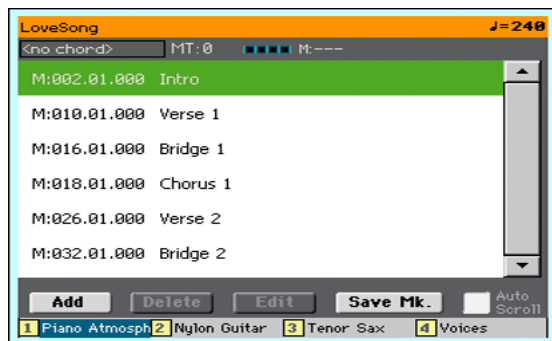
Add markers

1 Start the Player by pressing the PLAY/STOP (▶/■) button.

Markers can be added even while the Player is not running, but adding them while the Song is running is easier.

2 When you reach the position you want to save as a marker, touch the Add button.

▪ If you touch Add within the early beats of the measure, the beginning of the current measure is saved as a marker.

▪ If you touch Add within the last beat of the measure, the beginning of the following measure is saved as a marker.

3 Do the same for any following marker.

4 Stop the Player by pressing the PLAY/STOP (▶/■) button.

Delete markers

1 Touch the marker to be deleted in the markers list.

2 Touch the Delete button to delete the selected marker.

3 Save the markers (as described below).

Edit the name an position of a marker

1 Touch the marker to be edited in the markers list.

2 Touch the Edit button to start editing the marker. The Edit Marker window
   will appear.
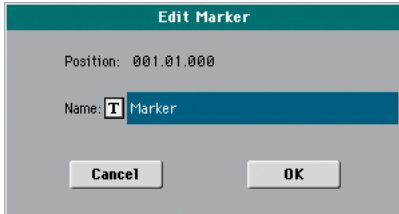
3 While in the Edit Marker window, edit the position and name of the selected
   marker.

4 Save the markers (as described below).

Save the markers

■ Touch the Save Mk button to save all the markers into the MID file.

■ If you are not in the Markers page, choose the Save Song Marker command
   from the page menu.

11 Searching for files and other items

Using the Search function

Searching

Depending on the page, you can search for different types of data. For example, while in the Media pages you can only search for files, while in Style Play or Song Play mode you can search for several different types of data (Styles, Songs, Lyrics…).

The Search function is also available while the Performance, Sound, Style, or File Selector is open. It is not available in all pages, since sometimes there are no relevant data to search for a particular page (for example, the Global pages).

Access the Search window

▪ Press the SEARCH (🔍) button to open the Search window.

Choose the type of file to look for

■ If needed, use the Type menu to choose the type of item you are looking for.
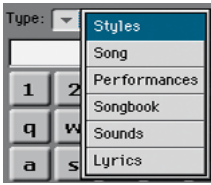
Choose a storage device and folder

When searching for Files, Songs or Lyrics, you can choose a storage device and folder where to focus your search. When one of the above types are chosen, the Browse button will be activated.

1 Touch the Browse button to open the File Selector.
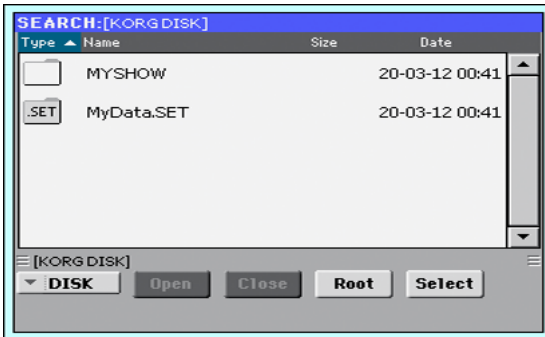
2 Use the Device menu to choose the storage device containing the file you are looking for. Use the Open and Close buttons to open and close the selected folders. Use the Root button to return to the top level of the device.

3 When you see the folder containing the file you are looking for, touch it, then touch the Select button to select it and close the File Selector. The name of the selected folder will be shown in the title bar of the Search window.

Type the name and start searching

1   Type the name of the file you are looking for. There is no difference between upper and lower cases ("LOVE" is the same as "Love" or "love").

2   When finished entering the name, touch the Search button. After a while, the list of files found will start showing on the display.
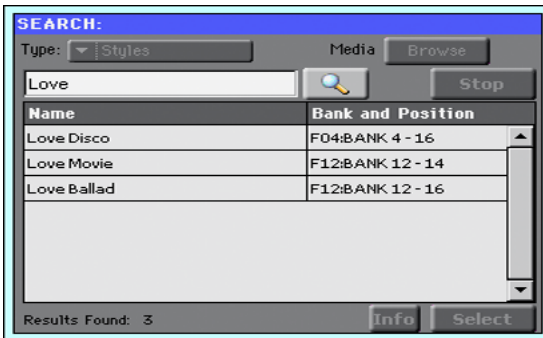
The time needed to complete a search depends on the size of the device(s) and the number of files.

Only one search at a time can be carried on. Please wait for the current search to be completed, or touch the Stop button to stop the current search and do a new one.

Stop the Search operation

■   After you touch the Search button, its name changes to Stop. Touch this button to stop the ongoing search before all results are found. The name of the button will revert to Search. Any file found will remain on the display, until you do a new search.

Exit from the Search window without stopping the Search operation

■   Touch the Cancel button in the display, or press the EXIT or SEARCH ($\mathcal{Q}$)
button on the control panel, to exit from the Search window and carry on
other operations. The search will continue in the background.

Ask info for an item

■   Touch one of the items found to select it, then touch the Info button to see
relevant information.
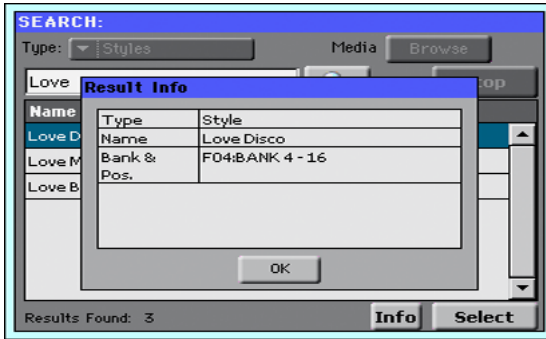
Touch OK to close the Info dialog.

Restart the Search operation

■   Touch the Search (🔍) icon to return to the main Search page and start
searching again.

Select the item found

■   If you have found what you were looking for, touch its name and then touch
the Select command.

A note about searching: the wildcards

While searching, the string entered will be searched as a whole word or as part of a word. For example, if you entered "love", the function will find "Love" and "LoveSong", or any other word containing the string "love".

You can use the wildcards "?" (any single character) and "*" (any sequence of characters) to search exactly for that string. For example, "*love" will find "MyLove", but not "LoveSong". "??love" will find "OOlove" but not "MyLove".

Also, if you are looking for words that can be spelled in a slightly different way, you can use the "?" wildcard to find all occurrences; "gr?y" will find out both "gray" and "grey".

PART III: THE SONGBOOK

12   Using the SongBook

Choosing the SongBook Entries

What is the SongBook?

The SongBook is the onboard music database, that allows you to organize the Styles and Songs for easy retrieving. Each Entry of this database (a 'song') may include information like the artist, title, genre, number, key, tempo, and meter (time signature) of a specified song. When choosing one of the Entries, the associated Style, MID or MP3 file – as well as the Style Play or Song Play mode – is automatically recalled.

In addition to helping you organize your shows, the SongBook allows you to assign up to four STSs to each Entry. Also, you can link a TXT file to any Entry, to be used as the Lyrics of a song, even if there are no Lyrics inside the associated MID or MP3 file, or if you prefer to play the song live with the backing of the Styles.

You can add your own Entries to the SongBook, as well as edit the existing ones. KORG already supplies some hundred Entries as standard. Furthermore, the SongBook allows you to create various custom lists, that may suit your different types of show.

Choosing the SongBook Entries from the Book list

A large database is already included with the instrument. You may browse through this database and choose a SongBook Entry.

Choose a SongBook Entry

1   While you are in Style Play or Song Play mode, press the SONGBOOK button to open the SongBook page.
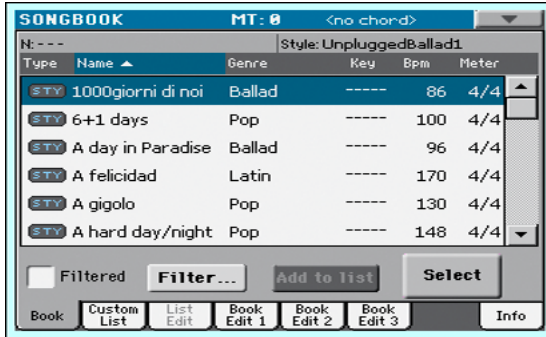
2   Browse through the Entries.

Use the scrollbar or the VALUE dial to scroll.

Keep the SHIFT button pressed and touch one of the arrows of the scrollbar to jump to the previous or next alphabetical section.

3   When the Entry you are looking for appears in the display, touch it to high-light it, then touch the Select button to load it into the Arranger or the Player.

After touching this button, the name of the selected Entry will appear just under the title bar (N:), next to the name of the associated Style or Song. The name of the Entry in the list will appear in a bolder font, over a lighter background.

Name of the selected Entry

Selected Entry

Associated Style or Song
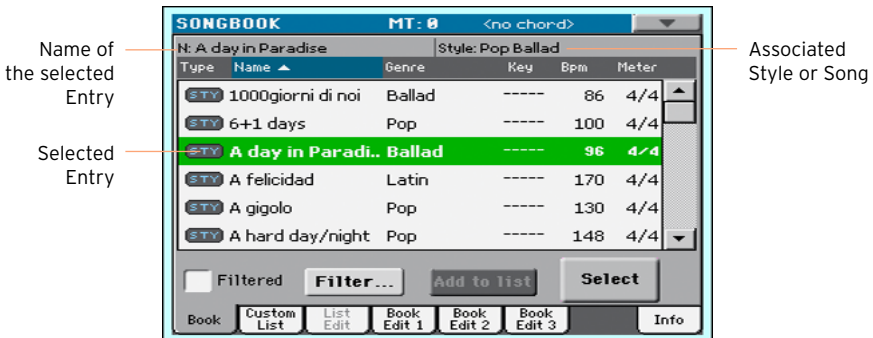
The associated Style or Song will be recalled. STSs will also be recalled. STS #1 will be selected. Any TXT file associated with the Entry will be shown in the Lyrics page.

4   Use the START/STOP or PLAY/STOP (▶/■) button to start and stop playback of the selected Style or Song.

Identifying the type of Entry

The icons in the Type column will help you identify the Entry.

Type	Meaning
STY	Style-based Entry. When chosen, it will select a Style and switch to the Style Play mode.
MIDI	MIDI Song-based Entry. When chosen, it will select a Song and switch to the Song Play mode.
MP3	MP3 Song-based Entry. When chosen, it will select a Song and switch to the Song Play mode.

Sorting by label

Change the order of the list

■   Reorder the items according to a different criterion (Type, Name, Genre, Key, Bpm, Meter…) by touching the corresponding label on top of the list.

■   By touching the label again, the order of the items will switch between ascending and descending.

Choosing between Artist and Genre, Number and Key

Due to space constraints, not all labels can be seen on top of the lists. You can decide what to show in the SongBook lists.

Please note that the Artist and Key fields of all the supplied Entries have been intentionally left empty.

Choose between Artist and Genre

■   Touch the page menu icon to open the menu, then choose either the Show Artist (now Genre) or Show Genre (now Artist) option (depending on the current selection).

Choose between Song Number and Key

▪ Touch the page menu icon to open the menu, then choose either the Show Song Number (now Key) or Show Key (now Song Number) option (depending on the current selection).

Filtering the Entries

When you are looking for a particular artist, genre or other categories, you may 'filter' the list to only see the type of Entries you are looking for. Please note that you can also find items inside the SongBook database by pressing the SEARCH button on the control panel, but the Filter function allows for a more refined search on multiple parameters at the same time.

Open the Filter dialog

▪ While in the SongBook > Book page, touch the Filter... button to open the Filter dialog.

Edit the filter criteria and activate the filters

1 Touch the Text Edit (**T**) icon next to the field you want to edit, to open the virtual keyboard and type the text string you are looking for.

For example, you may want to find all songs containing the word "love" in the title (in any position in the string). If so, select the Name criterion, and enter the word 'love'. Capitals are not relevant for the search.

When done editing the name, confirm by touching the OK button under the virtual keyboard.

2   Repeat the above step for all the fields you want to include in your filter.

3   If you like, select a Meter and/or a range of Tempo values to be included in your filter criteria.

4   Delete the filter criteria you don't need:

■   Touch the Clear button to delete the text string or reset the parameter to a default value.

■   Touch the Clear All button to reset all filter criteria.

5   When done editing the filter parameters, touch the OK button to close the Filter dialog and return to the Book page.

The Filtered checkbox will be automatically selected, and the filter will be activated. Only the Entries matching the entered criteria will be seen in the Book list.

Remove the filters and see all the Entries again

■   Touch the Filtered checkbox to deselect it.

Getting information on the SongBook Entries

You can see some statistical information on the selected SongBook Entry, to see the name of the Entry, the associated Style or Song, the total number of Entries in the SongBook database, the number of filtered Entries in the Book page, the number of available Custom Lists, and the number of Entries in the selected list.

1 While in the SongBook, choose an Entry and touch Select.

2 Go to the SongBook > Info page.

If you selected a Style-based Entry:

Name of the selected Entry

Associated Style
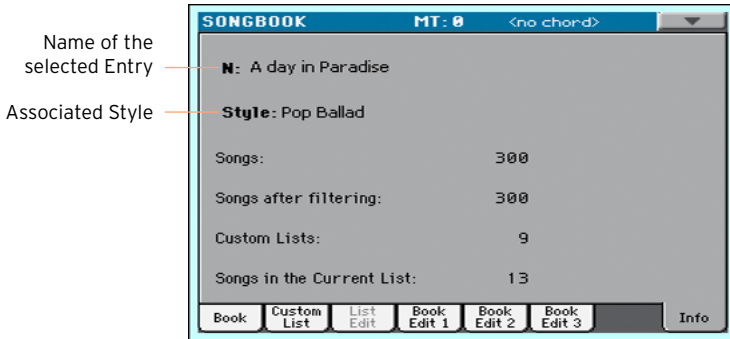
If you selected a Song-based Entry:

Name of the selected Entry
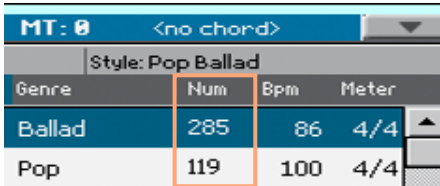
Associated Song

If the Selected Entry (N:) area is blank (---), the selected Entry has been modified, or no Entry has been selected.

Choosing the SongBook Entries by Song Number

You can select a SongBook Entry by entering its unique Song ID Number. Numbers associated with each Entry can be programmed in any of the SongBook > Book Edit pages. (See Editing the Song Selection Number on page 166 for more information).

1   To see the numbers while in the Book page, choose the Show Song Numbers (now Key) command from the page menu, to let the Num column appear.

2   To select a SongBook Entry by entering its ID number, press the SONGBOOK button again while you are in any page of the SongBook. The numeric key-pad will appear, allowing you to enter the ID number corresponding to the desired Entry.

3   To see the Key column again, select the Show Key (now Song Numbers) command from the page menu.

Choosing the SongBook Entries via MIDI

SongBook Entries can be remotely selected via MIDI. In addition, MIDI messages can be sent via MIDI when choosing a SongBook Entry. This is useful to synchronize HAVIAN 30 to an external editor or digital music sheet reader.

Choosing the Tablet MIDI Preset

The Tablet MIDI Preset includes MIDI channel #16, used to send MIDI messages to select the SongBook Entries, or to receive MIDI messages when selecting them.

■   Go to the Global > MIDI > General Controls page and choose the Tablet MIDI Preset.

Editing an existing MIDI Preset

You can program or edit your own MIDI Preset for selecting SongBook Entries. A special MIDI channel used as the Control channel is needed to send MIDI messages to select the SongBook Entries, or to receive MIDI messages when selecting them.

Configure the Control channel

1   Go to the Global > MIDI > General Controls page and choose a MIDI Preset to be used as a starting point.

2   Go to the Global > MIDI > Midi In Channel page, and assign the Control option to one of the sixteen available MIDI channels (usually one of the higher-numbered ones, for example 16).

3   Go to the Global > MIDI > Midi Out Channel page, and assign the Control option to one of the sixteen available MIDI channels (the same as on the MIDI IN will work fine).

4   When done, save these settings to a new or existing MIDI Preset, by choosing the Write Midi Preset command from the page menu. Blank locations are shown as a series of dashes ('---').

Selecting SongBook Entries via MIDI

When you are ready to remotely select SongBook Entries, switch to the Style Play or Song Play mode.

At this point, HAVIAN 30 must receive on the special Control channel the NRPN Control Change messages #99 (MSB, with value 2) and #98 (LSB, with value 64) in fast succession, as an initialization string. This string must be sent only once, unless another NRPN control is sent on the same MIDI channel before selecting a different SongBook Entry.

After the initialization string has been sent, you must send the selection string, made of two Control Change messages: CC#06 (Data Entry MSB) for the thousands and hundreds, and CC#38 (Data Entry LSB) for the tens and units. The range of the Data Entry controls, in this case, is 0~99 (instead of the typical 0~127).

The following examples show some typical situations.

■   Send the following string to select SongBook Entry #77:

Data 1	Data 2	
NRPN MSB	2	Initialization string (CC#99, 98)
NRPN LSB	64	
DataEnt MSB	0	Thousands and hundreds (00xx)
DataEnt LSB	77	Tens and units (xx77)

■   Send the following string to select SongBook Entry #100:

Data 1	Data 2	
NRPN MSB	2	Initialization string (CC#99, 98)
NRPN LSB	64	
DataEnt MSB	1	Thousands and hundreds (01xx)
DataEnt LSB	0	Tens and units (xx00)

■   Send the following string to select SongBook Entry #2563:

Data 1	Data 2	
NRPN MSB	2	Initialization string (CC#99, 98)
NRPN LSB	64	
DataEnt MSB	25	Thousands and hundreds (25xx)
DataEnt LSB	63	Tens and units (xx63)

Sending MIDI messages when selecting SongBook Entries

When the special Control channel is assigned to one of the MIDI OUT channels, MIDI messages are sent on this channel when choosing a SongBook Entry. The messages sent when selecting a SongBook Entry are the following:

■   An initialization strings, made of the NRPN Control Change messages #99 (MSB, with value 2) and #98 (LSB, with value 64) in fast succession.

■   A selection string, made of the two Control Change messages CC#06 (Data Entry MSB) for the thousands and hundreds, and CC#38 (Data Entry LSB) for the tens and units. The range of the Data Entry controls, in this case, is 0~99 (instead of the typical 0~127).

Using the Custom Lists

What are Custom Lists?

Custom Lists are selections from the full Book list. They allow for smaller, customized lists, suitable for a single gig or your own music preferences. We already included some example lists, that you can use for your own shows.

Playing a Custom List

Choose a Custom List containing the songs already selected for your show.

Select the Custom List

1 Go to the SongBook > Custom List page.
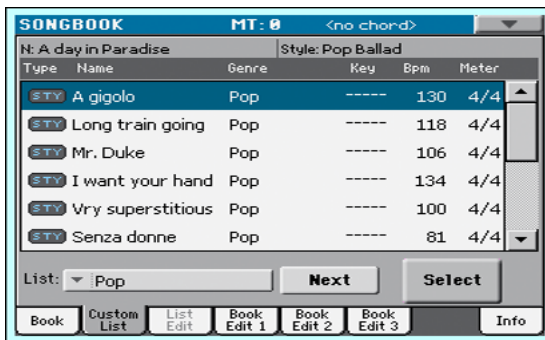
2 Use the List pop-up menu to select one of the available Custom Lists.

The list of songs in the selected Custom List will appear.

Play the Custom List

1 Browse through the Entries.

2 Touch the name of the Entry you want to start from, then touch the Select button to assign it to the Arranger or the Player.

3 Use the START/STOP or PLAY/STOP (▶/■) button to start and stop playback of the selected Style or Song.

4 Use the standard Arranger or Player controls to start, pause, stop, fast forward and rewind the Styles or Songs.

5 Move to the next song by touching the Next button, or by touching a different Entry in the list and touching the Select button.

13   Editing the SongBook

Creating and editing the SongBook Entries

Creating a new SongBook Entry

You can add your own Entries to the SongBook database.

Choose the Style or Song

1   Go to the Style Play or Song Play mode, depending on the type of Entry you want to add to the SongBook database.

2   Select the Style or Song to be added to the SongBook.

Choose the Sounds and the Effects

▪   Choose the Keyboard Sounds, the Effects, and adjust any relevant parameter the way you prefer for your performance.

A snapshot of the current situation will be saved into the Entry. Keyboard Sounds and Effects, Volume levels, Play/Mute status, the Split status and position, the Octave and Master Transpose, the selected Style Element, the selected STSs will be saved in the Entry.

Please note that changes to a MIDI Song's Sounds will not be saved in the SongBook Entry. Only the data included in the MID file will be used. To edit the Song, edit the MID file in Sequencer mode.

Create a new SongBook Entry

1   Keep the SONGBOOK button pressed for about one second to create a new SongBook Entry. The Write Song dialog will appear.

As an alternative, go to one of the SongBook > Book Edit pages, and touch the New Song button, then the Write button.
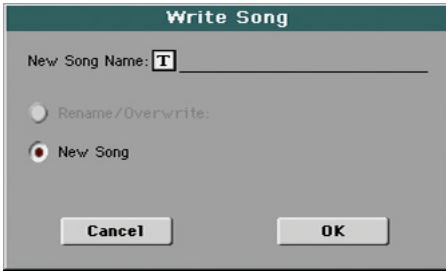
2   While in the Write Song dialog, touch the Text Edit (**T**) icon if you want to edit the name of the Entry, then touch OK to save the Entry to the SongBook database.

Editing an existing SongBook Entry

Choose an existing SongBook Entry

1   Choose a SongBook Entry from the SongBook > Book or SongBook > Custom List page.
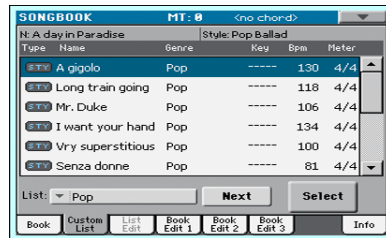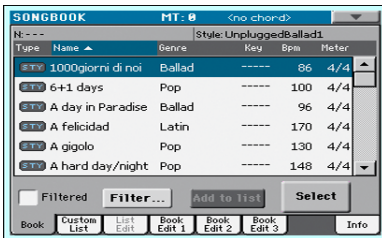
Change the Sounds and the Effects

■   Choose different Keyboard Sounds and Effects, and adjust any relevant parameter the way you prefer for your performance.

Save over the existing SongBook Entry

1   Go to one of the SongBook > Book Edit pages, and touch the Write button to save the settings into the selected SongBook Entry.

Touch to Write the SongBook Entry

2   Choose the Rename/Overwrite option to write over the selected Entry.

If you prefer to create a new Entry, choose the New Song option instead.

3   If you want to change the Entry's name, while in the Write Song dialog touch the Text Edit ($\boxed{T}$) icon, then touch OK to save the Entry to the SongBook database.

Saving different Styles or Songs

With each SongBook Entry, a reference to a Style or Song is saved. When editing an Entry, you can change this 'resource'.

1   Choose the SongBook Entry to be edited.

2   Press the EXIT button to exit the SongBook, and choose a different Style or Song.

3   Go to the SongBook > Book Edit 1 page.

The Resource area shows the resource saved in the selected Entry (Entry), and the one you just selected (Current).
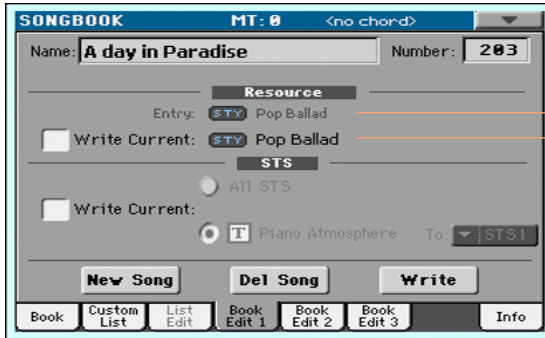
Resource saved in the Entry

Selected Resource

4   Select the Resource > Write Current checkbox to save the new resource instead of the older one.

5   Touch the Write button to save over the exiting SongBook Entry.

Saving different STSs

With each SongBook Entry, up to four STSs are saved. When editing an Entry, you can replace the older STSs with new ones.

1   Choose the SongBook Entry to be edited, and press the EXIT button to exit the SongBook.

2   Create a different set of Keyboard Sounds.

▪   If you want to save a single new STS, edit the Keyboard Sounds.

▪   If you want to save up to four new STSs, edit the Keyboard Sounds and save them into different STSs. To save them keep the corresponding STS button pressed for more than one second, or choose the Write Single Touch Setting command from the page menu.

Please remember that you can only save STSs over User or Favorite Styles.

▪   If you want to save up to four existing STSs, choose the Style containing them.

3   Go to the SongBook > Book Edit 1 page.
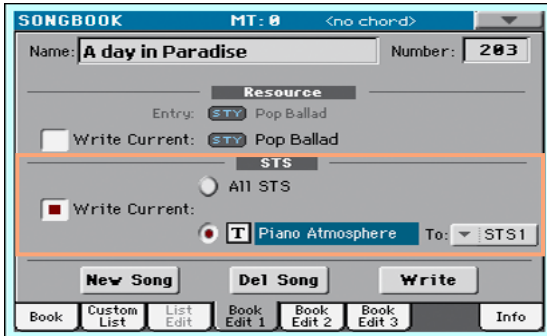
4   Select the STS > Write Current checkbox to save the new STSs instead of the older ones.

■   Choose All STS to save all four STSs.

■   Choose a single STS location to save the selected STS, or the current set of Keyboard Sounds, to a selected location. You can choose the target location and give the STS a new name.

5   If you don't want to replace the associated Style or Song, be sure the Resource > Write Current checkbox is not selected.

6   Touch the Write button to save over the exiting SongBook Entry.

Editing the Song Selection Number

Each SongBook Entry can have a unique ID number (up to 9,999). You can type them to quickly recall an Entry (see Choosing the SongBook Entries by Song Number on page 109 for more information).

Edit the Song Selection Number

■ Go to the SongBook > Book Edit 1 page, and edit the Number field.
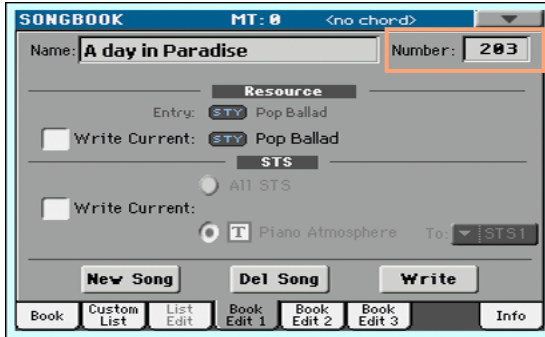
Assigning a number is not mandatory, but may help in organizing the Entries. For example, you may use the different 100s to create a different way of categorizing your entries by genre or age.

Editing the database parameters

The SongBook is a database. You can add to each SongBook Entry special archival data, that will later help in retrieving specific types of songs by using the SongBook > Book > Filter function.

1   Choose the SongBook Entry to be edited.

2   Go to the SongBook > Book Edit 2 page.
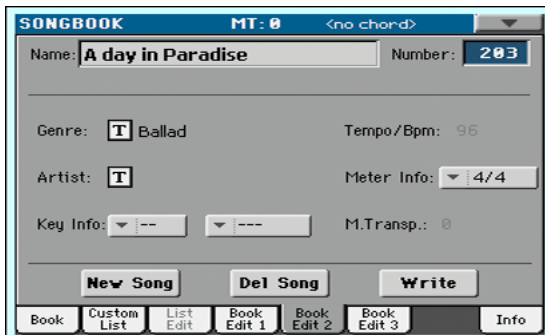
3   Edit the SongBook Entry's database parameters.

Parameter	Style-based Entry	MID-based Entry	MP3-based Entry
Genre	Music genre associated with the Entry.		
Artist	Name of the artist of the song associated with the Entry.		
Key Info	Original key of the Entry. The first field is the Root, the second one is the Major/minor mode.		
	Enter an arbitrary value for Style-based Entries.	Enter the original key of the MID file.	Enter an arbitrary value for MP3 files.
Tempo/BPM	Song's Tempo. This may change, if a Tempo Change event is included within the associated resource.		
	You can manually change this value by using the TEMPO buttons on the control panel. Any change will only be shown after saving the Entry.		
	Original starting Tempo of the Style.	Original starting Tempo of the MID file.	Enter an arbitrary value for MP3 files.
Meter Info	Song's Meter (or 'Time Signature'). This may change, if a Meter Change event is included within the associated resource.		
	Original starting Meter (Time Signature) of the Style.	Original Meter (Time Signature) of the MID file.	Enter an arbitrary value for MP3 files.
M.Transp. (Master Transpose)	Song's Master Transpose value. When the Entry is selected, the Master Transpose of the whole instrument is automatically changed. The Master Transpose value saved in the SongBook Entry overrides any Master Transpose setting contained in the associated resource.		
	You can manually change this value by using the TRANSPOSE buttons on the control panel. Any change will only be shown after saving the Entry.		
	Original Master Transpose value of the Style.	Original Master Transpose value of the MID file.	Enter an arbitrary value for MP3 files. MP3 files will only be transposed up to 6 semitones down or 5 semitones up.

4   Touch the Write button to save over the exiting SongBook Entry.

Editing the Style controls (Synchro/Memory)

With Style-based Entries, you can memorize the status of the Style's Synchro and Memory function status.

1   Choose the SongBook Entry to be edited.

2   Go to the SongBook > Book Edit 3 page.
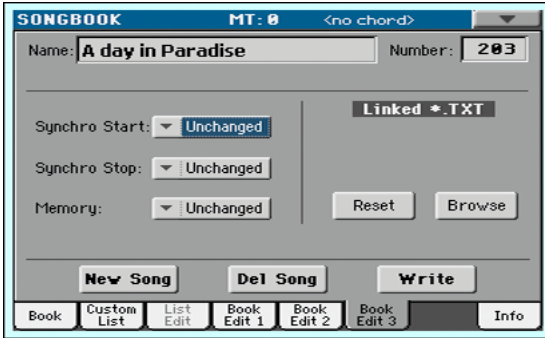
3   Edit the SongBook Entry's Style controls.

Syncro Start / Synchro Stop / Memory status	Meaning
Unchanged	When choosing this SongBook Entry, the status of the corresponding function will be left unchanged.
Off	When choosing this SongBook Entry, the status of the corresponding function will be turned off.
On	When choosing this SongBook Entry, the status of the corresponding function will turned on.

4   Touch the Write button to save over the exiting SongBook Entry.

Linking a text file to the SongBook Entry

You can add Lyrics to any Entry as a linked TXT file. Since there is no automatic synchronization between this type of Lyrics and the associated Style or Song, you must scroll them manually (as explained in Reading the lyrics and chords loaded as a text file on page 86).

Link Lyrics as a TXT file

1 Choose the SongBook Entry to be edited.

2 Go to the SongBook > Book Edit 3 page.
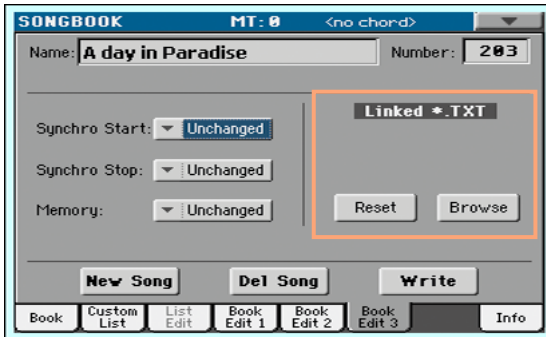
3 Touch the Browse button to open the file selector, and choose a TXT file to be linked to the current SongBook Entry.

After selection, the name of the linked text file will appear in the Linked *.TXT area.

Unlink the TXT file

■ While in the same page, touch the Reset button.

Creating and editing the Custom Lists

Enabling Custom List editing

The SongBook > List Edit page, where you can edit Custom Lists, is not usually available, to protect Custom Lists from accidental changes.

Enable Custom List editing

■ While in the SongBook, select the Enable List Edit command from the page menu.

■ If you will prefer to protect the Custom Lists again after editing, deselect the Enable List Edit command from the menu.

Creating or editing a Custom List

Create a new, blank Custom List

■ Go to the SongBook > List Edit page, then touch the New List button.

The new list will be automatically selected.

Select a Custom List for editing

1 Go to the SongBook > Custom List page.

2   Use the List pop-up menu to select the Custom List to edit.
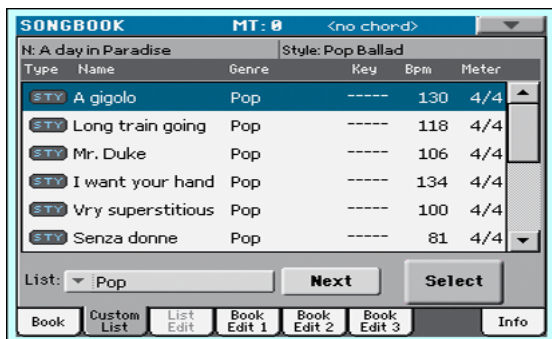
Add Songs to the selected Custom List

1   Go to the SongBook > Book page.

2   Browse through the songs in your SongBook database.

3   When you see the song you are looking for, touch it, then touch the Add to list button to add it to the selected Custom List.
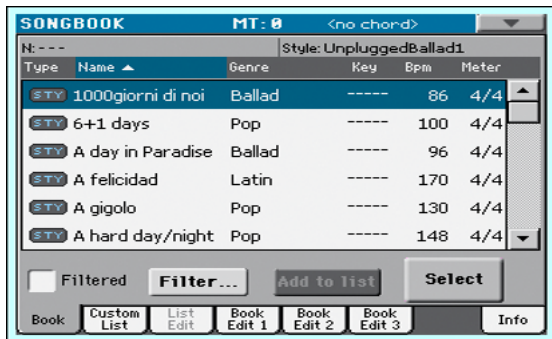
Move or delete songs from the selected Custom List

1   Go to the SongBook > List Edit page, and touch the song you want to move or remove from the list.

2   Edit the list.

■   Use the Move > Down ( ) and Move > Up ( ) buttons on the display to move the selected Song to a different position in the list.

■   Touch the Del Song button to delete the selected song from the Custom List (the song will not, however, be deleted from the Book list).

Save the Custom List

1   While in the SongBook > List Edit page, touch the Write button to open the Write List dialog.
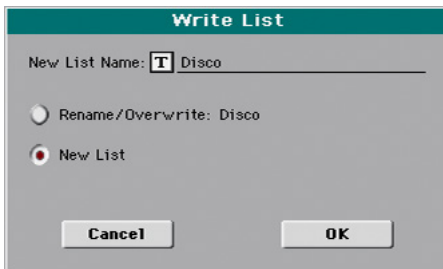
2   While in the Write List dialog, touch the Text Edit (𝐓) icon if you want to assign the Custom List a new name. When done editing the name, confirm by touching the OK button under the virtual keyboard.

3   Choose the Rename/Overwrite option to write over the selected Custom List. If you prefer to create a new Custom List, choose the New List option instead.

4   Touch the OK button to confirm saving.

Deleting a Custom List

1   While in the SongBook > Custom List page, use the List pop-up menu to select the Custom List to delete.

2   Go to the SongBook > List Edit page, then touch the Del List button to delete the selected Custom List (the songs it contains will not be deleted from the Book list).

Using the SongBook with a personal computer

Additional software has been created to work together with the SongBook.

Editing the SongBook with SongBook Editor

You can use KORG's own SongBook Editor to edit single Entries, the SongBook database and the Custom Lists on a Windows PC. With SongBook Editor you can comfortably view and edit a SongBook file on your PC.

Using a tablet as a SongBook extension

You can synchronize HAVIAN 30 to an external editor or digital music sheet reader (like BauM Software's SongBook+ for the iPad or Zubersoft's MobileSheets for Android). Please refer to the developer's documentation for further information about these software applications.

PART IV: CUSTOMIZING AND EDITING THE SOUND SETS

14   Customizing the Sound sets

Playing different Sounds with the left and right hand

Splitting the keyboard

Split the keyboard into a Lower (left hand) and Upper (right hand) part

■   Press the SPLIT button on the control panel to light up its indicator. The keyboard will be divided into a Lower (left hand) and Upper (right hand) part.

Remove the split and play the Upper Sounds over the full keyboard range

■   Press the SPLIT button again to turn its indicator off. The Upper Sounds will play on the full keyboard range, as in an acoustic piano.

Split, Keyboard modes, Sounds

When changing the SPLIT status, the number of Sounds you hear may change.

■   When the SPLIT is turned off, you will listen to the Upper Sounds on the full keyboard.

■   When the SPLIT is turned on, you will listen to the Upper Sounds on the right hand, the Lower Sound on the left hand.

SPLIT indicator	Keyboard mode	Left hand (Lower) Sounds	Right hand (Upper) Sounds
Off	Full	No Lower Sound	Up to three Upper Sounds assigned to the full extension of the keyboard
On	Split	A single Lower Sound assigned to the left hand	Up to three Upper Sounds assigned to the right side of the keyboard.

Changing the local (or temporary) split point

You can choose a different point where the keyboard is split into an Upper and a Lower part. This is called the split point.

Change the local (or temporary) split point from the control panel

1   Keep the SPLIT button pressed to open the Split Point dialog.
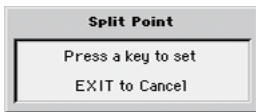
2   Play the lowest note of the Upper (right hand) part on the keyboard.

Change the local (or temporary) split point from the display

1   While in the Main page, touch the Split tab to see the Split pane.
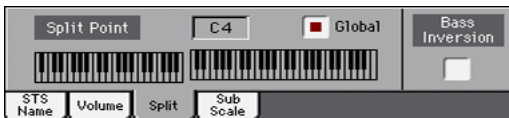
2   Touch the keyboard diagram in the display, then play the lowest note of the Upper (right) part on the keyboard.

As an alternative, touch the Split Point parameter to select it, and use the VALUE dial to select the new split point.

When you change the split point, the Global parameter is automatically deselected (see 'Global' and 'local' (or temporary) split point on page 132).

Memorize the local split point

The local split point can be memorized into a Performance, Style or SongBook Entry. There is a single local split point for all the STSs associated to a Style or SongBook Entry.

▪   Write the changes to a Sound set.

Changing the global split point

The global split point is both the general setting you use when there is no 'local' split, and a 'template' from which to start setting the various local split points saved into the Performances and STSs. You can change it and use it as the main split point of the instrument. Some Performances and STSs might override the global split point with their memorized local split points.

Change the global split point

1   Go to the Global > Mode Preferences > Styles page.

As an alternative, keep the SHIFT button pressed and press the STYLE PLAY button to open the Style page.
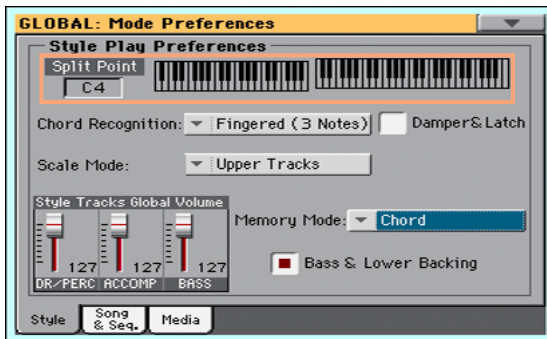
2   Touch the keyboard diagram in the display, then play the lowest note of the Upper (right hand) part on the keyboard.

As an alternative, touch the Split Point parameter to select it, and use the VALUE dial to select the new split point.

3   Press the EXIT button to return to the previous page. The new split point will be automatically memorized.

'Global' and 'local' (or temporary) split point

You can choose a 'global' split point that does not change when choosing a different Performance or STS. Or you can choose a 'local' split point that is better suited to the individual Performance or STS, and can change when selecting it. The 'local' split point is just temporary, and only becomes permanent when you write a Performance, an STS or a SongBook Entry.

To change the type of split point, select or deselect the Global parameter in the Split Point dialog.

Global Split	Split type	Meaning
On (Selected)	Global	Leave this box checked to use the global split point. This is the general setting from which you can start programming the local settings.
Off (Deselected)	Local	This box is automatically deselected when you start programming a local split point in the Main page. The local split point can be written into a Performance, STS or SongBook Entry. Use it when you need a particular split point for a particular Sound set.

Parts, tracks, channels

On the keyboard, Sounds are assigned to one of the keyboard parts (Upper, Lower). Linked to a part there is a track. In Styles and MIDI Songs, Sounds are directly assigned to tracks. Tracks are the equivalent of recorder tracks (with the associated mixer channels). In fact, HAVIAN 30 does include a recorder and a digital mixer! Assigning single Sounds to tracks simplifies the way you can mix and record them.

Parts	Tracks	Channels
Upper 1,2,3 ⟶	Upper 1,2,3 ⟶	Upper 1,2,3
Lower ⟶	Lower ⟶	Lower
	Accomp. Bs,Dr,Acc1...5 ⟶	Accomp. Bs,Dr,Acc1...5
	Song 1,2,3...16 ⟶	Song 1,2,3...16
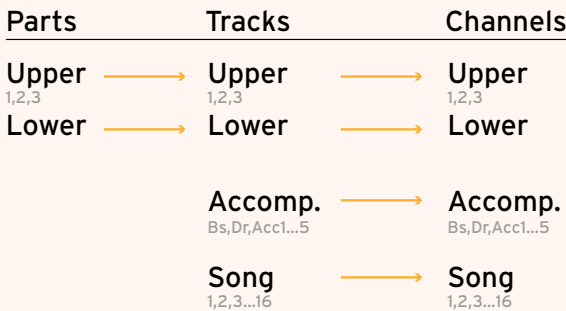
Playing two or three Sounds at the same time

Turning the Keyboard Sounds on or off

You can play up to three layered Sounds on the keyboard. This is useful to add, for example, a layer of Strings or Synth Pads to the Grand Piano sound. The Sounds will be assigned to the Upper part of the keyboard.

When the SPLIT button indicator is turned off (Full Keyboard mode), the Upper parts will play on the full range of the keyboard, as it happens on an acoustic piano. Otherwise (Split Keyboard mode), you will play the Upper Sounds with the right hand.
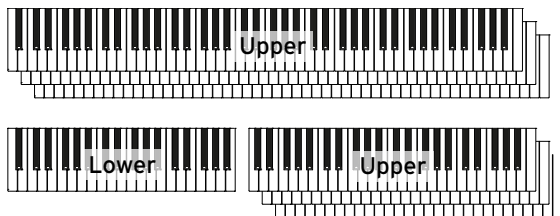
Turn a Sound off (Mute)

■   If the Sound you want to mute is in Play, touch the Play/Mute icon to set it to Mute.

Turn a Sound on (Play)

■   If the Sound you want to hear is in Mute, touch the Play/Mute icon to set it to Play.

Memorize the Sound status

■   Write the changes to a Sound set.

Choosing different Sounds

Choosing Sounds

You can assign different Sounds to the keyboard. The new combination of Sounds can then be written into a Performance or STS.

Select the Sound to be replaced

1   Be sure to be in the main page of the Style Play or Song Play mode. If you are not there, press either the STYLE PLAY or the SONG PLAY buttons in the control panel.

2   Touch the name of the Sound you want to change.

Open the Sound Select window from the control panel

■   Press the SOUND button.

Open the Sound Select window from the display

■   Touch a second time the name of the Sound you want to change.

Choose a Sound

1   Browse through the Sounds in the Sound Select window.
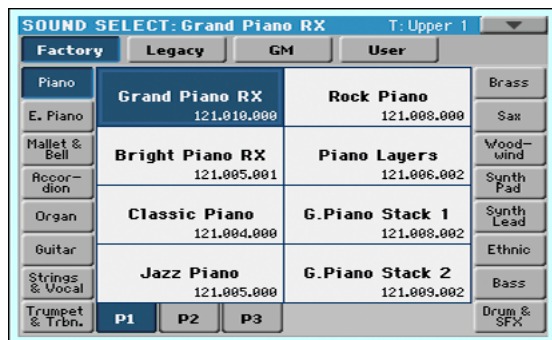
■ To choose one of the available types of Sound, touch the buttons at the top of the window.

Type of Sound	Meaning
Factory	Standard Sounds, that cannot be modified.
Legacy	Standard Sounds allowing for greater compatibility with older Pa-Series instruments.
GM	Standard Sounds, allowing for full compatibility with General MIDI Sounds and Drum Kits.
User	Locations where you can load new Sounds and Drum Kits from an external device, or save new or edited Sounds and Drum Kits.

■ To choose a different group of Sounds, touch one of the tabs on the sides of the window.

■ To choose one of the available pages in the selected Sound group, touch one of the P1…Px tabs at the bottom of the window.

2 Touch the name of the Sound you want to choose.

3 If you want to close the Sound Select window (and it does not close by itself), press the EXIT button. (When a window does not close by itself, it means the Display Hold is turned on. See Display Hold on page 52).

Memorize the assigned Sounds

■ Write the changes to a Sound set.

Mixing the Keyboard Sounds

Adjusting the Sound's volume

At its core, HAVIAN 30 is a mixer. As with any mixer, you can adjust the volume level of each Sound, therefore changing the balance between the different Sounds on the keyboard.

Adjust a Sound's volume level

1   While in the Main page, touch the Volume tab to select the Volume pane.
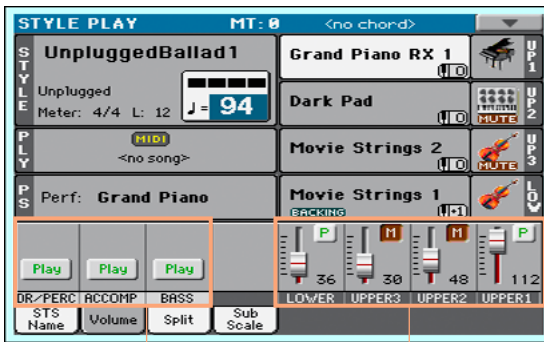
Accompaniment   Keyboard Sounds
Groups

2   Touch the mixer channel whose volume level you want to change.

3   Keep the virtual volume slider held on the screen, and drag it to the desired level.

As an alternative, use the VALUE dial to change the volume level of the selected channel.

Turning the Sounds on or off from the Volume pane

Sounds can be muted, in case you don't want to hear them in the mix.

Turn a channel off (Mute)

▪   Touch the Play icon (P) in the mixer channel corresponding to the Sound to mute (M).

Turn a channel on (Play)

Touch the Mute icon ( ) in the mixer channel corresponding to the Sound to play ( ).

Soloing a Sound

You can listen to a single Sound in solo, to understand how it sounds out of the mix.

Solo a Sound

■ While the Volume pane is shown, keep the SHIFT button pressed, and touch the mixer channel that you want to listen in solo.

In any page where it appears, you can touch the mixer channel corresponding to the Sound to isolate.

When this function is activated, the 'Solo' warning will flash on the page header.

Solo a Sound via menu command

As an alternative, you can solo a Sound using a menu command.

1   While in any page where the name of the Sound or the mixer channel corresponding to the Sound to listen in solo appears, touch it to select it.

2   Choose the Solo Track command from the page menu.

Deactivate Solo

Do one of the following:

■ While in any page where the mixer channels appear, keep the SHIFT button pressed, and touch the mixer channel that is currently in solo.

■ Choose the Solo Track command from the page menu to deselect it.

Transposing the Sounds to a different octave

Transposing all the Upper Sounds

All Upper Sounds can be transposed to an upper or lower octave at the press of a single button.

Transpose the Upper Sounds one octave up

▪ Press the UPPER OCTAVE + button on the control panel.

Transpose the Upper Sounds one octave down

▪ Press the UPPER OCTAVE - button on the control panel.

Reset the octave transposition

▪ Press both UPPER OCTAVE buttons together.

Transposing any Sound

You can transpose each Sound separately.

1 Go to the Style Play > Mixer/Tuning > Tuning page.

As an alternative, keep the SHIFT button pressed and press one of the UPPER OCTAVE buttons to open the Tuning page.
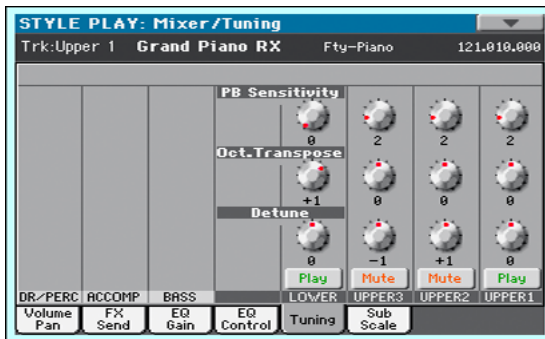
2   Touch the Oct. Transpose virtual knob corresponding to the Sound you want to transpose, then slide your finger to change the transpose value.

As an alternative, touch the parameter and use the VALUE dial to change the transpose value. Also, you can touch the parameter a second time to open the numeric keypad, then enter the transpose value.

3   Press the EXIT button to return to the previous page.

Memorize the octave transpose

■   Write the changes to a Sound set.

Using the Ensemble to add harmony

There are several types of Ensemble, but with most of them what you play with your right hand will be harmonized with the chords you play with your left hand.

Turning the Ensemble on or off

Turn the Ensemble function on

1   Be sure the SPLIT indicator is turned on.

2   Press the ENSEMBLE button to light up its indicator.

Play chords with your left hand, and a melody with your right hand. You will hear the chord notes added to the melody.

Turn the Ensemble function off

▪   Press the ENSEMBLE button again to turn its indicator off.

Choosing an Ensemble type

Select a different harmonization style

1   Go to the Style Play > Keyboard Ensemble > Ensemble page.

As an alternative, keep the SHIFT button pressed, and press the ENSEMBLE button to open the Ensemble page.
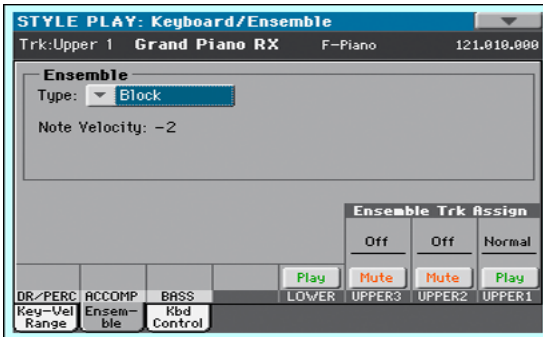
2   Use the Type parameter to choose an Ensemble type.

Ensemble type	Meaning
Duet	Adds a single note to the melody.
Close	Adds a closed-position chord to the melody.
Open 1	Adds an open-position chord to the melody.
Open 2	As the above, but with a different chord shape.
Block	Block harmonization – very typical of jazz music.
Power Ensemble	Adds a fifth and an octave to the melody, as heard in hard rock.
Third Up	This option adds a third over the melody note (depending on the recognized chord).
Fourths LO	Typical of jazz, this option adds two perfect fourths under the melody.
Fourths UP	As the above, but with notes added over the melody.
Fifths	This adds two fifths below the original note.
Octave	Adds an octave to the melody.
Dual	This option adds to the melody line a second note, at a fixed interval set with the "Note" parameter. When selecting this option, a transposition value appears (-24...+24 semitones to the original note).
Brass	Typical Brass section harmonization.
Reed	Typical Reed section harmonization.
Trill	When two notes are played on the keyboard, this option trills them. If three or more notes are played, only the last two are trilled. You can set the trill speed by using the Tempo parameter (see below).
Repeat	The played note is repeated in sync with the Tempo parameter (see below). When playing a chord, only the last note is repeated.
Echo	As the Repeat option, but with the repeated notes fading away after the time set with the Feedback parameter (see below).
AutoSplit1	If more than a single Upper track is in play, the Upper 1 track plays the melody in mono, while the other Upper tracks play the chord notes. If only the Upper 1 track is in play, it plays poly- phonically all the chord notes.
AutoSplit2	Similar to AutoSplit1, but the Upper 1 track always plays the upper-most note.

3   When they appear, adjust the additional parameters.

Additional parameters	How it works	Value
Note Velocity	Velocity (dynamics) difference between the melody played with your right-hand and the added harmonization notes.	-10…0
Tempo	Note duration for the Trill, Repeat or Echo Ensemble options. This is in sync with the Metronome Tempo.	
Feedback	Repetitions of the original note/chord when the Echo option is selected.	[n]

4   Use the Ensemble Track Assign parameter to set the Ensemble function for each of the Upper Sounds.

Ensemble Track Assign	Meaning
Off	No harmonization
Normal	This Sound is included in the harmonization
Mute	This Sound only plays the Ensemble notes, but not the original note.

Exit the Ensemble settings page

■   Press the EXIT button to return to the previous page.

15   Advanced editing of the Sound sets

The editing procedure

A – Choose a Sound set

Choose a Performance whose Sounds and settings to edit

- Press either the STYLE PLAY or SONG PLAY button, then choose the Performance whose Sounds you want to edit.

Choose an STS whose Sounds and settings to edit

- Press the STYLE PLAY button, then choose a Style, then the STS whose Sounds you want to edit.

Choose a Style whose Sounds and settings to edit

- Press the STYLE PLAY button, then choose the Style whose Sounds you want to edit.

Choose Sounds for the Song Play mode

- Press the SONG PLAY button, then choose any MIDI Song from disk. These changes will not be saved, and will only serve for on-the-fly customization of the Song.

Choose a MIDI Song whose Sounds and settings to edit

- Press the SEQUENCER button to go to the Sequencer mode, then choose from disk (or create by recording it) the MIDI Song whose Sounds you want to edit.

B – Access editing

1 Press the MENU button to access editing and see the edit menu.

2 Choose an edit section and edit page to access the parameters.

C – Choose a Sound to edit

Most editing is to be done on selected Sounds.

Switch between the Keyboard and Style or Song Sounds

■ Repeatedly press the TRACK SELECT button. The display will cycle between the Keyboard and the Style (or Song) Sounds.

Select the track/channel to edit

■ Touch the individual track/channel to select it.

Selected mixer channel

D – Save the changes

■ When finished editing, write the changes to a Sound set.

Mixing the Sounds

The Volume/Pan page is the internal digital mixer of the instrument.
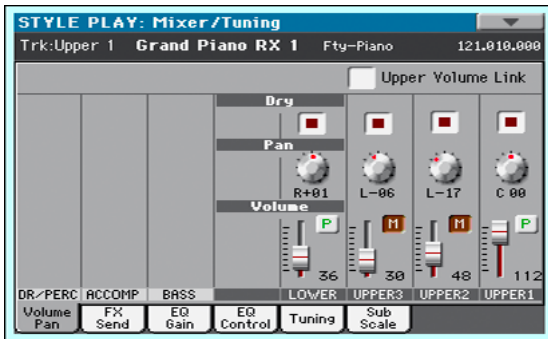
Setting the Volume and Play/Mute status

Access the Volume/Pan page

- Go to the Mixer/Tuning > Volume/Pan page.

Set the individual Sound's Volume

- Keep a virtual volume slider held on the screen, and drag it to the desired level.

  As an alternative, use the VALUE dial to change the volume level of the selected mixer channel.

Volume	Meaning
0…127	Volume level in MIDI values

Change the play/mute status of the individual Sound

- Repeatedly touch the Play (P) or Mute (M) icon in the mixer channel corresponding to the Sound whose status to change.

Linking the Upper Sound volume sliders

The Upper Sound volume sliders can be linked together, to proportionally change all Upper Sounds with a single slider.

1   Go to the Mixer/Tuning > Volume/Pan page.

2   Select or deselect the Upper Volume Link checkbox.

Upper Volume Link	Meaning
On	When you change the volume of one of the Upper Sounds, the volume of the other Upper Sounds is changed proportionally.
Off	You only move a single volume slider.

Setting the Pan

The Pan (panorama) is the Sound's position in the stereo field.

1   Go to the Mixer/Tuning > Volume/Pan page.

2   Keep the Pan knob held on the screen, and move it to the desired level.

As an alternative, use the VALUE dial to change the value of the selected knob.

Pan	Meaning
L-64 … L-1	Left
C 00	Center
R+1 … R+63	Right

Adding effects

The FX processors

HAVIAN 30 includes two groups of Master FXs.

FX Group	Style Play mode	Song Play mode
FX A	Accompaniment Sounds	MIDI Song Sounds (MID, KAR files)
FX B	Keyboard Sounds	Keyboard Sounds
		MIDI Song Sounds (Songs made with the HAVIAN 30 or a KORG Pa-Series instrument)

You can assign to the Master FXs any kind of available effects, but we found it convenient to arrange them in the following way:

FX	Type of FX
A-Master 1	Reverb processor for the Accompaniment and Song Sounds
A-Master 2	Modulating FX processor for the Accompaniment and Song Sounds
B-Master 1	Reverb processor for the Keyboard Sounds
B-Master 2	Modulating FX processor for the Keyboard Sounds

Effects

HAVIAN 30 include a powerful multi-effect processor for the internal Sounds. These effects contribute to make the final sound of the instrument, adding vibe and a sense of the space. There are four effects, to which the Sounds can be sent from their internal mixer channel. Two effects are reserved to the keyboard, the other two to the Style or Song tracks. Optionally, Songs can use all four effects.

At the end of the audio path there is a Master EQ, used to process both Sounds and MP3 Songs and give more punch and refinement to the final, produced sound going to the audience.

Choosing the FX group and setting the FX Send level

Each Sound can send its audio signal to a group of FX processors. The amount of signal sent is called the FX Send level.

Access the FX Send page

■ Go to the Mixer/Tuning > FX Send page.
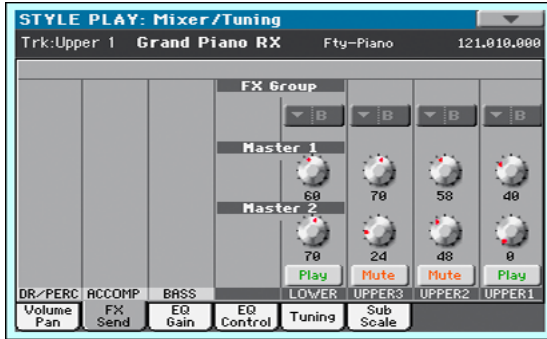
Choose the FX Group

In Style Play and Song Play mode, the FX group is fixed and you cannot choose it (you can only see it). In Sequencer mode you can freely choose it for each Song track.

■ On each mixer channel, use the FX Group pop-up menu to see or choose the FX group.

FX Group	Meaning
A	FX group A
B	FX group B

Set the FX Send level

■ On each mixer channel, use the Master 1 and Master 2 knobs to control the level of the direct (dry) signal sent to the corresponding FX processor (inside the selected FX group).

Master 1/2	Meaning
0…127	FX Send level in MIDI values

Including or excluding the dry (direct) signal

The dry (or 'direct') signal is the raw sound, without the effects. It should be normally included in the output signal to give a sense or presence of the source Sound.

1 Go to the Mixer/Tuning > Volume/Pan page.

2 Select or deselect the Dry checkbox corresponding to the Sound you want to program.
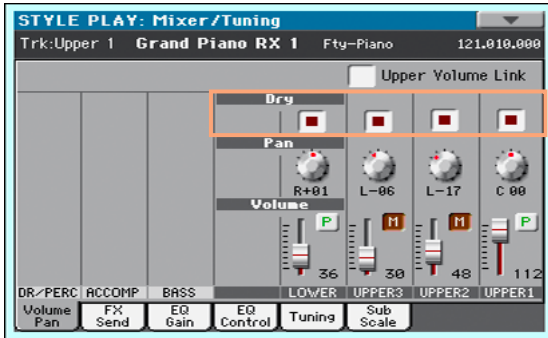
Dry	Meaning
On	The direct signal is sent to the output, mixed with FXs.
Off	The direct signal is removed from the audio output, and only sent to the FXs. The effected signal will still be positioned (in stereo FXs only) according to the Pan value.

Choosing the effects and setting their controls

Access the FX A/B Config page

1 Go to the Effects > FX A/B Config page.

2 Use the side tabs on the right to choose an FX Group.
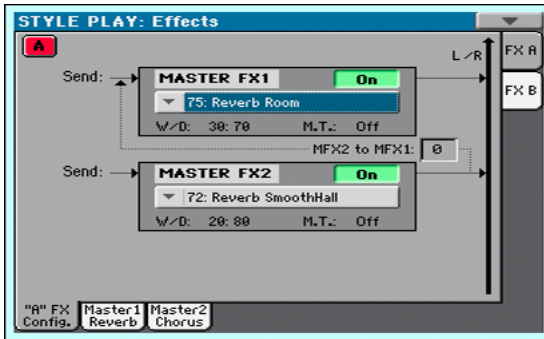
Choose an effect for each FX processor

▪ Use the relevant pop-up menu to choose the effect assigned to the Master FX1 or Master FX2 processor (inside the selected FX Group).

Usually, FX1 are reverbs, while FX2 are modulating effects (chorus, flanger, delay…). See the dedicated chapter for a list of the available effects.

Mix the direct and effected signal inside the FX processors

▪ Use the W/D (Wet/Dry) parameter to set the balance between the Wet (effected) and Dry (direct) signal inside the corresponding FX processor.

Choose a modulating track

You can modulate one of the effect parameters by using MIDI messages generated by the internal physical controllers.

▪ Use the M.T. (Modulating Track) parameter to choose a track as a source of the modulating MIDI messages.

Feed the FX2 output back to the FX1 input

You can send the output of the FX2 processor (modulating effect) to the input of the FX1 processor (reverb). This is preferred, for example, to send a guitar amp simulator to the reverb.

- Use the MFX2 to MFX1 parameter to set the amount of the Master FX2 signal to be sent back to the Master FX1 processor.

Editing the effects

Choose the effect to edit

1 Go to the Effects > Master 1 or Master 2 page.

2 Use the side tabs on the right to choose an FX Group.
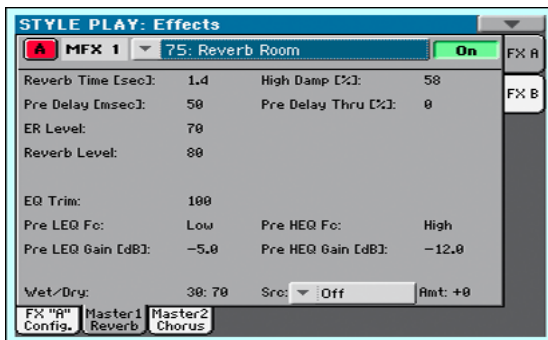
Edit the parameters

- See the dedicated chapter for a list of all the Effects parameters and their meaning.

Mix the direct and effected signal inside the FX processors

- Use the W/D (Wet/Dry) parameter to set the balance between the Wet (effected) and Dry (direct) signal inside the corresponding FX processor.

Choose the Dynamic Modulation Source

- Use the Src (Source) parameter to choose a modulation source (physical controller or MIDI message).

See the chapter dedicated to the Effects for a list of all the Dynamic Modulation Sources.

Copying the Effects

To speed up programming, you can copy a single effect (Master 1, Master 2), or both effects of an FX group (A or B). You can copy them between different elements (for example, between Styles and Performances, or STSs and Songs or Sounds).

The Copy/Paste operation only copies the parameters of the Effects section. Parameters contained in other sections, like Dry or FX Send, are not copied. Please note that these parameters are relevant in the final sound of the effects, so please fine-tune them after copy/pasting.

Copying a single effect

1   Select the source element (Performance, STS, Style, Song or Sound).

2   Choose the source FX group (A or B) by touching the corresponding side tab.

3   Go to the edit page of the effect you want to copy (Master 1/Reverb, Master 2/Chorus).

4   Choose the Copy FX command from the page menu.

5   Select the target element (Performance, STS, Style, Song or Sound).

6   Go to the edit page of the effect you want to paste (Master 1/Reverb, Master 2/Chorus).

7   Choose the Paste FX command from the page menu.

Copying all the effects in an FX group

1   Select the source element (Performance, STS, Style, Song or Sound).

2   Go to the Effects > A/B FX Config page.

3   Choose the source FX group (A or B) by touching the corresponding side tab.

4   Choose the Copy FX command from the page menu.

5   Select the target element (Performance, STS, Style, Song or Sound).

6   Go to the Effects > A/B FX Config page.

7   Choose the target FX group (A or B) by touching the corresponding side tab.

8   Choose the Paste FX command from the page menu.

Equalization

The Channel Equalizer

HAVIAN 30 includes three-band equalization (EQ) on each individual mixer channel. Each Sound can be individually equalized.

Setting the EQ gain

1   Go to the Mixer/Tuning > EQ Gain page.
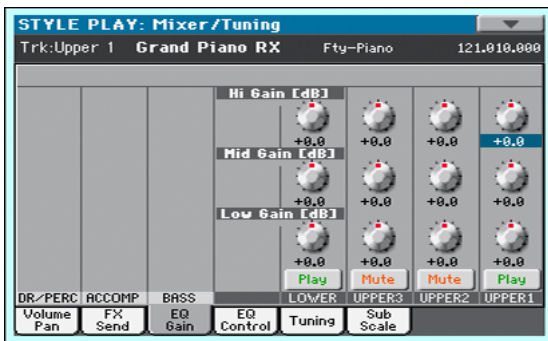
2   Keep the Gain knob held on the screen, and move it to the desired level.

As an alternative, use the VALUE dial to change the value of the selected knob.

EQ Gain	Meaning
Hi (High) Gain	
-18 … +18dB	High frequencies equalization. This is a shelving curve filter.
Mid (Middle) Gain	
-18 … +18dB	Middle frequencies equalization. This is a bell curve filter.
Low Gain	
-18 … +18dB	Low frequencies equalization. This is a shelving curve filter.

Input sensitivity and bypassing

The EQ Control page lets you set the input sensitivity and bypass EQ on each channel.

Track Reset
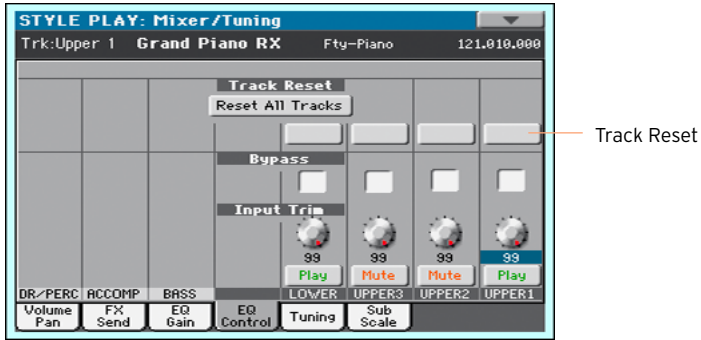
Access the EQ Control page

- Go to the Mixer/Tuning > EQ Control page.

Trim the EQ input

Extreme equalization gains can overload the audio circuits and lead to distortion. You can however trim the input to avoid overloading.

- Use the Input Trim knobs to limit the level of the signal passing through the equalizer.

Input Trim	Meaning
0 … 99	Limiting value. The higher, the most effective it is.

Bypass the EQ

- Select the Bypass checkbox on the mixer channel you want to exclude from equalization.
- Deselect the Bypass checkbox to activate the EQ again.

Resetting the EQ

Still in the EQ Control page, you can reset the EQ to the default (that is, 'flat')
status.

Reset the EQ on a single channel

▪ Touch the Track Reset button corresponding to the channel whose EQ you
want to reset.

Reset the EQ on all channels

▪ Touch the Reset All Tracks button.

Octave and fine tuning

The Tuning page lets you set the octave and fine tuning on each channel.
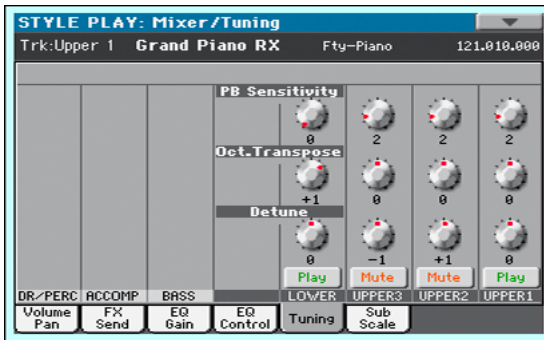
Setting each Sound's octave transpose and fine tuning

Access the Tuning page

▪ Go to the Mixer/Tuning > Tuning page.

Set the octave transpose

▪ Use the Oct. Transpose knobs to set the octave transpose for each Sound.

Octave Transpose	Meaning
-3 … +3	Octave Transpose value (in octaves).
0	Standard tuning.

Set the fine tuning

▪ Use the Detune knobs to set the fine tuning for each Sound.

Detune	Meaning
-64 … +63	Sound pitch (in cents of a semitone).
00	Standard tuning.

Sound routing, polyphony, key and velocity range

The Mode page is where you set the Internal/External status of the tracks, and choose their type (Drum, Poly, Mono).
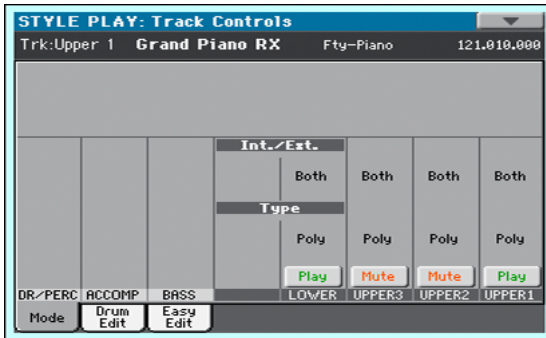
Using internal or external Sounds

Usually, the Keyboard, Arranger and Player play the internal Sounds. However, you can choose to let them play an external sound generator.

Connect HAVIAN 30 to the internal or external sound generator

1   Go to the Track Control > Mode page.

2   Use the Int/Ext parameter to connect the corresponding part/track to the internal and/or external sound generation.

Int/Ext	Meaning
Both	The track plays both the internal sounds and an external instrument connected to the USB HOST port.
Internal	The track plays the sounds generated by the internal sound generator. It does not play an external instruments connected to the USB HOST port.
External	The track plays an external instrument (hardware or software) connected to the USB HOST port. The connected device must receive data on the MIDI channel associated with this track on the HAVIAN 30.

External Sounds and Program Change messages

A track set to the External status cannot play the internal sounds. Instead of the assigned Sound name, the **<E: aaa.bbb.ccc>** indicator is shown on a track's area in the Main page:
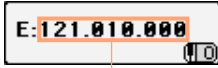
Control Change/
Program Change area

This indicator begins with a remark saying the track is in External ('E') mode, and continues with a strings of transmitted Control Change and Program Change data. This will let you know what the track is transmitting. In the following example, CC#0 is the Control Change 0 (Bank Select MSB), CC#32 is the Control Change 32 (Bank Select LSB), PC is the Program Change:

CC#0 value   CC#32   PC value
              value
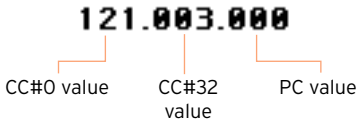
When touching the Sound area, the numeric keypad appears, instead of the Sound Select window. You can enter the Control Change/Program Change bundle shown above, separating the three parts with a dot (.).

Mono, Poly, Drum type

Each track can be set as monophonic, polyphonic, or as a Drum/Percussion track.

Choose the track type

1   Go to the Track Control > Mode page.

2   Use the Type parameter to choose the track type.

Type	Meaning
Drum	Drum/Percussion track. Set a Keyboard Sound to Drum mode, if you don't want it to be transposed (it will behave as a Drum Kit, even if it is an ordinary Sound). Also, set it to Drum mode if you wish to separately adjust the volume for each percussive family of a Drum Kit.
	Drum Kits are never transposed, whichever the type of track they are assigned to.
	This parameter will appear dimmed (non-editable), it the track has already been set to Drum or Percussion mode in Style Record.
Poly	Tracks of this kind are polyphonic, i.e. they can play more than one note at the same time.
Mono	Tracks of this kind are monophonic, i.e. each new note stops the previous note.
Mono Right	A Mono track, with priority assigned to the rightmost (highest) note.
Mono Left	A Mono track, with priority assigned to the leftmost (lowest) note.

Key and Velocity Range

You can program a key and velocity zone for each of the Keyboard Sounds.

Key range is useful to create a set of Keyboard tracks playing in different zones of the keyboard. For example, you may have French Horns and Woodwinds playing in the center range of the keyboard, while only Woodwinds play on the higher range.

Velocity range is useful to create a sound made of up to three dynamic layers, assigning each of the Upper tracks to a different velocity zone. As an example, you may choose El.Piano 1 as the Upper 1 Sound, and El.Piano 2 as the Upper 2 Sound. Then, set Upper 1 to Bottom=0, Top=80, and Upper 2 to Bottom=81, Top=127. The El.Piano 1 will play when playing softer, the El.Piano 2 when playing louder.

Access the Key/Velocity Range page

- Go to the Keyboard/Ensemble > Key/Velocity Range page.
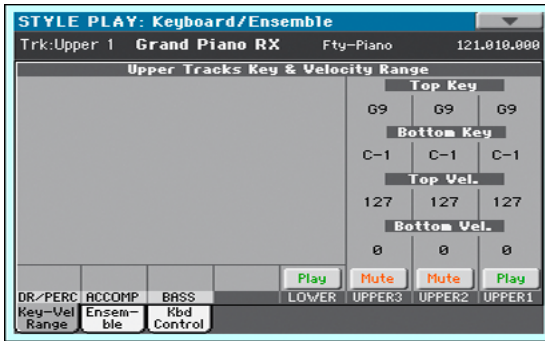
Set the Key Range

- Use the Top Key and Bottom Key parameters to set the Top and Bottom limits of the track's Key zone.

Key	Meaning
C-1 … G9	Selected key.

Set the Velocity Range

- Use the Top Vel. and Bottom Vel. parameters to set the Top and Bottom limits of the track's Velocity zone.

Velocity	Meaning
0 … 127	Velocity value.

Easy editing of Drum Kits

You can adjust the volume and edit the main parameters for each family of Drum and Percussion instrument for the selected track. A list of families is shown below.

These parameters can be accessed only on tracks set to the Drum mode in the Track Controls > Mode page. Use them on tracks with a Drum Kit assigned, or you will not be able to hear any change.

Edit the Drum Kits

1   Go to the Track Controls > Drum Edit page.

2   If you like, start the Style or Song to listen to the changes during playback.

3   If you like, solo the track you are editing, to isolate it from the other tracks.

4   Use the Select buttons to select a track set to Drum mode (usually, the Drum and Percussion tracks).

After selecting a track set in Drum mode, the parameters in the page can be selected (otherwise, they remain dimmed).

5 Select one of the Drum families, by using the Drum Family icons on top of the page.

Drum family icon	Drum family
	Kick drums
	Snare drums
	Toms
	Hi-Hat cymbals
	Ride, Crash and other cymbals
	Low-pitched percussions
	High-pitched percussions
	Special effects

6 Check the value of the selected parameter for all the Drum families. An overview of the current parameter can be seen under the icons of the Drum families. This will let you compare the value of the selected family with all the others. The values appear dimmed (non editable).

7 Select and edit the parameters. All values are offsets referred to the value of the original Drum Kit.

Sound parameter	Meaning	Value
Volume	Instrument's family volume.	0 … 127
Attack	Attack time. This is the time during which the sound goes from zero (at the moment when you strike a key) to it's maximum level.	-64 … +63 (offset)
Decay	Decay time. Time to go from the final Attack level to the minimum level.	
Cutoff	Filter cutoff. This sets the sound brightness.	
Resonance	Use the Filter Resonance to boost the cutoff frequency.	
Fine Tune	Fine instrument tuning.	
Coarse Tune	Coarse instrument tuning.	
EQ Hi	Equalization, High band.	
EQ Mid	Equalization, Middle band.	
EQ Low	Equalization, Low band.	
MFX 1 Send	Scales the Send level to the Master FX1.	
MFX 2 Send	Scales the Send level to the Master FX2.	

Resetting a Drum family

▪ Touch the Reset Family button to reset all edited values.

Resetting a track

▪ Touch the Reset Track button to reset all changes to the selected track.

Easy editing of Sounds

You can edit the main Sounds parameters.

Edit the Sounds

1   Go to the Track Controls > Easy Edit page.
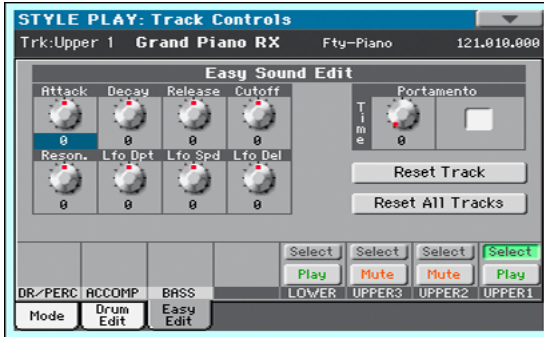
2   If you like, start the Style or Song to listen to the changes during playback.

3   If you like, solo the Sound you are editing, to isolate it from the other tracks.

4   Use the Select buttons to select the Sound to edit.

5   Use the knobs to edit the corresponding parameters. All values are offsets referred to the value of the original Sound.

Sound parameter	Meaning	Value
Attack	Attack time. This is the time during which the sound goes from zero (at the moment when you strike a key) to it's maximum level.	-64 … +63 (offset)
Decay	Decay time. Time to go from the final Attack level to the minimum level.	
Release	Release time. This is the time during which the sound goes from the sustaining phase, to zero. The Release is triggered by releasing a key.	
Cutoff	Filter cutoff. This sets the sound brightness.	
Resonance	Use the Filter Resonance to boost the cutoff frequency.	
LFO Depth	Intensity of the Vibrato (LFO).	
LFO Speed	Speed of the Vibrato (LFO).	
LFO Delay	Delay time before the Vibrato (LFO) begins, after the sound starts.	

Setting Portamento

Portamento is a smooth sliding transition from a note to the following one.

- Use the Portamento > Time knob to adjust the speed of portamento.
- Select the Portamento checkbox to turn portamento on, or uncheck it to turn it off.

Resetting a track

- Touch the Reset Track button to reset all changes to the selected track.

Resetting all tracks

- Touch the Reset Family button to reset all edited values.

16   **Writing the Sound sets**

Writing a Performance

Performances can save the Keyboard Sounds and settings.

Writing Performances

Open the Write Performance dialog from the control panel

■ While in Style Play or Song Play mode, keep any of the PERFORMANCE buttons pressed for about one second.

Open the Write Performance dialog from the display

■ While in Style Play or Song Play mode, choose the Write Performance command from the page menu to open the Write Performance dialog.

Performance name

Performance bank

Performance location

Touch to open the Performance Select window
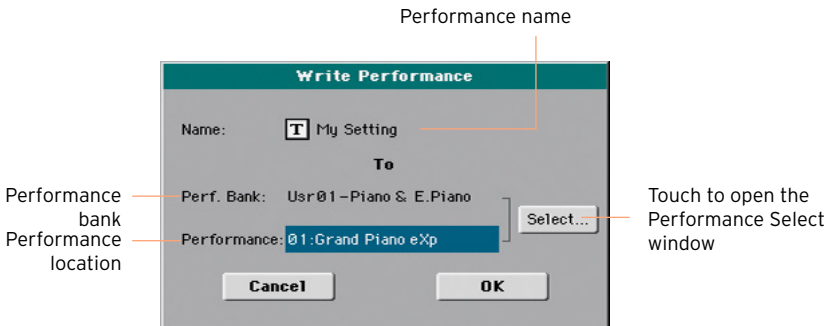
Write over the same Performance

■ If you want to overwrite the current Performance, just touch the OK button.

Write to a different Performance location

1 If you want to save onto a different location, touch the Select button and open the Performance Select window. Choose a location as if you were

choosing a Performance. Blank locations are shown as a series of dashes ('---').

2   When back at the Write Performance dialog, you may change the name of the Performance. Touch the Text Edit ($\boxed{\text{T}}$) icon to open the virtual keyboard and edit the name.

When done editing the name, confirm by touching the OK button under the virtual keyboard.

3   When back at the Write Performance dialog, confirm the Write operation by touching the OK button.

Writing an STS

STSs (Single Touch Settings) can save Keyboard Sounds and settings, inside a Style. When choosing a Style, four STSs matching the selected Style are automatically selected. Four STSs are associated to each Style.

Note: Changes can only be saved onto Favorite and User Styles, and onto SongBook Entries. They cannot normally be saved onto Factory Styles. To write changes onto a Factory Style, you must first remove the Factory Style protection (in the Global > Mode Preferences > Media page, see page 637).

Writing an STS into a Style

Choose the target Style

▪ After editing the Sound sets, choose a Style where to save it.

Open the Write Single Touch Setting dialog from the control panel

▪ While in Style Play or Song Play mode, keep any of the STS buttons pressed for about one second.

Open the Write Single Touch Setting dialog from the display

1 While in Style Play or Song Play mode, choose the Write Single Touch Setting command from the page menu to open the Write Single Touch Setting dialog.
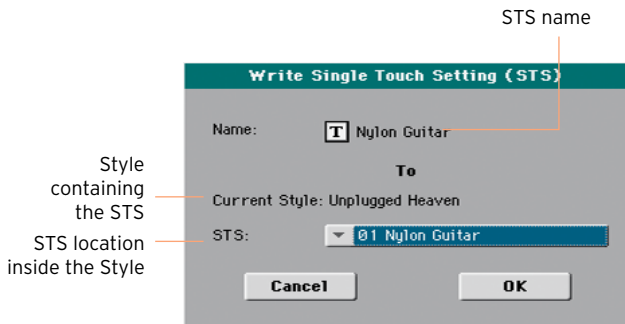
Write the STS

▪ If you want to overwrite the current STS, just touch the OK button.

▪ If you want to write the STS to a different location inside the same Style, touch the arrow next to the STS parameter to open a pop-up menu and choose a different location.

2   You may change the name of the STS. Touch the Text Edit ($\boxed{\text{T}}$) icon to open the virtual keyboard and edit the name.

When done editing the name, confirm by touching the OK button under the virtual keyboard.

3   When back at the Write Single Touch Setting dialog, confirm the Write operation by touching the OK button.

Write the STS into a different Style

1   Choose the Style containing the original STS.

2   Edit the STS.

3   Choose the Style where you want to copy the modified STS.

4   Write the STS into the preferred location.

Saving STSs into a SongBook Entry

Four STSs are associated to each SongBook Entry. You can write the changes to the Keyboard Sounds and settings into one of the STSs. When choosing a SongBook Entry, four STSs matching the selected Entry are automatically selected.

Save STSs to a new SongBook Entry

You can create a new SongBook Entry, and at the same time save the STSs with it.

1   While you are in Style Play or Song Play mode, keep the SONGBOOK button pressed for one second to open the Write Song page.
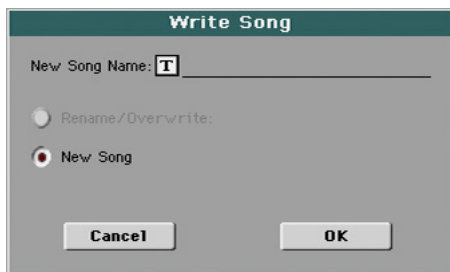
2   Touch the New Song Name parameter and assign the Entry a name.

3   Touch the OK button to save the new SongBook Entry.

Together with the STSs, all the current settings are saved into the new SongBook Entry (including the selected Style or the selected Song).

Save STSs to an existing SongBook Entry

You can edit or replace the STSs of the selected SongBook Entry.

1   While you are in Style Play or Song Play mode, go to the SongBook > Book page, and choose a SongBook Entry.

a. Select an Entry

b. Touch Select
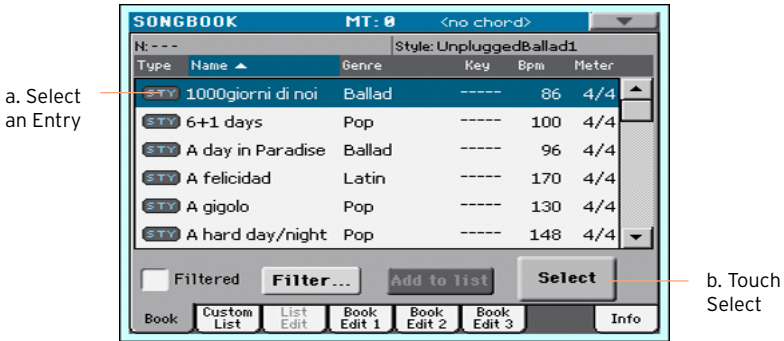
2   Press the EXIT button to return to the previous page.

Do not choose a different SongBook Entry, or different STSs would be selected.

3   If you want to get the STSs from a different Style, press the STYLE button and choose the Style.

4   Choose an STS and edit the Keyboard Sounds (selected Sounds, Split, Play/Mute, Octave Transpose…).

5   Go to the SongBook > Book Edit 1 page.
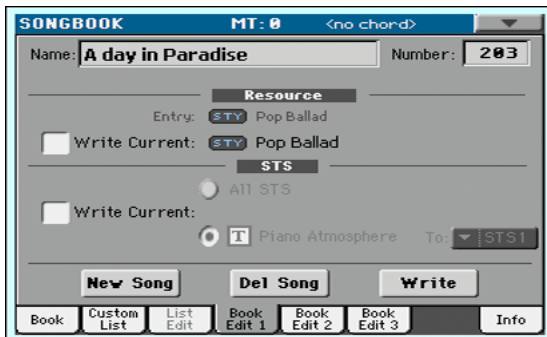
6   Select the STS > Write Current checkbox. At this point, you can either choose to save all the STSs, or just save the selected STS.

▪   Choose All STS to save all four STSs (including the edited one) to the SongBook Entry. This will overwrite all four STSs contained in the SongBook Entry.

■ Choose the single STS, assign it a name, and choose one of the four locations inside the SongBook Entry where to save it. This will only overwrite the selected STS, and leave all the others untouched.

7   Touch the Write button to make the Write Song dialog appear.

Write Song

New Song Name: T LoveSong

⦿ Rename/Overwrite: LoveSong

◯ New Song

Cancel   OK

■ To overwrite the current SongBook Entry, choose Rename/Overwrite.

■ To create a new SongBook Entry, choose New Song.

8   Touch the New Song Name line if you want to edit the SongBook Entry's name.

9   Touch OK to save the SongBook Entry.

Writing Style Settings, Song Settings and MIDI Song Sounds

The Sounds' configuration can also be written into other elements.

- To edit additional Style parameters, and save the Style Settings, see the pages starting from Customizing the Styles on page 175.

- To edit additional parameters of the Song Play mode, and save the Song Play Settings, see the pages starting from Customizing the Songs on page 263.

- To edit additional MIDI Song parameters and save them into a Standard MIDI File, see the pages starting from Editing the MIDI Songs on page 295.

PART V:
CUSTOMIZING, RECORDING AND EDITING THE STYLES

17   Customizing the Styles

Setting the Chord Recognition

Choosing where to play chords (Chord Scan area)

You can play chords with your left or right hand separately, or with both hands. You can choose the recognition area, depending on the song you are playing and your preferred playing style.

The area where chords are recognized depends on the status of the SPLIT button's indicator.

SPLIT status	Where to play chords (Chord Scan area)
On	Left hand (Lower area of the keyboard)
Off	Both hands (full keyboard)

Make chords be recognized when played with your left hand

▪ Press the SPLIT button to turn its indicator on. This will also split the keyboard between the Lower and Upper Sounds.

Make chords be recognized when played with both hands

▪ Press the SPLIT button to turn its indicator off. This will also make the Upper Sounds play on the full keyboard.

Memorize the Chord Scan area

▪ Write the Sound set.

Choosing how to play chords (Chord Recognition mode)

You can play chords in the simplest (even simplified), or the most sophisticate way. It's at you how chords have to be played to be recognized.

1   Go to the Global > Mode Preferences > Style page.

As an alternative, keep the SHIFT button pressed and press the STYLE PLAY button to open the Style page.
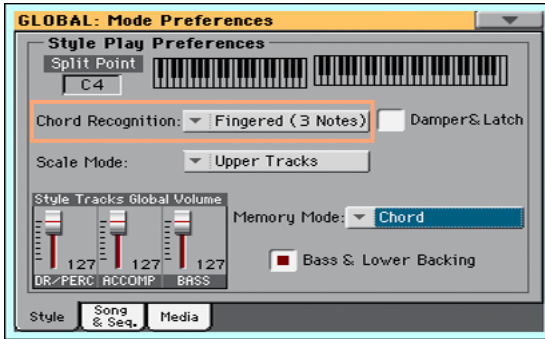
2   Choose how to play chords by using the Chord Recognition menu.

Chord Recognition	How to play chords
One Finger	This mode is only available when the SPLIT indicator is turned on. If you turn it off, the mode will automatically switch to Fingered. With this mode, you can compose a chord using a simplified chord playing technique: • Play a single note for a Major chord to be recognized. • Play the root note, plus a white key on the left, for a 7th. For example, play C3 + B2 for a C7. • Play the root note, plus a black key on the left, for a Minor chord. For example, play C3 + Bb2 for a C minor. • Play the root note, plus a white and a black key on the left, for a Minor 7th. For example, play C3 + B2 + Bb2 for a C min 7.
One Finger Plus	This mode works like One Finger. However, if you play complete chords, it will recognize them as if you were in Fingered (3 Notes). This way, you can play chords that One Finger cannot recognize.
Fingered (1 Note)	When the SPLIT indicator is turned on, play one or more notes to compose a chord. A full Major chord will be recognized even if only a single note is played. When the SPLIT indicator is turned off, play at least three notes to compose a chord.
Fingered (3 Notes)	Always play three or more notes for a chord to be recognized.

Chord Recognition	How to play chords
Advanced	When the SPLIT indicator is turned on, play two or more notes for a chord to be recognized.
	When the SPLIT indicator is turned off, play at least three notes to compose a chord. If you play a single note, a "root+8ve" will be played. If you play a fifth, a "root+5th" chord will be played.
	With this mode, you can play rootless and slashed chords, often used in jazz, fusion or modern pop. This type of chord recognition is very useful to play piano chords typical of jazz piano players. You don't always need to play the root note, that would double the note already played by the bassist.

3   Press the EXIT button to return to the previous page. The Chord Recognition mode will be automatically memorized.

Hold the recognized chord when pressing the pedal

If you select the Damper&Latch checkbox, the recognized chord will be held for as long as the Damper pedal is kept held.

In this case, you can freely play any chord on the keyboard, and the arranger will still play the older chord. This is especially useful when the SPLIT indicator is turned off, and all notes you play on the keyboard could be mistakenly recognized as a new chord.

Mixing the grouped Accompaniment Sounds

Grouped Accompaniment Sounds

As in a mixer, the Accompaniment Sounds can be grouped together. For example, instead of separately muting the guitar and the strings parts in the Accompaniment, you can mute the Accompaniment (ACCOMP) group by touching a single button.

Grouped Accompaniment Sounds can be accessed directly from the Main page > Volume pane:
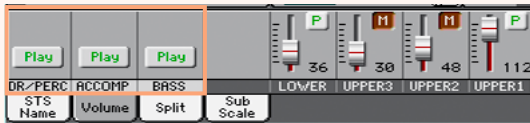
Muting grouped Accompaniment parts

Turn a group of Accompaniment Sounds off (Mute)

■ If the group you want to mute is in Play, touch the Play/Mute icon to set it to Mute.

Turn a group of Accompaniment Sounds on (Play)

■ If the group you want to hear is in Mute, touch the Play/Mute icon to set it to Play.

Adjusting the (global) Accompaniment groups volume

Groups volume is a global setting, that is not meant to change when you select a different Style. To avoid abrupt change in the volume level of the Accompaniment Sounds during a show, we moved the volume settings to a safer area than the Main page.

Adjust the volume of a group of Accompaniment Sounds

1   Go to the Global > Mode Preferences > Styles page.

As an alternative, keep the SHIFT button pressed and press the STYLE PLAY button to open the Style page.
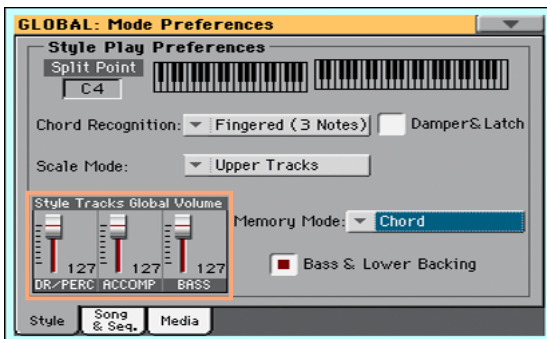
2   In the Style Tracks Global Volume section, touch the mixer group channel whose volume level you want to change.

Grouped part name	Meaning
DR/PERC	Grouped Drum and Percussion parts (volume offset)
ACCOMP	Grouped Accompaniment parts (Acc1-5) (volume offset)
BASS	Bass part (volume offset)

3   Keep the virtual volume slider held on the screen, and drag it to the desired level.

As an alternative, use the VALUE dial to change the volume level of the selected channel.

As it happens with the groups of a mixer, these levels are not the actual channel level, but a global offset added to the separate channels. Therefore, the resulting level will depend on the individual level of each channel, summed to this group's offset.

If you like, you can finely mix the various groups. For example, if you prefer Drums and Bass to be more prominent to let them have more 'punch', you can lower the grouped Accompaniment Sounds to leave more room to the other Sounds.

If you whish to permanently mute a group, just move its volume to zero.

The (relative) volume level of grouped tracks will remain the same for all the subsequent Styles you will choose during your performance.

4   Press the EXIT button to return to the previous page. The group levels will be automatically memorized.

18   Editing the Style Settings

Mixing the individual Accompaniment Sounds

Adjusting the volume of the individual Accompaniment Sounds

As you can do with the Keyboard Sounds, you can adjust the volume of the individual Accompaniment Sounds. This will allow for finer balancing between Accompaniment Sounds.

Note: Changes can only be saved onto Favorite and User Styles. They cannot be saved onto Factory Styles. To write changes onto a Factory Style, you must first remove the Factory Style protection (in the Global > Mode Preferences > Media page, see page 637).

See the Accompaniment parts mixer

■   While in the Main page, touch the Volume tab to select the Volume pane, then press the TRACK SELECT button to switch to the Accompaniment Sounds.
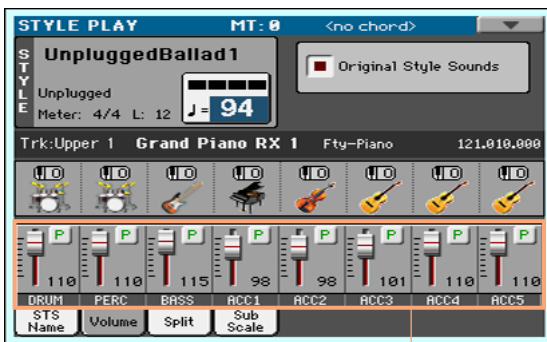
Accompaniment parts

Adjust an Accompaniment Sound's volume level

1 Touch the mixer channel whose volume level you want to change.

Separate part name	Meaning
DRUM	Drum part (real channel volume)
PERC	Percussion part (real channel volume)
BASS	Bass part (real channel volume)
ACC1-5	Five separate Accompaniment parts (Acc1-5). These may freely be melodic or chordal parts (real channel volume)

2 Keep the virtual volume slider held on the screen, and drag it to the desired level.

As an alternative, use the VALUE dial to change the volume level of the selected channel.

Return to the Main page

■ When done, press the TRACK SELECT button again to switch back to the Main page and see the grouped parts.

Memorize the volume level

■ Write the Style Settings.

Turning the individual Accompaniment Sounds on or off

Sounds can be muted, in case you don't want to hear them in the mix. As an example, the Accompaniment might contain a Piano part, and you want to play it live on the keyboard.

Note: Changes can only be saved onto Favorite and User Styles. They cannot be saved onto Factory Styles. To write changes onto a Factory Style, you must first remove the Factory Style protection (in the Global > Mode Preferences > Media page, see page 637).

See the Accompaniment parts mixer

■ While in the Main page, touch the Volume tab to select the Volume pane, then press the TRACK SELECT button to switch to the Accompaniment Sounds.
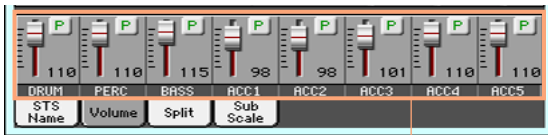
Accompaniment parts

Turn a channel on (Play) or off (Mute)

■ Touch the Play (P) or Mute (M) icon in the mixer channel to turn the Sounds on or off.

Return to the Main page

■ When done, press the TRACK SELECT button again to switch back to the Main page and see the grouped parts.

Memorize the play/mute status

■ Write the Style Settings.

Soloing an Accompaniment Sound

You can solo an Accompaniment Sound exactly as you would do with the Keyboard Sounds.

Changing the Sounds of the Accompaniment parts

Style Settings vs. Style Pattern

Sounds can be assigned to the Accompaniment parts in two ways, depending on the status of the Original Style Sounds parameter.

Switch between Style Settings and Style Pattern Sounds

1   While in the Main page, press the TRACK SELECT button to switch to the Accompaniment Sounds.
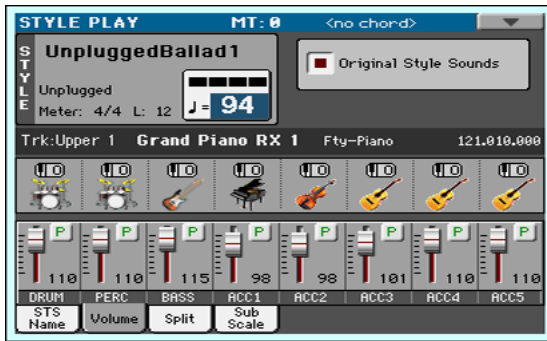
2   Select or deselect the Original Style Sounds parameter to chose between the Style Settings and Style Pattern Sounds.

Original Style Sounds status	Accompaniment Sounds
On	Original Sounds recorded as Program Change events inside the pattern of each Style Element (Intro, Variation…). This option offers a finer control, but requires more editing.
Off	Sounds assigned to each Accompaniment part by the Style Settings. Sounds do not change when selecting a different Style Element (Intro, Variation…). They will only change when choosing a different Style. This option offers less flexibiilty, but makes editing much easier.
	If you assign a different Sound to an Accompaniment part, this parameter will be automatically deactivated.

Changing Sounds in the Style Settings

You can assign different Sounds to the Accompaniment parts of the entire Style. These Sounds will not change when choosing a different Style Element (Intro, Variation…). The new combination of Sounds can be written into the current Style Settings.

Choose a different Sound for the Accompaniment parts

1   While in the Main page, touch the Volume tab to select the Volume pane.

2   Press the TRACK SELECT button to switch to the Accompaniment Sounds.
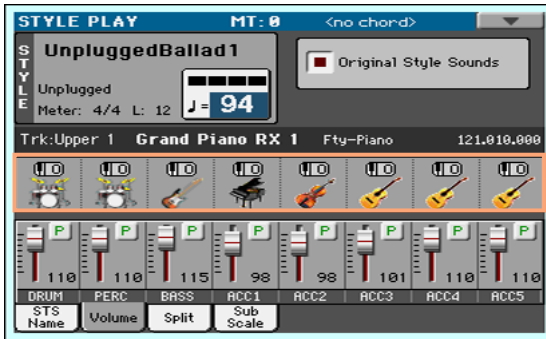
Sounds of the Accompaniment parts

3   Be sure the Original Style Sounds checkbox is not selected. In any case, it will be automatically deselected when choosing a Sound.

This will make the Style choose the Style Settings Sounds, instead of the Sounds assigned to the Style Patterns (the 'original' Sounds).

4   Choose Sounds by touching the Sound icon on each track.

These Sounds will become part of the Style Settings. They will remain the same for the whole Style, and will not change when choosing different Style Elements.

Memorize the assigned Sounds

▪   Write the Style Settings.

Changing Sounds in the Style Pattern

You can assign Sounds to each Accompaniment part of each Style Element (Intro, Variation…). This option requires editing the Style, since the events are recorded into the Style Pattern. Please see the relevant chapter.

Drum Kits

Drum Kits (including Percussion Kits) are special Sounds, where each note of the keyboard is a different percussive instrument. To preserve the kit's mapping, Drum Kits are not affected by transposition.

Choose the Drum and Percussion Accompaniment parts

Usually, you will assign Drum Kits to the DRUM part, and Percussion Kits to the PERC part.

Choose Drum Kits

Choose Drum Kits as any other Sound. Drum Kits are contained in the Drum & SFX and User DK banks.

Setting the Style controls

Remapping Drum Kit instruments

You can remap Drum Kit instruments to add variety to the percussive part. Select different Maps and Designations while listening to the Style, and see how they affect the final result.

1   Go to the Style Play > Style Controls > Drum/Fill page.
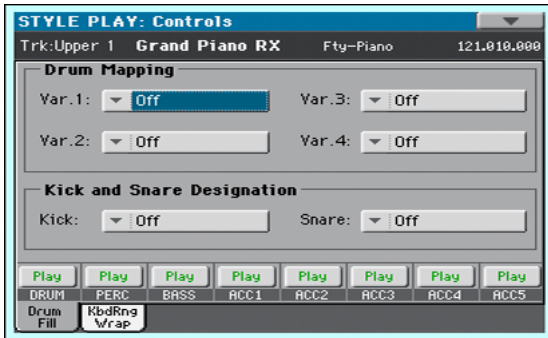
2   Use the Drum Mapping > Var pop-up menus to choose an alternative arrangement of percussive instruments for the selected Drum Kit, without any additional programming. Just select a Drum Map for each Variation, and some percussive instruments will be replaced with different instruments.

Drum Map	Meaning
Off	Standard mapping
Drum Map 1 … 7	Drum Map number. Mapping 1 is 'soft-sounding', while mapping 7 is 'loud-sounding'.

3   Use the Kick Designation pop-up menu to replace the original Kick (Bass Drum) sound with a different Kick of the same Drum Kit.

4   Use the Snare Designation pop-up menu to replace the original Snare Drum sound with a different Snare of the same Drum Kit.

Designation	Meaning
Off	Original Kick or Snare
Type 1 … 3	Kick or Snare replacing the original one

■   Write the Style Settings.

Setting a key range and wrap-around

1   Go to the Style Play > Style Controls > KbdRng/Wrap page.
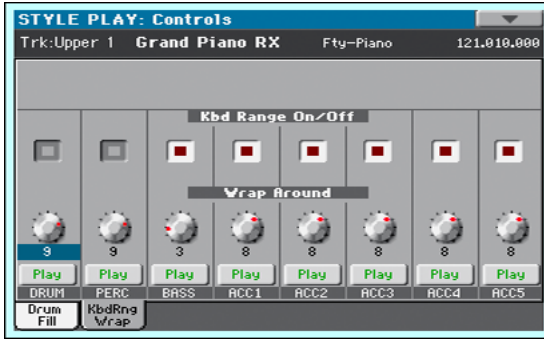
2   Use the Kbd Range On/Off checkbox to turn the Key Range on/off.

While in Style Record you can set a Key Range for each track of each Style Element. You can save the general on/off status of the Key Range in the Style Settings.

Kbd Range	Meaning
On	The Key Range is considered. When a track goes over the lower or higher Key Range point, it is automatically transposed, to remain inside the programmed range.
Off	No Key Range considered.

3   Use the Wrap Around knob to set a wrap-around point.

The wrap-around point is the highest key for the backing track. When the detected chord's pitch is too high, the Style pattern might be transposed to a range that is too high, therefore sound unnatural. So, when the pattern reaches the wrap-around point, it will jump to a lower octave.

It is advisable to set different wrap-around points for each track, to avoid that all tracks 'jump' to a different octave at the same time. We suggest to consider the actual range of the real instrument.

Wrap Around	Meaning
1 … 12	Maximum transposition (in semitones) of the track, referred to the original Key/Chord of the Style pattern.

■   Write the Style Settings.

19   Writing the Style Settings

Writing the Style Settings

Style Settings can save Accompaniment Sounds and settings into a Style.

Note: Changes can only be saved onto Favorite and User Styles, and onto SongBook Entries. They cannot normally be saved onto Factory Styles. To write changes onto a Factory Style, you must first remove the Factory Style protection (in the Global > Mode Preferences > Media page, see page 637).

Choose the target Style

■   After editing the Style Settings, choose a Style where to save them.

Open the Write Current Style Settings dialog from the control panel

■   While in Style Play mode, keep the STYLE buttons pressed for about one second.

Open the Write Current Style Settings dialog from the display

■   While in Style Play mode, choose the Write Current Style Settings command from the page menu to open the Write Current Style Settings dialog.
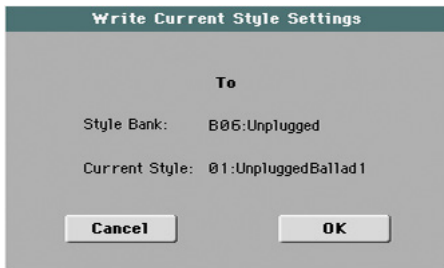
Write the Style Settings

■   To write the current settings into the selected Style, touch the OK button.

20 Recording the Styles

Overview on the Styles

KORG supplies a huge amount of professionally crafted Styles with HAVIAN 30. However, you are free to customize them, or create totally new Styles on your own.

The Style parts

Style Elements

The term 'Style' relates with music sequences automatically played by the HAVIAN 30's arranger. A Style consists of a predefined number of Style Elements (Intro, Variation, Fill, Ending…). When playing, most of these Style Elements can be directly selected by using the corresponding buttons on the control panel.

Chord Variations

Each Style Element is composed of smaller units, called the Chord Variations. When you play in the chord recognition area, the arranger scans the keyboard and detects which chord you are playing. Then, depending on the selected Style Element, it chooses the Chord Variation to be played for the recognized chord.

Which Chord Variation corresponds to each scanned chord is decided by the Chord Variation Table. Each Style Element contains a Chord Variation Table, whose prototype is the following:

Chord	Chord Variations (CV)	
	Variation 1-4	Intro 1-2, Count-In, Fill 1-4, Break, Ending 1-3
Major		
6		
M7, M7(b5)		
sus, sus2, M7sus		
m		
m6		
m7, m7(b5), m(M7)	CV1 – CV6	CV1 – CV2
7, 7(b5), 7sus4		
dim, dim(M7)		
#5		
7(#5), M7(#5)		
1+5, 1+8		
b5		
dim7		

Key/Chord

After deciding what CV to play, the arranger triggers the right sequence for each track. Since each sequence is written in a particular key (for example, CMajor, GMajor or Emin), the arranger transposes it according to the scanned chord. Notes in the sequence are carefully transposed, to make them work fine with all recognized chords.

Tracks and Patterns/Sequences

Each Chord Variation is made of eight different tracks. DRUM and PERC are used for drum and percussion sequences, BASS for bass and ACC1-5 are for accompaniment sequences (string, guitar, piano or other accompaniment instruments).

What happens when you play a chord…

To summarize, when you play a chord in the chord recognition area, the arranger determines which Style Element is used, then determines which Chord Variation should be used for the played chord, then Style sequences for every track of that Chord Variation are transposed from the original chord to the recognized chord, and so on every time you play a chord.

Ordinary, Guitar and Drum tracks

There are different types of tracks, and each of them is treated in a different way by the arranger:

Track type	Meaning
Acc (Accompaniment)	When a chord is recognized, the programmed chord notes are transposed to a suitable scale, according to the Note Transposition Tables (NTT) The NTT allows you to record just some Chord Variations, and have all the notes play in the right place, avoiding dissonances and transposing the pattern notes to the notes of the recognized chord.
Bass	
Drum	No transposition is applied.The original pattern plays always.
Perc (Percussion)	
Gtr (Guitar)	When a chord is recognized, the arranger triggers single notes, strumming and arpeggios on a "virtual guitar", keeping care of the way notes are played on the guitar fretboard. Note that inside a Guitar track you can also find some parts typical of an Acc track – a useful addition for short "free-form" passages.

What to record in a Style

Recording a Style means recording tracks, inside a series of Chord Variations, inside a series of Style Elements, inside the Style itself.

You don't have to record all Chord Variations for all Style Elements. Often you only need to record a single Chord Variation for each Style Element. Exceptions are the Intro 1 and Ending 1, where we suggest to record both a Major and minor Chord Variations.

The Style structure

To explain the Style structure, we can use a tree structure, as shown in the following diagram:

Pop Ballad

Variation 1

CV1

- Drum
- Perc
- Bass
- Acc1
- Acc2
- Acc3
- Acc4
- Acc5

CV2

CV3

CV4

CV5

CV6

Variation 2

Variation 3

Variation 4

Intro 1

CV1

CV2

Intro 2

Intro 3/C.In

Fill 1

Fill 2

Fill 3

Fill 4

Break

Ending 1

Ending 2

Ending 3
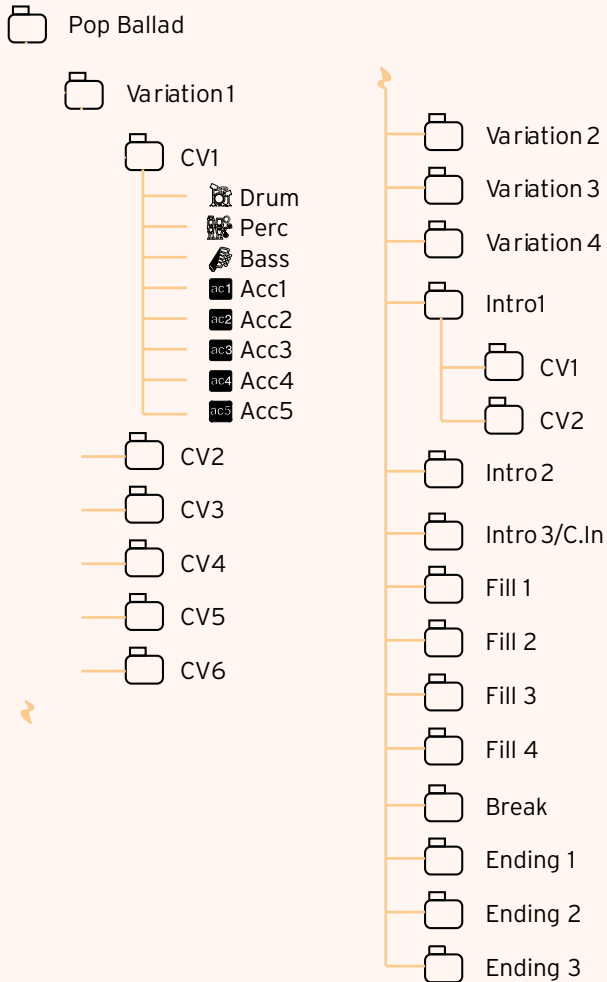
Accessing the Style Record mode

Accessing Style Record

1 Press the STYLE PLAY button to go to the Style Play mode.

2 If you want to edit an existing Style, choose a Style to edit.

You can only edit Favorite or User Styles. To edit Factory Styles, you must first unprotect them, or copy them to a Favorite or User location.

3 Press the RECORD button. The Select Record Mode dialog will appear:

- Select Record/Edit Current Style to edit the current Style.

- Select Record New Style to start from a new, empty Style. Default Style Settings will be recalled.

4 The main page of the Style Record mode (Record 1) will appear. The recording parameters can be accessed in this and the Record 2/Cue page.

Exiting Style Record

- While in the Style Record mode, choose the Exit from Record command from the page menu.

The Style Record 1 page

Beat counter   Measure counter

Record parameters

Track info

Chord and transposition table

Mixer

The Style Record 2/Cue page

Record parameters

Sounds

Cue mode

Mixer

Preparing to record

Choosing the Chord Variation and settings the recording parameters

■ Go to the Style Record > Record 1 or Record 2/Cue page to choose the Chord Variation to be recorded, and set the recording parameters.

The parameters are in the Style Record Parameters box.

Choosing the Style Element and Chord Variation to record

You record a Chord Variation, inside a Style Element, inside a Style. This is the pattern you listen when playing a chord.

■ Use the Element pop-up menu to choose a Style Element.

Each Style Element corresponds to a button on the control panel carrying the same name. After selecting a Style Element, select a Chord Variation for actual editing (see below).

Style Element	Meaning
Var1 … End3	Selected Style Element

■ Use the Chord Var pop-up menu to choose a Chord Variation inside the selected Style Element.

When this parameter and the assigned value is in small caps (cv1 … cv6), the Chord Variation is empty; when it is in all caps (CV1 … CV6) it is already recorded.

Style Element	Chord Variation
Var1, Var2, Var 3, Var4	CV1 … CV6
Intro1, Intro2, Intro3, Fill1, Fill2, Fill3, Fill4, Ending1, Ending2, Ending3	CV1 … CV2

Setting the total Chord Variation length

■ Use the CV Length (Chord Variation Lenght) parameter to set the lenght of the Chord Variation (in measures).

The overall length of the selected Chord Variation can be 32 measures. When playing a Style, this will be the overall length of the accompaniment pattern, when the corresponding chord is recognized on the keyboard.

Be careful not to decrease the Chord Variation length after recording, or any measure after the selected length will be deleted. If it happens accidentally, we suggest to exit from record without saving.

Setting the track's recording length

■ Use the Rec Length (Recording Length) parameter to set the length (in measures) of the selected track (the one with the Record icon ( ).

The value of this parameter is always equal to, or a divider of, the Chord Variation Length.

This is not the total length of the Chord Variation, just that of the current track. For example, you may want to record a Chord Variation eight measures long, with a drum pattern repeating every two measures. If so, set the CV Length parameter to 8, and the Rec Length parameter to 2 before starting to record the Drum track. When playing back the Style, saving it or executing any edit operation on the Style, the 2-measures pattern will be extended to the full 8-measures length of the Chord Variation.

If you assign to CV Length a value lower than Rec Length, the value of Rec Length is not immediately updated in the display. Therefore, you are still free of changing the value of CV Length, before the measures exceeding its value are deleted.

However, when you start recording the real Rec Length value is changed to the new one, even if the display still shows the old value.

For example, you may have CV Length = 4 and Rec Length = 4. If you set CV Length to 2, and press START/STOP to begin recording, Rec Length is still shown as 4, but it is in reality set to 2, and recording will cycle for just 2 measures. After you press START/ STOP to stop recording, Rec Length is updated to 2, and all measures after the second measure are deleted.

Setting the Style Record Tempo

While recording, you might want to use a different Tempo than the one saved in the Style Settings. This alternative value will allow you, for example, to record at a slower speed, or to experiment with different values while listening what you recorded.

▪ Use the Tempo parameter to set the Tempo value.

As an alternative, use the TEMPO buttons to change the recording Tempo.

This value will not be saved in the Style.

Hint: In case you want to create Tempo variation, insert Tempo Change events in the Master Track (**Style Record > Event Edit** page).

Setting the Meter of the Style Element

▪ Use the Meter parameter to set the meter (time signature) of the Style Element.
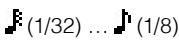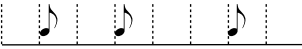
You can only edit this parameter if the Style Element is still empty.

Setting the Resolution

▪ Use the Resolution parameter to set quantization during recording.

Quantization is a way of correcting timing errors; notes played too soon or too late are moved to the nearest axis of a rhythm grid, set with this parameter, thus playing perfectly in time.

To quantize after recording, use the **Style Record > Quantize** function.

Resolution	Meaning
High	No quantization applied
♪ (1/32) … ♪ (1/8)	Grid resolution, in musical values. For example, when you select 1/16, all notes are moved to the nearest 1/16 division. When you select 1/8, all notes are moved to the nearest 1/8 division. A '3' after the quantization value means triplet.

Selecting a track and getting information

Selecting the track to record

1   Go to the Style Record > Record 1 or Record 2/Cue page.

2   Touch the track to be recorded in the mixer area.

The selected track will exhibit the Record icon (🔲).

Getting information on the selected track

■   While in the Style Record > Record 1 page, get detailed information on the selected track in the Selected Track Info area.

| Selected track | Assigned Sound | Sound bank | Program Change sequence |

Track	Description
Drum	Drum track
Perc	Percussion track
Bass	Bass track
Acc 1…5	One of the five Accompaniment tracks

Choosing the original chord and transposition table

■ Go to the Style Record > Record 1 page to choose the chord and transposition table.

The parameters are in the Style Record Parameters box.

| Key: | ▼ C | NTT Type: | ▼ Parallel |
| Chord: | ▼ Major | NTT Table: | ▼ Fifth |
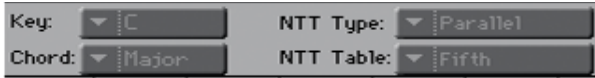
Choosing the Original Key/Chord for the selected track

■ Use the Key and Chord pop-up menus to define the original key/chord root and chord type for the selected track in the current Chord Variation.

When playing this exact chord, the recorded patterns will play without any transformation. No transposition, no NTT processing will be applied.

When you select a track, the original key/chord assigned to the selected track will be shown. All recorded tracks will play back on that key/chord. For example, if the original key/chord for the Acc1 track is A7th, when selecting the Acc1 track all the other tracks will play on the A7th key/chord.

In the example above, you will record the Acc1 track in the AMajor key, with notes pertaining to the A7th scale. This exact pattern will be recalled when an A7th chord will be recognized.

Key/Chord doesn't apply to Guitar tracks, controlled by different transformation rules.

Hint: To conform to KORG specifications, it is advisable to record both the "Major" and "minor" Chord Variations for the Intro 1 and Ending 1 Style Elements.

Copying the Key/Chord to other Chord Variation or Style tracks

Once you have chosen a Key/Chord for the selected track, you can copy and paste it onto all the other tracks of the Chord Variation or Style.

1   While in Style Record, choose the Copy Key/Chord command from the page menu, to open the Copy Key/Chord dialog box.

2   Copy the Key/Chord of the selected track to all the other tracks of the Chord Variation (Current Chord Variation Tracks), or to the whole Style (All Style Tracks).

This will speed-up pattern programming, and avoid having tracks in different keys within the same Chord Variation.

Choosing an NTT table for the selected track

■   Use the NTT Type and NTT Table parameters to choose an NTT (Note Transposition Table) for the selected track of the current Chord Variation.

An NTT is a set of sophisticated algorithms that allows KORG arrangers to convert recognized chords into musical patterns. The NTT determines how the arranger will transpose pattern notes, when a chord is recognized that does not exactly match the original chord of a Chord Variation.

For example, if you only recorded a Chord Variation for the CMaj chord, when a CMaj7 is recognized on the keyboard the arranger must transpose some notes to create the missing 7th.

NTT parameters are not used by Drum and Percussion tracks, and are therefore dimmed when selecting these tracks.

There are two general types of NTTs:

NTT Type	Description
Parallel	Notes are transposed inside the area set by the Wrap Around parameter. These tables are ideally suited to melody parts. as written as played back
Fixed	The arranger moves as few notes as possible, making legato lines and chord changes more natural. They are ideally suited to chord tracks (strings, piano etc...). as written as played back

These are the NTT Type/Table combinations:

NTT Type/Table	Description
Parallel/Root	The root note (in CMaj = C) is transposed to the missing notes.
Parallel/Fifth	The 5th note (in CMaj = G) is transposed to the missing notes. As recorded with NTT = Root or 5th (Key/Chord = C) When you play a C7 with NTT = Root When you play a C7 with NTT = 5th
Parallel/i-Series	All original patterns must be programmed on the "Maj7" or "min7" chords. When loading old KORG i-Series Styles, this option is automatically selected. As recorded with NTT = i-Series (Key/Chord = CM7) When you play a C with NTT = i-Series When you play a C7 with NTT = i-Series

NTT Type/Table	Description
Parallel/No Transpose	The chord is not modified, and is moved to the new key unchanged. The pattern plays exactly the recorded notes, and is moved to the new key as it is. This is the standard setting of Intro 1 and Ending 1 in KORG's original Styles (where a chord progression is usually recorded, and should remain unchanged in any key).
Fixed/Chord	This table moves as few notes as possible, making legato lines and chord changes more natural. It is ideally suited to chord tracks (strings, piano etc...). Contrary to the Parallel mode, the programmed chord is not transposed according to the Wrap Around parameter, but always stays around its original position, looking for common notes between the chords.
Fixed/No Transpose	The programmed notes can only be transposed by the Master Transpose. They are never transposed when chords are changed.

To conform to KORG specifications, it is advisable to set the NTT to "No Transpose" on the Intro 1 and Ending 1.

Choosing Sounds for the Style tracks

You can assign Sound to each track of the Style. These Sounds will be used if the Original Style Sounds parameter found in the Style Play > Volume (Style View) page is left unchecked.

1   Go to the Style Record > Record 2/Cue page to choose Sounds for the Style tracks.

Octave Transpose

Sound icon

2   Touch a Sound icon to select the corresponding track.

3   Touch it again, to open the Sound Select window and choose the Sound for the corresponding Style track.

Transposing the Style Sounds

You can only set the Octave Transpose while in Style Play mode. If you want to transpose a Style track, exit recording, then edit and save the Style Settings.

Cue mode for the Style Element

The Cue mode parameter lets you decide how the current Style Element has to enter after having been selected. This setting is only available for the Variation and Fill Style Elements.

1   Go to the Style Record > Record 2/Cue page to choose a Cue for the selected Style Element.

Cue mode for Var1   ▼ Next measure, current measure

2   Use the Cue mode pop-up menu to choose a Cue mode for the selected Style Element.

Cue mode	Meaning
Immediate, first measure	The Style Element enters immediately, and begins from the first measure. Only available on Fills.
Immediate, current measure	The Style Element enters immediately, and begins from the current measure. Only available on Fills.
Next measure, first measure	The Style Element enters at the beginning of the next measure, and begins from the first measure of the new pattern. Available on both Fills and Variations.
Next measure, current measure	The Style Element enters at the beginning of the next measure, and begins from the current measure. Only available on Variations.

Recording a Style in Realtime Record

After having chosen the Style Element (Record 1 > E) and Chord Variation (Record 1 > CV) to record, go on recording.

Using the metronome

▪ Press the METRONOME (🎼) button to turn the metronome on or off while recording.

Realtime recording

Select the track to record

▪ While in the Record 1 or Record 2/Cue page, touch the track to record to select it. The Record icon (🎦) will appear.

Practice before recording

1 Mute the track to record, by repeatedly touching its status icon in the mixer channel.

2 Press the START/STOP button to let any previously recorded track play back, and practice on the keyboard.

3 When you have finished practicing, press START/STOP to stop the arranger.

4 Set the track to record again, by repeatedly touching its status icon.

Record

1 Press the START/STOP button to begin recording.

A 1-measure precount will play before the recording actually begins. When it begins, record freely.

While recording, the track's Keyboard Range is ignored, and notes can be recorded and played back over the full keyboard range. The Local Control parameter is also automatically set to On, to allow playing on the keyboard.

The Damper pedal (or any other footswitch) is disabled. Volume/Expression-type pedals can be used.

2 Recording will happen in cycle. The pattern will last for some measures, according to the Rec Length value, then start again from the beginning.

At any subsequent cycle, you can add notes and overdub the previous recording. This is very useful, for example, to record different percussive instruments at any cycle on a Drum or Percussion track.

3 When finished recording, press START/STOP to stop the arranger.

Record other tracks of the Chord Variation

- While the arranger is not running, select a different track and go on recording all the tracks of the current Chord Variation.

Record other Chord Variations of the Style Element

- When finished recording the Chord Variation, select a different Chord Variation to complete the Style Element.

Record other Style Elements of the Style

- When finished recording the Style Element, record the other Style Elements to complete the Style.

Deleting notes

Use the Delete Note button to delete a single note or a single percussive instrument from a track. For example, to delete a snare, keep the D2 note (corresponding to the snare) pressed.

1 Select a track.

2 Touch the Delete Note button, and keep it pressed.

3 Press START/STOP to start the Style.

4 When you reach the passage containing the note to be deleted, play the note on the keyboard. Keep it pressed, up to the last note to be deleted.

If the note is at the beginning of the pattern, press the note before starting the Style.

5 When finished, release the Delete Note button and the note to be deleted, and press START/STOP again to stop the Style.

Listening to the results

- Press the START/STOP button to check how it works. You will listen all the tracks of the selected Chord Variation playing together. Press START/STOP again to stop playback.

Saving the Style

■   When finished recording the new Style, choose the Write Style command from the page menu to save the Style.

Exiting the Style Record mode without saving

■   To exit the Style Record mode without saving any change, choose the Exit from Record command from the page menu, or press the RECORD button.

Recording a Style in Step Record

Step Recording allows you to create a new Style by entering single notes or chords in each track one step at a time. This is very useful when transcribing an existing score, or in need of a higher degree of detail, and is particularly suitable to create drum and percussion tracks.

Step recording

Access Step Recording

▪ While in one the Style Record > Record pages, choose the Overdub Step Recording command from the page menu, to access the Overdub Step Record mode.

Style Element /
Chord Variation   Current position

Event list

Position the input pointer

▪ The Pos parameter shows the current position. This is where you will insert the next event.

▪ If you do not want to insert a note or chord at the current position, insert a rest instead, as shown below.

▪ To jump to the next measure, filling the remaining beats with rests, touch the Next M. button.

Choose a step value

▪ Use the Step Time values to choose the step value.

Choose the relative note duration

■ Use the Duration parameter to set the relative note duration. The percentage is always referred to the step value.

Duration	Meaning
50%	Staccato
85%	Ordinary articulation
100%	Legato

Choose the note velocity

■ Use the Velocity parameter to set the velocity or playing strength of the event to be inserted.

Velocity	Meaning
Kbd	Keyboard. Select this parameter by turning the VALUE dial completely counter-clockwise. When this option is selected, the playing strength of the played note is recognized and recorded.
1 … 127	Velocity value. The event will be inserted with this velocity value, and the actual playing strength of the note played on the keyboard will be ignored.

Insert a note or rest at the current position

■ To insert a single note, play it on the keyboard. The inserted note length will match the step length. You may change the velocity and relative duration of the note, by editing the Duration and Velocity parameters.

■ To insert a rest, touch the Rest button. Its length will match the step value.

■ To tie the note to be inserted to the previous one, touch the Tie button. A note will be inserted, tied to the previous one.

Insert a chord

■ Play a chord instead of a single note. The event name will be the first note of the chord you pressed, followed by the "..." indicator.

Insert a chord made of notes with different velocity values

You can make the upper or lower note of a chord, for example, louder than the remaining ones, to let the most important note stand out from the chord.

1   Edit the first note's Velocity value.

2   Press the first note and keep it pressed.

3   Edit the second note's Velocity value.

4   Press the second note and keep it pressed.

5   Edit the third note's Velocity value.

6   Press the third note, then release all notes.

Insert a second voice

You can insert passages where one note is kept pressed, while another voice moves freely.

A few examples:

Go back

■ If you want to go back, touch the Back button. This will delete the previously inserted event, and set the step in edit again.

Overdub recording

When the end of the pattern is reached, the "End of Loop" event is shown, and the recording restarts from the "001.01.000" position. Any note exceeding the pattern length, inserted at its end, will be reduced to fit the total length of the pattern.
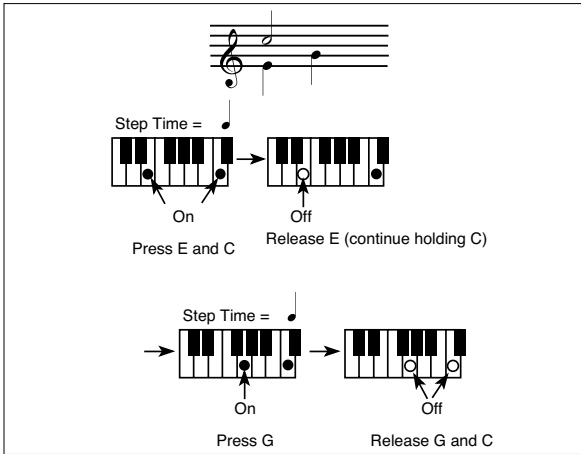
At this point, you may go on, inserting new events in overdub mode (the previously inserted events will not be deleted). This is very useful when recording a drum or percussion track, where you may want to record the bass drum on a first cycle, the snare drum on the second cycle, and the hi-hat and cymbals during the following cycles.

Exit from record

1   When finished recording, touch the Done button to exit the Step Record mode. A dialog box will appear, asking you to either cancel, discard or save the changes.
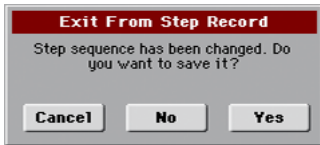
2   Touch Cancel to continue editing, No to exit from the Step Record without saving, or Yes to save and exit Step Record.

Listen to your Style

▪   When back to the main page of the Style Record mode, you may turn all tracks to the play status, then press START/ STOP to listen to the Style. Press START/STOP again to stop the playback.

Saving the Style

▪   When finished recording the new Style, choose the Write Style command from the page menu to save the Style.

Exiting the Style Record mode without saving

▪   To exit the Style Record mode without saving any change, choose the Exit from Record command from the page menu, or press the RECORD button.

Recording a Guitar track

Simulating a real guitar

Guitar Mode allows for easy creation of realistic rhythm guitar parts, without the artificial, unmusical playing typical of MIDI programming of guitar parts. Just record a few measures, and you will end up with realistic rhythm guitar tracks, where each chord is played according to its real position on the guitar, and not generated by simply transposing a written pattern.

Recording a Guitar track is unlike recording the other tracks, where you play exactly all the notes of a melody line or all the chords of an accompaniment part. With Guitar tracks you can either:

- Play the keys corresponding to the strumming modes.

- Play an arpeggio using the six keys corresponding to the six guitar strings (and the special keys corresponding to the root and fifth notes).

- Play RX Noises to add realism to the pattern.

- Add regular patterns, for short melodic passages without wasting an Acc track.

- Use the finest MIDI programing to select Chord Shapes, and recreate any nuance of a guitar performance.

Preliminary settings

Accessing Guitar Mode

1   While in one of the Style Record > Record pages, select a track set to the Guitar type.

To set a track to the Guitar type, go to the Style Record > Track Controls > Type/Trigger/Tension page.

After having select a Guitar track, the Style Record > Guitar Mode page become available.

2   Go the **Style Record > Guitar Mode** page.

Choosing a Key/Chord for Intro 1 and Ending 1

The pattern is recorded in the key indicated by the **Key/Chord** pair of parameters. However, this parameter is only used for playback by the Intro 1 and Ending 1 Style Elements. All other Style Elements will be played back according to the recognized chord.

This parameter pair works in a different way than the other tracks. While with other tracks this is always the reference key used for NTT transposition, with Guitar tracks there is a difference, whether you are recording a Chord Variation contained in an Intro 1 or Ending 1 Style Element, or any other Chord Variation:

■   With Intro 1 and Ending 1, this chord will be used as the reference key for the chord progression.

■   With all the other Chord Variations, this chord will be used only for listening during recording. During playback in Style Play mode, the chord will follow chord recognition.

With Intro 1 and Ending 1 (both Chord Variation 1 and 2) you can also prefer to enter a chord progression, to be played on the lowest MIDI octave (**from C-1 to B-1**). Chord types are inserted by using velocity values, as shown in the following table:

Vel.	Chord Type	Vel.	Chord Type
1	Major	2	Major 6th
3	Major 7th	4	Major 7th flatted 5th
5	Suspended 4th	6	Suspended 2nd
7	Major 7th suspended 4th	8	Minor
9	Minor 6th	10	Minor 7th
11	Minor 7th flatted 5th	12	Minor major 7th
13	Dominant 7th	14	7th flatted 5th
15	7th suspended 4th	16	Dimished
17	Diminished major 7th	18	Augmented
19	Augmented 7th	20	Augmented major 7th
21	Major w/o 3rd	22	Major w/o 3rd and 5th
23	Flatted 5th	24	Diminished 7th

Selecting a Capo

A capo (from the Italian 'capotasto', 'head of fingerboard') is a movable bar attached to the fingerboard of the guitar, to uniformly raise the pitch of all the strings. Its use makes the strings shorter, therefore changing the timbre and position of the chords (but not its shape).

This might prevent some strings to sound, depending on the chord position.

■ Use the Capo > Fret pop-up menu to choose a Capo ('capotasto').

Capo	Meaning
0	Open string – no capo.
I … XII	Position of the capo over the fingerboard (i.e., "I" corresponds to the first fret, "II" to the second one, and so on).

Selecting the lowest and highest strings

Use the Strings > High/Low parameter pair to choose the highest and lowest strings to play.

String	Meaning
1 … 6	Selected string. The pattern will be played between these strings.

Recording strummings

■ Press one of the keys in the octave from C1 to B1 to select a strumming type.

By pressing these keys, you play fast strumming samples.

Note	Strum
C1	Full Down
C#1	Full Down Mute
D1	Full Up
D#1	Full Up Mute
E1	Full Down Mute Body
F1	Full Down Slow
F#1	Full Down Slow Mute
G1	Full Up Slow
G#1	Up Mute 4-Strings
A1	Down 4-Strings
A#1	Down Mute 4-Strings
B1	Up 4-Strings

Recording single strings

■ Press one of the keys in the octave from C2 to B2 to select single strings (one or more).

By pressing these keys, you can play arpeggios or power chords. You can either play a free arpeggio with the six guitar chords assigned to the keys from C to A, or play one of the faster sampled arpeggios on the higher keys.

The root note is always available on the C# key, while the fifth note is always assigned to the D# key; with them, you can always play the lowest notes of an arpeggio.

This octave also includes an 'all mute' key (F#).

Note	String(s)
C2	VI String (E)
C#2	Recognized Chord Root
D2	V String (A)
D#2	Recognized Chord Fifth
E2	IV String (D)
F2	III String (G)
F#2	All Mute
G2	II String (B)
G#2	Power Chord
A2	I String (e)
A#2	Full Down/Up
B2	Down/Up 4-Strings
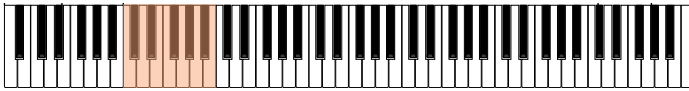
Recording RX Noises

■ Press one of the keys in the octave from C7 to B8 to trigger RX Noises. In some cases, the RX zone may extend over this range.

Note	RX Noise
C7 and up	RX Noises (depending on the Sound)

Recording a regular pattern

Together with strums and arpeggios, you can record regular patterns, exactly as if the track was of the Acc type. This will save an Accompaniment track, when all you need is just to record some short melodic passages (for example, the closing of a strumming pattern).

You can record the pattern by playing in the range from C3 to B6, as shown by the diagram.
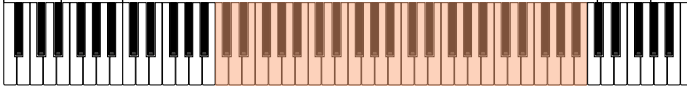
Recording a Chord Shape

You can finely choose Chord Shapes by using MIDI messages. When you play a C0 note with the velocity value shown in the following table, a chord is played in a particular position and on a certain number of strings.

Vel.	Range	from Str.	to Str.	Position
0	6 Strings	I	VI	0
1	6 Strings	I	VI	0
2	6 Strings	I	VI	1
3	6 Strings	I	VI	2
4	6 Strings	I	VI	3
5	6 Strings	I	VI	4
6	6 Strings	I	VI	5
7	5 Strings Bass	II	VI	0
8	5 Strings Bass	II	VI	1
9	5 Strings Bass	II	VI	2
10	5 Strings Bass	II	VI	3
11	5 Strings Bass	II	VI	4
12	5 Strings Bass	II	VI	5
13	5 Strings Treble	I	V	0
14	5 Strings Treble	I	V	1
15	5 Strings Treble	I	V	2
16	5 Strings Treble	I	V	3
17	5 Strings Treble	I	V	4
18	5 Strings Treble	I	V	5

Vel.	Range	from Str.	to Str.	Position
19	4 Strings Bass	III	VI	0
20	4 Strings Bass	III	VI	1
21	4 Strings Bass	III	VI	2
22	4 Strings Bass	III	VI	3
23	4 Strings Bass	III	VI	4
24	4 Strings Bass	III	VI	5
25	4 Strings Middle	II	V	0
26	4 Strings Middle	II	V	1
27	4 Strings Middle	II	V	2
28	4 Strings Middle	II	V	3
29	4 Strings Middle	II	V	4
30	4 Strings Middle	II	V	5
31	4 Strings Treble	I	IV	0
32	4 Strings Treble	I	IV	1
33	4 Strings Treble	I	IV	2
34	4 Strings Treble	I	IV	3
35	4 Strings Treble	I	IV	4
36	4 Strings Treble	I	IV	5
37	3 Strings Bass	IV	VI	0
38	3 Strings Bass	IV	VI	1
39	3 Strings Bass	IV	VI	2
40	3 Strings Bass	IV	VI	3
41	3 Strings Bass	IV	VI	4
42	3 Strings Bass	IV	VI	5
43	3 Strings MiddleBas	III	V	0
44	3 Strings MiddleBas	III	V	1
45	3 Strings MiddleBas	III	V	2
46	3 Strings MiddleBas	III	V	3
47	3 Strings MiddleBas	III	V	4
48	3 Strings MiddleBas	III	V	5
49	3 Strings MiddleTreble	II	IV	0
50	3 Strings MiddleTreble	II	IV	1
51	3 Strings MiddleTreble	II	IV	2
52	3 Strings MiddleTreble	II	IV	3
53	3 Strings MiddleTreble	II	IV	4

Vel.	Range	from Str.	to Str.	Position
54	3 Strings MiddleTreble	II	IV	5
55	3 Strings Treble	I	III	0
56	3 Strings Treble	I	III	1
57	3 Strings Treble	I	III	2
58	3 Strings Treble	I	III	3
59	3 Strings Treble	I	III	4
60	3 Strings Treble	I	III	5
61	2 Strings Bass	V	VI	0
62	2 Strings Bass	V	VI	1
63	2 Strings Bass	V	VI	2
64	2 Strings Bass	V	VI	3
65	2 Strings Bass	V	VI	4
66	2 Strings Bass	V	VI	5
67	2 Strings MiddleBas	IV	V	0
68	2 Strings MiddleBas	IV	V	1
69	2 Strings MiddleBas	IV	V	2
70	2 Strings MiddleBas	IV	V	3
71	2 Strings MiddleBas	IV	V	4
72	2 Strings MiddleBas	IV	V	5
73	2 Strings Middle	III	IV	0
74	2 Strings Middle	III	IV	1
75	2 Strings Middle	III	IV	2
76	2 Strings Middle	III	IV	3
77	2 Strings Middle	III	IV	4
78	2 Strings Middle	III	IV	5
79	2 Strings MiddleTreble	II	III	0
80	2 Strings MiddleTreble	II	III	1
81	2 Strings MiddleTreble	II	III	2
82	2 Strings MiddleTreble	II	III	3
83	2 Strings MiddleTreble	II	III	4
84	2 Strings MiddleTreble	II	III	5
85	2 Strings Treble	I	II	0
86	2 Strings Treble	I	II	1
87	2 Strings Treble	I	II	2
88	2 Strings Treble	I	II	3

Vel.	Range	from Str.	to Str.	Position
89	2 Strings Treble	I	II	4
90	2 Strings Treble	I	II	5

Listening to the recorded pattern

When in Stye Play mode, the recorded Guitar pattern is transposed according to the chord recognized on the keyboard. The way it is transposed depends on the programmed pattern, with the chosen positions, strumming mods, etc…

You can see how a chord is composed on the fingerboard diagram. Here is the meaning of the various symbols:

Symbol	Meaning
Red dot	Fingered string (i.e., played note).
White dot	Fifth, playing on the D#2 key.
X	Non played or muted note.
Light grey bar	Barré (a finger crossing all the strings, like a mobile capo).
Dark grey bar	Capo.

21 Editing the Styles

Editing the individual MIDI events

The Event Edit is the page where you can edit each single MIDI event of the selected Chord Variation. You can, for example, replace a note with a different one, or change its playing strength (i.e., velocity value).

The Event Edit page

■ Go to the Style Record > Event Edit > Event Edit page.

a. Touch here to choose the track to edit
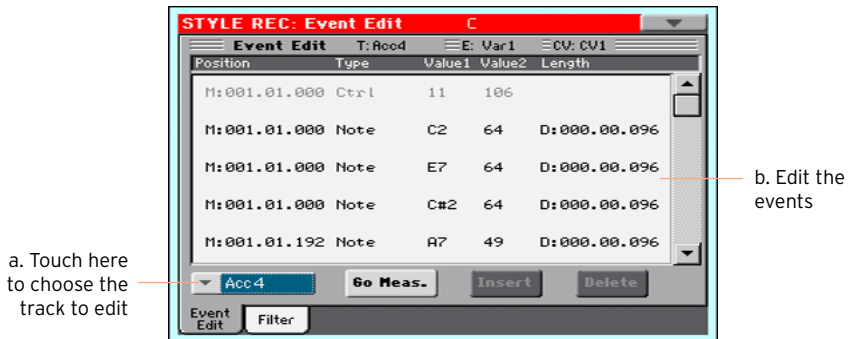
b. Edit the events

The Event Edit procedure

Here is the general procedure to follow for the event editing.

Choose the Style and access editing

1   While in Style Play mode, select the Style to edit, press the RECORD button and select the Current Style option.

2   While in one of the Style Record > Record pages, select the Style Element (E) and Chord Variation (CV) parameters.

3   Go to the Style Record > Event Edit > Event Edit page.

Listen to the patterns

▪   Press the START/STOP button to listen to the selected Chord Variation. Press START/STOP again to stop it.

   While in Event Edit, chord scanning does not work, so you will listen the pattern at the original Key/Chord.

Filter the events shown

▪   Go to the Style Record > Event Edit > Filter page to select the events to display.

Filter	Meaning
Note/RX Noise	Notes and RX Noises
Program	Program Change
Control	Control Change events. Only the following Control Change numbers are allowed with Styles.

Control function	CC#
Modulation 1	1
Modulation 2	2
Pan	10
Expression[a]	11
CC#12	12
CC#13	13
Ribbon	16
Damper	64
Filter Resonance	71
Low Pass Filter Cutoff	74
CC#80	80
CC#81	81
CC#82	82

(a). Expression events cannot be inserted at the starting Position (001.01.000). An Expression value is already among the default "header" parameters of the Style Element.

Filter	Meaning
Tempo/Meter	Tempo and Meter (time signature) changes (Master Track only).
Pitch Bend	Pitch Bend events.
Pa Controls	Messages exclusive to the HAVIAN 30 and Pa-Series instruments.

Edit the events

1   Go back to the Style Record > Event Edit > Event Edit page.

2   Use the Track pop-up menu to select the track to edit.

   The list of events contained in the selected track (inside the selected Chord Variation) will appear in the display. Some events on the beginning of the Chord Variations, as well as the "EndOfTrk" event (marking its ending point) cannot be edited, and appear dimmed.

3   Scroll though the various events by using the scrollbar.

4 Touch the event to be edited, and edit it.

`M:001.01.000 Note    C#2    64    D:000.00.096`

Measure/Position   Type   Value 1   Value 2   Duration/Lenght

- Select the M (Measure), and use the VALUE dial to change event's position.

- Select the Type parameter, and use the VALUE to change the event type.

- Select the Value 1 and Value 2 parameters, and use the VALUE dial to edit them. In case of numeric values, you can also touch them twice to open the numeric keypad.

- If a Note event is selected, select the D (Duration/Length) parameter, and use VALUE dial to change the event's length.

Jump to a different measure

1 Touch the Go Meas. button to go to a different measure. The Go To Measure dialog will appear:

```
Go to Measure:
        1
Cancel        OK
```

2 Enter a target measure and touch OK to confirm The first event available in the target measure will be selected.

Insert events

- Touch the Insert button to insert an event at the current Position (M). A Note event with default values will be inserted.

Delete events

- Select an event, then touch the Delete button to delete it.

Edit other tracks

- When editing is complete, select a different track to edit.

Exit Event Edit

- When finished editing the selected Chord Variation, press the EXIT button to go back to one of the Style Record > Record pages, then select a different Chord Variation to edit.

Editing the Style patterns

You can edit the Style pattern data in the Style Record > Style Edit section.

Quantizing

The quantize function may be used to correct any timing mistake after recording, or to give the pattern a "groovy" feeling.

1   Go to the Style Record > Style Edit > Quantize page.
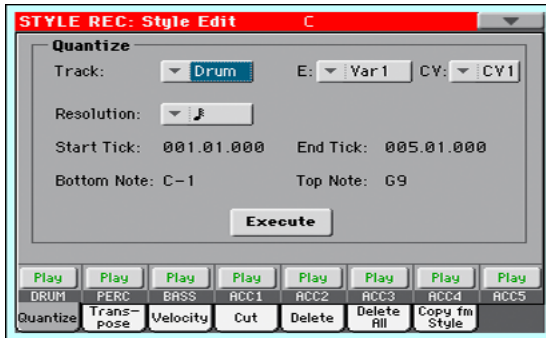
2   Select the Track, Style Element (E) and Chord Variation (CV) to edit.

Track	Meaning
All	All tracks selected
Drum … Acc5	Selected track

3   Use the Resolution pop-up menu to choose the quantize resolution.

Resolution	Meaning
♪ (1/32) … ♪ (1/8)	Grid resolution after recording, in musical values. For example, when you select 1/16, all notes are moved to the nearest 1/16 division. When you select 1/8, all notes are moved to the nearest 1/8 division. A "b…f " character added after the value means swing-quantization. A '3' after the quantization value means triplet.
	No quantization
	1/16
	1/8

4   Use the Start Tick and End Tick parameters to set the beginning and ending of the passage to be quantized.

   If a Chord Variation is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

5   Use the Bottom Note and Top Note parameters to set key range to quantize.

   These parameters are only available when a Drum or Percussion track is selected. If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument.

6   After having set the various parameters, touch Execute.

7   Press the START/STOP button to check how it works. You will listen all the tracks of the selected Chord Variation playing together. Press START/STOP again to stop playback.

Transposing

The transpose function may be used to transpose the selected track(s).

After transposing, please don't forget to readjust the Key/ Chord parameter in the main page of the Style Record mode.

1   Go to the Style Record > Style Edit > Transpose page.
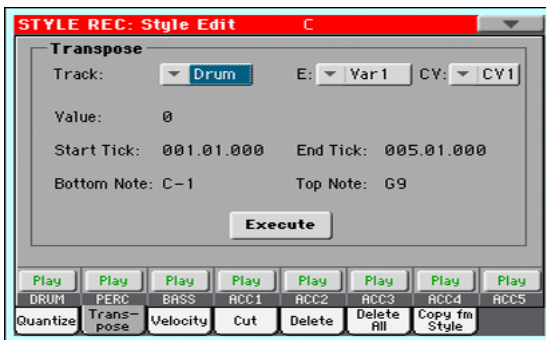
2   Select the Track, Style Element (E) and Chord Variation (CV) to edit.

Track	Meaning
All	All tracks selected, apart for the tracks set in Drum mode (like the Drum and Percussion tracks). The whole selected Chord Variation will be transposed.
Drum … Acc5	Selected track.

3   Use the Value parameter to choose the transpose value.

Value	Meaning
-127 … 127	Transpose value (in semitones)

4   Use the Start Tick and End Tick parameters to set the beginning and ending of the passage to be transposed.

If a Chord Variation is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

5   Use the Bottom Note and Top Note parameters to set key range to quantize.

If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument. Since in a Drum Kit each instrument is assigned to a different note of the scale, transposing a percussive instrument means assigning the part to a different instrument.

6   After having set the various parameters, touch Execute.

7   Press the START/STOP button to check how it works. You will listen all the tracks of the selected Chord Variation playing together. Press START/STOP again to stop playback.

Editing Velocity data

You can change the velocity (dynamics) value of notes in the selected track.

When an RX Sound is assigned to the track being edited, the resulting sound may change, since this kind of Sounds is made of several different layers triggered by different velocity values.

Also, a fade-out may result in the level 'jumping' up next to the zero, since a higher-level layer may be selected by low velocity values.

1 Go to the Style Record > Style Edit > Velocity page.
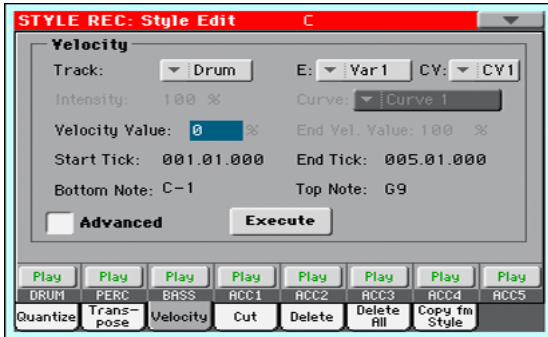
2 Select the Track, Style Element (E) and Chord Variation (CV) to edit.

Track	Meaning
All	All tracks selected. The velocity for all notes of the whole selected Chord Variation will be changed.
Drum … Acc5	Selected track.

3 Use the Velocity Value parameter to choose the transpose value.

Value	Meaning
-127 … 127	Velocity change value (in MIDI value)

4 If you want to use the advanced parameters, allowing you to select a velocity curve and create fade-ins or fade-outs, select the Advanced checkbox.

When this parameter is selected, the Intensity, Curve, Start Velocity Value and End Velocity Value parameters become accessible.

■ Use the Intensity parameter to specify the degree to which the velocity data will be adjusted toward the curve you specify with Curve.

Intensity	Meaning
0 … 100%	Intensity value. With a setting of 0%, the velocity will not change. With a setting of 100%, the velocity will be changed the most.

■ Use the Curve parameter to select one of the six curves, and specify how the velocity will change over time.

■ Use the Start Vel. Value and End Vel. Value to change the velocity value at the starting and ending of the selected curve.

Intensity	Meaning
0 … 100%	Velocity change in percentage

5 Use the Start Tick and End Tick parameters to set the beginning and ending of the passage to be edited.

If a Chord Variation is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

6 Use the Bottom Note and Top Note parameters to set key range to quantize.

If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument.

7 After having set the various parameters, touch Execute.

8 Press the START/STOP button to check how it works. You will listen all the tracks of the selected Chord Variation playing together. Press START/STOP again to stop playback.

Cutting out measures

You can delete a selected measure (or a series of measures) from the se-
lected Chord Variation. All following events will be moved back, to replace
the cut measure(s).

1   Go to the Style Record > Style Edit > Cut page.
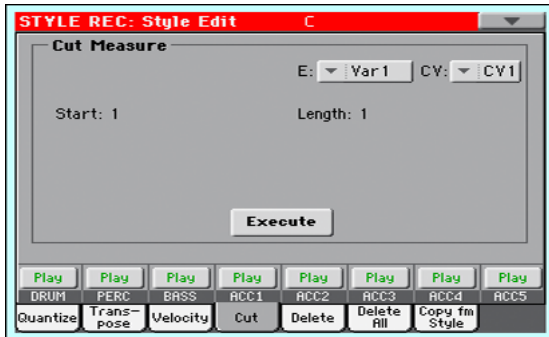
2   Select the Track, Style Element (E) and Chord Variation (CV) to edit.

Track	Meaning
All	All tracks selected
Drum … Acc5	Selected track

3   Use the Start parameter to select the first measure to be cut.

4   Use the Length parameter to choose the number of measures to be cut.

5   After having set the various parameters, touch Execute.

6   Press the START/STOP button to check how it works. You will listen all the
tracks of the selected Chord Variation playing together. Press START/STOP
again to stop playback.

Deleting data from measures

The Delete page is where you delete MIDI events out of the Style. This function does not remove measures from the pattern. To remove whole measures, use the Cut function instead.

1 Go to the Style Record > Style Edit > Delete page.
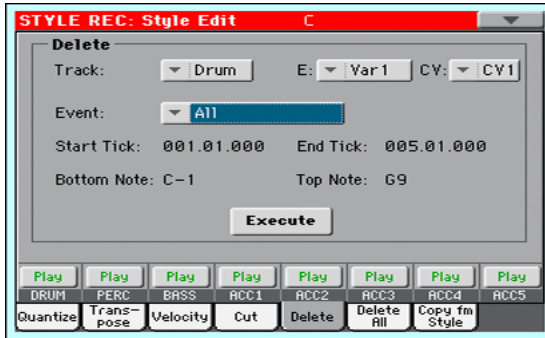
2 Select the Track, Style Element (E) and Chord Variation (CV) to edit.

Track	Meaning
All	All tracks selected. After deletion, the selected Chord Variation will remain empty.
Drum … Acc5	Selected track.

3   Use the Event pop-up menu to choose the transpose value.

Event	Meaning
All	All events. The measures are not removed from the Chord Variation.
Note	All notes in the selected range.
Dup.Note	All duplicate notes. When two notes with the same pitch are encountered on the same tick, the one with the lowest velocity is deleted.
After Touch	After Touch events.
Pitch Bend	Pitch Bend events.
Prog.Change	Program Change events, excluding the bundled Control Change #00 (Bank Select MSB) and #32 (Bank Select LSB).
	This kind of data is automatically removed during recording.
Ctl.Change	All Control Change events, for example Bank Select, Modulation, Damper, Soft Pedal…
CC00/32 … CC127	Single Control Change events. Double Control Change numbers (like 00/32) are MSB/LSB bundles.
	Some CC data are automatically removed during recording.

4   Use the Start Tick and End Tick parameters to set the beginning and ending of the passage to be deleted.

If a Chord Variation is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

5   Use the Bottom Note and Top Note parameters to set key range to quantize.

These parameters are available only when the All or Note option is selected. If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument.

6   After having set the various parameters, touch Execute.

7   Press the START/STOP button to check how it works. You will listen all the tracks of the selected Chord Variation playing together. Press START/STOP again to stop playback.

Deleting Style Elements, Chords Variations or a whole Style

You can delete a selected Style Element or Chord Variation, or the whole Style.

1   Go to the Style Record > Style Edit > Delete All page.
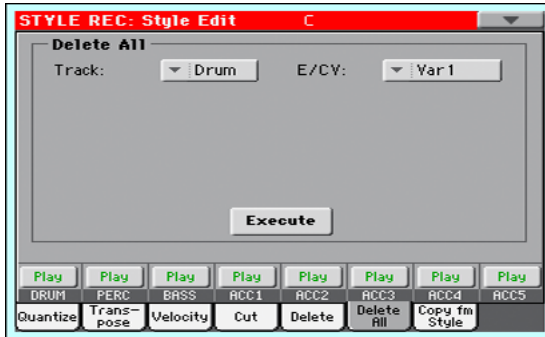
2   Select the Track to delete.

Track	Meaning
All	All tracks of the selected Style, Style Element or Chord Variation.
Drum … Acc5	Single track of the selected Style, Style Element or Chord Variation.

3   Select the Style Element (E) and Chord Variation (CV) to delete.

E/CV	Meaning
All	All Style Elements, i.e. the whole Style. When E/ Track=All and CV=All, the whole Style is deleted, and all parameters are set to the default status.
Var1 … CountIn	Single Style Element.
V1-CV1 … CI-CV2	Single Chord Variation.

4   After having set the various parameters, touch Execute.

5   Press the START/STOP button and play some chords to check how it works. Select any Style Element using the control panel button. Press START/STOP again to stop playback.

Copying from a Style

You can copy a track, Chord Variation or Style Element from the same or a different Style. Also, you can copy a complete Style to make a duplicate to be used as a starting point.

Be warned that copying will overwrite all data at the target location.

1   Go to the Style Record > Style Edit > Copy from Style page.

2   Use the From Style parameter to choose the source Style. Touch the Select button to open the Style Select window and select the source Style from there.

3   Use the From E/CV pop-up menu to choose the source Style Element (E) and Chord Variation (CV), and the To E/CV pop-up menu to choose the target.

E/CV	Meaning
All	All Style Elements, i.e. the whole Style. You can't change the target, that is automatically set to All.
Var1 … End2	Single Style Element.
V1-CV1 … CI-CV2	Single Chord Variation.

Due to the different structure, you can only copy over similar Style Elements, for example from a Variation to another Variation.

4   Use the From Track pop-up menu to choose the source track, and the To Track pop-up menu to choose the target.

Track	Meaning
All	All tracks of the selected Style, Style Element or Chord Variation.
Drum … Acc5	Single track of the selected Style, Style Element or Chord Variation.

5   After having set the various parameters, touch Execute.

If you copy too many events on the same tick, the "Too many events!" message appears, and the copy operation is aborted.

When you copy over an existing Chord Variation, Program Change data is not copied, to leave the original Sounds unchanged for that Chord Variation.

Editing the Sounds and controls

You can choose the Sounds, and edit various track parameters, in the Style Record > Style Element Track Controls section.

Style Element original Sounds

Each Style Element can use different Sounds. These Sounds are used when the Original Style Sounds parameter found in the Style Play > Volume (Style View) page is checked. Sounds assigned to the Style Settings are ignored.

1   Go to the Style Record > Style Element Track Controls > Sound/Expression page.
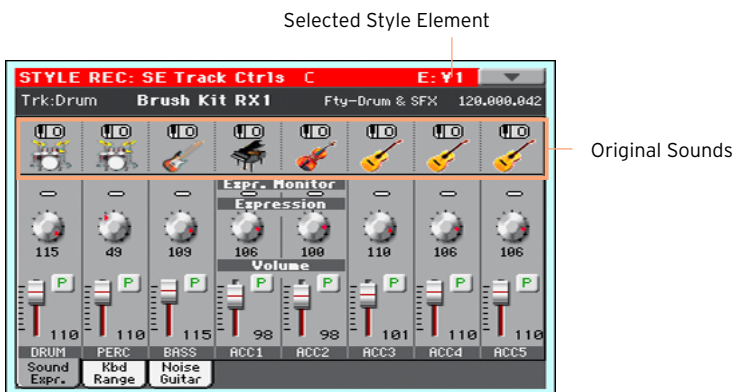
Selected Style Element

Original Sounds

2   Press the corresponding button on the control panel to select one of the Style Elements (VARIATION1 … ENDING3).

3   Touch the Sound icon to choose a different Sound for the corresponding track.

4   Press the START/STOP button and play some chords to check how it works. Select any Style Element using the control panel button. Press START/STOP again to stop playback.

Copying the Style Element original Sounds

1 Choose the Copy Sounds command from the page menu to open the Copy Sounds dialog.

2 Use the Style Element pop-up menu to choose the target Style Element.

Style Element	Meaning
All	Settings will be copied to all Style Element of the Style in edit.
Var1 … CountIn	Single Style Element.

Style Element relative volume (Expression)

You can set different Expression (CC#11) values for each of the Style Element tracks. Since Expression is a relative volume control, you can use it to lower the level compared to the overall volume of the Style. This is especially useful when different Sounds are assigned to the same track in different Style Elements, and the internal level of these Sounds is different.

1 Go to the Style Record > Style Element Track Controls > Sound/Expression page.

Selected Style Element

Expression

2   Press the corresponding button on the control panel to select one of the Style Elements (VARIATION1 … ENDING3).

3   Use the Expression Monitor indicators to check if Expression (CC#11) messages are contained in the tracks.

Press the START/STOP button to start playback, and look at the indicators. When one of them lights up, you can enter Event Edit on the corresponding track, and edit or remove the Expression messages.

4   Use the Expression knobs to set the Expression (CC#11) value for the corresponding track. This value can be seen at the beginning of the Event Edit list.

Adjust Expression

You can quickly and easily adjust the Expression level of all tracks in a Style Element. This allows for a more precise control over the volume level of all Style Element.

1   While in this page, select one of the Style Elements by pressing its button in the control panel.

2   Keep the SHIFT button pressed, and press the TEMPO + button to increase the Expression value of all the Style Element's tracks, TEMPO - to decrease it.

3   Release the SHIFT button.

4   Repeat the above operation with all the desired Style Elements.

A track's volume may be changed by an Expression event contained in a track. To check if any of these events exist in a track, let the Style Element play and look at the Expression Monitor in this same page. If one or more Expression events are found, go to the Event Edit page and delete it (or them).

5   Press the START/STOP button and play some chords to check how it works. Select any Style Element using the control panel button. Press START/STOP again to stop playback.

1 Choose the Copy Expression command from the page menu to open the Copy Expression dialog.
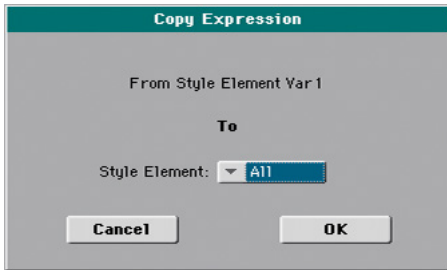
2 Use the Style Element pop-up menu to choose the target Style Element.

Style Element	Meaning
All	Settings will be copied to all Style Element of the Style in edit.
Var1 … CountIn	Single Style Element.

Keyboard Range

Setting the Keyboard Range automatically transposes any pattern note that would otherwise play too high or too low in pitch, compared to the original acoustic instrument, when transposed by the arranger. This will result in more natural sounding instruments.

For example, the standard lower limit for a guitar is E2. If you play a chord under the E2, the transposed pattern could exceed this limit, and sound unnatural. A Bottom limit set to E2 for the guitar track will solve the problem.

Different Keyboard Range values can be set for each Style Element. This will help forcing mobile capotasto or a preferred range in a particular section of the song.

1   Go to the Style Record > Style Element Track Controls > Sound/Expression page.
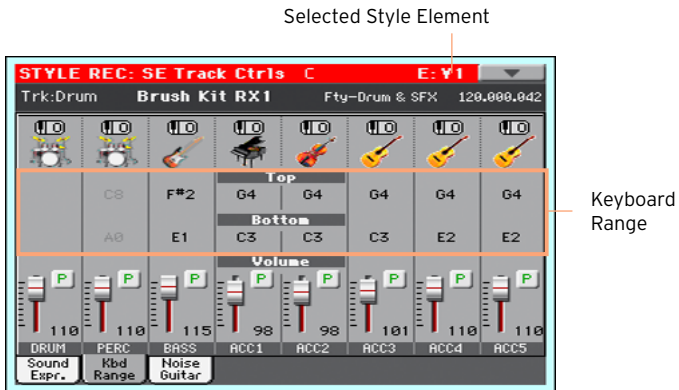
Selected Style Element

Keyboard Range

2   Press the corresponding button on the control panel to select one of the Style Elements (VARIATION1 ... ENDING3).

3   Use the Top and Bottom parameters to set the bottom and top limit of the keyboard range for the corresponding track of the selected Style Element.

While recording, the Keyboard Range is ignored. It will be used when playing back the Style.

4   Press the START/STOP button and play some chords to check how it works. Select any Style Element using the control panel button. Press START/STOP again to stop playback.

Copying the Key Range

1   Choose the Copy Key Range command from the page menu to open the Copy Key Range dialog.
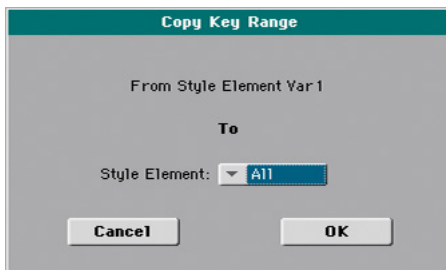
2   Use the Style Element pop-up menu to choose the target Style Element.

Style Element	Meaning
All	Settings will be copied to all Style Element of the Style in edit.
Var1 … CountIn	Single Style Element.

RX Noise/Guitar

In the Noise/Guitar page you can set the RX Noise level and the 'human feel' of the Guitar tracks.

1   Go to the Style Record > Style Element Track Controls > Noise/Guitar page.

Selected Style Element

RX Noise

Humanize

2   Press the corresponding button on the control panel to select one of the Style Elements (VARIATION1 … ENDING3).

3   Use the RX Noise knobs to adjust the volume of RX Noises in the corresponding tracks. This control applies to all types of tracks (provided the Sound contains RX Noises).

4   Use the Humanize GTR knobs to apply a random value to the position, velocity and length of notes of Guitar tracks (see the settings in the Style Record > Style Track Controls > Type/Trigger/Tension page). This control has no effect on other types of track.

5   Press the START/STOP button and play some chords to check how it works. Select any Style Element using the control panel button. Press START/STOP again to stop playback.

Editing the Chord Table

You can link chords and Chord Variations in the Style Record > Chord Table section.

Editing the Chord Table

You can assign a Chord Variation to each of the main recognized chord. When a chord is recognized, the assigned Chord Variation will be automatically selected by the arranger to play the accompaniment.

1   Go to the Style Element Chord Table > Chord Table page.

Selected Style Element
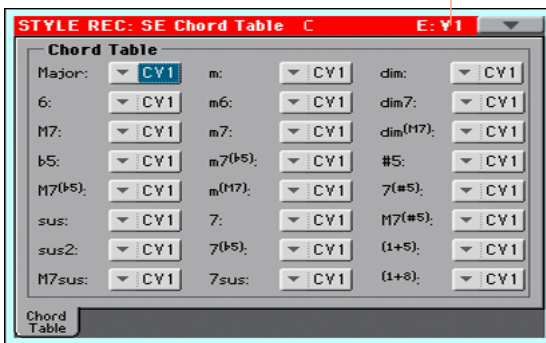
2   Press the corresponding button on the control panel to select one of the Style Elements (VARIATION1 ... ENDING3).

3   Use the Chord / Chord Variation parameters to assign a Chord Variation to each of the chords.

4   Press the START/STOP button and play some chords to check how it works. Select any Style Element using the control panel button. Press START/STOP again to stop playback.

Copying the Chord Table to other Style Elements

Once you have set the Chord Table for the selected track, you can copy and paste it onto other Style Elements of the Style.

1 Choose the **Copy Key/Chord** command from the page menu, to open the **Copy Key/Chord** dialog box.

2 Use the **Style Element** pop-up menu to choose the target Style Element.

Style Element	Meaning
All	Settings will be copied to all Style Element of the Style in edit.
Var1 … CountIn	Single Style Element.

Editing the Style tracks

You can edit the Track type and its response to retriggering and dissonances in the Style Record > Track Controls section.

Track type, Trigger, Tension

You can set the Track type, the Trigger mode, and activate/deactivate the Tension.

1   Go to the Style Record > Track Controls > Type/Trigger/Tension page.

2   Press the corresponding button on the control panel to select one of the Style Elements (VARIATION1 … ENDING3).

3   Use the Track Type parameter to set the type of the corresponding track.

Track Type	Meaning
Drum	Drum track. This type of track is not transposed by the arranger, and is used for Drum Kits made of Drum sounds. It can be affected by the Drum Mapping of the Style Play mode.
Perc	Percussion track. This type of track cannot be transposed, and is used for Drum Kit made of Percussion sounds. It is NOT affected by the Drum Mapping.
Bass	Bass track. This type of track always plays the root when changing chord.
Acc	Accompaniment track. This type of track can be used freely, for melodic or harmonic accompaniment patterns.
Gtr	Guitar track. This type of track uses Guitar Mode to create guitar strumming.

4   Use the Trigger Mode parameter to define how Bass and Acc-type tracks are retriggered when the chord is changed.

Trigger Mode	Meaning
Off	Each time you play a new chord, current notes will be stopped. The track will remain silent until a new note will be encountered in the pattern.
Rt (Retrigger)	The sound will be stopped, and new notes matching the recognized chord will be played back.
Rp (Repitch)	New notes matching the recognized chord will be played back, by repitching notes already playing. There will be no break in the sound. This is very useful on Guitar and Bass tracks.

5   Use the Tension parameter to allow for intentional dissonances in the accompaniment.

Tension adds notes (a 9th, 11th and/or 13th) that have actually been played to the accompaniment, but haven't been written in the Style pattern.

6   Press the START/STOP button and play some chords to check how it works. Select any Style Element using the control panel button. Press START/STOP again to stop playback.

22   Importing and exporting the Styles

Importing from a Standard MIDI File

You can import Standard MIDI Files and convert them to a Style.

Preparing the SMF file

The Import SMF function allows you to import MIDI data from a Standard MIDI File (SMF) created on your preferred external sequencer, and transform them in a Chord Variation. The Standard MIDI File to be imported must be programmed as if it was one of HAVIAN 30's Chord Variations.

Importing Style Element / Chord Variation parameters

When importing an SMF, parameters like CV Length, Meter, Tempo Changes, Program Changes and Expression are recognized. If the Initialize parameter is selected, or the Style Element is empty, these parameters will be imported in the Style Element containing the Chord Variation.

- The Chord Variation length is the same as the imported SMF. You can change length by changing the value of the CV Length parameter in the Style Record > Record 1 page.

- Key/Chord, Chord Table, Expression, and any other Style Element parameter, must be manually programmed in the relevant Style Record pages.

- The starting Tempo, and each track's Volume, must be programmed as Style Settings data, and then saved in the Style Settings.

- Meter (Time Signature) Change is not allowed, therefore not recognized.

Sounds

Sounds assigned to each track are imported, provided the Program Change, Bank Select MSB and LSB events are on the first 'tick' of the SMF. These will be the 'original' Sounds of the Style Element, that you can access from the Style Record > Record pages, or the Style Record > Style Element Track Controls > Sound/Expression page.

These Sounds can be overridden by Sounds assigned to the Style Settings, when the Original Style Sound parameter in the main page of the Style Play mode (Style Track view) is not selected.

Note length

If a note extends beyond the last measure of the Chord Variation, an additional measure is appended (for example, if a note extends after the end of the fourth measure in a 4-measure pattern, a 5-measure Chord Variation will be generated). If so, change the CV Length value to reset the Chord Variation length. The exceeding note will be cut, to fit the new pattern length.

MIDI channels

When programming a Chord Variation on an external sequencer, please assign each Style track to the correct MIDI channel, according to the following table.

Style Track	MIDI Channel
Bass	09
Drum	10
Percussion	11
Accompaniment 1	12
Accompaniment 2	13
Accompaniment 3	14
Accompaniment 4	15
Accompaniment 5	16

Importing a Standard MIDI File into a Chord Variation

1   Go to the Style Record > Import > Import SMF page.
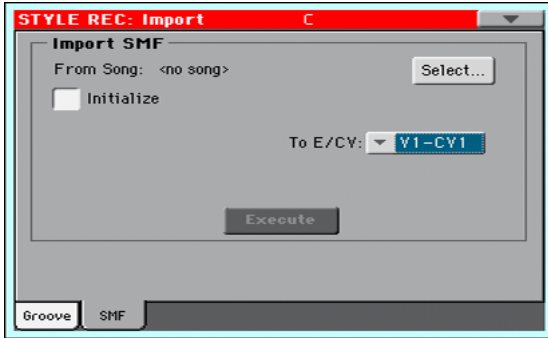
2   Use the From Song parameter to choose a MID file to import. Touch the Select button to open the file selector.

Only Standard MIDI Files in format 0 can be loaded.

3   Select the Initialize checkbox if you want all settings of the target Style Element (like Key/Chord, Chord Table, Sounds...) to be reset when loading the SMF.

It is a good idea to select the Initialize parameter when importing the first Chord Variation of a Style Element, and deselect it when importing the subsequent Chord Variations. This way, the initial parameter will be reset only once.

4   Use the To E/CV pop-up menu to choose a target Chord Variation (CV) inside a Style Element (E).

5   After having set all the parameters in this page, touch the Execute button to import the Standard MIDI File into the target Chord Variation.

Importing a Standard MIDI File 'separated by Markers' into a Style

As an alternative to importing single Chord Variations, you can import a whole Style as an SMF separated by Markers, i.e., a single SMF containing all the Chord Variations (Variation 1, Variation 2, etc.) each one separated by a Marker (the same events used in Song Play mode).

1   While in this page, touch the Select button, and choose the Standard Midi File to be imported.

HAVIAN 30 can only handle SMF format 0 (Zero). If you are in trouble importing your file, maybe your sequencer (or DAW) is exporting using SMF format 1. Please refer to the software's user's manual.

2   Keep the SHIFT button pressed, and touch the Execute button.

3   Release the SHIFT button.

When creating a new Style, we suggest to check the Initialize checkbox. Do not check it if the SMF you are loading was previously exported from a Style to be edited; in this case, it is very important to keep all the previous settings.

Style Tracks and MIDI Channels must be matched as in the previous table, as per KORG's standard Style format definition. Tracks/MIDI Channels other than the above mentioned are ignored during the import procedure.

Imported events

When importing, some events that may cause wrong operation of the Style are filtered out. Here are the allowed events.

Control function	CC#
Note On	
RX Noise On	
Pitch Bend	
Channel After Touch	
Modulation	1
Breath	2
Pan	10
Expression	11
CC#12	12
CC#13	13
Ribbon	16
Damper (Hold 1)	64
Filter Resonance (Harmonic Content)	71
Low Pass Filter Cutoff (Brightness)	74
CC#80 (General Purpose #5)	80
CC#81 (General Purpose #6)	81
CC#82 (General Purpose #7)	82

Some controllers are reset at the end of the pattern.

The following events are stripped off the pattern, and automatically transferred to the Style Element header during the import procedure:

- Time signature (this event is mandatory)

- Control Change bundle #00-32 (Bank Select MSB/LSB)

- Program Change

  Control Change #11 (Expression), Control Change 00, Control Change 32 and Program Change messages must be placed at the very beginning of each Chord Variation (tick 0).

  Whenever they are not saved in the SMF, Program Change, Control Change 00, 11 and 32, can be still programmed in Style Record mode, by using the edit features available.

Naming conventions

The naming structure for the Markers inside the SMF is 'EnCVn', whose single components are shown in the following table:

Component	Meaning
E	Style Element ('v' = Variation, 'i' = Intro, 'f' = Fill, 'e' = Ending)
n	Style Element number ('1'~'4' for Variations, '1'~'2' for all other Style Elements)
CV	Chord Variation ('cv' = Chord Variation – no other choices allowed)
n	Chord Variation number 1~6 for Variations, 1~2 for all others]

It is mandatory not to use capital letters in Marker names. Some examples of valid names:

- 'i1cv2' = Intro1 – Chord Variation 2

- 'v4cv3' = Variation 4 – Chord Variation 3

  Examples of non accepted names:

- 'V1cv2', 'v1CV2', 'intro i1cv2', 'v1cv1 chorus'

  The order of the Chord Variations inside the SMF is not relevant. They can be freely placed inside the SMF.

  Below, you can find a screenshot of a test file created in Steinberg Cubase, just as an example of how a SMF separated by Markers can look like. Considering analogies between actual workstations, it will not look much

different in other applications like Digital Performer, Logic Pro, Pro Tools or Sonar.

Export

You can export a Chord Variation as a Standard MIDI File (SMF), then edit it on your preferred external sequencer.

Exporting a Chord Variation to a Standard MIDI File

1   Go to the Style Record > Export > SMF page.
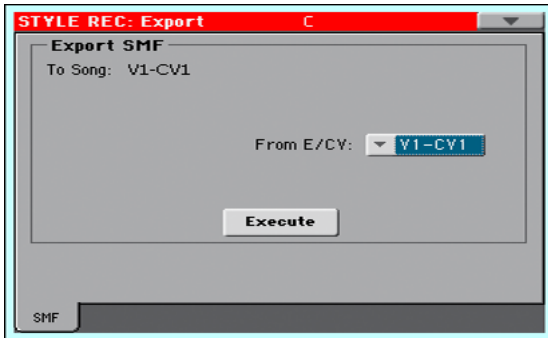
The (non editable) To Song parameter shows the name of the Standard MIDI File that will be generated. This (automatically assigned) name will be the same of the exported Chord Variation.

2   Use the To E/CV pop-up menu to choose the source Chord Variation (CV) from a Style Element (E) of the Style.

3   After having set all the parameters in this page, touch the Execute button to export it as a Standard MIDI File. A standard file selector will appear. Select the target device and directory, then touch Save. A dialog box will appear, letting you assign a name to the file.

Exporting a Style to a Standard MIDI File 'separated by Markers'

As an alternative to exporting single Chord Variations to individual Standard MIDI Files, you can export a whole Style as an SMF separated by Markers, that is, a single SMF containing all the Chord Variations (Variation 1, Variation 2, etc.) each one separated by a Marker (the same events used in Song Play mode).

1   While in this page, keep the SHIFT button pressed, and touch the Execute button.

2   Release the SHIFT button.

3   Assign a name to the Standard Midi File where to save the Style in edit.

This operation will create, in the selected device, an SMF format 0 (Zero), containing all the MIDI data included in the selected Style, with each Chord Variation starting from a different Marker (named as per the naming convention explained in the Import section above).

Each Chord Variation will include, at the very beginning (tick 0), the following informations:

■   Time Signature

■   Control Change bundle #00-32 (Bank Select MSB/LSB)

■   Program Change

■   Control Change #11 (Expression)

23 Saving the new/edited Style

Saving the edited Style

Writing Styles

1   While in Style Record mode, choose the Write Style command from the page menu to open the Write Performance dialog.

Style name

Style bank

Touch to open the Style Select window

Style location
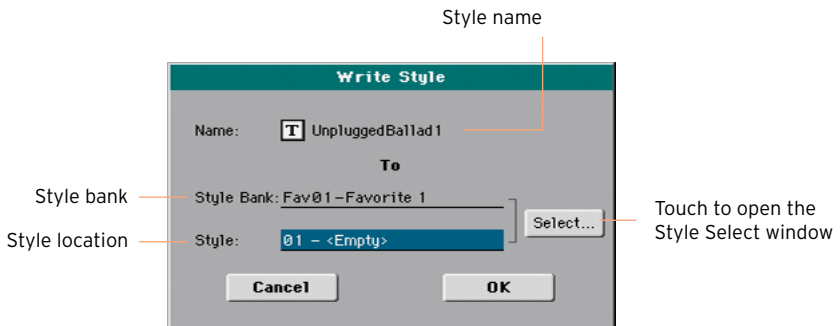
2   You may change the name of the Style. Touch the Text Edit (**T**) icon to open the virtual keyboard and edit the name.

When done editing the name, confirm by touching the OK button under the virtual keyboard.

3   When back to the Write Style dialog, if you want to save onto a different location touch the Select button and open the Style Select window. Choose

a location as if you were choosing a Style. Blank locations are shown as a series of dashes ('---').
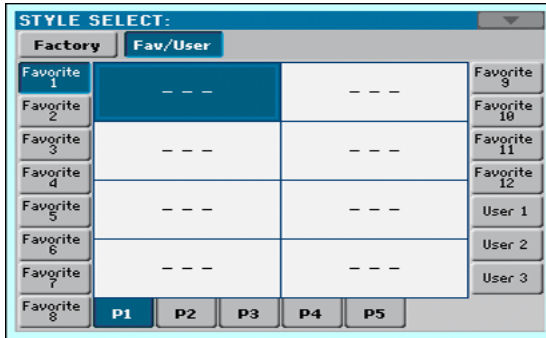
4   When back at the **Write Style** dialog, confirm the Write operation by touching the **OK** button.

24   Managing the Styles

The Favorite Styles

Favorite Style are User Styles, whose bank name you can customize.

Creating the Favorite Style banks

Load Styles into the Favorite Style locations

■   While in the Media > Load page, you can load any Style into the Favorite banks.

Copy & paste onto Favorite Style locations

■   While in the Style Select window, choose the Copy and Paste command from the page menu, to copy & paste any Style into the Favorite banks.

Save a recorded or edited Style into a Favorite Style location

■   While in Style Record, choose the Write Style command from the page menu, and write the new or edited Style onto the Favorite banks.

Renaming the Favorite Style banks

1 Open the Style Select window.

2 Choose the Rename Favorite command from the page menu to open the Rename Favorite Banks dialog.

3 Assign the Favorite Style tabs any name you like.

Touch the Text Edit (T) icon next to the bank to be renamed, and use the virtual keyboard to edit the name. When done, touch OK to confirm.

The assigned name can be spanned over two lines, by separating them with the paragraph character (¶). For example, to write "World Music" on two lines, enter "World¶Music".

Be careful not to write words exceeding the width of the side tabs of the Style Select window.

4 When back at the Rename Favorite Banks dialog, confirm the operation by touching the OK button.

Copying the Styles

You can copy any Style onto a Favorite or User Style location. Copying Factory Styles would make them editable.

Select the Style to copy

1   While in Style Play mode, open the Style Select window.

2   Browse through the Styles in the Style Select window.
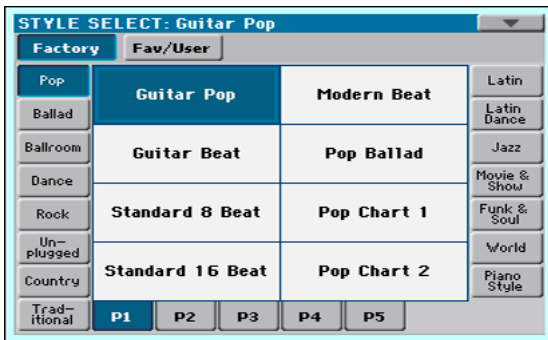
3   Touch the name of the Style you want to copy.

■   To select more Styles, keep the SHIFT button pressed and touch all the Styles to be copied.

■   If you want to copy a whole bank, choose the Select All (Bank) command from the page menu to select all the items in the current bank.

■   You can deselect one of the selected items by touching it while still keeping the SHIFT button pressed. You can deselect all items by touching a single item.

4   Choose the Copy and Paste command from the page menu to copy the selected items.

5   Select the target location. In case you are copying more than a single item, all subsequent items will sequentially follow the first one. If there aren't enough locations available, the procedure will be cancelled.

Warning: If you confirm, any Style already existing at the target locations will be overwritten!

A good idea is to paste to a blank location, identified by a series of dashes (---).
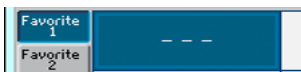
6   When done, press the EXIT button to return to the previous page.

Writing over the Factory Styles (and STSs)

Factory Styles (and the Factory STSs they contain) are normally protected, to avoid overwriting the standard musical resources. You can, however, remove this protection and use any Factory Style location as if they were User locations.

Remove the Factory Style protection

1   Go to the Global > Mode Preferences > Media page.

As an alternative, keep the SHIFT button pressed and press the MEDIA button to open the Media page.
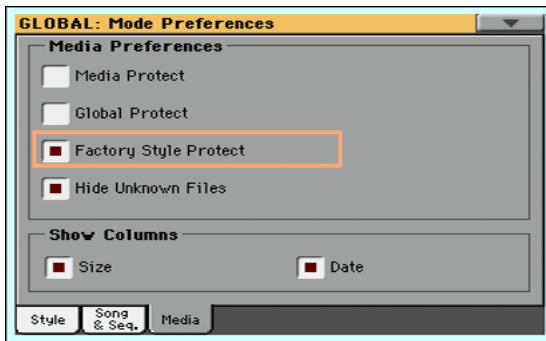
2   Touch the Factory Style Protect checkbox to deselect it.

3   Press the EXIT button to return to the previous page.

PART VI: CUSTOMIZING, RECORDING AND EDITING THE SONGS

25   Customizing the Songs

Customizing a Song

Song Play vs. Sequencer mode

The Player is just that – a player. So, to prevent undesired changes to the file, no changes made in Song Play mode can be saved. To save changes to a MIDI Song, load and edit it in Sequencer mode.

However, you can do on-the-fly edits to the MIDI Song Sounds exactly as you would with the Keyboard Sounds. See the Customizing and editing the Sound sets section for more information.

Below, you will find quick information on how to set the Sound volume and the play/mute status of the Song tracks.

Adjusting the volume of the individual MIDI Song Sounds

As you can do with the Keyboard Sounds, you can adjust the volume of the individual MIDI Song Sounds. However, since MIDI Songs are already dynamically mixed by the original creators, their volume may automatically change during playback.

The volume of the MIDI Song tracks will be reset when choosing a different Song.

Adjust a Sound's volume level

1 While in the main page of the Song Play mode, touch the Volume tab to select the Volume pane.
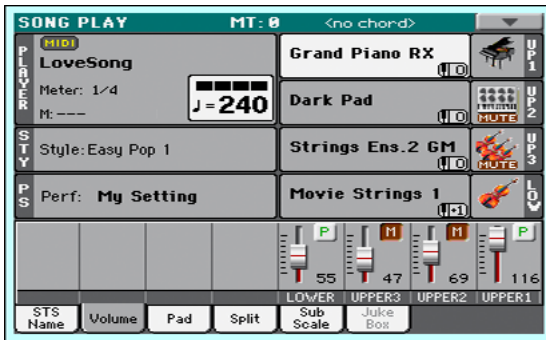
Here, you can adjust the volume of the Keyboard Sounds.

2 Press the TRACK SELECT button to switch to Song tracks 01-08. Press it again to see Song track 09-16.
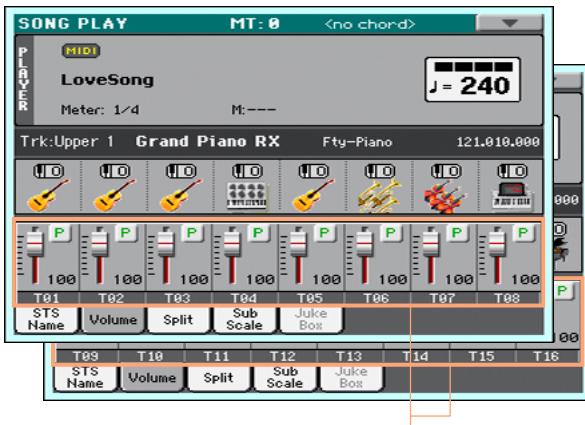
Song tracks

3 Touch the mixer channel whose volume level you want to change.

4 Keep the virtual volume slider held on the screen, and drag it to the desired level.

As an alternative, use the VALUE dial to change the volume level of the selected channel.

5 When done, press the TRACK SELECT button again to switch back to the main page.

Muting the individual MIDI Song Sounds

As you can do with the Keyboard Sounds, you can mute/unmute the individual MIDI Song Sounds. Mute the Song track that you will want to play on the keyboard or sing live (the melody track in a MIDI Song is usually #04), or that you will play live.

See the Song tracks

▪ While in the Main page, touch the Volume tab to select the Volume pane, then press the TRACK SELECT button a first time to switch to Song tracks 01-08, a second time for Song tracks 09-16.
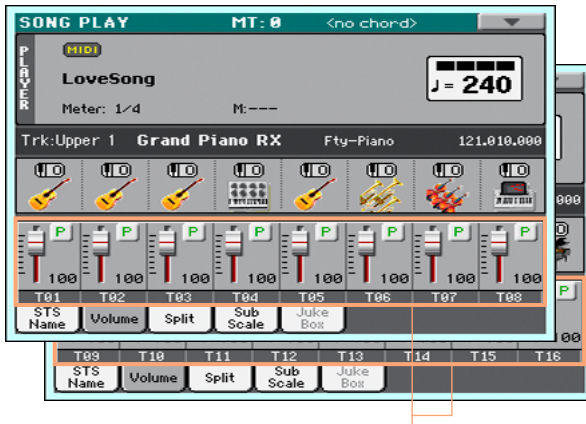
Song tracks

Mute/unmute the Song tracks

▪ Touch the Play (P) or Mute (M) icon in the mixer channel to turn the Sounds on or off.

Return to the Main page

▪ When done, press the TRACK SELECT button again to switch back to the Main page and see the Keyboard Sounds.

Saving the play/mute settings

To prevent the play/mute status of the Song tracks when choosing a different MIDI Song, write it to memory.

▪ Go to the Global > Mode Preferences > Song page, and touch the Save Track & FX button.

Muting a Song's Sound with an assignable switch or footswitch

You can mute the melody track of a Song by assigning the Melody Mute function to the footswitch. This function mutes a track defined as the melody track. If the Song has the melody part assigned to the same track number, you can mute or unmute it by using the assigned footswitch.

▪ To choose a Song Melody track, go to Global > Mode Preferences > Song & Sequencer page.

▪ To program the footswitch, go to the Global > Controllers > Foot Controller page.

Soloing a MIDI Song Sound

You can solo a MIDI Song Sound exactly as you would do with a Keyboard Sound.

▪ While the Volume pane is shown, or while in any page where the digital mixer appears, keep the SHIFT button pressed, and touch the mixer channel that you want to listen in solo.

▪ As an alternative, while in any page where the name of the Sound or the mixer channel appears, select it and choose the Solo Track command from the page menu.

Changing the MIDI Song Sounds

You can assign different Sounds to the MIDI Song tracks. These Sounds will be reset when choosing a different Song.

Choose a different Sound for a Song track

1   While in the main page of the Song Play mode, touch the Volume tab to select the Volume pane.

2   Press the TRACK SELECT button to switch to Song tracks 01-08. Press it again to see Song track 09-16.

3   Touch the name of the Song track whose Sound you want to change.
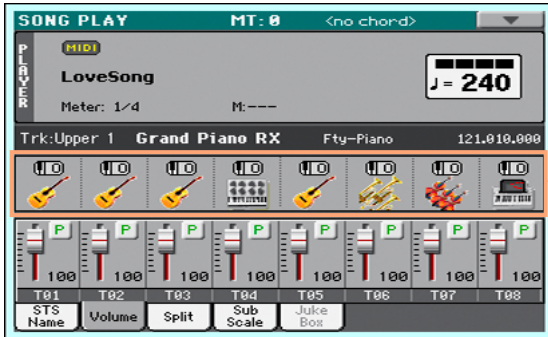
Sounds

4   Touch a Sound icon to select the corresponding track.

5   Touch it again, to open the Sound Select window and choose the Sound for the corresponding Song track, and choose a Sound.

Transposing the Song Sounds

If needed, set the Octave Transpose for each track.

1   Go to the Mixer/Tuning > Tuning page.

You can go to this page by keeping the SHIFT button pressed, and pressing one of the UPPER OCTAVE buttons.

2   Use the Oct. Transpose knobs to set the octave.

26 Writing the Song Play Settings

Writing the default Song Play Tracks and FX settings

When you choose a different Song, switch to a different mode or turn the instrument off, all changes to the Song will be reset. If you want to preserve the current configuration for all the MIDI Songs, save it to memory.

Save the Song Play Settings

■ Go to the Global > Mode Preferences > Song page, and touch the Save Track & FX button.

The following parameters will be saved:

■ Play/Mute status of the Song tracks

■ Default FX A Group effect settings

■ EQ settings for the Song tracks

■ Internal/External status of the Song tracks

When loading MIDI Songs created on HAVIAN 30 or on a KORG Pa-Series instrument, these settings might be changed by the special data they contain.

27   Listening the MIDI Songs in Sequencer mode

Loading and listening a MIDI Song

Listening MIDI Songs in the Sequencer mode is especially useful when you want to check the results of any editing carried on on the Song tracks, without having to switch to the Style Play mode.

Loading a MIDI Song

1   Press the SEQUENCER button to go to the main page of the Sequencer mode.

Tempo and Beat counter

Song name and parameters

Track info

Sounds and Octave trasnsposition

Mixer
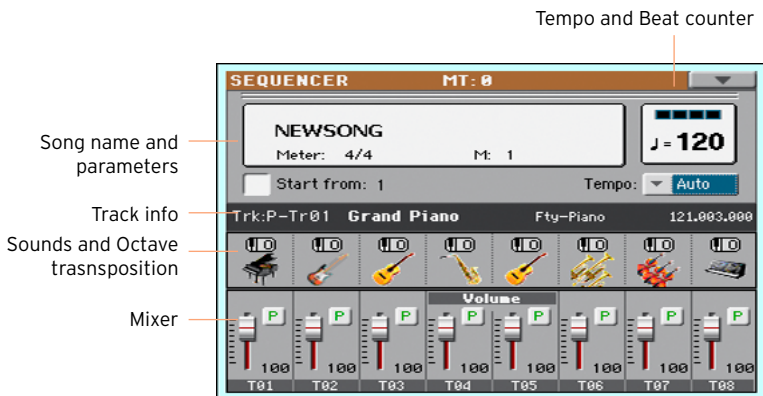
2 Touch the name of the Song to open the Song Selection window.
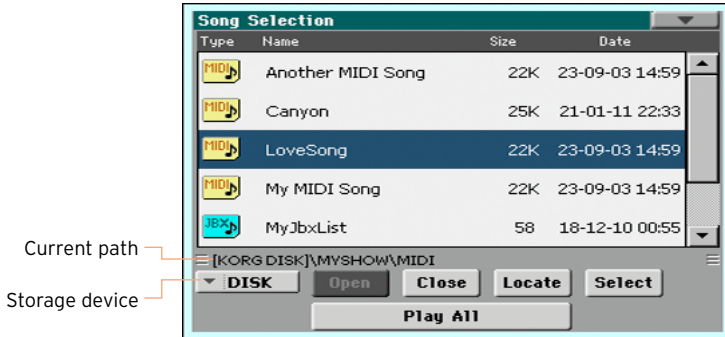
3 Browse through the files and folders. When you see the MIDI Song (.mid) you want to load, touch it, then touch the Select button to load it.

Playing the MIDI Song

The main page of the Sequencer mode shows the Song playback controls.
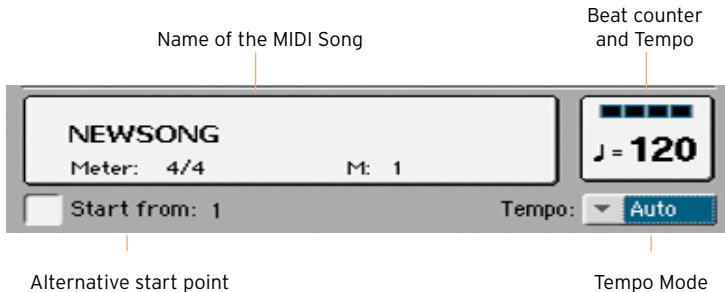
Transport controls

While in the main page of the Sequencer mode, use the same PLAY/STOP (▶/■), HOME (|◀), FAST FORWARD (≫) and REWIND (≪) controls that you would use to play a Song with the Player in Song Play mode.

Alternative starting position

1 Set the Start from measure number to choose the alternative starting position from where to start playback.

2 Select the Start from checkbox to activate the alternative starting position.

When pressing the HOME (|◀) button, or using the REWIND (≪) button to go back to the beginning, the Song will return to this point.

Choosing the Tempo mode

■ Use the Tempo pop-up menu to choose a Tempo mode.

Tempo Mode	Meaning
Manual	In this mode, you can change Tempo by using the TEMPO buttons, or touching it and using the VALUE dial or the numeric keypad. The Song will be played back using the manually selected tempo.
Auto	The Tempo recorded in the Song will be used.

28   Recording MIDI Songs

Multitrack Recording a Song

In Multitrack Sequencer mode, you will record a MIDI Song by playing live over up to 16 MIDI tracks.

Accessing the Multitrack Sequencer Record

1   Press the SEQUENCER button to switch to the Sequencer mode.

The main page of the Sequencer mode will appear.

2   Press the RECORD button to open the Song Record Mode Select dialog.

3   Choose the Multitrack Sequencer option and touch OK to access the Multitrack Sequencer Record page.

Measure and Beat counter

Record parameters

Track info

Sounds and Octave trasnposition

Mixer
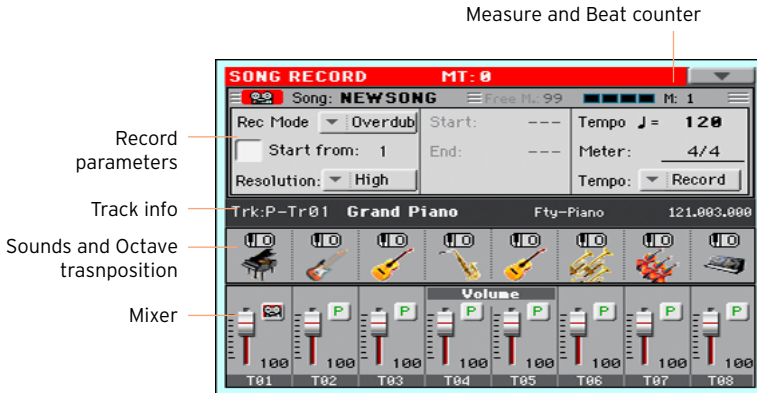
Setting the recording parameters

When you enter the Multitrack Sequencer mode, you could simply start recording. However, there are some additional settings that you might want to do.
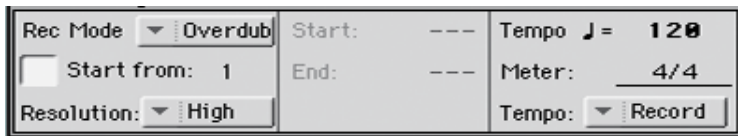
Select the recording mode

■ Use the Rec Mode pop-up menu to choose the Overdub or Overwrite recording mode.

Recording Mode	Meaning
Overdub	The newly recorded events will be mixed to any existing events.
Overwrite	The newly recorded events will replace any existing events.
Auto Punch	Recording will automatically begin at the Start position, and stop at the End position.
	The Auto Punch function will not work on an empty Song. At least one track must already be recorded.
PedalPunch	Recording will begin when pressing a pedal set to the Punch In/Out function, and will finish when pressing the same pedal again.
	The Pedal Punch function will not work on an empty Song. At least one track must already be recorded.

Set a starting point (left locator)
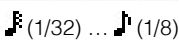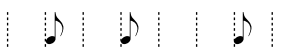
▪ Set the Start from measure number to choose the alternative starting position from where to start playback.

Select the Start from checkbox to activate the alternative starting position.

When pressing the HOME (◄) button, or using the REWIND (≪) button to go back to the beginning, the Song will return to this point.

Choose a quantize resolution for recording

▪ Set the recording Resolution.

Resolution	Meaning
High	No quantization applied
♬ (1/32) … ♪ (1/8)	Grid resolution, in musical values. For example, when you select 1/16, all notes are moved to the nearest 1/16 division. When you select 1/8, all notes are moved to the nearest 1/8 division. A '3' after the quantization value means triplet.

Set the Tempo and Meter

▪ Change the Tempo value. Use the Tempo pop-up menu to choose the way Tempo events will be recorded.

Tempo Mode	Meaning
Manual	Manual reading. The latest manual Tempo setting (made using the TEMPO buttons) is considered the current Tempo value. No Tempo change events will be recorded. This is very useful when you want to record the Song at a much slower speed than the actual Tempo.
Auto	Auto reading. The Sequencer plays back all recorded Tempo events. No Tempo change events are recorded.
Record	All Tempo changes made during recording will be recorded to the Master Track. Tempo is always recorded in overwrite mode (old data is replaced by the new data).

■   Use the Meter parameter to set the basic meter (or time signature) of the Song. You can edit this parameter only when the Song is empty, that is, before you begin recording anything. To insert a meter change in the middle of the Song, use the Sequencer > Song Edit > Insert Measure function.

Choosing the Sounds and transpose

You choose the Sounds in the dedicated Sound area of the Record page.

Octave Transpose

Sound icon

Choose a Sound

1   Touch a Sound icon to select the corresponding track.

2   Touch it again, to open the Sound Select window and choose the Sound for the corresponding Song track.

Set the octave transposition

1   Go to the Mixer/Tuning > Tuning page.

You can go to this page by keeping the SHIFT button pressed, and pressing one of the UPPER OCTAVE buttons.

2   Use the Oct. Transpose knobs to set the octave.

Recording

Turn on the metronome

▪ Press the METRONOME (🎼) button to turn the metronome on or off while recording.

Select the track to record

1 Use the TRACK SELECT button to switch between Song Tracks 1-8 and Song Tracks 9-16.

2 Touch the track to record to select it. The Record icon (📷) will appear.

Record

1 Press the PLAY/STOP (▶/■) button to begin recording.

A 1-measure precount will play before the recording actually begins. When it begins, record freely.

2 When finished recording, press the PLAY/STOP (▶/■) button to stop the sequencer.

3 Select a different track, and go on recording the whole Song.

While recording, you can see the current measure and current beat in the header. You can also check the free memory available for recording.

Free memory   Beat   Measure

Exit from Record

1 When finished recording, either press the RECORD button, or choose the Exit from Record command from the page menu to return to the main page of the Sequencer mode.

2 While in the main page of the Sequencer mode, press the PLAY/STOP (▶/■) button to listen to the recorded Song.

3 Save the Song to a storage device, to avoid losing it when the instrument enters standby. This is explaining later in this section.

Second-take recording

You may want to record additional events, or replace a previously recorded track. If so, repeat recording.

Prepare to record

1   Press the RECORD button to enter Record mode again. When the Song Record Mode Select dialog box appears, select Multitrack Sequencer again.

2   Select the track to record.

3   Choose the Rec Mode. Overwrite if you want to replace recorded data, Overdub if you want to add events to the same track.

Overdub is useful, for example, when recording different percussive instruments in subsequent cycles.

Record

1   Set the Start from measure number to choose the alternative starting position from where to start playback.

Select the Start from checkbox to activate the alternative starting position.

2   Press the PLAY/STOP (▶/■) button to start recording the selected track.

3   After recording, press the PLAY/STOP (▶/■) button to stop recording.

4   Repeat the same procedure for any additional track or event to record.

Exit from Record

▪   When finished recording, either press the RECORD button, or choose the Exit from Record command from the page menu to return to the main page of the Sequencer mode.

Punch-Recording

Punch recording allows for automatic or on-the-fly start and stop of recording. The Punch function will not work on an empty Song. At least one track must already having been recorded.

Auto Punch Recording

You can let the sequencer start and stop recording for you.

1   While in the Multitrack Sequencer page, use the Rec Mode parameter to choose the Auto Punch recording mode.

2   Use the Start and End locators to choose the start and end points for recording.

3   Touch a track to record to select it. The Record icon (🔴) will appear.

4   Press the PLAY/STOP (▶/■) button to start playing back the selected track.

    Recording will automaticaly begin and end at the Start and End points.

5   Press the PLAY/STOP (▶/■) button to stop recording.

PedalPunch Recording

You can use a footswitch connected to the PEDAL connector to start and stop recording. The included Damper pedal can be used this way.

Program the footswitch for Pedal PUnch

■   Go to the Global > Controllers > Foot Controllers page, and assign the Punch In/Out function to the footswitch.

Record

1   While back to the Multitrack Sequencer page, use the Rec Mode parameter to choose the PedalPunch recording mode.

2   Touch the track to be recorded to select it. The Record icon (🔴) will appear.

3   Press the PLAY/STOP (▶/■) button to start playing back the selected track.

4   When you want to start recording, press the footswitch.

5   When you want to end recording, press the footswitch again.

6   Press the PLAY/STOP (▶/■) button to stop recording.

Saving the Song

■   When finished recording the new Song, go to the main page of the Sequencer mode and choose the Save Song command from the page menu to save the Song.

    More details are later in this section.

Step Recording a Song

Step Recording allows you to create a new Song by entering single notes or chords to each track. This is very useful when transcribing an existing score, or in need for a higher grade of detail, and is particularly suitable to create drum and percussion tracks.

In Overdub Step Recording mode you will add to existing events, while in Overwrite Step Recording mode you will overwrite all existing events.

Accessing Step Recording

1   While in the Multitrack Sequencer pages, touch a mixer channel to select the track to edit.

2   Choose either the Overdub Step Recording or Overwrite Step Recording command from the page menu, to access the Step Record mode.

Current position

Event list
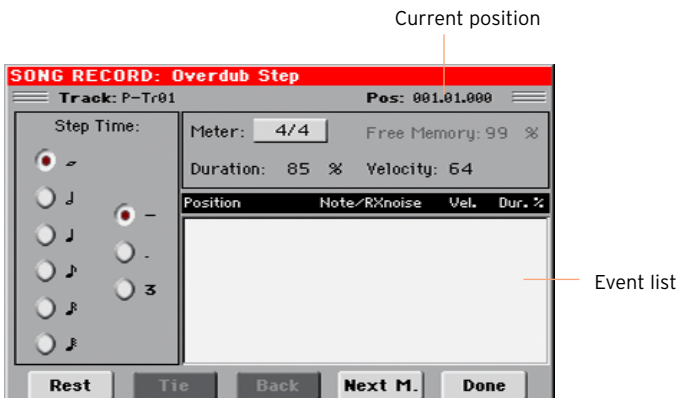
Recording

Position the input pointer

■   The Pos parameter shows the current position. This is where you will insert the next event.

■   If you do not want to insert a note or chord at the current position, insert a rest instead, as shown below.

■   To jump to the next measure, filling the remaining beats with rests, touch the Next M. button.

Choose a step value

■   Use the Step Time values to choose the step value.

Choose the relative note duration

■   Use the Duration parameter to set the relative note duration. The percentage is always referred to the step value.

Duration	Meaning
50%	Staccato
85%	Ordinary articulation
100%	Legato

Choose the note velocity

■   Use the Velocity parameter to set the velocity or playing strength of the event to be inserted.

Velocity	Meaning
Kbd	Keyboard. Select this parameter by turning the VALUE dial completely counter-clockwise. When this option is selected, the playing strength of the played note is recognized and recorded.
1 … 127	Velocity value. The event will be inserted with this velocity value, and the actual playing strength of the note played on the keyboard will be ignored.

Insert a note or rest at the current position

■   To insert a single note, play it on the keyboard. The inserted note length will match the step length. You may change the velocity and relative duration of the note, by editing the Duration and Velocity parameters.

■   To insert a rest, touch the Rest button. Its length will match the step value.

■   To tie the note to be inserted to the previous one, touch the Tie button. A note will be inserted, tied to the previous one.

Insert a chord

■   Play a chord instead of a single note. The event name will be the first note of the chord you pressed, followed by the "..." indicator.

Insert a chord made of notes with different velocity values

You can make the upper or lower note of a chord, for example, louder than the remaining ones, to let the most important note stand out from the chord.

1   Edit the first note's Velocity value.

2   Press the first note and keep it pressed.

3   Edit the second note's Velocity value.

4   Press the second note and keep it pressed.

5   Edit the third note's Velocity value.

6   Press the third note, then release all notes.

Insert a second voice

You can insert phrases where one note is kept pressed, while another voice moves freely.
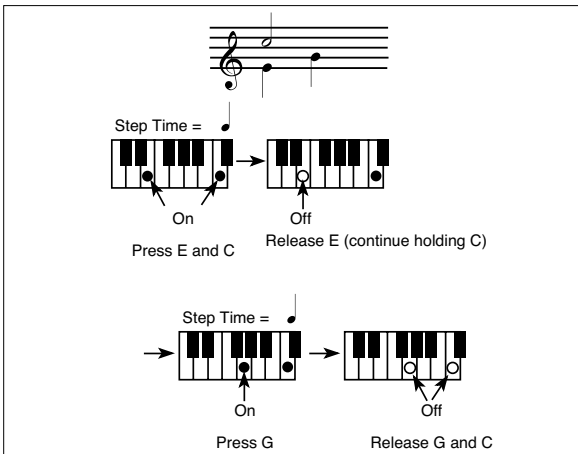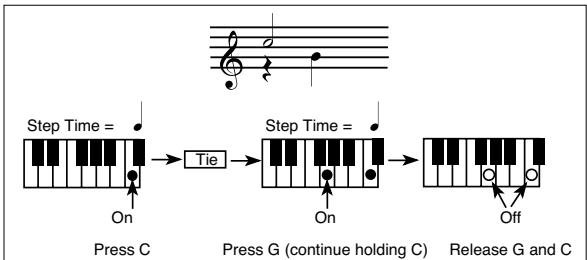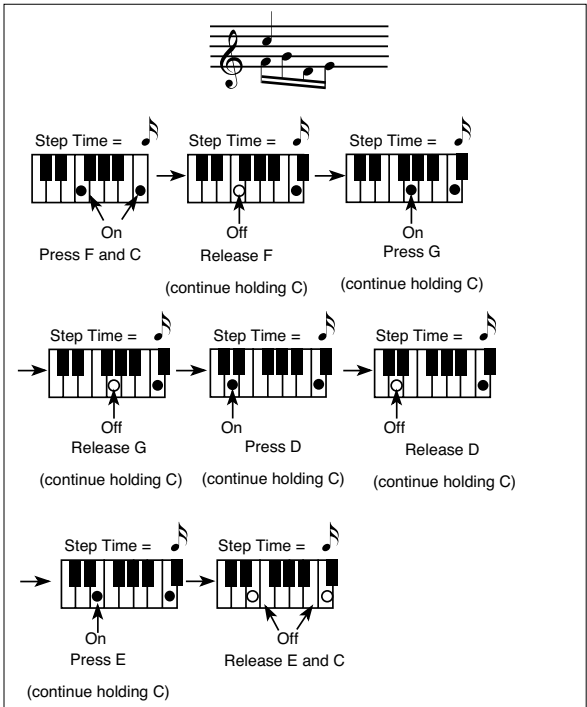
A few examples:

Go back

- If you want to go back, touch the Back button. This will delete the previously inserted event, and set the step in edit again.

Exit from Record

1   When finished recording, touch the Done button to exit the Step Record mode. A dialog box will appear, asking you to either cancel, discard or save the changes.
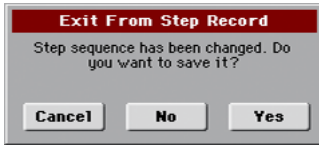
2   Touch Cancel to continue editing, No to exit from the Step Record without saving, or Yes to save and exit Step Record.

Saving the Song

▪   When finished recording the new Song, go to the main page of the Sequencer mode and choose the Save Song command from the page menu to save the Song.

More details are later in this section.

Quick Recording a Backing Sequence Song

> ### What is a Backing Sequence Song?
>
> MIDI Songs are made of up to sixteen 'tracks' – that is, separate parts, each one with a different Sound. Usually, MIDI Songs are recorded one track per time: the drums first, then the bass, then the Accompaniment guitar, then the strings…
>
> Backing Sequence (Quick Record) makes this much easier and faster: you just record your live performance into two grouped tracks: Kbd (Keyboard) and Ch/Acc (Chord/Accompaniment). After saving, this 'quick song' will be converted into an ordinary sixteen-tracks MIDI Song, that you can play with the Player.

Choosing the Style and Sounds

Before accessing the Record mode, prepare the Style and Sounds with which to record your Song.

1   Go to the Style Play mode.

2   Choose a Style.

3   Choose a Performance or STS.

Accessing the Backing Sequence (Quick Record) mode

1   Press the SEQUENCER button to switch to the Sequencer mode.

     The main page of the Sequencer mode will appear.

2   Press the RECORD button to open the Song Record Mode Select dialog.

3 Choose the Backing Sequence (Quick Record) option and touch OK to access the Backing Sequence Record page.

Measure and Beat counter

Record parameters

Track info

Tracks

Mixer
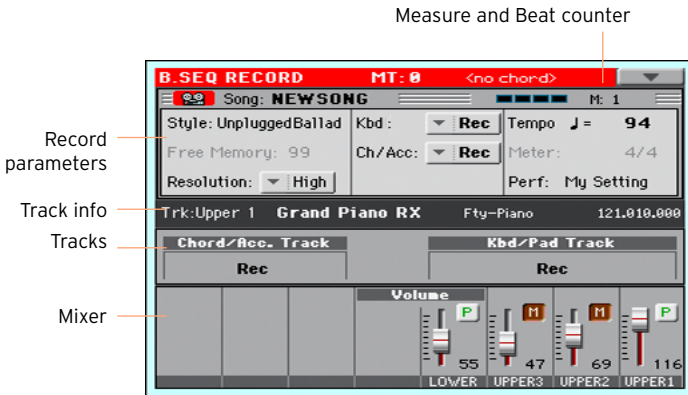
Setting the recording parameters

When you enter the Backing Sequence Record mode, the latest selected Style and Sounds are already selected, and all recorder's tracks are armed and ready to record. You could simply start recording as if you were playing with the Styles. However, there are some additional settings that you might want to do.
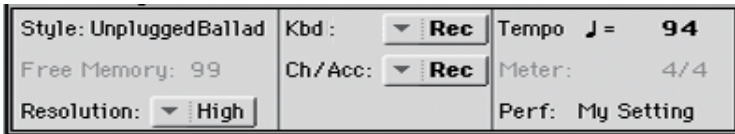
Choose the Style
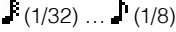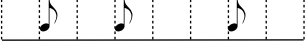
■ Touch the Style parameter (or press the STYLE button on the control panel) to open the Style Select window, and choose a different Style.

Choose the Sounds

■ Touch the Perf/STS parameter (or use the PERFORMANCE or STS buttons) to open the Performance Select window, and choose a different Performance.

Choose a quantize resolution for recording

■ Set the recording Resolution.

Resolution	Meaning
High	No quantization applied
🎵 (1/32) … 🎵 (1/8)	Grid resolution, in musical values. For example, when you select 1/16, all notes are moved to the nearest 1/16 division. When you select 1/8, all notes are moved to the nearest 1/8 division. A '3' after the quantization value means triplet.

No quantization

1/16

1/8

You cannot change the Meter (or Time Signature), because it has to match the Style's Meter.

Set the Tempo

■ Change the Tempo. The Tempo value memorized in the Style is already selected, but you are free to change it.

Recording

Turn on the metronome

- Press the METRONOME (🎼) button to turn the metronome on or off while recording.

Select the tracks to record

- Select or deselect the Backing Sequence grouped tracks (Kbd and Ch/Acc). This status is reflected by the big status indicator above the track sliders.

Track status	Meaning
Rec	The Backing Sequence grouped track is in record. All previously recorded data will be deleted. After pressing the PLAY/STOP (►/■) button to start recording, the track will receive notes from the keyboard or the USB DEVICE connector.
Play	The Backing Sequence track is set to play. If there are recorded data, they will be heard while recording the other Backing Sequence grouped track.
Mute	The Backing Sequence grouped track is muted. If this track has already been recorded, it will not be heard during recording of the other Backing Sequence track.

The Ch/Acc Backing Sequence track groups all the Style tracks, together with recognized chords and Style controls and Style Elements selection.

The Kbd Backing Sequence track contains the four Keyboard Sounds.

Record

1   Select the Style Element you want to use before starting to play. Select any of the Variations before starting to record. Select one of the Intros to start with an introduction.

2   Press the START/STOP button to start recording.

A 1-measure precount will play before the recording actually begins. When it begins, record freely.

3   Play as if you were performing live with the Styles.

During recording, select any Style Element (Intro, Variation, Fill, Break, Ending…) you like. While recording in Backing Sequence Record mode, you cannot use the Synchro, Tap Tempo, Balance controls.

4   When finished recording your Song, press the START/STOP button to exit recording, and return to the main page of the Sequencer mode.

5   While in the main page of the Sequencer mode, press the PLAY/STOP (►/■) button to listen to the recorded Song.

Backing Sequence and MIDI Songs

After finishing recording, the Backing Sequence Song will be converted to an ordinary MIDI Song. Grouped tracks will be converted to Song tracks 9-16, as shown in the following table:

Grouped BS Track	Kebyoard/Style Track	Song Track/Channel
Kbd	Upper 1	1
	Upper 2	2
	Upper 3	3
	Lower	4
Ch/Acc	Bass	9
	Drum	10
	Percussion	11
	Accompaniment 1	12
	Accompaniment 2	13
	Accompaniment 3	14
	Accompaniment 4	15
	Accompaniment 5	16

Second-take recording (Overdubbing)

You may want to record an additional 'grouped' track, or replace a previously recorded track. A good idea may be to record all chords and Style Element changes during the first take, then record Keyboard tracks during the second take.

1   Press the RECORD button to enter Record mode again. When the Song Record Mode Select dialog box appears, select Backing Sequence (Quick Record) again.

2   If you are recording just one of the "grouped" tracks, set to Play the track to be preserved. For example, if you only want to record the Keyboard tracks again, set the Kbd track to Rec, and the Ch/Acc track to Play.

3   Press the START/STOP button to start recording the selected track. With the above example, chords will play as recorded; you can record what you play on the keyboard.

4   Repeat the recording procedure, and press the START/STOP button to stop recording and return to the main page of the Sequencer mode.

5   While in the main page of the Sequencer mode, press the PLAY/STOP (▶/■) button to listen to the recorded Song.

6   Save the Song to a storage device, to avoid losing it when the instrument enters standby.

Saving the Song

■   When finished recording the new Song, go to the main page of the Sequencer mode and choose the Save Song command from the page menu to save the Song.

More details are later in this section.

Step Recording a Backing Sequence Song

The Step Backing Sequence mode allows you to enter single chords, to create or edit the Style (Ch/Acc) part of a Song. This mode lets you enter chords even if you are not a keyboard player, or fix any error made playing chords or selecting Style controls, during a Backing Sequence (Quick Record) recording.

In this mode, you can only edit Songs created using the Backing Sequence (Quick Record) recording mode. When saving a Song created using the Backing Sequence (Quick Record) recording mode, all Ch/Acc data is preserved, and can be loaded later, to be edited again by using the Step Backing Sequence mode.

Accessing the Step Backing Sequence mode

1 Press the SEQUENCER button to switch to the Sequencer mode.

The main page of the Sequencer mode will appear.

2 Press the RECORD button to open the Song Record Mode Select dialog.

3   Choose the Step Backing Sequence option and touch OK to access the Step Backing Sequence page.

Position indicator

Event list

Step controls
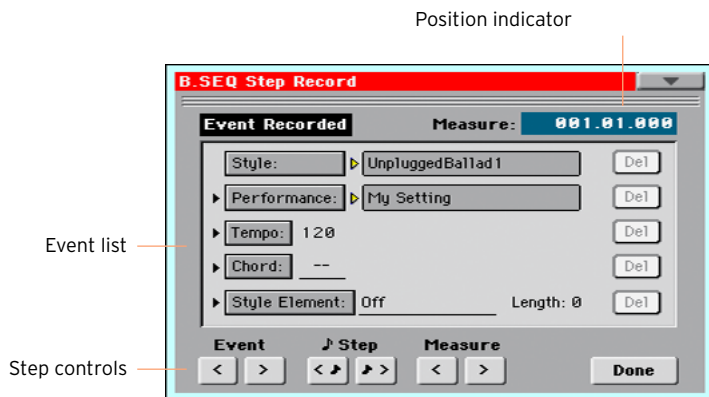
Recording

While in edit, the events at the current position are shown by the right-pointing arrowheads (▶) on the left of the event.

1   Use the Measure parameter to go to the desired position in the Song, by using the VALUE dial.

As an alternatively, you can move the locator by using the step controls in the lower area of the display.

Step control	Meaning
Event	Use these buttons to move to the previous or next recorded event.
Step	Use these buttons to go to the previous or next step (1/8, or 192 ticks). If an event is located before the previous or next step, the locator stops on that event. For example, if you are positioned on M001.01.000, and no event exists before M001.01.192, the > button moves to the M001.01.192 location. If an event exists on M001.01.010, the > button stops to the M001.01.010 location.
Measure	Use these buttons to move to the previous or following measure.

2   Select a parameter type (Style, Performance, Tempo…) to insert, edit or delete at the current position.

3   Use the VALUE dial to modify the selected event. Delete it by touching the Del button next to the event. When editing a parameter without the arrowhead (▶) next to it, a new event is inserted at the current position.

4   When finished editing, touch the Done button to exit from the Step Backing Sequence recording mode.

5   While in the main page of the Sequencer mode, press the PLAY/STOP (▶/■) button to listen to the recorded Song.

Event types

There are the events you can enter or edit.

Event type	Meaning
Style	Latest selected Style. To insert a Style change at the current position, touch the Style name to open the Style Select window.
	Any Style Change inserted after the beginning of the measure (i.e., to a position other than Mxxx.01.000) will be effective at the following measure. For example, if a Style Change event has been inserted at M004.03.000, the selected Style will be effectively selected at M005.01.000. (This works exactly as in Style Play mode).
	When inserting a Style Change, you may also insert a Tempo Change at the same position. A Style Change will not automatically insert the Style's Tempo.
Performance	Latest selected Performance. To insert a Performance change at the current position, touch the Performance name to open the Performance Select window, or follow the standard selecting procedure using the PERFORMANCE section.
Tempo	This is the Tempo Change parameter. To insert a Tempo Change event at the current position, select this parameter and use the VALUE dial to change its value.
Chord	The chord parameter is divided in four separate parts:
	Name Type Extension
	Select one of the parts, then use the VALUE dial to modify it. As an alternative, you can play a chord, and it will be automatically recognized. While recognizing a chord, the status of the Bass Inversion parameter will be considered.
	The lack of a chord (--) means that the accompaniment will not play at the current position (apart for the Drum and Percussion tracks). To select the "--" option, select the Name part of the Chord parameter, then use VALUE dial to select the very last value (C...B, Off).
	If you replace a chord with a different one, please remember that the Keyboard track (if recorded) will not be automatically changed, and may cause a dissonance against the accompaniment.

Event type	Meaning
Style Element	This is the Style Element (i.e., a Variation, Fill, Intro, or Ending). The length of the selected Style Element is always shown by the "Length" parameter (see below).
	"Off " means that the accompaniment will not play at the selected position – only Keyboard and Pad tracks will play.
	Hint: Insert a Style Element Off event exactly where the automatic accompaniment must stop (at the end of the Song).
Length	This parameter will let you know where to place the following Style Element Change. For example, if you inserted an Intro event lasting for 4 measures, you can insert 4 empty measure after this event, and a Variation event at the end of the Intro, beginning at the 4th empty measure.

Inserting measures

■   Choose the Insert Measures command from the page menu, to insert an empty measure starting from the current measure.

All Ch/Acc events contained in the current measure will be moved to the following measure. The event at the Mxxx.01.000 position (i.e., exactly at the beginning of the measure, like a Time Signature or Style change) will not be moved.

Cutting out measures

■   Choose the Cut Measure command from the page menu, to delete the current measure.

All Ch/Acc event contained in the following measures will be moved one measure back.

Deleting everything from the current position

■   Choose the Delete All from Selected command from the page menu, to delete events of all types, starting from the current position.

The events on the very first tick (M001.01.000), like Perf, Style, Tempo, Chord, Style Element selection, will not be deleted, since they are the setting parameters of the Song.

Deleting selected types of events

▪ To delete all events of a specified type starting at the current position, choose from the page menu the Delete All … from Selected command corresponding to the type of event to delete (Styles/Perfs, Style Elements, Chords, Tempos).

To delete all the events of the same type from the whole Song, go back to the M001.01.000 position, and select one of these commands.

The events on the very first tick (M001.01.000), like Perf, Style, Tempo, Chord, Style Element selection, will not be deleted, since they are the setting parameters of the Song.

Deleting single events

▪ Delete a single event by touching the Del (Delete) button next to it.

Exiting from record

1 When finished recording, touch the Done button to exit the Step Record mode. A dialog box will appear, asking you to either cancel, discard or save the changes.
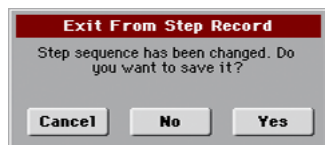
2 Touch Cancel to continue editing, No to exit from the Step Record without saving, or Yes to save and exit Step Record.

Saving the Song

▪ When finished recording the new Song, go to the main page of the Sequencer mode and choose the Save Song command from the page menu to save the Song.

More details are later in this section.

29   Editing the MIDI Songs

Editing the individual MIDI events

The Event Edit is the page where you can edit each single MIDI event of the selected track. You can, for example, replace a note with a different one, or change its playing strength (i.e., velocity value).

The Event Edit page

■   Go to the Sequencer > Event Edit > Event Edit page.

a. Touch here to choose the track to edit

b. Edit the events

The Event Edit procedure

Here is the general procedure to follow for the event editing.

Load the Song and access editing

1   Press the SEQUENCER button to go to the Sequencer mode.

2   Either record a new Song, or load an existing MIDI Song by choosing the Load Song command from the page menu.

3   Go to the Sequencer > Event Edit > Event Edit page.

Filtering the events shown

■ Go to the Sequencer > Event Edit > Filter page to select the events to display.
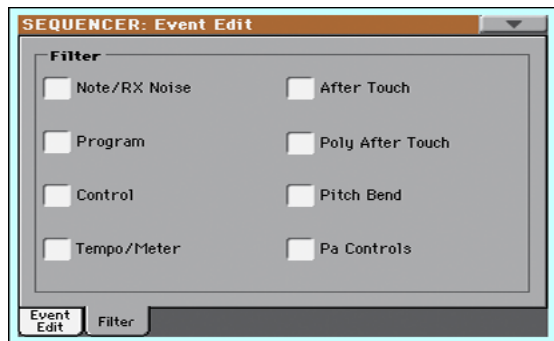
Filter	Meaning
Note/RX Noise	Notes and RX Noise events
Program	Program Change events
Control	Control Change events
Tempo/Meter	Tempo and Meter (time signature) changes (Master Track only)
Pitch Bend	Pitch Bend events
Pa Controls	Messages exclusive to the HAVIAN 30 and Pa-Series instruments.

Edit the events

1 Go back to the Sequencer > Event Edit > Event Edit page.

2 Use the Track pop-up menu to select the track to edit.

   The list of events contained in the selected track will appear in the display. Some events on the beginning of the track, as well as the "EndOfTrk" event (marking its ending point) cannot be edited, and appear dimmed.

3 Scroll though the various events by using the scrollbar.

4 Touch the event to be edited, and edit it.

■ Select the M (Measure), and use the VALUE dial to change event's position.

■ Select the Type parameter, and use the VALUE to change the event type.

■ Select the Value 1 and Value 2 parameters, and use the VALUE dial to edit them. In case of numeric values, you can also touch them twice to open the numeric keypad.

Eventy Type	Value 1	Value 2
Ordinary tracks (1-16)		
Note	Note name	Velocity
RX Noise	Note name	Velocity
Prog	Program Change number	–
Ctrl	Control Change number	Control Change value
Bend	Bending value	–
Aftt	Mono (Channel) Aftertouch value	–
PAft	Note to which the Aftertouch is applied	Poly Aftertouch value
Master track		
Tempo	Tempo change	–
Volume	Master Volume value	–
Meter	Meter (time signature) change[a]	–
KeySign	Key Signature[b]	–
Scale	One of the available preset Scales	Root note for the selected Scale
UScale (User Scale)	Altered note	Note alteration[c]
QT (Quarter Tone)	Altered note	Note alteration (0, 50)[c]
QT Clear (Quarter Tone Clearing)	Reset of all Quarter Tone (QT) changes	–

(a). Meter changes can't be edited or inserted separately from a measure. To insert a Meter change, use the Insert function in the Edit section and insert a series of measures with the new meter. Existing data can then be copied or entered to these measures

(b). This is the key signature shown in the Score. If this event is missing, the Score will be shown as if it was in the key of C Major.

(c). To edit User Scale and Quarter Tone settings, select the first value, then select the scale's degree to edit. Edit the second value to change the tuning of the selected note of the scale.

■ If a Note event is selected, select the D (Duration/Length) parameter, and use VALUE dial to change the event's length.

Jump to a different measure

1 Touch the Go Meas. button to go to a different measure. The Go To Measure dialog will appear:

2 Enter a target measure and touch OK to confirm The first event available in the target measure will be selected.

Insert events

▪ Touch the Insert button to insert an event at the current Position (M). A Note event with default values will be inserted.

Delete events

▪ Select an event, then touch the Delete button to delete it.

Edit other tracks

▪ When editing is complete, select a different track to edit.

Exit Event Edit

▪ When finished editing the Song, press the EXIT button to go back to the main page of the Sequencer mode, and listen to the Song.

Editing the Song tracks

You can edit the Song data in the Sequencer > Song Edit section.

After modifying something, press the PLAY/STOP (▶/■) button to listen to the edited Song. Use the transport controls to move through the Song.

Quantizing

The quantize function may be used to correct any timing mistake after recording, or to give the pattern a "groovy" feeling.
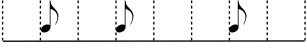
1   Go to the Sequencer > Song Edit > Quantize page.
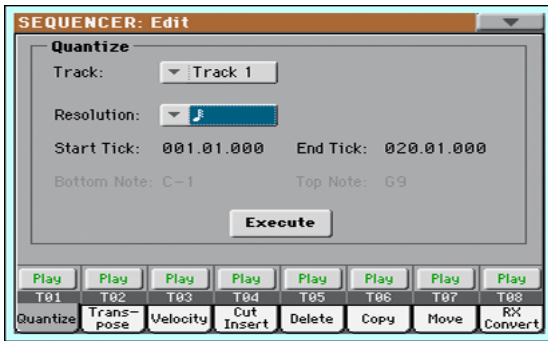
2   Select the Track to edit.

Track	Meaning
All	All tracks selected
Track 1 … 16	Selected track

3   Use the Resolution pop-up menu to choose the the quantize resolution.

Resolution	Meaning
♪ (1/32) ... ♩ (1/8)	Grid resolution after recording, in musical values. For example, when you select 1/16, all notes are moved to the nearest 1/16 division. When you select 1/8, all notes are moved to the nearest 1/8 division. A "b...f " character added after the value means swing-quantization. A '3' after the quantization value means triplet.

No quantization, 1/16, 1/8 illustration:

No quantization	
1/16	
1/8	

4   Use the Start Tick and End Tick parameters to set the beginning and ending of the phrase to be quantized.

If a phrase is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

5   Use the Bottom Note and Top Note parameters to set key range to quantize.

These parameters are only available when a Drum or Percussion track is selected. If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument.

6   After having set the various parameters, touch Execute.

Transposing

The transpose function may be used to transpose the selected track(s).

1   Go to the Sequencer > Song Edit > Transpose page.

2   Select the Track to edit.

Track	Meaning
All	All tracks selected, apart for the tracks set in Drum mode (like the Drum and Percussion tracks).
Track 1 … 16	Selected track.

3   Use the Value parameter to choose the the transpose value.

Value	Meaning
-127 … 127	Transpose value (in semitones)

4   Use the Start Tick and End Tick parameters to set the beginning and ending of the phrase to be transposed.

If a phrase is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

5   Use the Bottom Note and Top Note parameters to set key range to quantize.

If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument. Since in a Drum Kit each instrument is assigned to a different note of the scale, transposing a percussive instrument means assigning the part to a different instrument.

6   After having set the various parameters, touch Execute.

Editing Velocity data

You can change the velocity (dynamics) value of notes in the selected track(s).

When an RX Sound is assigned to the track being edited, the resulting sound may change, since this kind of Sounds is made of several different layers triggered by different velocity values.

Also, a fade-out may result in the level 'jumping' up next to the zero, since a higher-level layer may be selected by low velocity values.

1   Go to the Sequencer > Song Edit > Velocity page.
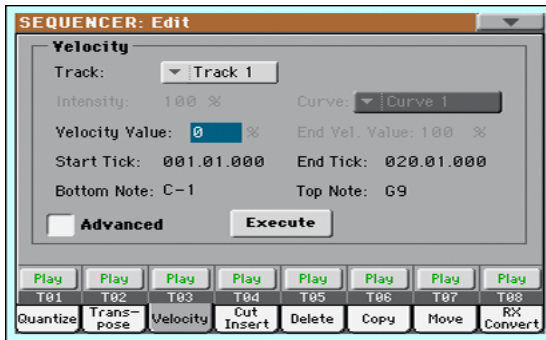
2   Select the Track to edit.

Track	Meaning
All	All tracks selected. The velocity for all notes will be changed.
Track 1 … 16	Selected track.

3   Use the Velocity Value parameter to choose the the transpose value.

Value	Meaning
-127 … 127	Velocity change value (in MIDI value)

4   If you want to use the advanced parameters, allowing you to select a velocity curve and create fade-ins or fade-outs, select the Advanced checkbox.

When this parameter is selected, the Intensity, Curve, Start Velocity Value and End Velocity Value parameters become accessible.

▪ Use the Intensity parameter to specify the degree to which the velocity data will be adjusted toward the curve you specify with Curve.

Intensity	Meaning
0 … 100%	Intensity value. With a setting of 0%, the velocity will not change. With a setting of 100%, the velocity will be changed the most.

▪ Use the Curve parameter to select one of the six curves, and specify how the velocity will change over time.

▪ Use the Start Vel. Value and End Vel. Value to change the velocity value at the starting and ending of the selected curve.

Intensity	Meaning
0 … 100%	Velocity change in percentage

5 Use the Start Tick and End Tick parameters to set the beginning and ending of the phrase to be edited.

If a phrase is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

6 Use the Bottom Note and Top Note parameters to set key range to quantize.

If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument.

7 After having set the various parameters, touch Execute.

Cutting or inserting measures

You can delete a selected measure (or a series of measures), or insert new ones in the middle of the Song.

1 Go to the Sequencer > Song Edit > Cut/Insert page.
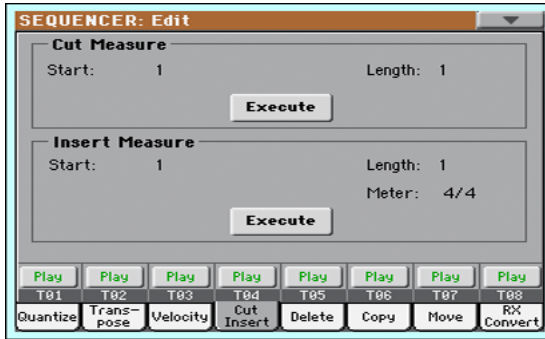
2 Use the Start parameter to select the first measure to be cut or inserted.

3 Use the Length parameter to choose the number of measures to be cut or inserted.

4 Use the Meter parameter to set the meter (time signature) of the measure to be inserted.

5 After having set the various parameters, touch Execute.

Deleting data from measures

The Delete page is where you delete MIDI events out of the Song. This function does not remove measures from the Song. To remove whole measures, use the Cut function instead.

1 Go to the Sequencer > Song Edit > Delete page.

2   Select the Track to edit.

Track	Meaning
All	All tracks selected
Track 1 … 16	Selected track
Master	Master track. This is where the Tempo, Scale and Effect events are recorded.

3   Use the Event pop-up menu to choose the the transpose value.

Event	Meaning
All	All events. The measures are not removed from the Song.
Note	All notes in the selected range.
Dup.Note	All duplicate notes. When two notes with the same pitch are encountered on the same tick, the one with the lowest velocity is deleted.
After Touch	After Touch events.
Pitch Bend	Pitch Bend events.
Prog.Change	Program Change events, excluding the bundled Control Change #00 (Bank Select MSB) and #32 (Bank Select LSB).
Ctl.Change	All Control Change events, for example Bank Select, Modulation, Damper, Soft Pedal…
CC00/32 … CC127	Single Control Change events. Double Control Change numbers (like 00/32) are MSB/LSB bundles.

4   Use the Start Tick and End Tick parameters to set the beginning and ending of the phrase to be deleted.

      If a phrase is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

5   Use the Bottom Note and Top Note parameters to set key range to quantize.

      These parameters are available only when the All or Note option is selected. If you select the same note as the Bottom and Top parameters, you can select a single percussive instrument.

6   After having set the various parameters, touch Execute.

Copying data

You can copy tracks or phrases.

1   Go to the Sequencer > Song Edit > Copy page.

2   Use the Mode parameter to choose a Copy mode.

Copy Mode	Meaning
Merge	Copied data are merged with the data at the target position.
Overwrite	Copied data replace all data at the target position.

3   Use the From Track parameter to choose the source track, and the To Track parameter to choose the target.

Track	Meaning
All	All tracks will be copied. The target track cannot be selected.
Track 1 … 16	Selected track.

4   Use the Start Measure and End Measure parameters to set the beginning and ending of the phrase to be deleted.

5   Use the To Measure parameter to choose the first of the target measures.

6   Use the Repeat Times parameter to choose the number of times the copy must be repeated consecutively.

7   After having set the various parameters, touch Execute.

Moving data

You can shift a track forward or backward by just a few ticks or whole measures.

1 Go to the Sequencer > Song Edit > Move page.
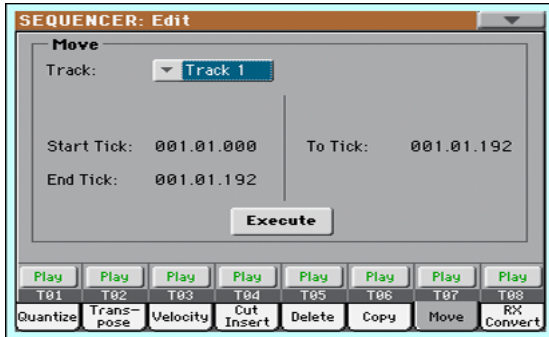
2 Use the Track parameter to choose the track to edit.

Track	Meaning
All	All tracks will be moved.
Track 1 … 16	Selected track.

3 Use the Start Tick and End Tick parameters to set the beginning and ending of the phrase to be moved.

If a phrase is four measures long, and you want to select it all, the Start will be positioned at 1.01.000, and the End at 5.01.000.

Use the To Tick parameter to choose the point where the data will be moved.

4 After having set the various parameters, touch Execute.

Converting notes to RX Noises

You can use the RX Convert page to convert notes of a Standard MIDI File into RX Noises, and vice-versa. This will help programming Songs on an external sequencer.

1   Go to the Sequencer > Song Edit > RX Convert page.

2   Use the Track parameter to choose the track to edit.

Track	Meaning
All	All tracks.
Track 1 … 16	Selected track.

■   Use the RX Notes Velocity parameter to set the volume level of the RX Noises in the selected track(s), then touch the Execute button.

■   Touch the Execute button next to the Add RX Noises to Guitar Tracks parameter to automatically analyze the Standard MIDI File, and add RX Noises to Guitar tracks.

This command scans a single track or the whole Standard MIDI File, looking for guitar strumming played by nylon, steel or electric guitars. After scanning, a suitable Guitar sound will be automatically assigned to the relevant tracks, and RX Noises automatically added where needed.

■   Touch the Execute button next to the Convert RX Noises to MIDI Notes parameter to convert the RX Noises contained in the selected track to ordinary MIDI Notes.

■   Touch the Execute button next to the Convert MIDI Notes to RX Noises parameter to convert all the relevant MIDI Notes in the selected track to RX Noises.

30   Saving MIDI Songs

Saving the MIDI Song

The Song will be lost when the instrument is turned off, or you switch to a different mode. Save it after recording.

1   While in the main page of the Sequencer mode, choose the Save Song command from the page menu. The Save Song window will appear.

This window is very similar to the Media > Save page. Files are filtered, so that can only see MIDI Song files (.mid).

2   Use the Device pop-up menu to select a storage device, then choose a folder where to save your Song.

Use the Open and Close buttons to browse through the folders.

Use the scrollbar to see all Songs in the list. Keep the SHIFT button pressed and touch the Up/Down arrows to scroll to the next/previous alphabetic section. As an alternative, use the VALUE dial to scroll the list.

3   Choose an existing file, or create a new file.

■   If a Song is selected (highlighted), it will be overwritten.

■   If no Song is selected, a new Song file will be created on the target device. To deselect a selected Song, touch anywhere else in the Song list, or select the same storage device again.

At this point, press the EXIT button if you prefer to exit without saving the Song.

4   Touch the Save button to save the Song into the current folder. The Save Song dialog box will appear.

```
┌─────────────────────────────────────────┐
│             Save Song                     │
│                                           │
│              Song Name:                   │
│  [T] NEWSONG                              │
│                 To                        │
│  [KORG DISK]\MYSHOW\MIDI                  │
│                                           │
│     [ Cancel ]          [ OK ]            │
└─────────────────────────────────────────┘
```
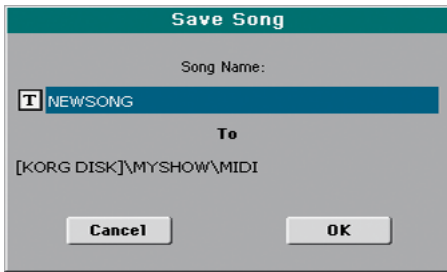
5   You may change the name of the Song. Touch the Text Edit ([T]) icon to open the virtual keyboard and edit the name. When done editing the name, confirm by touching the OK button under the virtual keyboard.

6   When back to the Save Song dialog, touch the OK button to save the Song.

A Standard MIDI File format 0 (Zero) will be created in the target storage device. The file will have a .mid extension.

A setup measure, containing various Song initialization parameters, will be inserted at the beginning of the Song.

31   Recording MP3 Songs

Recording and saving an MP3 Song

Recording an MP3 Song

Enter MP3 Record mode

▪ While in Style Play or Song Play mode, keep the SHIFT button pressed and press the RECORD button.

The MP3 Record dialog will appear. When not recording, the Idle status will be shown.

```
┌──────────────────────────────────────┐
│            MP3 Record                 │
│                                       │
│  Status:            Idle              │
│  Quality:      ▼ Medium (128 kbit/s)  │
│  Running time:      0:00 s.           │
│  File length:       0 KBytes          │
│  Free space:        0 KBytes          │
│                                       │
│  Device:       ▼ DISK     [KORG DISK] │
│                                       │
│                Rec  [ ⚏ ]             │
└──────────────────────────────────────┘
```

Set the recording parameters

▪ Use the Quality pop-up menu to choose the preferred MP3 audio quality.

The higher the sound quality, the larger the MP3 file that will be generated.

Please note that MP3 files recorded with lower sampling rates might not sound very good. With MP3 files there is always a trade-off between higher quality and smaller file size.

▪ Use the Device pop-up menu to choose a location where to temporary store the recorded MP3 file.

This is not the final destination of your file, since you will be able to choose a different location after recording. However, be sure there is enough space

for the temporary file, by checking the Free space parameter. The current file size is always shown by the File length parameter.

Record the MP3 Song

1 Touch the Rec button in the display to start recording.

   The Rec button will change to Stop, and the Idle label will change to Recording.

2 Start playing your song.

   During recording, use the MP3 Record dialog to check the Recording time, File length and the Free space on the storage device.

Exit the MP3 Record dialog without stopping recording

■ If you like, press the EXIT button to exit the MP3 Record dialog and navigate through the Style Play and Song Play pages, without stopping to record.

■ To access the MP3 Record dialog again, and see the file length or stop recording, press SHIFT+REC again.

   If you exit from the MP3 Record dialog while recording, a red recorder icon will continue flashing in the display.

Stop recording

■ Touch the Stop button in the display to stop recording.

   As an alternative, press the RECORD button.

What can you record into an MP3 Song?

- Everything you play on the keyboard, the Styles and the MIDI Songs performed by the Player will be recorded.

- You will not be able to load or play MP3 Songs while recording an MP3 Song.

- You will not be able to record an MP3 Song while an MP3 Song is playing.

Saving the MP3 Song

Save the MP3 Song

After having stopped recording, the MP3 Record dialog will allow you to choose a location for saving the MP3 file.

1 Touch the Text Edit (**T**) icon to give the MP3 file a name.

2 Touch the Browse button to select a storage device and folder where to save the file.

3 Touch the Save button to save the MP3 file.

After saving, you can listen to the MP3 Song in Song Play mode. The MP3 file can also be moved to a personal computer for listening or further editing.

PART VII: CUSTOMIZING AND EDITING THE SOUNDS

32   Listening and customizing the Sounds

Accessing the Sound Edit mode

Accessing Sound Edit

1   While in the main page of the Style Play or Song Play mode, or in any page where you can select a Sound, touch the name of the Sound to open the Sound Selection window.

2   While in the Sound Select window, choose the Edit Sound command from the page menu.
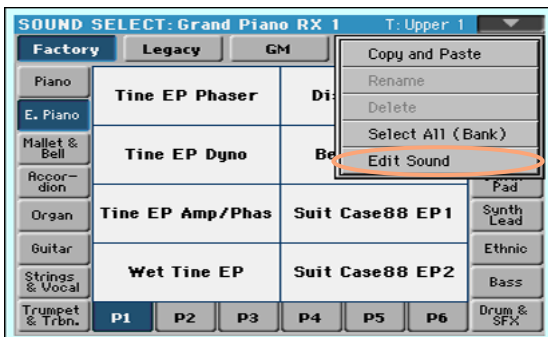
The main page of the Edit Sound mode will appear.

Sound name, bank,
Octave Transpose,
Program Change

Quick edit data

Effects

Voice
Mode

Exiting Sound Edit

■ While in the Sound Edit mode, choose the Exit From Edit command from the page menu to exit the edit mode. You will return to the previous mode.

Listening to individual Sounds

While in the Sound mode, the selected Sound can always play across the full keyboard range. The Split Point will be ignored.

Choosing a Sound

1   While in the main page of the Sound mode, touch the name of the Sound to open the Sound Selection window.

2   Browse through the Sounds, and touch the Sound to select.

Playing via MIDI

In Sound mode, HAVIAN 30 receives and transmits on the same channel as the Upper 1 part. If the Global channel is assigned to a MIDI channel, notes can also be received on this channel.

MIDI channels can be programmed in the Global > MIDI > MIDI IN Channels page.

Customizing the Sound

While in the main page of the Sound mode, you can edit some Sound parameters in realtime. This is useful both for on-the-fly adjustments, and for realtime sound manipulation.
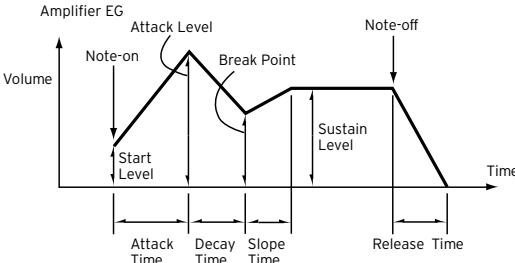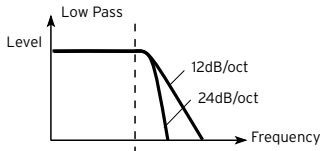
Using the Realtime Controls

▪ Use the Realtime Controls to edit the main parameters of the Sound.

All values are offset of the original values memorized in the Sound. The position of these controls is reset after you write the Sound, or choose a different Sound.

Realtime Control	Meaning
Attack	Attack time. This is the time during which the sound goes from zero (at the moment when you strike a key) to it's maximum level.
Decay	Decay time. Time to go from the final Attack level to the beginning of the Sustain.
Release	Release time. This is the time during which the sound goes from the sustaining phase, to zero. The Release is triggered by releasing a key.
Cutoff	Filter cutoff. This sets the sound brightness.
Resonance	Use the Filter Resonance to boost the cutoff frequency.
LFO Depth	Intensity of the Vibrato (LFO).
LFO Speed	Speed of the Vibrato (LFO).
LFO Delay	Delay time before the Vibrato (LFO) begins, after the sound starts.

Setting the Voice mode

■ Use the Poly and Mono radio buttons to choose whether the Sound will play polyphonically (playing chords) or monophonically (one voice at a time).

■ Use the Legato checkbox to activate legato to a mono voice.

Legato will make the second note's attack smoother. Envelope and LFO will not be retriggered. This is particularly effective with wind instrument and analog synth-type sounds.

■ Turn On the Hold parameter to keep the notes sustained even after releasing the keys.

Mixing the effects

Sounds are sent to two Master FX processors (MFX 1 and MFX 2). The first one is usually a reverb, the second a modulating effect.

■ Use the On/Off switch to turn on or off the corresponding effect.

■ Use the Send knob to adjust the level of the dry sound sent to the corresponding effect.

■ Use the Amount knob to mix between the dry and effected signal.

Saving the Sound

■ When finished editing the Sound parameters in the main page of the Sound mode, choose the Write Sound command from the page menu to save the Sound. More details on saving Sounds at the end of this section.

33 **Editing the Sounds**

You can edit each single parameter of a Sound. HAVIAN 30 is, at its core, a powerful sample-based synthesizer, with advanced analogue-like sound shaping features.

Sound generation

At the base of each Sound there are Samples, that are recordings of real sounds.

Each Sample is assigned to a separate zone of the keyboard together with other Samples to create a Multisample. One or two Multisamples are assigned to each Oscillator.

Up to twenty-four Oscillators can be put together to make a Sound. In a Sound, Oscillators are balanced, layered, and processed by the Effects.

The Sound is the basic unit of the HAVIAN 30's timbre, and can be combined in Sound sets called Performances or STS. They can be assigned to Style and Song tracks.

Choosing the oscillators (OSC)

While in an edit page requiring an oscillator to be selected for editing, use the vertical row of buttons on the right (1…24 max) to select one of the available oscillators. The number of available oscillators depends on the Oscillators Count parameter (in the Sound Edit > Basic > Sound Basic page).
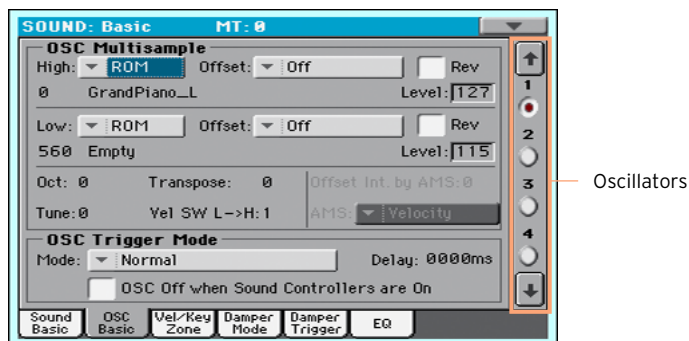
Oscillators

If you cannot see the desired oscillator, touch the scroll arrow, until the hidden oscillator is shown in the display.

When oscillators cannot be select, since the parameter contained in the current page are global and valid for the whole Sound, these buttons are dimmed, and cannot be selected.

Sounds, Drum Kits

HAVIAN 30 features different types of Sounds:

- Ordinary Sounds. These are normal instrument Sounds, like pianos, strings, basses.

- Drum Kits. These are drum and percussion kits, where each note (key) of the keyboard is a different percussive instrument. You can find Drum Kits in the Drum & SFX and User DK banks.

Before pressing the MENU button to access the edit pages, you should select a Sound of the type you wish to edit or create.

Setting the Sound's basic parameters

Before editing the oscillators, choose the number of oscillators in the Sound, the Sound's mono/poly mode, and the transpose and legato ranges.

◾ Go to the Sound > Basic > Sound Basic page.
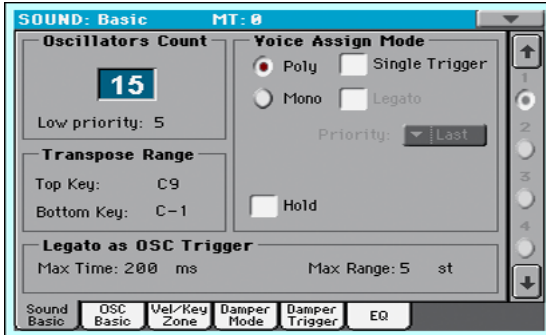
Setting the oscillators

The Oscillator Count section is where you choose how many voices will be used by a single Sound.

Choosing the number of oscillators

◾ Use the Oscillators Count parameter to choose the number of oscillators (up to 24) the Sound is based on.

The total polyphony varies depending on the number of oscillators used by the Sound (a maximum of 128 with only 1 oscillator per voice).

Limiting the number of oscillators when polyphony is low

■ Use the Low priority parameter to allow the highest-numbered oscillators to be turned off when the instrument is short on voices. Keep in mind that, with a dense polyphony, missing oscillators might not even be heard.

Low Priority	Meaning
0	No oscillator will be turned off in any case.
1	The highest-numbered oscillator will be turned off, if needed.
2	The two highest-numbered oscillators can be turned off, one after the other, if needed.
[n]…24	The n-numbered oscillators (up to 24) can be turned off, one after the other, if needed.

Limiting transpose to a defined key range

Some parts of the Sound, in a keyboard range containing special effects, can fall out of the Transpose Range.
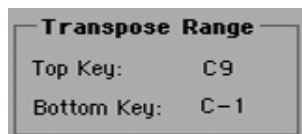
■ Use the Transpose Range (Top Key and Bottom Key) parameters to limit transposition to a defined key range. Notes will only be transposed if falling inside this range.

This is useful to avoid RX Sounds to be transposed (therefore reassigned do different sounds) when transposing a Sound. Set these values so that all RX Noises assigned to any oscillator will fall out of the Transpose Range. For example, if you assigned an RX Noise to a G7 on OSC1, and an RX Noise to an A7 on OSC2, set the Top Key value no higher than F#7 (just below the lowest RX Noise).

Polyphony, triggering, legato

The Voice Assign Mode section is where you choose polyphony, triggering and legato.
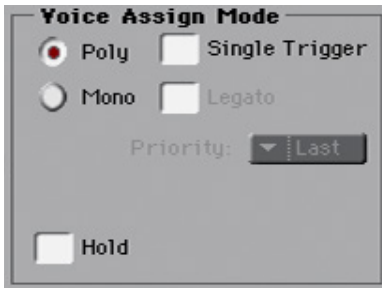
Choosing the mono/poly mode

- Use the Poly and Mono radio buttons to choose whether the Sound will play polyphonically (playing chords) or monophonically (one voice at a time).

Choosing triggering mode

- When the selected mode is Poly, use the Single Trigger checkbox to choose the triggering mode.

Single Trigger	Meaning
On	When the same note is played repeatedly, the previous note will be silenced before the next note is sounded, so that the notes do not overlap.
Off	When the same note is played repeatedly, the previous note will not be silenced before the next note is sounded.

Activating Legato

- When the selected mode is Mono, use the Legato checkbox to activate Legato.

  Legato will make the second note's attack smoother. Envelope and LFO will not be retriggered. This is particularly effective with wind instrument and analog synth-type sounds.

Choosing the Mono note priority

▪ When the selected mode is Mono, use the Priority pop-up menu to specify which note will be given priority when two or more notes are played simultaneously.

Priority	Meaning
Low	The lowest note will take priority.
High	The highest note will take priority.
Last	The last note will take priority.

Holding notes

▪ Select the Hold checkbox to let the notes play even after releasing the keys.

This is especially useful for percussive sounds, that you will trigger and let alone sounding.

Detecting Legato

Two notes can be considered legato when there is very little or no time between them (and they can even be overlapping). You can adjust the instrument's sensitivity to detect legato.

Legato can be used as an oscillator trigger, when you assign one of the Legato triggers to the OSC Trigger Mode parameter (in the Sound Edit > Basic > OSC Basic page).

```
┌─Legato as OSC Trigger ─────────────────────────┐
│  Max Time: 200   ms          Max Range: 5    st │
└─────────────────────────────────────────────────┘
```
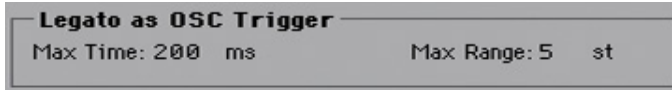
Adjusting the time gap

- Use the Max Time parameter to set the delay between notes (1...999 ms), to consider them legato, even if there is a small gap before them.

  This is useful to avoid some notes in a chord are played legato, and some others staccato. Notes played with a small gap are still considered legato notes. A value of approx. 15 ms is usually considered effective when playing chords.

Adjusting the key note gap

- Use the Max Range parameter to set the range (1...127 semitones) within which notes can be considered legato. If you play a wider interval, the notes are always considered staccato.

  This is typical of some acoustic instruments, where legato is only possible within a small interval, but not on wider ones.

  As an example, please try the 'Alto Sax RX1' sound, where the Max Range is 12 semitones. Play legato with intervals smaller than 12 semitones, and you will hear how smoother legato notes will become. Play legato with wider intervals, and legato smoothing will be lost.

Setting the oscillator's basic parameters

Each of the oscillators can play one or two different multisamples (High and Low layers), separated by a velocity switch.

▪ Go to the Sound > Basic > OSC Basic page.

The multisamples

The OSC Multisample section contains the basic parameters of the assigned multisamples.
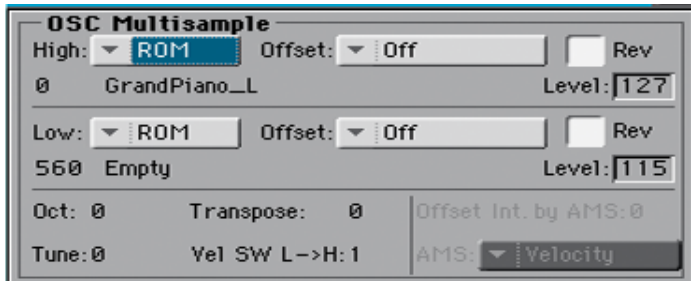
Choosing and setting the multisamples

▪ Use the High and Low pop-up menus to choose the multisample's bank (ROM or RAM).

▪ Use the numeric field next to the multisample name to choose the multisample inside the selected bank.

Bank	Meaning
ROM	Factory multisamples, supplied by KORG as standard.
RAM	User multisamples, loaded when loading some User Sounds.

The High multisample will be triggered by velocities higher than the Velocity SW L->H value. If you do not want to use velocity switching, set the switch to a value of 001, and only assign the High multisample.

If the RAM multisample is based on compressed samples, it will appear but will not sound (or only some ranges will sound).

■ Use the Offset parameters to specify the point where the multisample(s) will start to play. With some multisamples this parameter is not available.

Offset	Meaning
Off	The sound will start from the beginning of the multisample waveform.
1st…6th	The sound will begin from the offset location predetermined for each sample.
No Attack	The initial portion of the multisample is ignored.
AMS	Activates the Alternate Modulation Source (see below).
PseudoRandom	(Only works when more than a single Offset point is available in the multisample). Randomly selects one of the available Offset points (including Attack and Off).

■ Select the Rev checkbox to reverse the samples in the multisample (reading starts from the end).

■ Use the Level parameters to specify the volume level (0…127) of each multisample.

Depending on the multisample, high settings of this parameter may cause the sound to distort when a chord is played. If this occurs, lower the level.

Setting octave and fine tuning

■ Use the Octave parameter to adjust the pitch of the selected oscillator in octave units (-2…+1). The normal octave is 0 (Zero).

■ Use the Transpose parameter to adjust the pitch of the selected oscillator over a range of ±1 octave (-12…+12 semitones).

■ Use the Tune parameter to adjust the pitch of the sample over a range of ±1 octave (-1200…+1200 cents of a semitone) .

Setting the velocity switch between the Low and High layers

■ Use the Vel SW L→H parameter to set the velocity value dividing the High and Low multisamples for the selected oscillator. Notes struck harder than this value will be played by the High multisample.

Choosing an AMS (Alternate Modulation Source)

When the AMS option is assigned to the Offset parameter, the Offset Intensity by AMS and AMS parameters become available. A list of AMS sources can be found in the Appendix.

1   When the Offset Intensity by AMS parameter has a positive value, the selected Offset point will depend by the AMS value. For example, with the Velocity AMS, playing softly will select the Off or 1st Offset, while playing loudly will select the 6th or No Attack Offset.

When the Offset Intensity by AMS parameter has a negative value, the selection will happen in reverse (higher-numbered Offsets will be selected before the lowest-numbered ones).

Oscillator triggering

Triggering Mode is how the oscillator will start when pressing a key.
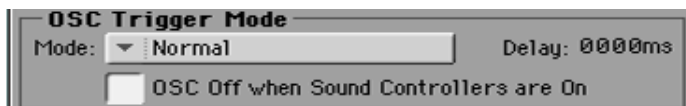
Choosing the oscillator triggering mode

■ Use the OSC Trigger Mode > Mode pop-up menu to choose how to trigger the selected oscillator. For example, a Normal-triggered oscillator will always play, while a Legato-triggered oscillator will only play when a note is played legato.

Trigger Mode	Meaning
Normal	The Oscillator always plays when a key is pressed (unless the "OSC Off when Sound Controllers are On" parameter is checked).
Legato	The Oscillator only plays when the note is played 'legato'. The delay and pitch interval from the previous note are also to be considered, as set in the Sound Edit > Basic > Sound Basic page (Legato as OSC Trigger parameter).
Staccato	The Oscillator only plays when the note is NOT played legato (it is the opposite of the above choice).

Trigger Mode	Meaning
Sound Controller 1	The Oscillator only plays when a CC#80 (Sound Controller 1) message is received. Press and release the corresponding physical controller, and the next note will also trigger the selected Oscillator. If you keep it pressed, the Oscillator will continue to be triggered until you release the controller.
	Hint: This (like the following Sound Controllers) is especially useful to enable a different nuance to the following note(s).
Sound Controller 2	As the above, but with the CC#81 (Sound Controller 2) message.
Sound Controller Y+	As the above, but with the joystick, assigned as the Sound Controller, pushed at least half-way forward (value 64). The controller is turned off when the joystick is released. This control is equivalent to a CC#01 (Modulation) Control Change message.
Sound Controller Y-	As the above, but with the joystick, assigned as the Sound Controller, pulled at least half-way back (value 64). The controller is turned off when the joystick is released. This control is equivalent to a CC#02 (Breath Controller) Control Change message.
Cycle 1	All Oscillators with this same trigger mode assigned will play in cycle. For example, if Oscillators 1, 2 and 4 are assigned the Cycle 1 trigger mode, the following note will trigger Oscillator 1, then 2, then 4, then 1 again.
	Hint: This is especially useful to trigger different sound nuances or create vector-like sound sequences.
Cycle 2	As the above, for use with a different (and parallel) group of Oscillators. Having two Cycle Trigger Modes allows for cycling stereo multisamples.
Random	As the above, but with a random selection of Oscillators within the assigned group.
After Touch Trigger On	The Oscillator starts playing when an After Touch message with a value of at least 90 is received. The Velocity value is the same as the latest Note On message. The Oscillator will stop playing when the After Touch value falls back to zero.
	Hint: This (like the following Triggers) is especially useful to trigger harmonics or growls when a note is already playing.
Y+ Trigger On	As the above, but with the joystick, assigned as the Sound Controller, pushed at least half-way forward (value 64). The controller is turned off when the joystick is released. This control is equivalent to a CC#01 (Modulation) Control Change message.
Y- Trigger On	As the above, but with the joystick, assigned as the Sound Controller, pulled at least half-way back (value 64). The controller is turned off when the joystick is released. This control is equivalent to a CC#02 (Breath Controller) Control Change message.
Legato Up	Like Legato, but this is only activated when the second note is out of the Max Range value (as set in the Basic > Sound Basic page) and it is higher than the first one.

Trigger Mode	Meaning
Legato Down	Like Legato, but this is only activated when the second note is out of the "Max Range" value (as set in the Basic > Sound Basic page) and it is lower than the first one.

Choosing a delay before note start

▪ Use the Delay parameter to set a lapse between pressing a key and hearing the beginning of the sound.

Delay	Meaning
0…5000ms	Delay time (in milliseconds)
KeyOff	The sound will begin when the note is released. The note velocity is read from the Key On Velocity.
	This is useful to create sounds such as the 'click' that is heard when a harpsichord note is released. In this case, set the Sustain parameter to 0 (see the Amp > Amp EG page).
KeyRel	Key Release. The sound will begin when the note is released. The note velocity is read from the Key Off Velocity.
NatRel	Natural Release. The sound will begin when the note is released. The note starts from the current volume of the sound. If the sound's volume is already at zero, this oscillator is not retriggered.

Reversing the controllers

▪ Select the OSC Off when Sound Controllers are On checkbox to reverse the way Sound Controllers work. With this parameter checked, the current oscillator will not play when one of the Sound Controllers (Sound Controller 1, Sound Controller 2, Sound Controller Y+, Sound Controller Y-) is activated.

It should be applied to oscillators with Normal, Legato, Staccato, Cycle 1, Cycle 2, Random, After Touch Trigger On, Y+ Trigger On, Y- Trigger On, Legato Up and Legato Down trigger modes, that can be turned off by using a footswitch or the joystick programmed as a Sound Controller.

Setting the velocity and key zone

You can limit the selected oscillator to play inside a defined velocity zone and key range. This will allow for creating different key and velocity layers.

■   Go to the Sound > Basic > Vel/Key Zone page.
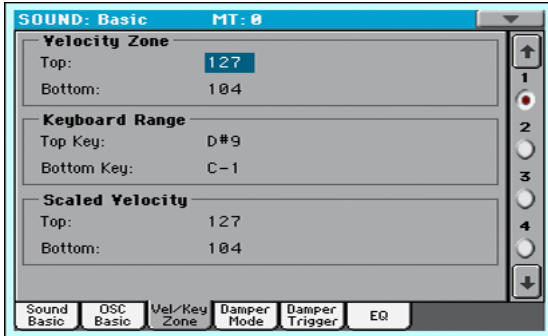
Setting a velocity zone

■   Use the Velocity Zone (Top and Bottom) parameters (0...127) to specify the velocity zone for the selected oscillator.

Setting a key range

■   Use the Keyboard Range (Top Key and Bottom Key) parameters (C-1...G9) to specify the note range for the selected oscillator.

Scaling the received velocity values

■   Use the Scaled Velocity (Top and Bottom) parameters (0...127) to scale the velocity values received by the oscillator. By using the Velocity Zone, an oscillator may be limited to a restricted range (say, 10 to 20), that may result in weak dynamics when the associated sample is triggered.

By assigning a different value to these parameters, the restricted range will be expanded to a wider range (for example, the lowest range value of 10 may be converted to a Scaled Velocity value of 0, and the highest range value of 20 may be converted to a Scaled Velocity value of 127). All values included between the minimum and maximum value are scaled accordingly.

As a consequence, you can create an RX Sound of guitar, by assigning the guitar fret noise to the 10~20 velocity range. When a dynamics value between 10~20 is received, the real velocity value is scaled to the Scaled Velocity values, and will play louder.

Programming the Damper pedal

Programming the pedal

HAVIAN 30 carefully recreates the way an acoustic piano Damper pedal works.

■ Go to the Sound > Basic > Damper Mode page.
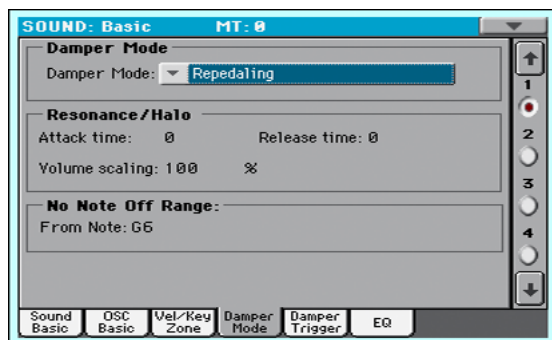
Choosing a Damper pedal mode

■ Use the Damper Mode pop-up menu to choose how the Damper pedal will work on the selected oscillator.

Damper Mode	Meaning
Normal	The Damper pedal works as usual: by keeping it pressed, the note decay is lengthened, to simulate the longer note decay of an acoustic piano.
Damper Off	The Damper pedal is deactivated for the selected Oscillator.
	Choose Damper Off, if you plan to use the selected Oscillator in the Basic > Damper Trigger page to trigger sounds.
Resonance/Halo	The Damper pedal enables a multisample, normally used for the Piano Resonance/Halo effect. If the pedal is pressed when the note is already playing, the speed at which the multisample appears and disappears, and the volume it can reach, depend on the Resonance/Halo parameters programmed below.
	Hint: This Damper mode is much more realistic than the Normal mode, but also 'steals' more notes from the overall polyphony, and is especially suggested for solo piano playing.
	Note: Half-pedaling, as well as Damper messages received via MIDI (as Control Change #64), control the level of the Resonance/Halo effect.

Damper Mode	Meaning
Repedaling	This mode acts as the Normal mode, but also enables the Damper pedal effect when the pedal is pressed after the note has been released (Note Off). In this case, the Damper effect starts from the current Release level, and decays slowly.
	Do not use Repedaling in Sounds used by Style tracks.

Programming the Resonance/Halo

You can program the Resonance/Halo effect that is enabled by the Resonance/Halo Damper Mode (see above). These parameters only affect the Resonance/Halo that is enabled when pressing the Damper pedal down when a note is already playing.

▪ Use the Attack Time parameter to set the time needed to the Resonance/ Halo to reach the maximum level after the Damper pedal has been pressed. Values (0…99) are relative to the current Amp Env Attack value.

▪ Use the Release Time parameter to set the time needed to the Resonance/ Halo to fade out after the Damper pedal has been released. Values (0…99) are relative to the current Amp Env Release value.

▪ Use the Volume Scaling parameter to set the volume of the Resonance/Halo effect. Values (0…100%) are relative to the current level of the sound, as de- termined by the sum of the Multisample Volume, Velocity value and current Amp Env value. 0% is no volume at all.

Setting a key range without dampers

In an acoustic piano, the felt dampers can only dampen strings up to a cer- tain note. Starting from that note (usually G6), it is as if the Damper pedal was always pressed down, and the dampers removed from the strings.

▪ When the Damper is in Normal mode (see above), use the No Note Off Range > From Note parameter to choose the note (C♯-1…G9) starting from which notes are never dampened.

This parameter has no effect on the Resonance/Halo mode.

Triggering notes when pressing or releasing the Damper pedal

Special effects can be achieved by triggering notes with the Damper pedal.

■ Go to the Sound > Basic > Damper Trigger page.
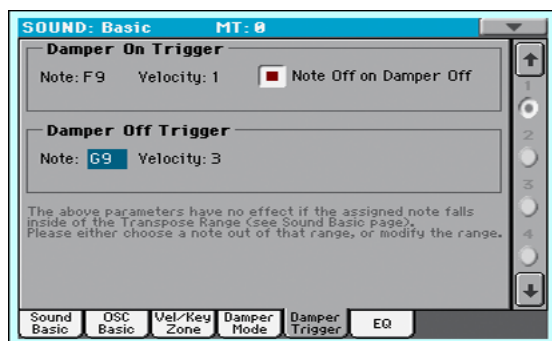
The parameters in this page apply to the Sound as a whole, and not to a single oscillator.

As warned by the message on the lower area of the display, triggered notes must fall out of the Transpose Range programmed in the Basic > Sound Basic page. Please either choose a note out of that range, or edit the Transpose Range, so that the note is either higher or lower than that range.

Damper Trigger Sample
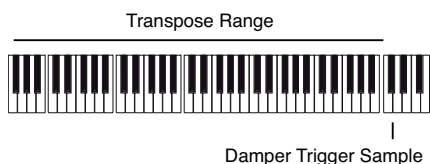
Playing a note when pressing the Damper pedal

The Damper On Trigger parameters allow to play a note when pressing the Damper pedal (Damper On).

This is useful when a special sample is assigned to a particular note (for example, pedal down squeaking in the Sound 'Grand Piano RX', breathing in the 'Harmonica RX' Sound ...).

■ Choose a Note, and set its Velocity.

■ Select the Note Off on Damper Off checkbox to make the sound stop when the Damper pedal is released.

Playing a note when releasing the Damper pedal

The Damper Off Trigger parameters allow to play a note when releasing the Damper pedal (Damper Off).

Releasing the Damper pedal can play a special sample assigned to a particular note (for example, Damper pedal release noise in the 'Grand Piano RX' Sound).

▪ Choose a Note, and set its Velocity.

Equalizing the Sound

You can use a three-band, semi-parametric equalizer on each oscillator.

- Go to the Sound > Basic > EQ page.
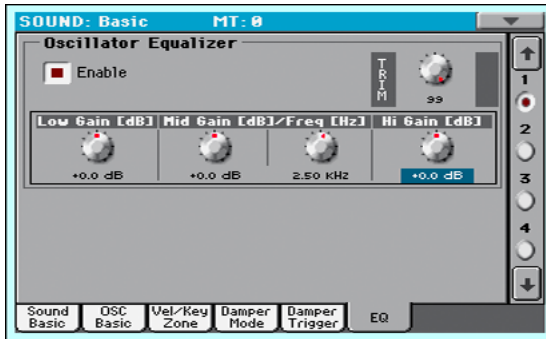
Activate EQ

- Select the Enable checkbox to activate the equalizer on the selected oscillator.

Trimming and programming the EQ

- Use the TRIM knob to limit the level of the signal passing through the equalizer (0…99). Extreme equalization values can overload the audio circuits and lead to distortion. This control lets you set equalization as desired, and at the same time avoid overloading.

- Use the EQ controls to create the equalization curve.

EQ Control	Meaning	Value
Low Gain	Low frequencies equalization. This is a shelving curve filter.	-18…+18dB
Mid (Middle) Gain	Middle frequencies equalization. This is a bell curve filter.	-18…+18dB
Mid (Middle) Freq	Centre frequency of the middle frequencies equalization.	0.100…10kHz
Hi (High) Gain	High frequencies equalization. This is a shelving curve filter.	-18…+18dB

Setting the Drum Kit's basic parameters

When editing a Drum Kit, you first choose and set the percussive samples assigned to each key and velocity layer.

■ Go to the Sound > DrumKit > Sample Setup page.
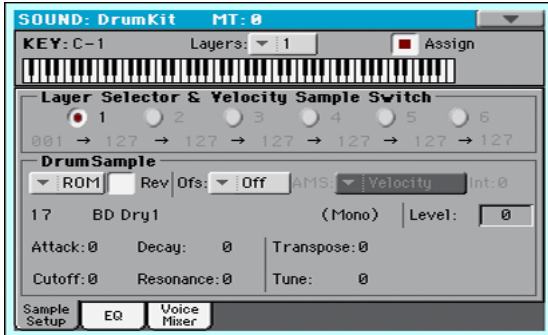
Selecting and setting a key

The key can be selected and programmed in the KEY section.

Choosing the key to edit

■ Use the Key parameter to select a key. As an alternative, select it by pressing a key on the keyboard.

Choosing the number of layers per key

Each key can have a variable number of velocity zones (layers). This allows for assigning different samples to different playing velocity strengths.

■ Use the Layers pop-up menu to choose the number of layers assigned to the selected key. Depending on the number of selected layers, a different number of velocity switches will become available.

Turning the key on or off

■ Use the Assign checkbox to turn the selected key on/off. When a key is not assigned, the next assigned key on the right will extend over it.

Layer and velocity switch

After having selected a key to edit, choose the velocity layer.

Choosing the layer to edit

■ Use the radio buttons in the Layer Selector & Velocity Sample Switch area to select the layer to edit. The available number of layers depend on the Layers pop-up menu above.

Editing the velocity switches

Each of the velocity switch values in the Layer Selector & Velocity Sample Switch area separates two adjacent layers of the selected key. Notes stricken harder than a velocity switch will be played by the layer on the right, while notes stricken softer are played by the layer on the left.

The first and last values are not editable, and are always 001 and 127 (respectively).

Choosing and setting the drum samples

Use the Drum Sample section to assign a percussive sample to the selected velocity layer inside the selected key.
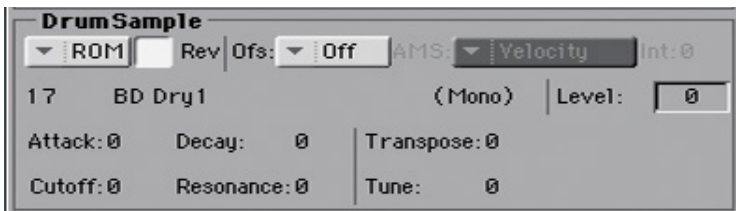
Choosing a drum sample

■ Use the Drum Sample parameters to assign a different drum sample to each layer. You can use velocity to switch between the available samples. Offset and Level can be adjusted independently for the various drum samples.

Use the pop-up menus to choose the bank (ROM or RAM).

Use the numeric field next to the sample name to choose the sample inside the selected bank.

Bank	Meaning
ROM	Factory samples, supplied by KORG as standard.
RAM	User samples, loaded when loading some User Drum Kits.

The sample you select for the current layer will be triggered by velocities higher than the value of the velocity switches. If you do not wish to use velocity switching, assign just one layer to the selected key, and assign a sample only to layer 1.

If the RAM drum sample is compressed, it will appear but will not sound.

▪ Select the Rev (Reverse) checkbox to play the sample in reverse. In the case of samples that were originally specified to loop, the sample will be played back in one-shot reverse mode. If the sample was originally set to reverse, it will playback without change.

Setting a sample start offset

▪ Use the Ofs (Offset) parameter to specify the point where the sample will start to play. With some samples this parameter will not be available.

Offset	Meaning
Off	The sound will start from the beginning of the sample.
1st…6th	The sound will begin from the offset location pre-determined for each sample.
NoAtk	The initial portion of the multisample is ignored.
AMS	Activates the Alternate Modulation Source (see below).
PseudoRandom	(Only works when more than one Offset point is available in the multisample). Randomly selects one of the available Offset points (including Attack and Off).

■ Use the AMS and Int(ensity) parameters to choose the AMS modulation source and its intensity.

When the Intensity parameter has a positive value, the selected Offset point will depend on the AMS value. For example, with the Velocity AMS, playing softly will select the Off or 1st Offset, while playing loudly will select the 6th or No Attack Offset.

When the Intensity parameter has a negative value, the selection will happen in reverse (higher-numbered Offsets will be selected before the lowest-numbered ones).

Setting the sample level

■ Use the Level parameter to specify the level of the sample.

Programming the sample envelope

■ Use the Attack and Decay parameters to offset the selected sample's EG Attack and Decay segments.

Programming the filter

■ Use the Cutoff and Resonance parameters to set the cutoff frequency and resonance for the filter applied to the selected sample.

Setting transpose and fine tuning

■ Use the Transpose parameter (-64…+63 semitones) to transpose the selected sample. Use it to change the pitch of the selected key.

■ Use the Tune parameter (-99…+99 cents of a semitone) to fine-tune the assigned sample.

Equalizing the Drum Kit

Each of the drum samples can be processed with a three-band, semi-parametric equalizer.

■ Go to the Sound > DrumKit > EQ page.

Choosing the key to edit

■ Use the Key parameter to select a key. As an alternative, select it by pressing a key on the keyboard.

The Layers and Assign parameters are the same of the Sample Setup page.

Trimming and programming the EQ

■ Select the Enable checkbox to activate the equalizer on the selected layer.

■ Use the TRIM knob to limit the level of the signal passing through the equalizer (0...99). Extreme equalization values can overload the audio circuits and lead to distortion. This control lets you set equalization as desired, and at the same time avoid overloading.

∎ Use the EQ controls to create the equalization curve.

EQ Control	Meaning	Value
Low Gain	Low frequencies equalization. This is a shelving curve filter.	-18…+18dB
Mid (Middle) Gain	Middle frequencies equalization. This is a bell curve filter.	-18…+18dB
Mid (Middle) Freq	Centre frequency of the middle frequencies equalization.	0.100…10kHz
Hi (High) Gain	High frequencies equalization. This is a shelving curve filter.	-18…+18dB

Mixing and retriggering the drum samples

You can choose a triggering mode, and mix the key (usually a percussive sound with its different velocity layers) with the other keys. All layers of the selected key will get the same settings.

■ Go to the Sound > DrumKit > Voice/Mixer page.
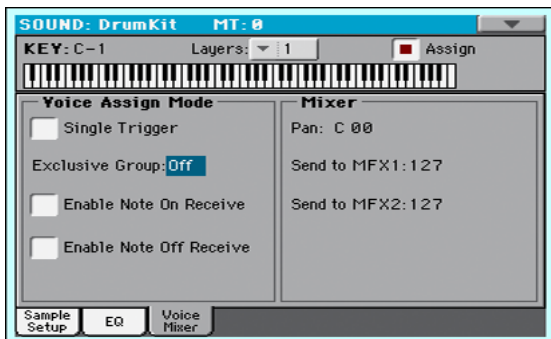
Choosing the key to edit

■ Use the Key parameter to select a key. As an alternative, select it by pressing a key on the keyboard.

The Layers and Assign parameters are the same of the Sample Setup page.

Choosing polyphony, retriggering and legato

■ Use the Single Trigger checkbox to choose the triggering mode.

Single Trigger	Meaning
On	When the same key (note) is played repeatedly, the previous note will be stopped before the new note is triggered, so that they will not overlap.
Off	When the same key (note) is played repeatedly, the previous note will not be stopped before the new note is triggered.

Creating exclusive groups

Exclusive Groups are sets of mutually exclusive keys, stopping each other. For example, if the Open Hi-Hat and Closed Hi-Hat are assigned the same Exclusive Group, playing an Open Hi-Hat will stop the Closed Hi-Hat playing.

Exclusive Group	Meaning
None	No Exclusive Group assigned. The selected key will not be stopped by any other key.
1…127	Exclusive Groups assigned to the selected key. When you play this key, all other keys assigned to the same Exclusive Group will be stopped, and this key will be stopped by other keys assigned to the same Exclusive Group.

Enabling Note On and Note Off

▪ Select the Enable Note On Receive checkbox to enable reception of the Note On (Key On) message.

If this parameter is not selected, the key will not play.

▪ Select the Enable Note Off Receive checkbox to enable reception of the Note Off (Key Off) message.

If this parameter is not selected, the sample will continue to play to the end of the sample.

Setting the Pan and FX Send mixing parameters

▪ Use the Pan parameter to set the position of the selected key in the stereo panorama.

▪ Use the Send to MFX1 and Send to MFX2 parameters to set the MFX1 or MFX2 send level for the selected key.

Modulating pitch

Pitch can change depending on the note and the activated controllers. HAVIAN 30 also includes LFO generators that can modulate the pitch.

■   Go to the Sound > Pitch > Pitch Mod page.
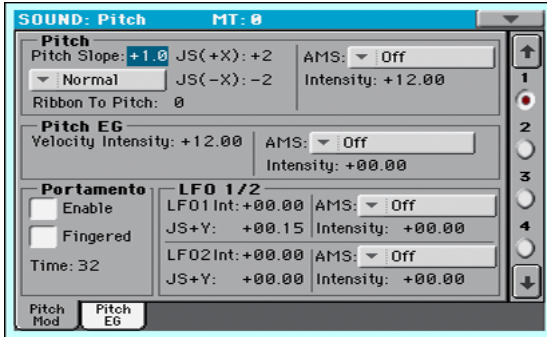
Controlling pitch

The oscillator's pitch can follow the natural scale, or a different pitch 'slope'.
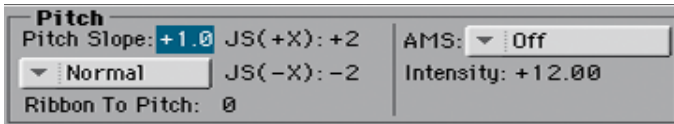
Setting the Pitch Slope

■   Use the Pitch Slope parameter (-1.0…+2.0) to change pitch depending on the note position on the keyboard.

Normally you will leave this parameter at +1.0. Positive (+) values will cause the pitch to raise as you play higher notes, and negative (–) values will cause the pitch to fall as you play higher notes.

With a value of 0, there will be no change in pitch, and the C4 pitch will sound regardless of the keyboard location you play.

The diagram shows how the Pitch Slope and pitch are related:
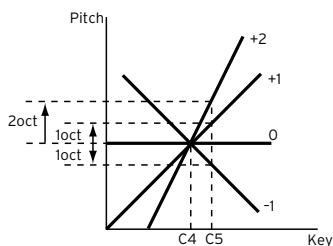
Controlling the pitch with physical controllers

■ Use the Pitch Mode pop-up menu to set the Pitch Bend direction.

Pitch Mode	Meaning
Normal	Linear bending.
Fixed Scale	When this parameter is turned on on an oscillator, Pitch Bend and Sub Scale have no effect on its tuning. The relevant parameters are greyed out and non-selectable.
	This is useful when assigning to the oscillator a noise (like the breath noise of a reed) with a fixed frequency, that must not change on different notes and different pitches.
Highest Pitch Bend only	On this oscillator, Pitch Bend is only activated on the highest note currently playing on the keyboard.
Lowest Pitch Bend only	On this oscillator, Pitch Bend is only activated on the lowest note currently playing on the keyboard.

■ Use the Ribbon to Pitch parameter to set the Pitch Bend range (-12…0…+12 semitones) controlled by the Ribbon Controller message (CC#16). The Ribbon Controller message can be received from MIDI or contained in a Standard MIDI File.

■ Use the JS (+X) parameter to specify how the pitch will change when the joystick is moved all the way to the right (-60…+12 semitones). A setting of 12 produces 1 octave of change.

For example if you set this to +12 and move the joystick all the way to the right, the pitch will rise one octave above the original pitch.

■ Use the JS (-X) parameter to specify how the pitch will change when the joystick is moved all the way to the left (-60…+12 semitones). A setting of 12 produces 1 octave of change.

For example, if you set this to -60 and move the joystick all the way to the left, the pitch will fall five octaves below the original pitch. This can be used

to simulate the downward swoops that a guitarist produces using the tremolo arm.

Choosing a pitch modulation source

■   Use the Pitch > AMS (Alternate Modulation Source) pop-up menu to select a modulation source for the pitch of the selected oscillator. A list of the available AMS sources is in the Appendix.

The Intensity parameter (-12.00...+12.00) specifies the depth and direction of the effect produced by the AMS. With a setting of 0, no modulation will be applied. With a setting of 12.00, the pitch will change up to one octave.

For example, if you choose the JS (-Y) AMS and move the joystick downwards, the pitch will rise if this parameter is set to a positive (+) value, or fall if this parameter is set to a negative (-) value. The range is a maximum of one octave.

Controlling the Pitch EG (Envelope Generator)

Use the Pitch EG parameters to controls the Pitch EG unique to all oscillators.

```
┌─Pitch EG────────────────────────────────┐
│ Velocity Intensity: +12.00 │ AMS: ▼ Off     │
│                            │ Intensity: +00.00 │
└─────────────────────────────────────────┘
```
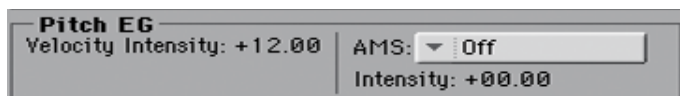
Linking pitch to velocity

■   The Velocity Intensity parameter (-12.00...+12.00) specifies the depth and direction of the Pitch EG modulation. With a setting of 12.00, the pitch will change a maximum of ±1 octave.

Linking pitch to an AMS modulation

■   Use the Pitch EG > AMS parameter to select a modulation source for the pitch EG of the selected oscillator. A list of the available AMS sources is in the Appendix.

■   Use the Pitch EG > Intensity parameter to specify the depth and direction of the AMS. For example, if you choose the Velocity AMS and set this value to +12.00, the velocity will control the range of pitch change produced by the pitch EG in a range of ±1 octave. As you play more softly, the pitch change will draw closer to the pitch EG levels.

The Pitch EG > AMS and Pitch EG > Intensity will be summed to determine the depth and direction of the pitch modulation applied by the pitch EG.

Pitch change (level)

Softly played
(Intensity (Pitch EG) setting)

Strongly played with
a positive (+) value

Strongly played with a
negative (–) value
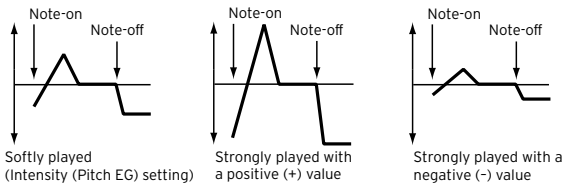
Programming Portamento

Portamento adds a slide between notes (a smooth change in pitch from one note to the next).

■ Select the Enabled checkbox to activate the portamento effect.

Portamento will also be switched on or off when the CC#65 (Portamento SW) message is received.

■ Select the Fingered checkbox to make portamento restart when playing a note.

When Fingered is enabled, playing legato will turn Portamento on, while playing detached will turn it off again.

■ Use the Time parameter to set the portamento time (000…127). Increasing the value will produce a slower change in pitch.

Controlling the LFO

Use the LFO 1/2 parameters to controls the LFO (Low Frequency Oscillation) on the selected oscillators. LFO generators are programmed in the Sound Edit > LFO > LFO 1 and LFO 2 pages.

```
┌─LFO 1/2──────────────────────────┐
│ LFO1 Int:+00.00 │AMS: ▼  Off      │
│ JS+Y:   +00.15 │Intensity: +00.00 │
│ LFO2Int:+00.00 │AMS: ▼  Off      │
│ JS+Y:   +00.00 │Intensity:  +00.00 │
└──────────────────────────────────┘
```

- ■ Use the LFO 1/2 Int parameter to set the intensity (-12...0...+12) of the corresponding LFO. Negative values will invert the LFO shape.

- ■ Use the JS+Y parameter to set the intensity (-12...0...+12) of the corresponding LFO when the joystick is pushed forward. Negative values will invert the LFO shape.

- ■ Use the AMS and Intensity parameters to choose an AMS to modulate the corresponding LFO, and the intensity of the modulation.

Programming the pitch envelope (Pitch EG)

HAVIAN 30 includes a pitch envelope generator (Pitch EG) that can vary the pitch over time.

■ Go to the Sound > Pitch > Pitch EG page.
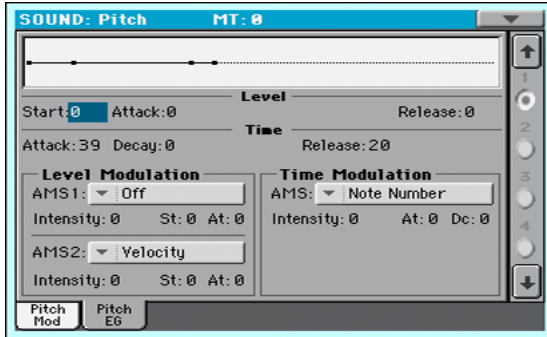
You can see the shape of the envelope in the diagram on top of the page.

Setting the Pitch EG levels and times

Pitch EG can be programmed by setting the Level and Time parameters of the envelope segments.

Time-varying pitch settings (when Pitch EG Intensity = +12.00)
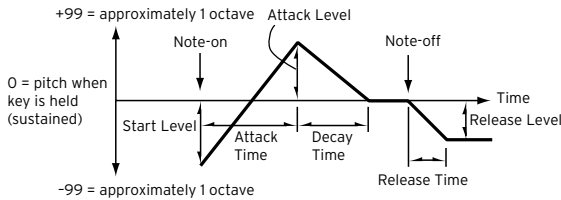
■ Use the Level parameters (-99…+99) to specify the amount of pitch change.

EG Level	Meaning
Start	Amount of pitch change at note start.
Attack	Amount of pitch change when the attack time has elapsed.
Release	Amount of pitch change when the release time has elapsed.

The actual amount of pitch change will depend on the Pitch EG > Intensity parameters (see the Sound > Pitch > Pitch Mod page). For example, with an Intensity setting of +12.00, a Level setting of +99 would raise the pitch one octave, and a Level setting of −99 would lower the pitch one octave.

■ Use the Time parameters (0...99) to specify the time over which the pitch change will occur.

EG Time	Meaning
Attack	Time over which the pitch will change from note-on until it reaches the pitch specified as the attack level.
Decay	Time over which the pitch will change after reaching the attack level until it reaches the normal pitch.
Release	Time over which the pitch will change from note-off until it reaches the pitch specified as the release level.

Modulating the Pitch EG

Modulating the Pitch EG levels

Use the Level Modulation > AMS 1/2 parameters to select a modulation source for the Pitch EG > Level parameters.

■ Use the Level Modulation > Intensity parameters (-99...+99) to specify the depth and direction of the modulation generated by AMS1 or AMS2. With a setting of 0, the levels specified by the Level parameter will be used.

For example, if you choose the Joystick Y+ the AMS, moving the Joystick in the upper direction to turn it on will change the Level parameters of the Pitch EG. As the absolute value of Intensity is increased, the Pitch EG levels will change more when the Joystick is released. The direction of the change is specified by St (Start Level Swing) and At (Attack Level Swing). When the Joystick is released, the Pitch EG levels will return to their own settings.

If you choose the Velocity AMS, increasing the absolute value of Intensity will produce increasingly wider change in Pitch EG levels for strongly-played notes. The direction of the change is specified by St (Start Level Swing) and At (Attack Level Swing). As you play more softly, the pitch change will draw closer to the Pitch EG levels.

■ Use the St (Start Level Swing) and the At (Attack Level Swing) parameters to specify the direction of change in Level > Start and Level > Attack caused by the AMS.

If the Intensity is a positive (+) value, a setting of + will increase the EG level, and a setting of – will decrease it. With a setting of 0 there will be no change.

Pitch EG change (level) (AMS=JS-Y/Velocity, Intensity= positive (+) value

A note played softly with Start Level Swing set at 0, Attack Level Swing set to +, the Joystick pulled on

A note played strongly with Start Level Swing set to 0, Attack Level Swing set to +, the Joystick pulled on

A note played strongly with Start Level Swing set to 0, Attack Level Swing set to –, the Joystick pulled on
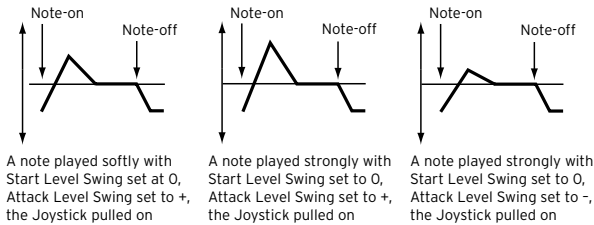
Modulating the Pitch EG times

Use the Time Modulation > AMS parameter to select a modulation source for the Pitch EG > Time parameters.

▪ Use the Time Modulation > Intensity parameters (-99…+99) to specify the depth and direction of the effect that AMS will have on the Time parameters. With a setting of 0, the pitch EG times will be just as specified by the Time settings.

The alternate modulation value at the moment that the EG reaches each point will determine the actual value of the EG time that comes next.

For example, the decay time will be determined by the alternate modulation value at the moment that the attack level is reached.

When this parameter is set to values of 16, 33, 49, 66, 82, or 99, the specified EG times will speed up as much as 2, 4, 8, 16, 32, or 64 times respectively (or slowed down to 1/2, 1/4, 1/8, 1/16, 1/32, or 1/64 of the original time).

For example, with the Velocity AMS, increasing the absolute value of Intensity will allow strongly-played notes to increase the changes in pitch EG Time values. The direction of the change is specified by At (Attack Time Swing) and Dc (Decay Time Swing). As you play more softly, the pitch EG times will more closely approach the actual settings of the pitch EG.

▪ Use the At (Attack Time Swing) and the Dc (Decay Time Swing) parameters to specify the direction in which AMS will affect the Time > Attack and Decay parameter. With positive (+) values of Intensity, a setting of + will cause the

time to be lengthened, and a setting of – will cause the time to be shortened. With a setting of 0 there will be no change.

Pitch EG changes (Time) (AMS = Velocity, Intensity = positive (+) value)
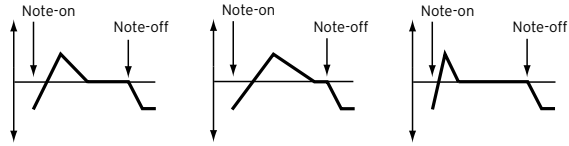
A note played softly with Attack Time Swing set to + and Decay Time Swing set to +

A note played strongly with Attack Time Swing set to + and Decay Time Swing set to +

A note played strongly with Attack Time Swing set to – and Decay Time Swing set to –

Programming the filters

As in a subtractive analogue synthesizer, filters are the main agents of the sound's timbre quality. Envelope and modulation allow for timbral shift over time, making the sound alive.

Choosing the filters

You can choose one of two filters for the selected oscillator.

■ Go to the Sound > Filter > Filter Type page.
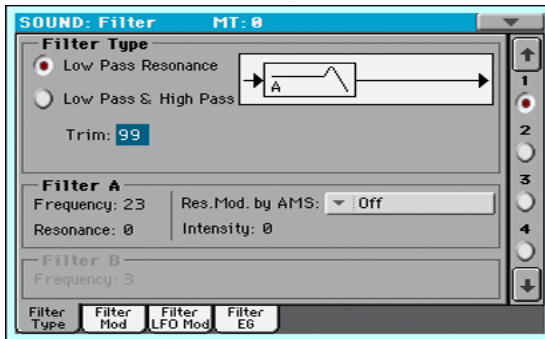
Choosing the filter type

■ Use the Filter Type radio buttons to choose the type of filter for the selected oscillator.

Filter Type	Meaning
Low Pass Resonance	When the Low Pass filter type is selected, only filter A will be activated.
Low Pass & High Pass	When the Low Pass & High Pass filter type is selected, the filter B will be activated.

Trimming the filter input

■   Use the Trim parameter (00...99) to adjust the level at which the audio signal generated by the selected oscillator is input to filter A.

If this value is too high, the sound may distort when Resonance is set to a high value, or when you play a chord.

Programming the filters

Programming filter A

■   Use the Filter A > Frequency parameter to set the cutoff frequency of filter A (00...99).
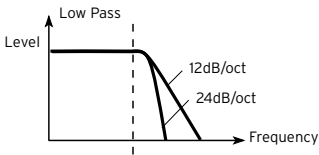
This is a filter that cuts the high-frequency region above the cutoff frequency.
This is the most common type of filter, and is used to cut part of the overtone components, making an originally bright timbre sound more mellow (darker).
When the "Filter Type" is Low Pass Resonance, the cutoff will have a steeper slope.

■   Use the Filter A > Resonance parameter to set the resonance of filter A (00...99).

The resonance emphasizes the overtone components that lie in the region of the cutoff frequency specified by Frequency, producing a more distinctive sound. Increasing this value will produce a stronger effect.

■   Use the Res. Mod. by AMS parameter to choose a modulation source for the Resonance parameter.

The effect of resonance

Low resonance value ⟷ High resonance value
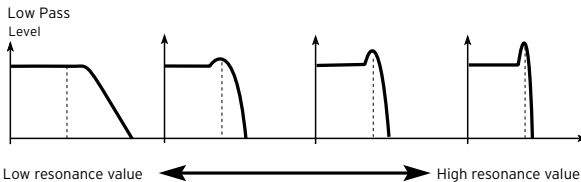
■   Use the Intensity parameter (-99...+99) to specify the depth and direction of the effect that Res. Mod. by AMS will have on the resonance level specified by Resonance.

For example if Velocity has been selected, changes in keyboard velocity will affect the resonance.

With positive (+) values, the resonance will increase as you play more strongly, and as you play more softly the resonance will approach the level specified by the Resonance setting.

With negative (–) values, the resonance will decrease as you play more strongly, and as you play more softly the resonance will approach the level specified by the Resonance setting.

The resonance level is determined by summing the Resonance and Intensity values.

Programming filter B

When both filters are activated, you can also program filter B.

▪ Use the Filter B > Frequency parameter to set the cutoff frequency of filter B (00…99).

This parameter is only available when the selected filter type is Low Pass & High Pass.
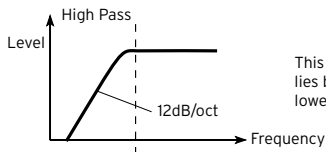
This filter cuts the low-frequency range that lies below the cutoff frequency. By cutting the lower overtones, it lightens the tone.

Modulating the filters

You can modulate the filter cutoff frequency of the selected oscillator. Modulation will add dynamic timbre variation.

Programming realtime filter modulation

- Go to the Sound > Filter > Filter Mod page.
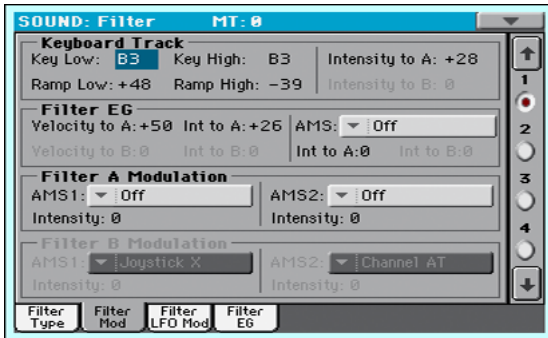
When the filter type is Low Pass Resonance, the parameters for filter B will not be editable (dimmed).

Tracking the cutoff frequency across the keyboard

Keyboard Tracking changes the timbre quality across the keyboard.
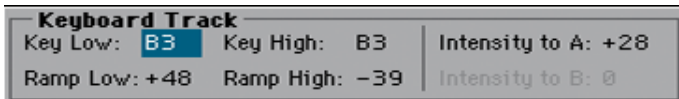
- Use the Key Low/High parameters (C-1...G9) to change the filter cutoff frequency across the keyboard for the selected oscillator.

Keyboard Tracking varies the cutoff frequency according to the position of the key on the keyboard. How the cutoff frequency is affected by the keyboard location can be specified by the Key Low, Key High, Ramp Low, Ramp High, and the Intensity to A/B parameters.

Keyboard tracking will apply to the range below the specified Low note number, and above the specified High note number.

■ Use the Ramp Low/High parameters to specify the slope of the keyboard tracking (-99...+99).
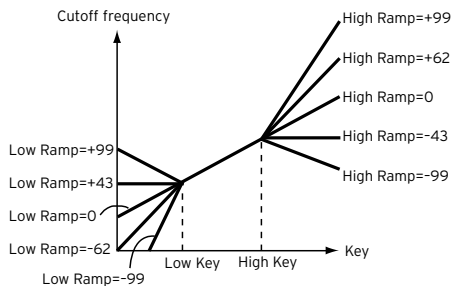
■ Set the Intensity to A and Intensity to B parameters (-99...+99) to specify the depth and direction of the changes applied to filters A and B.

For the range of notes between Key Low and Key High, the cutoff frequency will change according to the keyboard location (pitch).

Modulating the Filter EG (Envelope Generator)

The filter envelope can be controlled while playing.
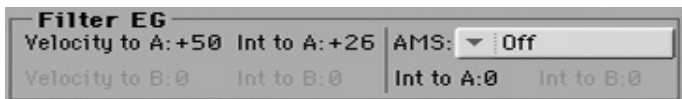
■ Use the Velocity to A/B parameter (99...+99) to specify the depth and direction of the effect that velocity will have on the time-varying changes created by the filter EG (as set on Filter > Filter EG) to control the filter A/B cutoff frequency.

With positive (+) values, playing more strongly will cause the filter EG to produce greater changes in cutoff frequency. With negative (-) values, playing more strongly will also cause the filter EG to produce greater changes in cutoff frequency, but with the polarity of the EG inverted.

■ Use the Int to A/B parameters (-99...+99) to specify the depth and direction of the effect that the time-varying changes created by the filter EG will have on the filter A/B cutoff frequency.

With positive (+) settings, the sound will become brighter when the EG levels set by Filter EG Level and Time parameters are in the "+" area, and darker when they are in the "-" area.

With negative (-) settings, the sound will become darker when the EG levels set by Filter EG Level and Time parameters are in the "+" area, and brighter when they are in the "-" area.

- Use the AMS pop-up menu to select a modulation source for the filter EG applied to the cutoff frequency of filters A and B.

- Use the Int to A/B parameters (-99...+99) to specify the depth and direction of the effect that the AMS will have on filter A/B.

  The sum of the settings for Velocity to A/B, Intensity to A/B, and (AMS) Intensity to A/B will determine the depth and direction of the effect produced by the filter EG.

Changes in cutoff frequency

Softly played   Strongly played   Strongly played
                       Setting to +   Setting to –
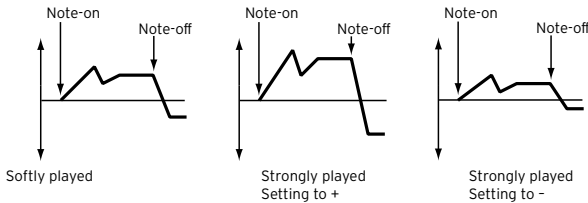
Modulating the filters cutoff frequency

You can control the filters with a modulation source.
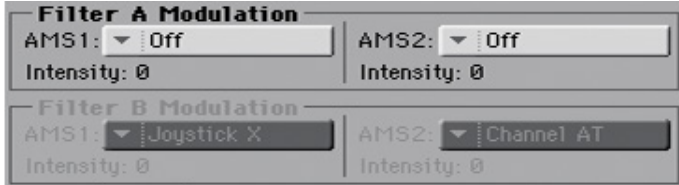
- Use the AMS 1/2 parameters to select a modulation source for the filter A/B cutoff frequency.

- Use the Intensity (AMS 1/2) parameters to specify the depth and direction of the AMS 1/2.

  When AMS1 is JS X, a positive (+) value for this parameter will cause the cutoff frequency to rise when the joystick is moved toward the right, and fall when the joystick is moved toward the left. With a negative (–) value for this parameter, the opposite will occur.

  This value is summed to the setting of the Filter A/B Frequency.

Applying LFO to the filters

You can use LFO to apply cyclic modulation to the cutoff frequency of the filters. This will create cyclical changes in tone on the selected oscillator.

▪ Go to the Sound > Filter > Filter LFO Mod page.

Modulating the filters with the LFOs

▪ Use the LFO 1/2 > Intensity to A/B parameters (-99…+99) to specify the depth and direction of the modulation that LFO 1/2 (set on Sound Edit > LFO > LFO 1 or LFO 2) will have on the cutoff frequency of filter A/B. Negative (-) settings will invert the phase.
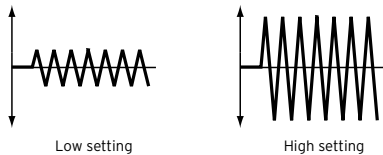
▪ Use the JS (Joystick) −Y Intensity to A/B parameters (-99…+99) to modulate LFO with the joystick pulled back.

By moving the joystick in the Y direction (toward yourself), you can control the depth at which LFO 1/2 modulates the cutoff frequency of filter A/B. This parameter specifies the depth and direction of the control.

Higher settings of this parameter will produce greater increases in the effect of LFO 1/2 on the filter when the joystick is moved toward yourself.

▪ Use the LFO 1/2 > AMS pop-up menus to select a modulation source for the cutoff frequency of both filters A and B.

The Intensity to A/B parameters (-99…+99) set the depth and direction of the effect that the AMS will have on filter A/B.

For example if the AMS is Joystick Y+, higher settings of this parameter will allow greater change to be applied to LFO 1/2 when you move the Joystick up in the Y axis.

Programming the filter envelope (Filter EG)

You can create an envelope to vary over time the cutoff frequency of the filters on the selected oscillator.

■ Go to the Sound > Filter > Filter EG page.
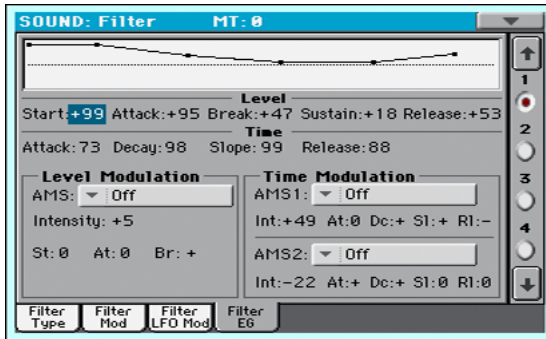
You can see the shape of the envelope in the diagram on top of the page.

Setting the Filter EG levels and times

Filter EG can be programmed by setting the Level and Time parameters of the envelope segments.

The result will depend on the filter type. For example, with the Low Pass Resonance filter, positive (+) values of EG Intensity will cause the tone to be brightened by positive (+) levels, and darkened by negative (–) levels.

Also, the effect of these settings on the filter cutoff frequency depends by the Velocity and Intensity parameters of the Filter > Filter Mod page.
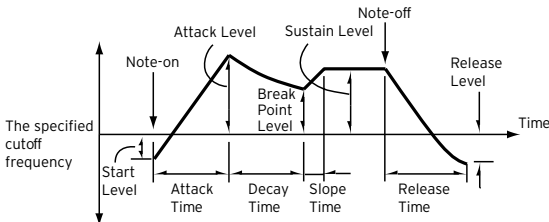
▪ Use the Level parameters (-99…+99) to specify the amount of cutoff frequency change.

EG Level	Meaning
Start	Change in cutoff frequency at the time of note-on.
Attack	Change in cutoff frequency after the attack time has elapsed.
Break (Break Point)	Change in cutoff frequency after the decay time has elapsed.
Sustain	Change in cutoff frequency that will be maintained from after the slope time has elapsed until note-off occur.
Release	Change in cutoff frequency that will occur when the release time has elapsed.

▪ Use the Time parameters (0…99) to specify the time over which the cutoff frequency change will occur.

EG Time	Meaning
Attack	Time over which the level will change from note-on until the attack level is reached.
Decay	Time over which the level will change from the attack level to the break point level.
Slope	Time over which the level will change after the decay time has elapsed until the sustain level is reached.
Release	Time over which the level will change after note-on occurs until the release level is reached.

Modulating the Filter EG

Modulating the Filter EG levels

■ Use the Level Modulation > AMS parameter to select the source that will control the Level parameters of the filter EG.

■ Use the Level Modulation > Intensity parameters (-99…+99) to specify the depth and direction of the AMS. With a setting of 0, the levels specified by the Frequency parameter will be used.

For example, if AMS is Velocity, and you set St (Start Level Swing), At (Attack Level Swing) and Br (Break Level Swing) to + and set Intensity to a positive (+) value, the EG levels will rise as you play more strongly. If Intensity is set to a negative (–) value, the EG levels will fall as you play harder.

■ Use the St (Start Level Swing), At (Attack Level Swing) and Br (Break Level Swing) parameters to specify the direction in which AMS will affect the Start, Attack and Break Point.

When Intensity has a positive (+) value, a setting of + for this parameter will allow the AMS to raise the EG level, and a setting of – will allow AMS to lower the EG level. With a setting of 0 there will be no change.

Filter 1 EG changes (level) (AMS = Velocity, Intensity = a positive (+) value)

Softly played note with Start Level Swing, Attack Level Swing, and Break Level Swing set to +

Strongly played note with Start Level Swing, Attack Level Swing, and Break Level Swing set to +

Strongly played note with Start Level Swing, Attack Level Swing, and Break Level Swing set to –
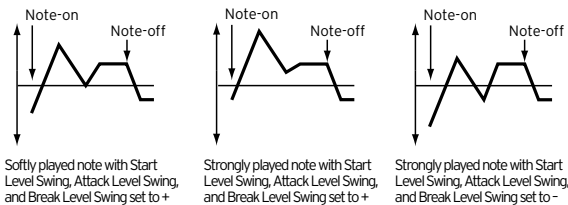
Modulating the Filter EG times

- Use the Time Modulation > AMS 1/2 parameters to select a modulation source for the Time parameters of the filter EG.

- Use the Time Modulation > Intensity parameters (-99…+99) to specify the depth and direction of the effect that the AMS will have on the Time parameters. With a setting of 0, the filter EG times will be just as specified by the Time settings.

  For example, if the AMS is set to FltKTr +/+, the EG Time parameters will be controlled by the Keyboard Tracking settings. With positive (+) values of this parameter, positive (+) values of Ramp Low/High will lengthen the EG times, and negative (–) values of Ramp Low/High will shorten the EG times. The direction of change is specified by At (Attack Time Swing), Dc (Decay Time Swing), Sl (Slope Time Swing), and Rl (Release Time Swing).

  With a setting of 0, the times specified by the Frequency parameter will be used.

  If the AMS is set to Velocity, positive (+) values of this parameter will cause EG times to lengthen as you play more strongly, and negative (–) values will cause EG times to shorten as you play more strongly.

- Use the At (Attack Time Swing), Dc (Decay Time Swing), Sl (Slope Time Swing) and Rl (Release Time Swing) parameters to specify the direction in which the AMS will affect the Time > Attack, Decay, Slope and Release parameters.

  With positive (+) values of Intensity, a setting of + will cause the time to be lengthened, and a setting of – will cause the time to be shortened. With a setting of 0 there will be no change.

Filter 1 EG changes (Time) (AMS = Velocity, Intensity = a positive (+) value)

Softly played note with Attack, Decay, Slope and Release Level Swings set to +

Strongly played note with Attack, Decay, Slope and Release Level Swings set to +

Strongly played note with Attack, Decay, Slope and Release Level Swings set to –
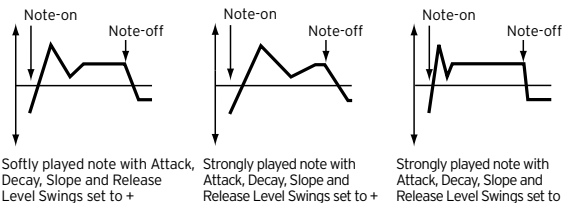
Programming amplitude and pan

You can program the amplitude and pan of each oscillator. Amplitude is the volume of the oscillators. Pan is the position of the oscillators in the stereo panorama. With amplitide envelope you can make the sound volume vary over time.

Setting the basic amplitude and pan values

You can set the basic volume and pan values of the selected oscillator.

■ Go to the Sound > Amp > Amp Level/Pan page.
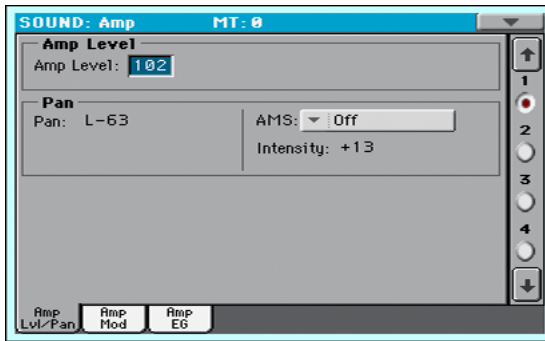
Setting the amplitude's basic level

■ Use the Amp Level parameter (0…127) to set the volume of the selected oscillator.

The volume of a Sound can be controlled by CC#7 (Volume) and #11 (Expression). The resulting level is determined by multiplying the values of CC#7 and #11. The Global MIDI channel is used for control.

Setting the pan's basic position

■ Use the Pan parameter to set the stereo position (panorama) of the selected oscillator.

This parameter is not available when editing a Drum Kit. Use the individual Pan control for each key instead.

Pan	Meaning
Random	The sound will be heard from a different location at each note-on.
L001…C064…R127	Sound placed from Left (L) to Right (R). A value of C064 is Center (C).

The pan of a Sound can be controlled by CC#10 (Pan). A CC#10 value of 0 or 1 will place the sound at the far left, a value of 64 will place the sound at the location specified by the Pan setting for each oscillator, and a value of 127 will place the sound at the far right.

Modulating the pan position

Modulating the pan position makes the sound live between the stereo channels.
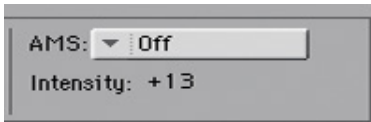
■ Use the AMS pop-up menu to choose the modulation source that will modify the pan. This change will be relative to the Pan setting.

The Intensity parameter (-99…+99) specifies the depth of the effect produced by AMS. For example, if Pan is set to C064 and AMS is Note Number, positive (+) values of this parameter will cause the sound to move toward the right as the note numbers increase beyond the C4 note (i.e., as you play higher), and toward the left as the note numbers decrease (i.e., as you play lower). Negative (–) values of this parameter will have the opposite effect.

Modulating amplitude

Modulating the amplitude level of each oscillator makes the sound alive and ever-changing.

■ Go to the Sound > Amp > Amp Mod page.
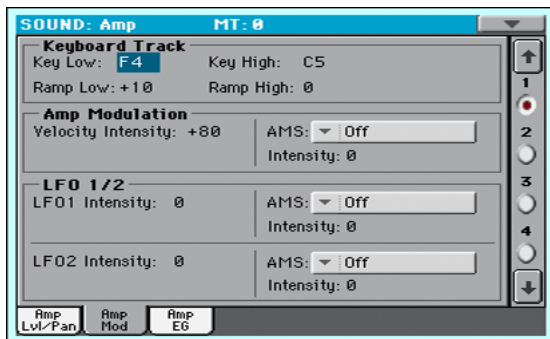
Tracking the amplitude across the keyboard

Use the Keyboard Track parameters to adjust the volume of the selected oscillator across the keyboard.
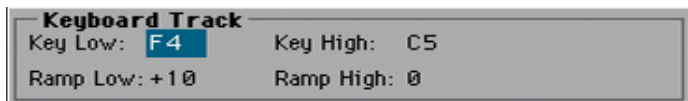
■ Use the Key Low/High parameters (C-1...G9) to specify keyboard tracking for the note number at which keyboard tracking will begin to apply. The volume will not change between Key Low and Key High.

Keyboard tracking will apply to the range below the specified Low note number, and above the specified High note number.

■ Use the Ramp Low/High parameters to specify the slope of the keyboard tracking (-99...+99).

With positive (+) values of the Ramp Low parameter, the volume will increase as you play notes below the Key Low note number. With negative (-) values, the volume will decrease.

With positive (+) values of the Ramp High parameter, the volume will increase as you play notes above the Key High note number. With negative (-) values, the volume will decrease.

Here is an example of volume changes produced by keyboard location and Ramp settings:
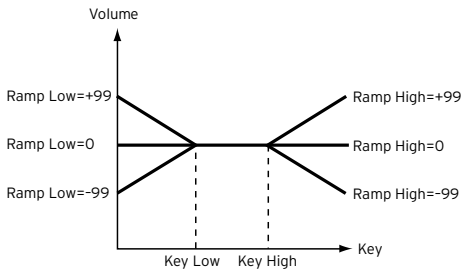
Modulating amplitude

Use the Amp Modulation parameters to specify how the volume of the se-lected oscillator will be affected by velocity.
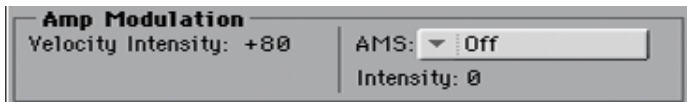
■ Use the Velocity Intensity parameter (-99...+99) to link velocity and volume.

With positive (+) values, the volume will increase as you play more strongly. With negative (-) values, the volume will decrease as you play more strongly.
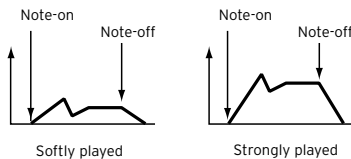
■ Use the AMS pop-up to select a modulation source for the volume of the amp for the selected oscillator. Velocity cannot be selected as a source.

The Intensity parameter (-99...+99) specifies the depth and direction of the AMS. The actual volume will be determined by multiplying the value of the changes produced by the amp EG with the values of Alternate Modulation etc., and if the levels of the amp EG are low, the modulation applied by Alternate Modulation will also be less.

For example, if AMS is set to Joystick Y+, positive (+) values of this parameter will cause the volume to increase when you move the Joystick up in the Y

axis. However if the EG settings etc. have already raised the volume to its maximum level, the volume cannot be increased further.

With negative (–) values of this parameter, the volume will decrease when pressure is applied to the keyboard.

Modulating amplitude with the LFOs

LFO is a cyclic modulation. Applied to the amplitude it produces an effect usually called 'tremolo'.
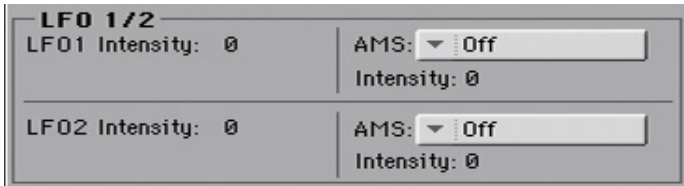
■ Use the LFO 1/2 > Intensity parameters (-99…+99) to adjusts the effect of the cyclic modulation that LFO 1/2 (set in the LFO > LFO 1 and LFO 2 pages) will apply on the amp EG. Negative (–) settings will invert the phase.
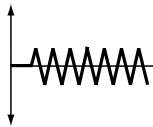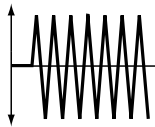
■ Use the AMS pop-up to select a modulation source for the LFO Intensity volume of the amp for the selected oscillator.

The Intensity parameter (-99…+99) specifies the depth and direction of the AMS.

Programming the amplitude envelope (Amp EG)

You can create time-varying changes in the volume of the selected oscillator.

■ Go to the Sound > Amp > Amp EG page.
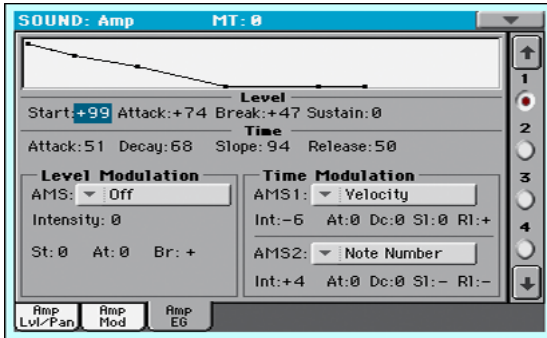
The diagram on top of the page shows the Amplitude envelope line.

Setting the Amp EG levels and times

Amp EG can be programmed by setting the Level and Time parameters of the envelope segments.
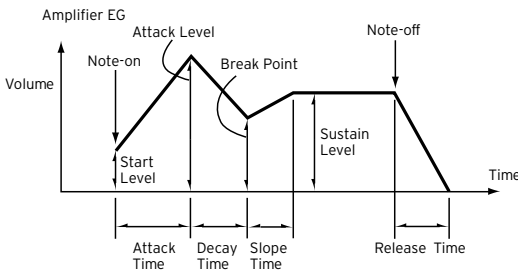
■ Use the Level parameters (-99…+99) to specify the volume level that will be reached at the end of the segment.

EG Level	Meaning
Start	Volume level at note-on. If you want the note to begin at a loud level, set this to a high value.
Attack	Volume level that will be reached after the attack time has elapsed.
Break (Break Point)	Volume level that will be reached after the decay time has elapsed.
Sustain	Volume level that will be maintained from after the slope time has elapsed until note-off occur.

▪ Use the Time parameters (0...99) to specify the time over which the volume level is reached.

EG Time	Meaning
Attack	Time over which the volume will change after note-on until it reaches the attack level. If the start level is 0, this will be the rise time of the sound.
Decay	Time over which the volume will change from when it reaches the attack level until it reaches the break point level.
Slope	Time over which the volume will change from when it reaches the break point level until it reaches the sustain level.
Release	Time over which the volume will change after note-off until it reaches 0.

Modulating the Amp EG

Modulating the Amp EG levels

▪ Use the Level Modulation > AMS parameter to select a modulation source for the Level parameters of the Amp EG.

▪ Use the Level Modulation > Intensity parameters (-99...+99) to specify the depth and direction of the AMS.

For example, if the AMS is Velocity, setting St (Start Level Swing), At (Attack Level Swing) and Br (Break Point Level Swing) parameters to + and setting Intensity to a positive (+) value, will cause the amp EG volume levels to increase as you play more strongly. Setting Intensity to a negative (-) values will cause the amp EG volume levels to decrease as you play more strongly. With a setting of 0, the levels will be as specified on Amp > Amp EG.

▪ Use the St (Start Level Swing), At (Attack Level Swing) and Br (Break Level Swing) parameters to specify the direction in which AMS will affect the Level > Start, Attack and Break Point levels.

When Intensity has a positive (+) value, a setting of + for this parameter will allow the AMS to raise the EG level, and a setting of – will allow AMS to lower the EG level. With a setting of 0 there will be no change.

Amp 1 EG changes (Level) (AMS=Velocity, Intensity = a positive (+) value)

Softly played note when Start Level Swing=0 and Attack Level Swing and Break Level Swing are set to +

Strongly played note when Start Level Swing=0 and Attack Level Swing and Break Level Swing are set to +

Strongly played note when Start Level Swing=0 and Attack Level Swing and Break Level Swing are set to +
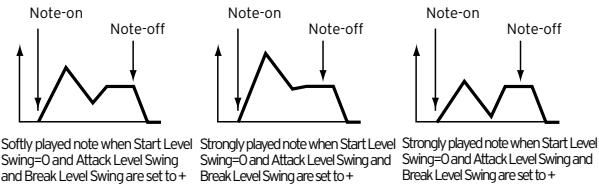
Modulating the Amp EG times

■ Use the Time Modulation > AMS 1/2 parameters to select a modulation source for the Time parameters of the Amp EG.

■ Use the Time Modulation > Intensity parameters (-99...+99) to specify the depth and direction of the effect that the AMS will have on the Time parameters. With a setting of 0, the Amp EG times will be just as specified by the Time settings.

For example, if the AMS is Amp KTrk +/+, the (Amp) Keyboard Track settings (in the Edit Sound > Amp > Amp Mod page) will control the EG Time parameters. With positive (+) values of this parameter, positive (+) values of Ramp (Ramp Setting) will cause EG times to be lengthened, and negative (–) values of Ramp (Ramp Setting) will cause EG times to be shortened. The direction of the change is specified by the At (Attack Time Swing), Dc (Decay Time Swing), Sl (Slope Time Swing), and Rl (Release Time) parameters.

If the AMS is set to Velocity, positive (+) values of this parameter will cause EG times to lengthen as you play more strongly, and negative (–) values will cause EG times to shorten as you play more strongly. With a setting of 0, the EG times will be as specified by the Level parameters.

■ Use the At (Attack Time Swing), Dc (Decay Time Swing), Sl (Slope Time Swing) and Rl (Release Time Swing) parameters to specify the direction in which the AMS will affect the Time > Attack, Decay, Slope and Release parameters.

With positive (+) values of Intensity, a setting of + will cause the time to be lengthened, and a setting of – will cause the time to be shortened. With a setting of 0 there will be no change.

Amp 1 EG changes (Time)
(AMS=Amp K Trk +/+, Intensity = a positive (+) value)
(When Amp Keyboard Track "Low Ramp"= a positive (+) value, and "High Ramp" = a positive (+) value)
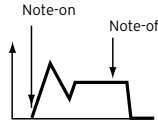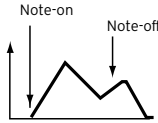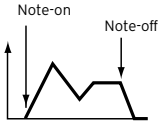
Low-pitched note played with Attack, Decay, Slope, and Release Time Swing at +

High -pitched note played with Attack, Decay, Slope, and Release Time Swing at –

Amp 1 EG changes (Time) (AMS= Velocity, Intensity= a positive (+) value)
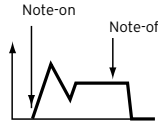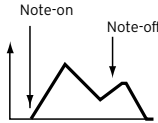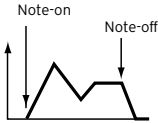
Softly played note with Attack, Decay, Slope and Release Time Swing at +

Strongly played note with Attack, Decay, Slope and Release Time Swing at +

Strongly played note with Attack, Decay, Slope and Release Time Swing at –

Programming the LFO

LFO (Low Frequency Oscillation) can be used to cyclically modulate the Pitch, Filter, and Amp of each oscillator. There are two LFO units for each oscillator (LFO 1 and LFO 2).

■ Go to the Sound > LFO > LFO 1 or LFO 2 page, depending on the LFO to program.
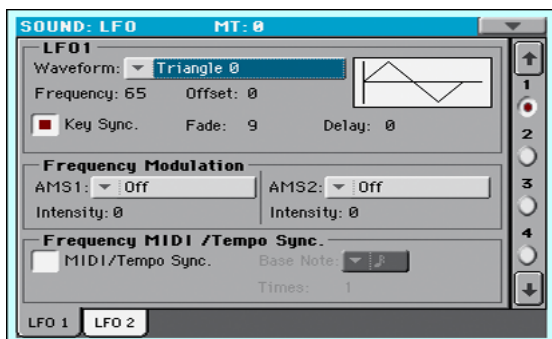
Choosing the LFO waveform and settings

You can choose the LFO waveform, program it and synchronize it.
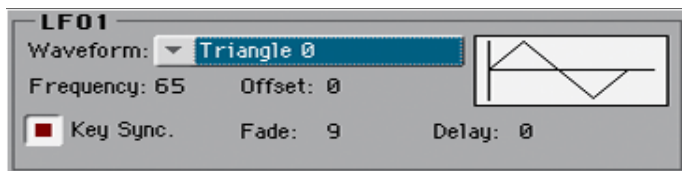
Choosing the LFO waveform and frequency

■ Use the **Waveform** parameter to choose the LFO waveform. The numbers appearing on the right of some of the LFO waveforms indicate the phase at which the waveform will begin.

Triangle	0		Step Triangle – 4		
Triangle	90		Step Triangle – 6		
Triangle Random		Phase will change randomly at each key-in	Step Saw – 4		
Saw	0		Step Saw – 6		
Saw	180	Sawtooth down Ø			
Square		Square wave	Random1 (S/H): Conventional sample & hold (S/H) in which the level changes randomly at fixed intervals of time		
Sine		Sine wave	Random2 (S/H): Both the levels and the time intervals will change randomly.		
Guitar		Guitar vibrato	Random3 (S/H): The maximum level and minimum level will alternate at random intervals of time (i.e., a square wave with random period).		
Exponential Triangle			Random4 (Vector) Random5 (Vector) Random6 (Vector) These types cause Random 1–3 to change smoothly. They can be used to simulate the instability of acoustic instruments etc.		
Exponential Saw Down					
Exponential Saw Up					

■ Use the **Frequency** parameter to set the LFO frequency (00...99). This parameters adjusts the speed of the vibrato.

■ Use the **Offset** parameter to specify the central value of the LFO waveform.

For example, with a setting of 0 as shown in the following diagram, the vibrato that is applied will be centered on the note-on pitch. With a setting of +99, the vibrato will only raise the pitch above the note-on pitch, in the way in which vibrato is applied on a guitar.

When the Waveform is Guitar, the modulation will occur only in the positive (+) direction even if you set the Offset to 0.

Here are offset settings and pitch change produced by vibrato:

Synchronizing the LFO with the key strokes

■ Select the Key Sync checkbox to synchronize the LFO to the key strokes.

Key Sync	Meaning
On	The LFO will restart each time you play a note, and an independent LFO will operate for each note.
Off	The LFO effect that was started by the first-played note will continue to be applied to each newly-played note. (In this case, Delay and Fade will be applied only to the LFO when it is first started).

Fading the LFO

■ Use the Fade parameter (00…99) to specify the time elapsed from the LFO start to its maximum amplitude. When Key Sync is Off, the fade will apply only when the LFO is first started.

Here is how Fade affects the LFO (when Key Sync is On):

Note-on   Note-off
Fade
Delay
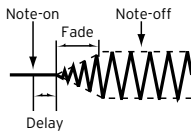
Delaying the LFO

■ Use the Delay parameter (0…99) to specify the time elapsed from note-on to the LFO starting to apply. When Key Sync is Off, the delay will apply only when the LFO is first started.

Fading vibrato is typical of wind instruments, where vibrato enters gradually.

Modulating LFO frequency

Use the Frequency Modulation parameters to set the two alternate modulation sources to adjust the speed of the LFO for the selected oscillator.
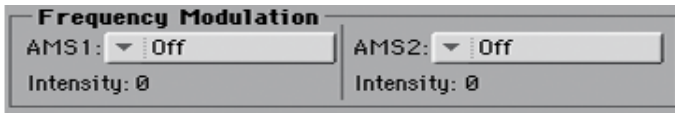
- Use the AMS 1/2 pop-up to choose the modulation sources that will adjust the frequency of the selected oscillator's LFO. LFO 1 can be modulated by LFO 2.

- Use the Intensity parameters (-99...+99) to set the modulation depth and direction.

  This parameter specifies the depth and direction of the effect that the AMS will have. When this parameter is set to a value of 16, 33, 49, 66, 82, or 99, the LFO frequency being can be increased by a maximum of 2, 4, 8, 16, 32, or 64 times respectively (or decreased by 1/2, 1/4, 1/8, 1/16, 1/32, or 1/64 respectively).

  For example, if the AMS is Note Number, positive (+) values of this parameter will cause the oscillator LFO to speed up as you play higher notes. Negative (–) values will cause the oscillator LFO to slow down as you play higher notes. This change will be centered on the C4 note.

  If the AMS is set to JS +Y, raising the value of this parameter will cause the oscillator LFO 1 speed to increase as the joystick is moved away from yourself. With a setting of +99, moving the joystick all the way away from yourself will increase the LFO speed by approximately 64 times.

Synchronizing the LFOs

Use the Frequency MIDI/Tempo Sync parameters to synchronize the LFO to the Player's Tempo.

- Select the MIDI/Tempo Sync checkbox to synchronize the LFO to the Player's Tempo. The values specified in Frequency and Frequency Modulation will be ignored.

- Use the Base Note pop-up menu to choose a note length, and the Times parameter to choose a multiple of it. This will be the LFO frequency.

  For example if Base Note is ♩ (quarter note) and Times is 04, the LFO will perform one cycle every four beats.

  These parameters are not available when editing a Drum Kit.

Adding effects to the Sound

You can send the Sound to the effects of the FX B Group (usually reserved to the Keyboard Sounds).

Adding the effects

■ Go to the Sound > Effects > FX B Config page.
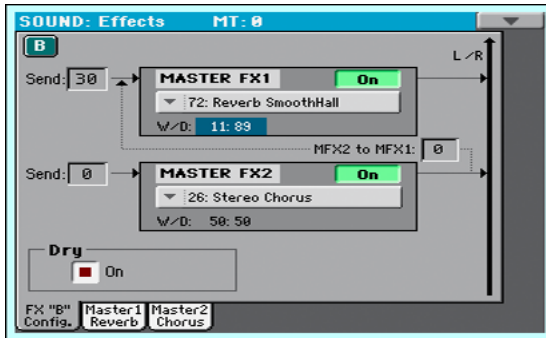
Selecting the effects

■ Use the FX Name pop-up menu to choose one of the available effects.

Setting the effect parameters

All the parameters in this page are the same seen for the Sound sets. Please check the Customizing and editing the Sound sets section.

■ Use the Send parameters (0…127) to set the level of the Sound signal going to the Master FXs.

■ Select the Dry > On checkbox to add the dry signal to the effected signal. If this is not selected, only the effected signal will be heard.

Editing the effects

■ Go to the Sound > Effects > Master 1/Reverb or Master 2/Chorus pages to edit the effects assigned to the Sound in edit.

Sound Edit utilities

Listening to a single oscillator

▪ Choose the Solo Oscillator command from the page menu to solo the se-
lected oscillator, and mute the other oscillators.

▪ Choose it again to unmute all oscillators.

When this function is activated, the Solo OSC [n] indicator (n = oscillator
number) blinks on the page header. While in this situation, you can select a
different oscillator to be soloed.

Swapping the LFOs

▪ Choose the Swap LFO command from the page menu to replace LFO 1 with
LFO 2, and vice-versa.

Copying the oscillators

You can copy all the settings of an oscillator onto the other oscillators.

1 Choose the Copy Oscillator command from the page menu. The Copy
Oscillator dialog will appear.
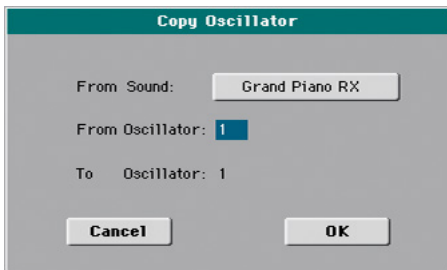
2 Touch the From Sound button to open the Sound Select window, and choose
the source Sound.

3 Use the From Oscillator parameter to choose the source oscillator to copy
from.

4 Use the To Oscillator parameter to choose the target oscillator where to
copy the source settings onto.

5 Touch the OK button to confirm.

Copying the effects

To speed up programming, you can copy a single effect, or both effects, to a different Sound. The procedure is the same explained for the Sound sets.

Copying Drum Kits

You can copy the Drum Kit from a different Drum Kit.

1   Choose the Copy Drum Kit command from the page menu. The Copy Drum Kit dialog will appear.
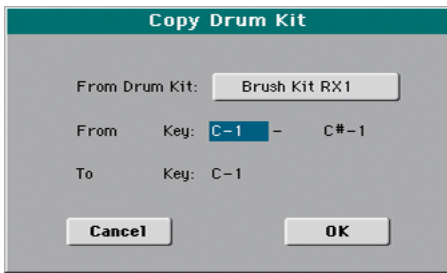
2   Touch the From Drum Kit button to open the Sound Select window, and choose the source Drum Kit.

3   Use the From Key parameters to choose the range of keys to copy from.

4   Use the To Key parameter to choose the key from which to start copying.

5   Touch the OK button to confirm.

Initializing a Sound

▪   Choose the Init Sound command from the page menu to delete all parameters, and reset them to a default value.

Comparing with the original Sound

You can compare the Sound you are editing with the original Sound.

▪   Check the Compare item in the page menu to listen to the original Sound.

▪   Uncheck this item to recall the Sound in edit.

While this function is on, the Compare indicator blinks on the page header. You cannot edit the Sound while you are in Compare mode.

AMS (Alternate Modulation Sources)

When the AMS abbreviation is encoutered, an Alternate Modulation can be applied to the corresponding parameter. Alternate Modulation allows for re-altime control of the effect. The following table shows the available modulation sources.

AMS	Description	Note
Off	Do not use Alternate Modulation	
Pitch EG	Pitch EG	
Filter EG	Filter EG within the same oscillator	
Amp EG	Amp EG within the same oscillator	
LFO1	LFO1 within the same oscillator	
LFO2	LFO2 within the same oscillator	
Flt KTrk +/+ (Filter Keyboard Track +/+)	Filter keyboard tracking within the same oscillator	+/+ The direction of the effect will be determined by the sign (positive or negative) of the Ramp Low or Ramp High setting.

+/– The direction of the effect will be determined by the sign of the Ramp Low setting, and by the opposite sign of the Ramp High setting (50 for a setting of +50, and +50 for a setting of 50).

0/+ Ramp Low will have no AMS effect. The sign of the Ramp High setting will determine the direction of its effect.

+/0 The sign of the Ramp Low setting will determine the direction of its effect. Ramp High will have no AMS effect. |
Flt KTrk +/– (Filter Keyboard Track +/)		
Flt KTrk 0/+ (Filter Keyboard Track 0/+)		
Flt KTrk +/0 (Filter Keyboard Track +/0)		
Amp KTrk +/+ (Amp Keyboard Track +/+)	Amp keyboard tracking within the same oscillator	
Amp KTrk +/ (Amp Keyboard Track +/)		
Amp KTrk 0/+ (Amp Keyboard Track 0/+)		
Amp KTrk +/0 (Amp Keyboard Track +/0)		
Note Number	Note number	
Velocity	Velocity	
Poly AT (Poly After Touch)	Polyphonic After Touch (received/transmitted via MIDI or contained in Standard MIDI Files)	
Channel AT (Channel After Touch)	After Touch (Channel After Touch) (received/transmitted via MIDI or contained in Standard MIDI Files)	
Joystick X	Joystick X (horizontal) axis	
Joystick +Y	Joystick +Y (vertical upward) direction (CC#01)	
Joystick Y	Joystick Y (vertical downward) direction (CC#02)	

AMS	Description	Note
JS+Y & AT/2 (Joy Stick +Y & After Touch/2)	Joystick +Y (vertical upward) direction and After Touch (received/transmitted via MIDI or contained in Standard MIDI Files)	The effect will be controlled by the joystick +Y (vertically upward) and by after touch. In this case, the effect of after touch will be only half of the specified intensity.
JS–Y & AT/2 (Joy Stick Y & After Touch/2)	Joystick Y (vertical downward) direction and After Touch (received/transmitted via MIDI or contained in Standard MIDI Files)	The effect will be controlled by the joystick Y (vertically downward) and by after touch. In this case, the effect of after touch will be only half of the specified intensity.
Assign. Pedal	Assignable foot pedal (CC#04)	
Ribbon Ctl.	Ribbon controller (CC#16) (received/transmitted via MIDI or contained in Standard MIDI Files)	
CC#18	CC#18	
CC#17	CC#17	
CC#19	CC#19	
CC#20	CC#20	
CC#21	CC#21	
Damper	Damper pedal (CC#64)	
CC#65	Portamento switch (CC#65)	
Sostenuto	Sostenuto pedal (CC#66)	
CC#80	CC#80	
CC#81	CC#81	
CC#82	CC#82	
CC#83	CC#83	
Tempo	Tempo (tempo data from Sequencer 1 clock or external MIDI clock)	
Velocity Plus	Key On and Key Off Velocity are used	
Velocity Exp	Velocity with Exponential curve (higher velocity notes are even louder)	
Velocity Log	Velocity with Logarithmic curve (higher velocity notes are weaker than with the linear Velocity)	

Diagrams of the AmpKTrk sources follow.
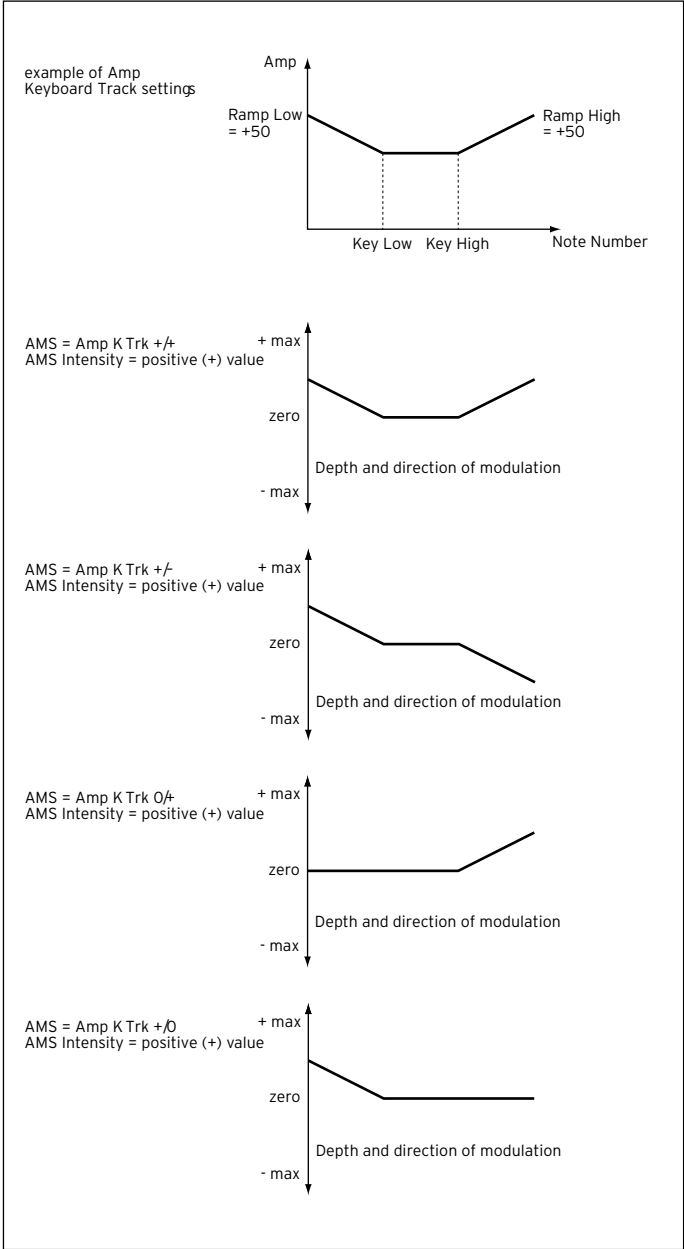
34 Writing the Sounds

Writing the edited Sound

After editing, you can save all the edited parameters into a User Sound location in memory.

1   While in Sound Edit mode, choose the Write Sound command from the page menu to open the Write Sound dialog.

Sound name

Sound bank

Sound location

Touch to open the Sound Select window
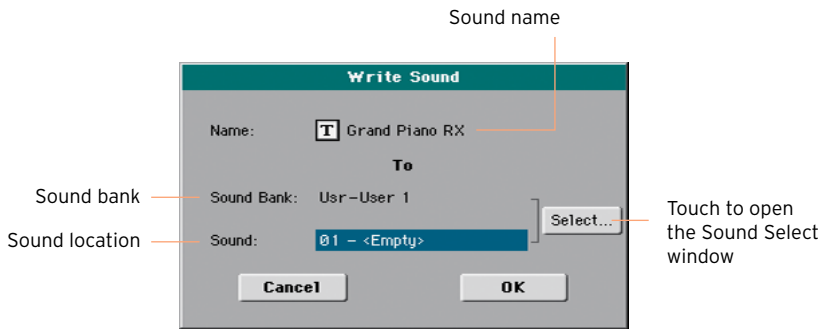
2   You may change the name of the Sound. Touch the Text Edit (T) icon to open the virtual keyboard and edit the name.

When done editing the name, confirm by touching the OK button under the virtual keyboard.

3   When back to the Write Sound dialog, if you want to save onto a different location touch the Select button and open the Sound Select window. Choose

a location as if you were choosing a Sound. Blank locations are shown as a series of dashes ('---').
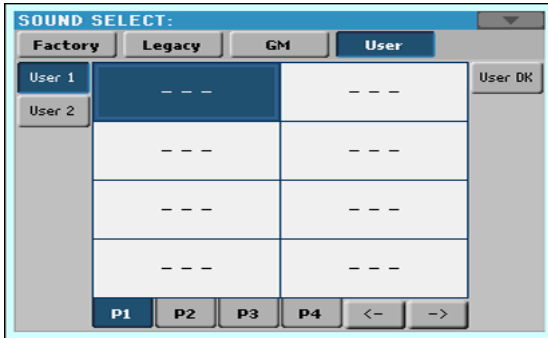
4   When back at the Write Sound dialog, confirm the Write operation by touching the OK button.

Some notes about writing the Sounds

■   If you write over an existing Sound, the Sound will be overwritten. Please save on a storage device any User Sound you don't want to lose.

■   Ordinary Sounds cannot be written over Drum Kit locations. Drum Kits cannot be written over standard Sound locations.

■   To restore the original data, please use the Factory Restore command in the Media > Utility page.

35 Managing the User Samples

Getting information on the User Sample memory

■ While in Sound Edit, press the MENU button and choose the User PCM Sample section. This will open the User Samples page.
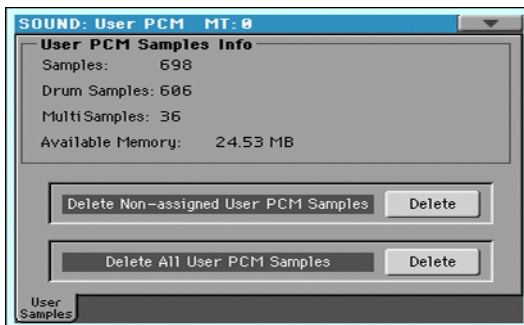
In this page, you can see the amount of Samples loaded in memory, and check the situation if the instrument reports there is no more room available.

Object in memory	Meaning
Samples	Number of User Samples in memory.
Drum Samples	Number of User Drum Samples in memory.
Multisamples	Number of User Multisamples in memory.
Available Memory	HAVIAN 30 includes 32 MB of RAM already installed; this is the maximum amount of non-compressed User Samples that can be loaded. This parameter shows the remaining memory for the User Samples.

Deleting the User Samples

While in the Sound Edit > User Samples page, you can delete some or all the User Samples in memory, to make room for other User Samples to be loaded.

In case you don't have a copy of these Samples, it is advisable to save or backup the Samples you want to preserve for future use, before deleting them from the instrument's memory.

Deleting non-assigned User Samples

■ Touch the Delete button next to the Delete Non-assigned User PCM Samples command.

This will delete all the User Samples, Drum Samples and Multisamples that are not used by any Sound or Drum Kit. Unused Samples can remain in memory when you delete Sounds or Drum Kits making use of them. They are not deleted automatically, since you may still want to use them for other User Sounds or Drum Kits.

Deleting all User Samples

■ Touch the Delete button next to the Delete All User PCM Samples command.

All the User Samples contained in memory will be removed. Do not use this command if there are User Sounds or Drum Kits making use of these Samples. Only use this command when you want to completely wipe-out the Sample memory.

PART VIII: THE EFFECTS

36   **Effects for the MIDI Sounds**

Adapting reverb to the room size

HAVIAN 30 includes a master offset for all the reverbs. Use it to adjust reverb tails to the room where you are playing. Use negative values when you are in a very reverberant room, positive values if the room is too dry.

1   Go to the Global > General Controls > Basic page.

2   Use the Reverb Offset parameter to change the reverb master.
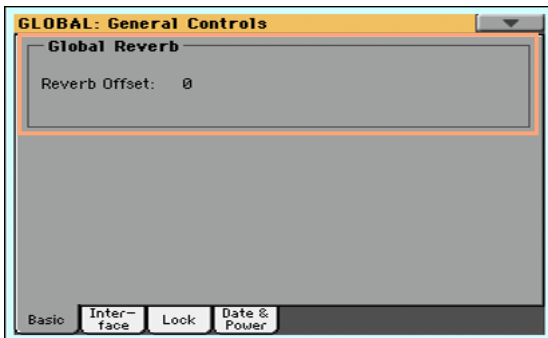
Effects list

The following list contains all the Factory Effects. Detailed information on each effect's parameter are contained in the following pages.

Master FX 1/2

0	No Effect	35	St. Env. Flanger	70	Tape Echo BPM
1	Stereo Compressor	36	Stereo Phaser	71	Reverb Hall
2	Stereo Limiter	37	St. Random Phaser	72	Reverb SmoothHall
3	Multiband Limiter	38	St. Env. Phaser	73	Reverb Wet Plate
4	St.MasteringLimtr	39	Stereo Vibrato	74	Reverb Dry Plate
5	Stereo Gate	40	St. Auto Fade Mod.	75	Reverb Room
6	St.Parametric4EQ	41	2Voice Resonator	76	ReverbBrightRoom
7	St. Graphic 7EQ	42	Doppler	77	Early Reflections
8	St.Exciter/Enhncr	43	Scratch	78	P4EQ - Exciter
9	Stereo Isolator	44	Grain Shifter	79	P4EQ - Wah
10	St. Wah/Auto Wah	45	Stereo Tremolo	80	P4EQ - Cho/Flng
11	St. Vintage Wah	46	St. Env. Tremolo	81	P4EQ - Phaser
12	St. Random Filter	47	Stereo Auto Pan	82	P4EQ - Mt. Delay
13	St. MultiModeFilter	48	St. Phaser + Trml	83	Comp - Wah
14	St. Sub Oscillator	49	St. Ring Modulator	84	Comp - Amp Sim
15	Talking Modulator	50	Detune	85	Comp - OD/HiGain
16	Stereo Decimator	51	Pitch Shifter	86	Comp - P4EQ
17	St. Analog Record	52	Pitch Shifter BPM	87	Comp - Cho/Flng
18	OD/Hi.Gain Wah	53	Pitch Shift Mod.	88	Comp - Phaser
19	St. Guitar Cabinet	54	Organ Vib/Chorus	89	Comp - Mt. Delay
20	St. Bass Cabinet	55	Rotary Speaker	90	Limiter - P4EQ
21	Bass Amp Model	56	L/C/R Delay	91	Limiter-Cho/Flng
22	Bass Amp+Cabinet	57	Stereo/CrossDelay	92	Limiter - Phaser
23	Tube PreAmp Model	58	St. Multitap Delay	93	Limiter - Mt.Delay
24	St. Tube PreAmp	59	St. Mod Delay	94	Exciter - Comp
25	MicModel+PreAmp	60	St. Dynamic Delay	95	Exciter - Limiter
26	Stereo Chorus	61	St. AutoPanningDly	96	Exciter-Cho/Flng
27	Black Chorus/Flanger	62	Tape Echo	97	Exciter - Phaser
28	St.HarmonicChorus	63	Auto Reverse	98	Exciter - Mt.Delay
29	St. Biphase Mod.	64	Sequence BPM Dly	99	OD/HG - Amp Sim
30	Multitap Cho/Delay	65	L/C/R BPM Delay	100	OD/HG - Cho/Flng
31	Ensemble	66	Stereo BPM Delay	101	OD/HG - Phaser
32	Polysix Ensemble	67	St.BPM Mtap Delay	102	OD/HG - Mt.Delay
33	Stereo Flanger	68	St.BPM Mod. Delay	103	Wah - Amp Sim
34	St. Random Flanger	69	St.BPMAutoPanDly	104	Decimator - Amp

105 Decimator - Comp
106 AmpSim - Tremolo

107 Cho/Flng - Mt.Dly
108 Phaser - Cho/Flng

109 Reverb - Gate

Master FX 2 only

110 St.Mltband Limiter
111 PianoBody/Damper
112 OD/HyperGain Wah
113 GuitarAmp + P4EQ
114 BassTubeAmp+Cab.
115 St. Mic + PreAmp

116 Multitap Cho/Delay
117 St. Pitch Shifter
118 St. PitchShift BPM
119 Rotary SpeakerOD
120 L/C/R Long Delay
121 St/Cross Long Dly

122 Hold Delay
123 LCR BPM Long Dly
124 St. BPM Long Dly
125 Early Reflections

DMS (Dynamic Modulation Sources)

When the DMS abbreviation, or the D̲ᵐᵒᵈ̲ symbol is encoutered, a Dynamic Modulation can be applied to the corresponding parameter. Dynamic Modulation allows for realtime control of the effect. The following table shows the available modulation sources.

DMS	Note	DMS	Note
Off	No modulation	MIDI(CC#20)	
Gate1		MIDI(CC#21)	
Gate1+Dmpr		MIDI(CC#17+)	
Gate2		MIDI(CC#19+)	
Gate2+Dmpr		MIDI(CC#20+)	
Note Nr	Note Number	MIDI(CC#21+)	
Velocity	Note Velocity	Damper: #64	
Expo Velocity	Exponential Note Velocity	Prta.SW: #65	Portamento Switch
AfterTouch	After Touch	Sostenu: #66	Sostenuto Pedal
JS X	Joystick Left/Right	MIDI(CC#67)	
JS+Y: CC#01	Joystick Forward	MIDI(CC#80)	
JS-Y: CC#02	Joystick Backward	MIDI(CC#81)	
MIDI(CC#04)		MIDI(CC#82)	
MIDI(CC#12)		MIDI(CC#83)	
MIDI(CC#13)		MIDI(CC#85)	
Ribb.(CC#16)	Ribbon Controller	MIDI(CC#86)	
MIDI(CC#18)		MIDI(CC#87)	
MIDI(CC#17)		MIDI(CC#88)	
MIDI(CC#19)		Tempo	

Some notes on the Gate parameters follow.

Gate1, Gate1+Dmpr (Gate1+Damper)

The effect is at maximum during note-on, and will stop when all keys are released. With Gate1 + Dmpr, the effect will remain at maximum even after the keys are released, as long as the damper (sustain) pedal is pressed.
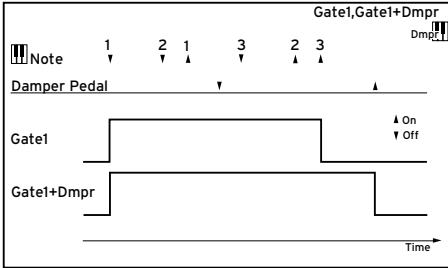
Gate2, Gate2+Dmpr (Gate2+Damper)

This is essentially the same as for Gate 1 or Gate 1 + Dmpr. However when Gate 2 or Gate 2 + Dmpr are used as a dynamic modulation source for the EG, a trigger will occur at each note-on. (In the case of Gate 1 and Gate 1 + Dmpr, the trigger occurs only for the first note-on.)
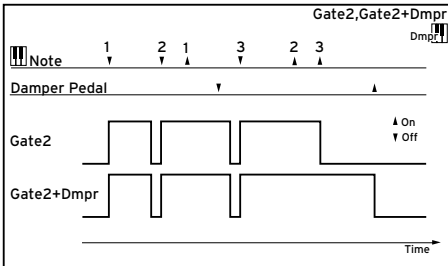
Dynamics (Dynamic)

0: No Effect

Select this option when you do not use any effects.

1: Stereo Compressor

This effect compresses the input signal to regulate the level and give a "punchy" effect. It is useful for guitar, piano, and drum sounds. This is a stereo compressor. You can link left and right channels, or use each channel separately.
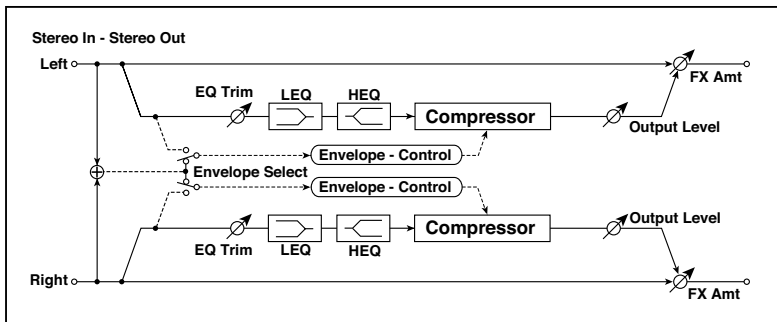
a	Envelope Select	L/R Mix, L/R Individually	Determines whether the left and right channels are linked or used separately
b	Sensitivity	1…100	Sets the sensitivity
c	Attack	1…100	Sets the attack level
d	EQ Trim	0…100	Sets the EQ input level
e	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer
f	Pre LEQ Gain [dB]	−15.0…+15.0	Sets the gain of the Low EQ
	Pre HEQ Gain [dB]	−15.0…+15.0	Sets the gain of the High EQ

g	Output Level	0…100	Sets the output level of the compressor	
	Src	Off…Tempo	Selects the modulation source for the compressor output level	
	Amt	−100…+100	Sets the modulation amount for the compressor output level	
h	Wet/Dry	Dry, 1:99…99:1, Wet	Sets the Balance between the wet and dry signal	
	Src	Off…Tempo	Selects a modulation source for Wet/ Dry	
	Amt	−100…+100	Sets the modulation amount for Wet/Dry	

a: Envelope Select

This parameter selects whether the left and right channels are linked to control both signals simultaneously, or whether each channel is controlled independently.

b: Sensitivity

g: Output Level

The "Sensitivity" parameter sets the sensitivity of the compressor. If this parameter is set to a higher value, lower level sounds will be boosted. With a higher Sensitivity, the overall volume level is higher. To adjust the final volume level, use the "Output Level" parameter.
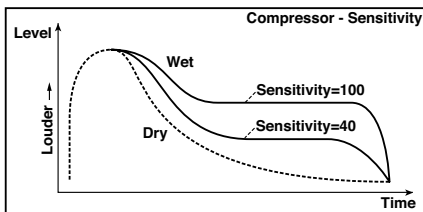
c: Attack

This parameter controls the attack level.
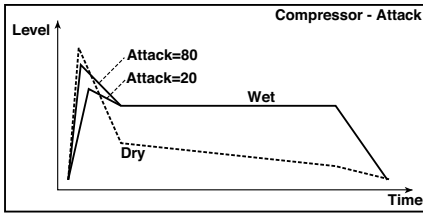
2: Stereo Limiter

The Limiter regulates the input signal level. It is similar to the Compressor, except that the Limiter compresses only signals that exceed the specified level to lower unnecessary peak signals. The Limiter applies a peaking-type EQ to the trigger signal (which controls the degree of the Limiter effect), allowing you to set any band width to be covered. This effect is a stereo limiter. You can link left and right channels, or use each channel individually.
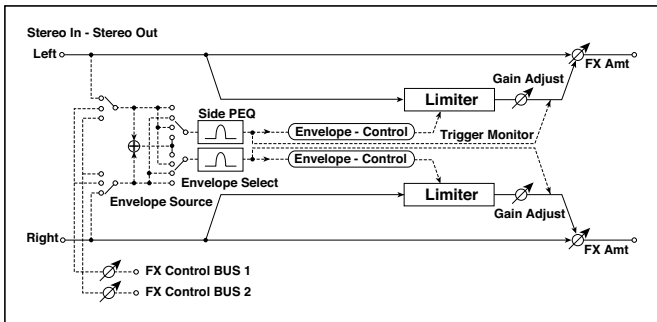
a	Envelope Select	L/R Mix, L Only, R Only, L/R Individually	Selects from linking both channels, controlling only from left channel, only from the right channel, or controlling each channel individually	
b	Ratio	1.0 : 1… 50.0 : 1, Inf : 1	Sets the signal compression ratio	
c	Threshold [dB]	−40…0	Sets the level above which the compressor is applied	
v	Attack	1…100	Sets the attack time	
	Release	1…100	Sets the release time	

e	Gain Adjust [dB]	–Inf, –38…+24	Sets the output gain	
	Src	Off…Tempo	Selects the modulation source for the output gain	
	Amt	–63…+63	Sets the modulation amount of the output gain	
f	Side PEQ Insert	Off, On	Toggles between on/off of the trigger signal's EQ	
	Trigger Monitor	Off, On	Switches between effect output monitor and trigger signal monitor	
g	Side PEQ Cutoff [Hz]	20…12.00k	Sets the EQ center frequency for the trigger signal	
	Q	0.5…10.0	Sets the EQ bandwidth for the trigger signal	
	Gain [dB]	–18.0…+18.0	Sets the EQ gain for the trigger signal	
h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	Dynamic Modulation sources	
	Amt	–100…+100	Amount of modulation source	

a: Envelope Select

When L/R Mix is selected for this parameter, the left and right channels are linked to control the Limiter using the mixed signal. If L Only (or R Only) is selected, the left and right channels are linked, and the Limiter is controlled via only the left (or right) channel.

With L/R individually, the left and right channels control the Limiter individually.

b: Ratio
c: Threshold [dB]
e: Gain Adjust [dB]

This parameter sets the signal compression "Ratio". Compression is applied only when the signal level exceeds the "Threshold" value.

Adjust the output level using the "Gain Adjust" parameter, since compression causes the entire level to be reduced.
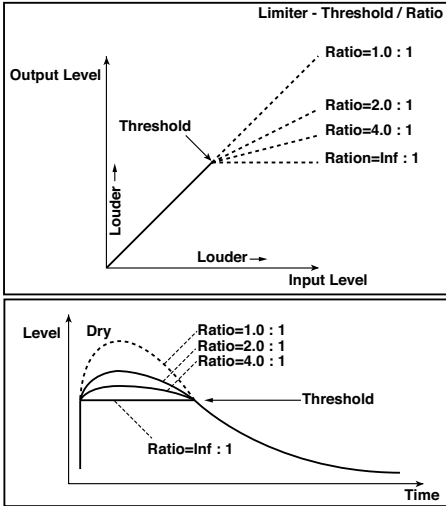
d: Attack

d: Release

These parameters set the attack time and release time. A higher attack time will cause the compression to be applied more slowly.
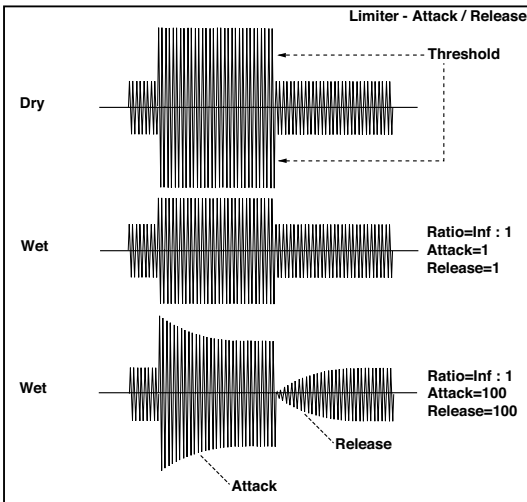
f: Trigger Monitor

Setting this parameter On will cause the trigger signal to be output, instead of the effect sound. Use this parameter to check the trigger signal with EQ applied.

Usually, set this to Off.

f: Side PEQ Insert
g: Side PEQ Cutoff [Hz]
g: Q
g: Gain [dB]

These parameters are used to set the EQ applied to the trigger signal.

The Limiter determines whether the compression is applied or not, based on the post-EQ trigger signal. Setting the equalizer allows you to set the Limiter to respond to any frequency band.

3: Multiband Limiter

This effect applies the Limiter to the low range, mid range, and high range of the input signal. You can control dynamics for each range to adjust the sound pressure of the low range, mid range, and high range in a different way from the EQ.

a	Ratio	1.0 : 1…50.0 : 1, Inf : 1	Sets the signal compression ratio	
b	Threshold [dB]	−40…0	Sets the level above which the compressor is applied	
c	Attack	1…100	Sets the attack time	
d	Release	1…100	Sets the release time	
e	Low Offset [dB]	−40…0	Gain of the low-range trigger signal	
f	Mid Offset [dB]	−40…0	Gain of the mid-range trigger signal	

g	High Offset [dB]	–40…0	Gain of the high-range trigger signal	
h	Gain Adjust [dB]	–Inf, –38…+24	Sets the output gain	
	Src	Off…Tempo	Selects the modulation source for the output gain	
	Amt	–63…+63	Sets the modulation amount of the output gain	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

e: Low Offset [dB]

f: Mid Offset [dB]

g: High Offset [dB]

These parameters set the gain of the trigger signal.

For example, if you do not want to apply compression to the high range, reduce the "High Offset" value down below the "Threshold" level. In this way, the high range limiter will not respond, and compression will not be applied.

4: St.MasteringLimtr (Stereo Mastering Limiter)

This is a stereo limiter that is optimized for mastering songs.
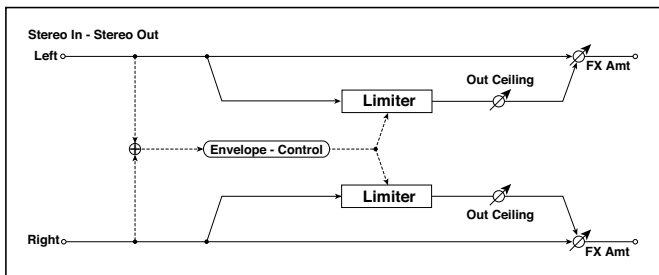
a	Threshold [dB]	–30.0…0.0	Sets the level above which the compressor is applied	
b	Out Ceiling [dB]	–30.0…0.0	Sets the output gain	
c	Release [msec]	0.50…1000.0	Sets the release time	

d	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

5: Stereo Gate

This effect mutes the input signal when it falls below a specified level. You can also invert the on/off status of the gate, or use note-on/off messages to turn the gate on/off directly.
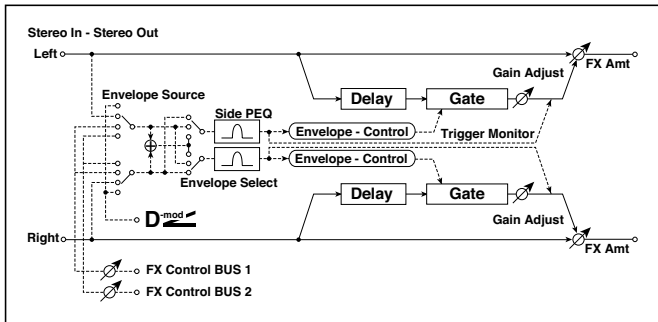
a	Envelope Source	D-mod, Input	Selects the source to control the gate: D-mod control, or use the input signal as a trigger	
b	Envelope Select	L/R Mix, L Only, R Only	Selects the control signal: left and right linked, left only, or right only	
	Src	Off…Tempo	Selects the source that will control the gate when Envelope Src = D-mod	
c	Threshold	0…100	Sets the level at which gating is applied	
	Polarity	+, −	Switches the polarity of gating	
d	Attack	1…100	Sets the attack time	
	Release	1…100	Sets the release time	
e	Delay Time [msec]	0…100	Sets the delay time for the gate input	
f	Side PEQ Insert	Off, On	Switches the trigger signal equalizer on/off	
	Trigger Monitor	Off, On	Switches between monitoring the effect output and the trigger signal	

g	Side PEQ Cutoff [Hz]	20…12.00k	Sets the center frequency of the equalizer for the trigger signal	
	Q	0.5…10.0	Sets the bandwidth of the equalizer for the trigger signal	
	Gain [dB]	−18.0…+18.0	Sets the gain of the equalizer for the trigger signal	
h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

c: Threshold

d: Attack

d: Release

"Threshold" specifies the level at which gating occurs when "Envelope Select" is set to L/R Mix, L Only, or R Only.

"Attack" and "Release" specify the attack time and release time of the gate.
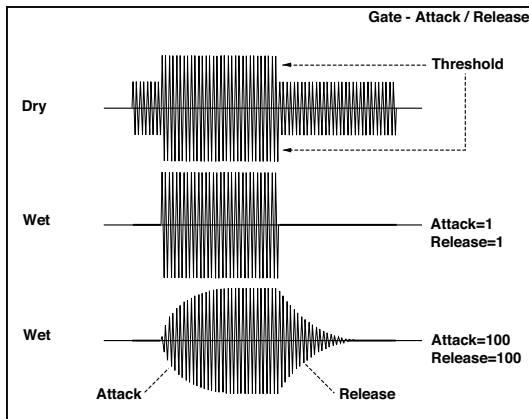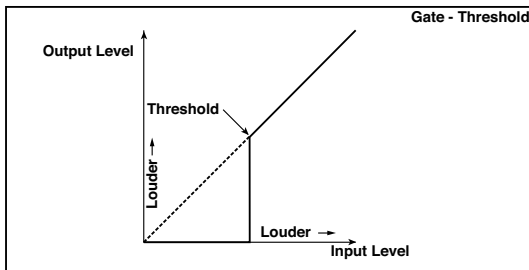
c: Polarity

This inverts the polarity of the gate on/off operation. With the "–" setting, the gate will close when the input signal exceeds the specified level. The direction in which the modulation source opens or closes the gate will also be reversed.

e: Delay Time [msec]

This sets the delay time for the input to the gate. When using shorter Attack Time settings, you can lengthen the Delay Time so that the sound is input after the gate opens.

EQ and Filters (EQ/Filter)

6: St.Parametric4EQ (Stereo Parametric 4-Band EQ)

This is a stereo 4-band parametric equalizer. You can select peaking type or shelving type for Band 1 and 4. The gain of Band 2 can be controlled by dynamic modulation.
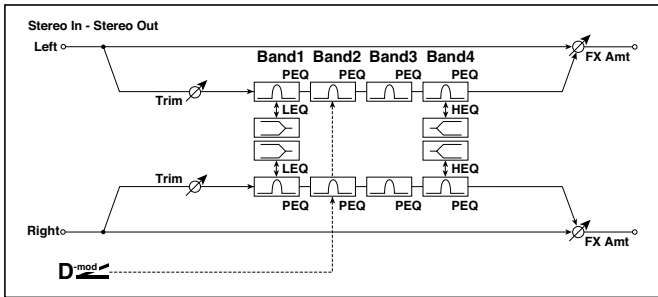
a	Trim	0…100	Sets the input level	
b	Band1 Type	Peaking, Shelving-Low	Selects the type of Band 1	
c	Band4 Type	Peaking, Shelving-High	Selects the type of Band 4	
d	Band2 Dynamic Gain Src	Off…Tempo	Selects the modulation source of the Band 2 gain	
	Amt [dB]	–18.0…+18.0	Sets the modulation amount of Band 2 gain	
e	Band1 Cutoff [Hz]	20…1.00k	Sets the center frequency of Band 1	
	Q	0.5…10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18.0…+18.0	Sets the gain of Band 1	
f	Band2 Cutoff [Hz]	50…10.00k	Sets the center frequency of Band 2	
	Q	0.5…10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18.0…+18.0	Sets the gain of Band 2	
g	Band3 Cutoff [Hz]	300…10.00k	Sets the center frequency of Band 3	
	Q	0.5…10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18.0…+18.0	Sets the gain of Band 3	

h	Band4 Cutoff [Hz]	500…20.00k	Sets the center frequency of Band 4	
	Q	0.5…10.0	Sets the bandwidth of Band 4	
	Gain [dB]	−18.0…+18.0	Sets the gain of Band 4	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

b: Band1 Type

c: Band4 Type

Selects a filter type for Band 1 and 4.

Parametric 4EQ - Band1, Band4 Type

Parametric 4EQ - Band2 Gain Mod
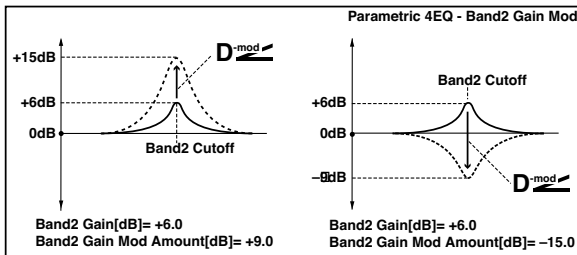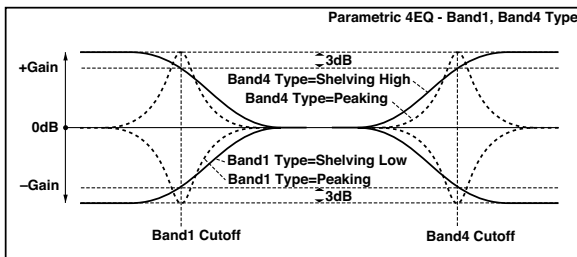
e, f, g, h: Q

These parameters set the bandwidth of each equalizer. The higher the value, the narrower the band becomes.

d: Band2 Dynamic Gain Src

d: Amt [dB]

You can control the gain of Band 2 using the modulation source.

7: St. Graphic 7EQ (Stereo Graphic 7-Band EQ)

This is a stereo 7-band graphic equalizer. The bar graph of the gain setting for each band gives you a clear, visual idea of frequency responses. You can select a center frequency setting for each band from twelve types, according to the sound.
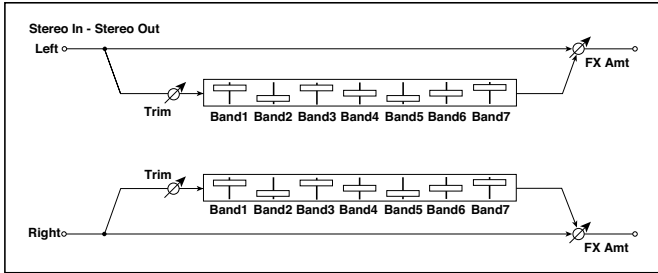
a	Type	1:Wide 1, 2:Wide 2, 3:Wide 3, 4:Half Wide 1, 5:Half Wide 2, 6:Half Wide 3, 7:Low, 8:Wide Low, 9:Mid, 10:Wide Mid, 11:High, 12:Wide High	Selects a combination of center frequencies for each band
b	Trim	0…100	Sets the input level
c	Band1 [dB]	–18.0…+18.0	Sets the gain of Band 1
d	Band2 [dB]	–18.0…+18.0	Sets the gain of Band 2
e	Band3 [dB]	–18.0…+18.0	Sets the gain of Band 3
f	Band4 [dB]	–18.0…+18.0	Sets the gain of Band 4
g	Band5 [dB]	–18.0…+18.0	Sets the gain of Band 5
h	Band6 [dB]	–18.0…+18.0	Sets the gain of Band 6
i	Band7 [dB]	–18.0…+18.0	Sets the gain of Band 7
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	–100…+100	Amount of modulation source

a: Type

This parameter selects a combination of center frequencies for each band. The center frequency of each band is shown in the right of the screen.

You can configure a 21-Band Graphic EQ ranging from 80 Hz to 18 kHz if you route three Graphic 7-Band EQ effects in series, with a setting of 7:Low, 9:Mid, and 11:High for each EQ.

8: St.Exciter/Enhncr (Stereo Exciter/Enhancer)

This effect is a combination of the Exciter, which adds a punch to the sound and the Enhancer, which adds spread and presence.
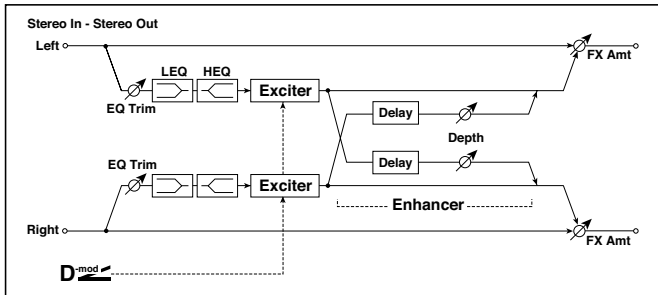
a	Exciter Blend	−100…+100	Sets the intensity (depth) of the Exciter effect
	Src	Off…Tempo	Selects the modulation source of the Exciter intensity
	Amt	−100…+100	Sets the modulation amount of the Exciter intensity
b	Emphasis Freq	0…70	Sets the frequency to be emphasized
	Src	Off…Tempo	Selects the modulation source of the frequency to be emphasized
	Amt	−70…+70	Sets the amount of modulation of the frequency to be emphasized
c	Enhancer Delay L [msec]	0.0…50.0	Sets the delay time for the Enhancer left channel
d	Enhancer Delay R [msec]	0.0…50.0	Sets the delay time for the Enhancer right channel
e	Enhancer Depth	0…100	Sets the determines to what degree the Enhancer effect is applied
	Src	Off…Tempo	Selects the modulation source of the Enhancer width
	Amt	−100…+100	Sets the modulation amount of the Enhancer width
f	EQ Trim	0…100	Sets the 2-band EQ input level

g	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer
h	Pre LEQ Gain [dB]	–15.0…+15.0	Gain of the Lo EQ
	Pre HEQ Gain [dB]	–15.0…+15.0	Gain of the High EQ
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	–100…+100	Amount of modulation source

a: Exciter Blend

This parameter sets the depth (intensity) of the Exciter effect. Positive values give a frequency pattern (to be emphasized) different from negative values.

b: Emphasis Freq

This parameter sets the frequency to be emphasized. Higher values will emphasize lower frequencies.

c: Enhancer Delay L [msec]

d: Enhancer Delay R [msec]

These parameters set the delay time for the Enhancer left and right channel. Specifying a slightly different delay time for the left and right channel will add a stereo image, depth, and width to the sound.

9: Stereo Isolator

This is a stereo effect that separates the input signal into low, mid, and high-frequency bands, and controls the volume of each band independently. For example you can separately boost or cut the kick, snare, and hi-hat sounds from a drum signal in realtime.
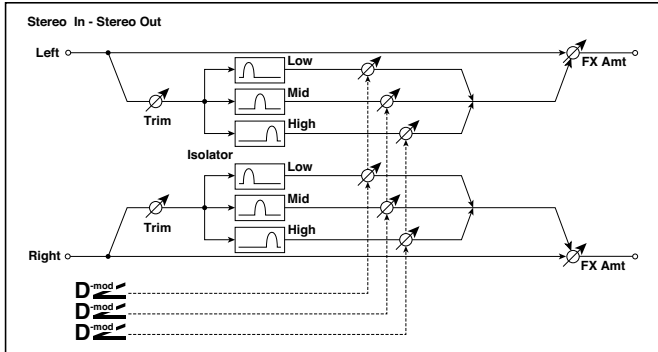
a	Trim	0…100	Sets the input level
b	Low/Mid [Hz]	100…500	Sets the frequency at which the low and mid bands are divided
c	Mid/High [Hz]	2000…6000	Sets the frequency at which the mid and high bands are divided
d	Low Gain [dB]	–Inf, –59…+12	Sets the low-frequency gain
	Src	Off…Tempo	Selects the source that will modulate low-frequency gain
	Amt	–72…+72	Sets the amount by which the low-frequency gain will be modulated
e	Mid Gain [dB]	–Inf, –59…+12	Sets the mid-frequency gain
	Src	Off…Tempo	Selects the modulation source for mid-frequency gain
	Amt	–72…+72	Sets the amount by which the mid-frequency gain will be modulated
f	High Gain [dB]	–Inf, –59…+12	Sets the high-frequency gain
	Src	Off…Tempo	Selects the modulation source for high-frequency gain
	Amt	–72…+72	Sets the amount by which the high-frequency gain will be modulated

g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

10: St. Wah/Auto Wah (Stereo Wah/Auto Wah)

This stereo wah effect allows you to create sounds from vintage wah pedal simulation to auto-wah simulation, and much broader range settings.
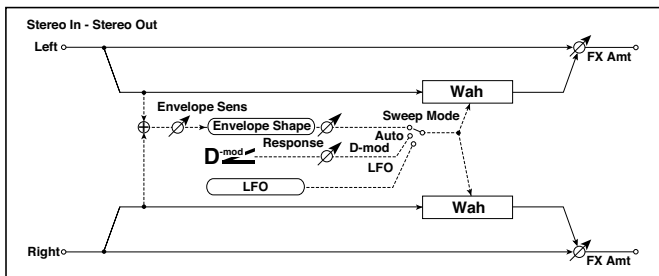
a	Frequency Bottom	0…100	Sets the lower limit of the wah center frequency
	Frequency Top	0…100	Sets the upper limit of the wah center frequency
b	Sweep Mode	Auto, D-mod, LFO	Selects the control from auto-wah, modulation source, and LFO
	Src	Off…Tempo	Selects the modulation source for the wah when Sweep Mode=D-mod
	Respon	0…100	Sets the response speed when Sweep Mode = Auto or D-mod
c	Envelope Sens	0…100	Sets the sensitivity of auto-wah
	Envelope Shape	−100…+100	Sets the sweep curve of auto-wah
d	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	Src	Off…Tempo	Selects a modulation source for LFO speed
	Amt	−20.00…+20.00	Sets the modulation amount of LFO speed

e	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	⏚Sync
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♩… ♪	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
f	Resonance	0…100	Sets the resonance amount	
	Low Pass Filter	Off, On	Switches the wah low pass filter on and off	
g	Output Level	0…100	Sets the output level of the effect sound	
	Src	Off…Tempo	Selects the modulation source that will control the effect output level	
	Amt	−100…+100	Sets the modulation amount of the effect output level	
h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Frequency Bottom

a: Frequency Top

The sweep width and direction of the wah filter are determined by the "Frequency Top" and "Frequency Bottom" settings.
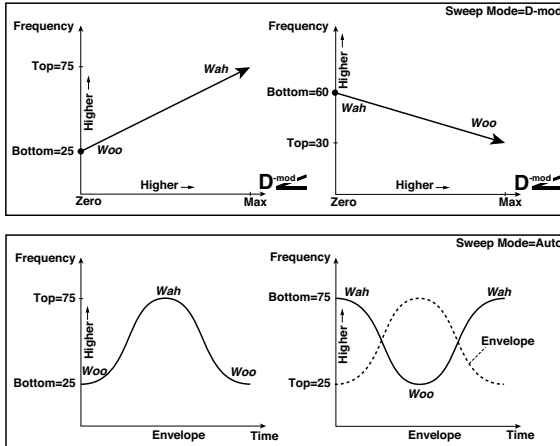
b: Sweep Mode

This parameter changes the wah control mode. Setting "Sweep Mode" to Auto will select an auto-wah that sweeps according to envelope changes in the input signal level. Auto-wah is frequently used for funk guitar parts and clav sounds.

When "Sweep Mode" is set to D-mod, you can control the filter directly via the modulation source in the same way as a wah pedal.

When "Sweep Mode" is set to LFO, the effect uses LFO to sweep in cycle.

c: Envelope Sens

This parameter sets the sensitivity of auto-wah. Increase the value if the input signal is too low to sweep. Reduce the value if the input signal is so high that the filter is stopped temporarily.

c: Envelope Shape

This parameter determines the sweep curve for auto-wah.
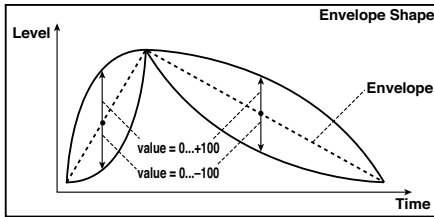
d: LFO Frequency [Hz]

e: MIDI Sync

When "MIDI/Tempo Sync"=Off, the LFO speed uses the LFO Frequency parameter setting. When "MIDI/Tempo Sync"=On, the LFO speed follows the "BPM", "Base Note", and "Times" settings.

e: BPM

e: Base Note

e: Times

One cycle of LFO sweep is obtained by multiplying the length of a note (♪ ... o) (selected for "Base Note", in relation to the tempo specified in "BPM", or the MIDI Clock tempo if "BPM" is set to MIDI) by the number specified in the Times parameter.

11: St. Vintage Wah (Stereo Vintage/Custom Wah)

This effect simulates the tonal character of a vintage wah pedal. You can customize the tone and range settings.
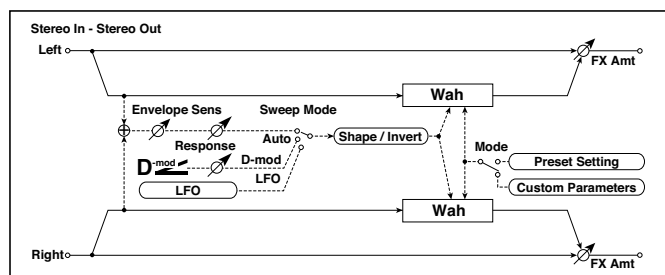
a	Mode	Preset, Custom	Selects either preset or custom settings
	Shape	−100…+100	Sets the curve of the sweep
	Invert	Off, On	Inverts the polarity of the sweep
b	Frequency Bottom	0…100	Sets the lower limit of the wah center frequency when Mode = Custom
	Frequency Top	0…100	Sets the upper limit of the wah center frequency when Mode = Custom
c	Resonance Bottom	0…100	Sets the lower limit of resonance amount when Mode=Custom
	Resonance Top	0…100	Sets the upper limit of resonance amount when Mode=Custom
d	Sweep Mode	Auto, D-mod, LFO	Selects the control from auto-wah, modulation source, and LFO
	Src	Off…Tempo	Selects the modulation source for the wah when Sweep Mode=D-mod
	Manual	0…100	Sets the center frequency when Sweep Mode=D-mod and Source=Off
e	Envelope Sens	0…100	Sets the auto-wah sensitivity
	Response	0…100	Sets the speed of response when Sweep Mode=Auto or D-mod
f	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	Src	Off…Tempo	Selects a modulation source for LFO speed
	Amt	−20.00… +20.00	Sets the modulation amount of LFO speed

g	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	♩=Sync
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♪…♩	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
h	Output Level	0…100	Sets the output level of the effect sound	
	Src	Off…Tempo	Selects the modulation source that will control the effect output level	
	Amt	−100…+100	Sets the modulation amount of the effect output level	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Shape

This parameter specifies the sweep curve of the wah. It applies to all control via auto-wah, modulation source, and LFO, and lets you adjust subtle nuances of the wah effect.

a: Mode
b: Frequency Bottom
b: Frequency Top
c: Resonance Bottom
c: Resonance Top

If Mode=Preset, this simulates a vintage wah pedal. In this case, internally fixed values are used for Frequency Bottom/Top and Resonance Bottom/Top, and these settings will be ignored. The settings for Frequency Bottom/Top and Resonance Bottom/Top are valid if Mode=Custom.

12: St. Random Filter (Stereo Random Filter)

This stereo band pass filter uses a step-shape waveform and random LFO for modulation. You can create a special effect from filter oscillation.

a	LFO Waveform	Step-Tri, Random	Selects the LFO Waveform	
	LFO Phase [degree]	–180…+180	Sets the LFO phase difference between the left and right	
b	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects the modulation source used for both LFO speed and step speed	
	Amt	–20.00…+20.00	Sets the modulation amount of LFO speed	
c	LFO Step Freq [Hz]	0.05…50.00	Sets the LFO step speed (speed that changes in steps	
	Amt	–50.00…+50.00	Sets the modulation amount of LFO step speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	♩=Sync
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♪…♩	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
e	Step Base Note	♪…♩	Selects the type of notes to specify the LFO step speed	♩=Sync
	Times	x1…x32	Sets the number of notes to specify the LFO step speed	

f	Manual	0…100	Sets the filter center frequency	
	Src	Off…Tempo	Selects the modulation source for the filter center frequency	
	Amt	–100…+100	Sets the modulation amount for the filter center frequency	
g	Depth	0…100	Sets the modulation depth of filter center frequency	
	Src	Off…Tempo	Selects the modulation source of filter modulation	
	Amt	–100…+100	Sets the modulation amount of filter modulation	
h	Resonance	0…100	Sets the resonance amount	
i	Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: LFO Phase [degree]

Offsetting the left and right phases alters how modulation is applied to the left and right channels, creating a swelling affect.
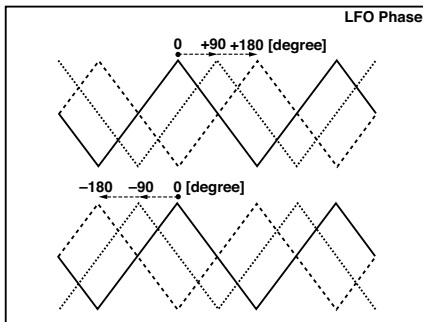
a: LFO Waveform

b: LFO Frequency [Hz]

c: LFO Step Freq [Hz]

When "LFO Waveform" is set to Step-Tri, LFO is a step-shape, triangle waveform. The "LFO Frequency" parameter sets the original triangle waveform speed. Changing the "LFO Step Freq" parameter enables you to adjust the width of the steps.

When "LFO Waveform" is set to Random, the "LFO Step Freq" parameter uses a random LFO cycle.
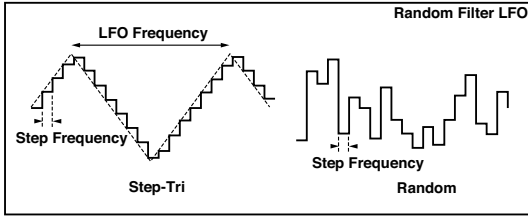
d: BPM

e: Step Base Note

e: Times

The width of an LFO step, or a cycle of random LFO, is obtained by multiplying the length of a note (♩....♩) (selected for "Step Base Note", in relation to the tempo specified in "BPM," or the MIDI Clock tempo if "BPM" is set to MIDI) by the number specified in the "Times" parameter.

i: Wet/Dry

The effect sound's phase will be reversed when you set this parameter in the negative range of values.

13: St. MultiModeFilter (Stereo Multi Mode Filter)

This is a multi-mode filter with four types; low pass, high pass, band pass, and band reject. You can use LFO or dynamic modulation to vary the cutoff frequency or resonance.
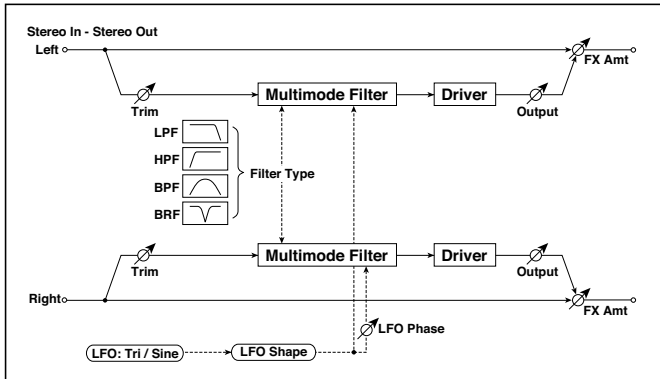
a	Type	LPF, HPF, BPF, BRF	Selects the type of filter
	Trim	0…100	Sets the input level
b	Cutoff	0…100	Sets the cutoff frequency (center frequency)
	Src	Off…Tempo	Selects the modulation source of the cutoff
	Amt	–100…+100	Sets the modulation amount of the cutoff
c	Resonance	0…100	Sets the resonance amount
	Src	Off…Tempo	Selects the source that will modulate the amount of resonance
	Amt	–100…+100	Sets the amount by which the resonance will be modulated
d	LFO Waveform	Triangle, Sine	Selects the LFO Waveform
	Phase [degree]	–180…+180	Sets the LFO phase difference between the left and right
	Depth	0…100	Sets the depth to which the LFO will modulate the cutoff frequency
e	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	Src	Off…Tempo	Selects a modulation source for LFO speed
	Amt	–20.00…+20.00	Sets the modulation amount of LFO speed

f	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♩…	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
g	Drive SW	Off, On	Switches distortion on/off within the filter	
	Output Level	0…100	Sets the output level	
h	Drive Gain	0…100	Sets the distortion amount	
	Low Boost	0…100	Sets the amount of low-range boost	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

14: St. Sub Oscillator (Stereo Sub Oscillator)

This effect adds very low frequencies to the input signal. It is very useful when simulating a roaring drum sound or emphasizing powerful low range. This effect is different from the equalizer in that you can add very low range

harmonics. You can also adjust the oscillator frequency to match a particular note number, for use as an octaver.
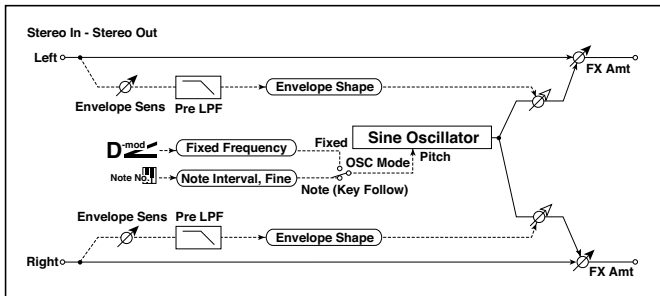
a	OSC Mode	Note (Key Follow), Fixed	Determines whether the oscillator frequency follows the note number or whether it is fixed	
b	Note Interval	–48…0	Sets the pitch difference from the note number when OSC Mode=Note (Key Follow)	
	Note Fine	–100…+100	Fine adjustment of the oscillator frequency	
c	Fixed Frequency [Hz]	10.0…80.0	Sets the oscillator frequency when OSC Mode=Fixed	
	Src	Off…Tempo	Selects the modulation source for the oscillator frequency when OSC Mode=Fixed	
	Amt	–80…+80	Sets the oscillator frequency modulation amount when OSC Mode=Fixed	
d	Envelope Pre LPF	1…100	Sets the upper limit of the frequency range for which very low harmonics are added	
e	Envelope Sens	0…100	Sets the sensitivity with which very low harmonics are added	
	Envelope Shape	–100…+100	Sets the oscillator's volume envelope curve	
f	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: OSC Mode

b: Note Interval

b: Note Fine

The "OSC Mode" parameter selects the oscillator operation mode. When Note (Key Follow) is selected, the oscillator's frequency is determined based on the note number, allowing you to use it as an octaver. The "Note Interval" parameter sets the pitch offset from the original note number by semitone steps. The "Note Fine" parameter allows you to fine-tune in steps of cents.

d: Envelope Pre LPF

This parameter sets the upper limit of the frequency range to which very low harmonics are added. Adjust this parameter if you do not want to add lower harmonics to the higher range.

15: Talking Modulator

This effect adds an unusual character, like a human voice, to the input signal. Modulating the tone via dynamic modulation, you can create an interesting effect that sounds as if the guitar or synthesizer is talking.
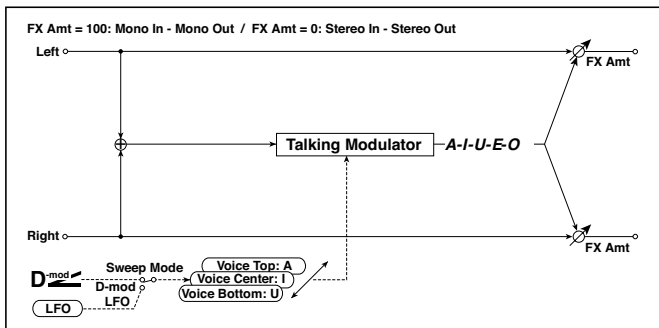
a	Sweep Mode	D-mod, LFO	Switches between modulation source control and LFO control
b	Manual Voice Control	Bottom, 1…49, Center, 51…99, Top	Voice pattern control
	Src	Off…Tempo	Selects the modulation source that controls the voice pattern
c	Voice Top	A, I, U, E, O	Selects a vowel sound at the top end of control
d	Voice Center	A, I, U, E, O	Selects a vowel sound in the center of control

e	Voice Bottom	A, I, U, E, O	Selects a vowel sound at the bottom end of control	
f	Formant Shift	−100…+100	Sets the frequency to which the effect is applied	
	Resonance	0…100	Sets the Level of resonance of the voice pattern	
g	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	−20.00…+20.00	Sets the modulation amount of LFO speed	
h	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	♩Sync
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♪…♩	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

c: Voice Top

d: Voice Center

e: Voice Bottom

These parameters assign vowels to the top, center, and bottom position of the controller.

E.g.: When "Voice Top"=A, "Voice Center"=I, and "Voice Bottom"=U:

If "Sweep Mode"is set to D-mod and Ribbon is selected as the modulation source, moving your finger from the right to left of the ribbon controller will change the sound from "a" to "i," then "u."

If Sweep Mode is set to LFO, the sound will change cyclically from "a" to "i," "u," "i," then "a."
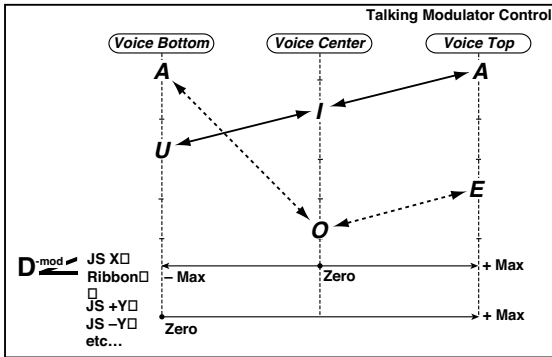
f: Formant Shift

This parameter adjusts the frequency level to which the effect is applied. If you wish to apply the effect to a higher-range sound, set this parameter to a higher value; to apply the effect to a lower-range sound, set this to a lower value.

f: Resonance

This parameter sets the intensity of resonance for the voice pattern. A larger value will add more character to the sound.

16: Stereo Decimator

This effect creates a rough sound like a cheap sampler by lowering the sampling frequency and data bit length. You can also simulate noise unique to a sampler (aliasing).

a	Pre LPF	Off, On	Selects whether the harmonic noise caused by a decrease in sampling frequency is generated or not
	High Damp [%]	0…100	Sets the ratio of cut of the high range
b	Sampling Freq [Hz]	1.00k… 48.00k	Sets the sampling frequency
	Src	Off…Tempo	Selects the modulation source of the sampling frequency
	Amt	−48.00k… +48.00k	Sets the modulation amount of the sampling frequency
c	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	Src	Off…Tempo	Selects a modulation source for LFO speed
	Amt	−20.00… +20.00	Sets the modulation amount of LFO speed
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect
	Base Note	♩…	Selects the type of notes that specify the LFO speed
	Times	x1…x32	Sets the number of notes that specify the LFO speed

e	Depth	0…100	Sets the depth of the sampling frequency LFO modulation
	Src	Off…Tempo	Selects the LFO modulation source of the sampling frequency
	Amt	−100…+100	Sets the LFO modulation amount of the sampling frequency
f	Resolution	4…24	Sets the data bit length
g	Output Level	0…100	Sets the output level
	Src	Off…Tempo	Selects the modulation source for the output level
	Amt	−100…+100	Sets the modulation amount of the output level
h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

a: Pre LPF

If a sampler with a very low sampling frequency receives very high-pitched sound that could not be heard during playback, it could generate pitch noise that is unrelated to the original sound. Set "Pre LPF" to On to prevent this noise from being generated.

If you set the "Sampling Freq" to about 3 kHz and set "Pre LPF" to Off, you can create a sound like a ring modulator.

f: Resolution

g: Output Level

If you set a smaller value for the "Resolution" parameter, the sound may be distorted. The volume level may also be changed. Use "Output Level" to adjust the level.

17: St. Analog Record (Stereo Analog Record)

This effect simulates the noise caused by scratches and dust on analog records. It also reproduces some of the modulation caused by a warped turntable.
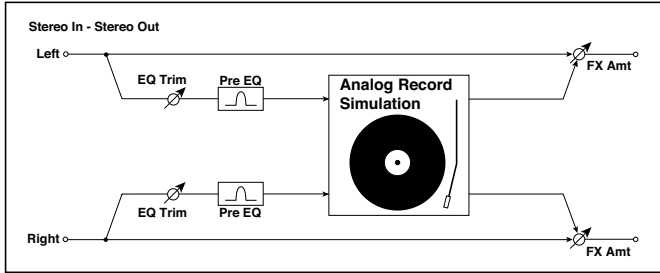
a	Speed [RPM]	33 1/3, 45, 78	Sets the r.p.m. of a record	
b	Flutter	0…100	Sets the modulation depth	
c	Noise Density	0…100	Sets the noise density	
	Noise Tone	0…100	Sets the noise tone	
d	Noise Level	0…100	Sets the noise level	
	Src	Off…Tempo	Selects the modulation source for the noise level	
	Amt	−100…+100	Sets the modulation amount of the noise level	
e	Click Level	0…100	Sets the click noise level	
	Src	Off…Tempo	Selects the modulation source for the click noise level	
	Amt	−100…+100	Sets the modulation amount of the click noise level	
f	EQ Trim	0…100	Sets the EQ input level	
g	Pre EQ Cutoff [Hz]	300…10.00k	Sets the EQ center frequency	
	Q	0.5…10.0	Sets the EQ band width	
	Gain [dB]	−18.0…+18.0	Sets the EQ gain	
h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

b: Flutter

This parameter enables you to set the depth of the modulation caused by a warped turntable.

e: Click Level

This parameter enables you to set the level of the click noise that occurs once every rotation of the turntable. This simulation reproduces record noise, and the noise generated after the music on a vinyl record finishes.

Overdrive, Amp models, and Mic models (OD Amp Mic)

18: OD/Hi.Gain Wah (Overdrive/Hi.Gain Wah)

This distortion effect utilizes an Overdrive mode and a Hi-Gain mode. Controlling the wah effect, the 3-band EQ, and the amp simulation will allow you to create versatile distortion sounds. This effect is suitable for guitar and organ sounds.

a	Wah	Off, On	Switches Wah on/off	
	Src	Off…Tempo	Selects the modulation source that switches the Wah on and off	
	Sw	Toggle, Moment	Selects the switching mode for the modulation source that switches the Wah on and off	
b	Wah Sweep Range	−10…+10	Sets the range of Wah	
	Wah Sweep Src	Off…Tempo	Selects the modulation source that controls the Wah	
c	Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and hi-gain distortion	
d	Drive	1…100	Sets the degree of distortion	
	Pre Low-cut	0…10	Sets the low range cut amount of the distortion input	
e	Output Level	0…50	Sets the output level	
	Src	Off…Tempo	Selects the modulation source for the output level	
	Amt	−50…+50	Sets the modulation amount of the output level	

f	Low Cutoff [Hz]	20…1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	–18…+18	Sets the gain of Low EQ	
g	Mid1Cutoff [Hz]	300…10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)	
	Q	0.5…10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	–18…+18	Sets the gain of Mid/High EQ 1	
h	Mid2 Cutoff [Hz]	500…20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)	
	Q	0.5…10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	–18…+18	Sets the gain of Mid/High EQ 2	
i	Direct Mix	0…50	Sets the amount of the dry sound mixed to the distortion	
	Speaker Simulation	Off, On	Switches the speaker simulation on/off	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: Wah

The Wah parameter switches the wah effect on/off.

a: Sw

This parameter sets how the wah effect is switched on and off via the modulation source.

When "Sw" = Moment, the wah effect is usually turned off. It is turned on only when you press the pedal or operate the joystick.

MIDI When a value for the modulation source is less than 64, "off" speed is selected, and when the value is 64 or higher, "on" is selected.

When "Sw" = Toggle, the wah effect is switched between on and off each time you press the pedal or operate the joystick.

MIDI The switch will be turned on/off each time the value of the modulation source exceeds 64.

b: Wah Sweep Range

b: Wah Sweep Src

This parameter sets the sweep range of the wah center frequency. A negative value will reverse the direction of sweep. The wah center frequency can be controlled by the modulation source specified in the "Wah Sweep Src" parameter.

d: Pre Low-cut

Cutting the signal in the low range before it is input to the Distortion will create a sharp distortion.

d: Drive

e: Output Level

The degree of distortion is determined by the level of input signal and the setting of "Drive". Raising the "Drive" setting will cause the entire volume level to increase. Use the "Output Level" parameter to adjust the volume level. The "Output Level" parameter uses the signal level input to the 3-Band EQ. If clipping occurs at the 3-Band EQ, adjust the "Output Level" parameter.

19: St. Guitar Cabinet (Stereo Guitar Cabinet)

This simulates the acoustical character of a guitar amp's speaker cabinet.
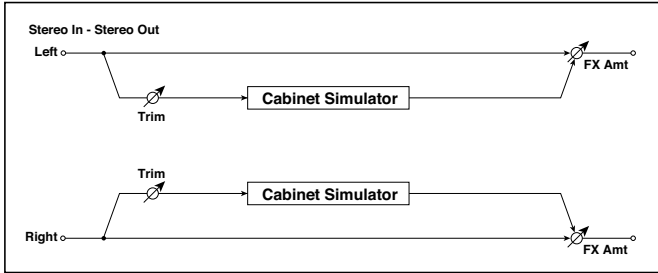
a	Trim	0…100	Sets the input level	
b	Type		Selects the type of the cabinet	
		TWEED - 1x12	Open-back cabinet with one 12" speaker, typically used for blues	
		TWEED - 4x10	Open-back cabinet with four 10" speakers	
		BLACK - 2x10	Open-back cabinet with two 10" speakers	
		BLACK - 2x12	American open-back cabinet with two12" speakers	
		VOX AC15 - 1x12	Vox AC15 open-back cabinet with one 12" "Blue" speaker	
		VOX AC30 - 2x12	Vox AC30 open-back cabinet with two 12" "Blue" speakers	
		VOX AD412 - 4x12	VOX AD412 closed-back cabinet with four 12" speakers	
		UK H30 - 4x12	Closed-back classic cabinet with four 30W 12" speakers	
		UK T75 - 4x12	Closed-back cabinet with four 75W 12" speakers	
		US V30 - 4x12	Closed-back cabinet with four 30W 12" speakers	
c	Air	0…100	Sets the mic position	
d	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

20: St. Bass Cabinet (Stereo Bass Cabinet)

This simulates the acoustical character of a bass amp's speaker cabinet.
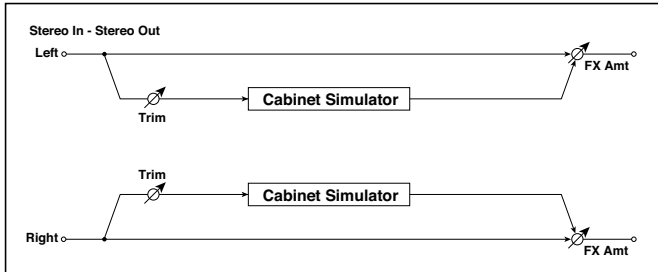
a	Trim	0…100	Sets the input level	
b	Cabinet Type		Selects the cabinet type	
		LA - 4x10	Four 10" speakers / LA sound cabinet	
		MODERN - 4x10	Four 10" aluminum-cone speakers / modern cabinet	
		METAL - 4x10	Four 10" aluminum-cone speakers / modern cabinet	
		CLASSIC - 8x10	Eight 10" speakers / classic cabinet	
		UK - 4x12	Four 12" speakers / UK-manufactured cabinet	
		STUDIO - 1x15	One 15" speaker / studio combo cabinet	
		JAZZ - 1x15	One 15" speaker / jazz combo cabinet	
		VOX AC100 - 2x15	Two 15" speakers / cabinet for Vox AC100	
		US - 2x15	Two 15" speakers / US-manufactured cabinet	
		UK - 4x15	Four 15" speakers / UK-manufactured cabinet	
		LA - 1x18	One 18" speaker / LA sound cabinet	
		COMBI - 1x12 & 1x18	One 12" and one 18" speaker combination cabinet	

c	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

21: Bass Amp Model

This simulates a bass amp.

FX Amt = 100: Mono In - Mono Out / FX Amt = 0: Stereo In - Stereo Out
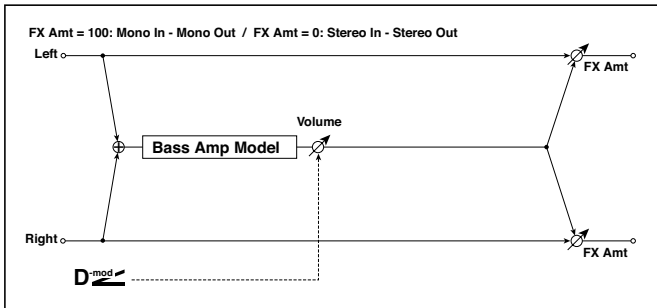
a	Amp Type		Selects the amplifier type	
		LA STUDIO	An amp that is typical of the LA sound.	
		JAZZ	A combo amp favored by jazz bassists.	
		GOLD PANEL	An amp distinctive for its eye-catching gold panel and clean sound.	
		SCOOPED	An amp typical of 80's sounds.	
		VALVE2	A tube amp suitable for rock.	
		VALVE	A tube amp with the ULTRA LO switch turned ON.	
		CLASSIC	A tube amp whose basic character changes according to the setting of the value dial.	
b	Volume	0…100	Sets the output level	
	Src	Off…Tempo	Selects the modulation source for the output level	
	Amt	–100…+100	Sets the modulation amount of the output level	
c	Bass	0…100	Sets the bass (low range) level	
d	Middle	0…100	Sets the middle (mid range) level	
	Mid Range	0…4	Sets the mid-frequency range	

e	Treble	0…100	Sets the treble (high range) level	
f	Presence	0…100	Sets the presence (high-frequency tone)	
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

22: Bass Amp+Cabinet (Bass Amp Model+Cabinet)

This simulates a bass amp and speaker cabinet.
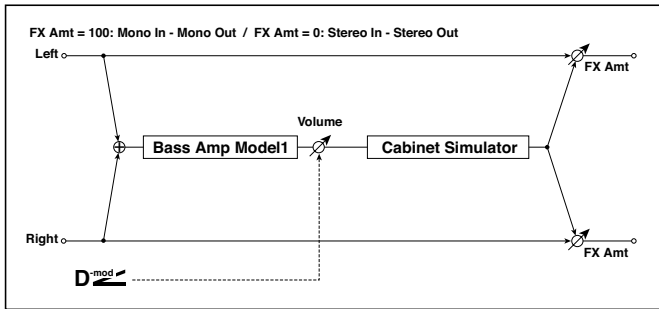
a	Amp Type	LA STUDIO, JAZZ , GOLD PANEL, SCOOPED, VALVE2, VALVE, CLASSIC	Selects the type of the amplifier	
b	Volume	0…100	Sets the output level	
	Src	Off…Tempo	Selects the modulation source for the output level	
	Amt	−100…+100	Sets the modulation amount of the output level	
c	Bass	0…100	Sets the bass (low range) level	
d	Middle	0…100	Sets the middle (mid range) level	
	Mid Range	0…4	Sets the mid-frequency range	
e	Treble	0…100	Sets the treble (high range) level	
f	Presence	0…100	Sets the presence (high-frequency tone)	

g	Cabinet Simulater	Off, On	Switches the cabinet simulator on/off	
h	Cabinet Type	LA - 4x10, MODERN - 4x10, METAL - 4x10, CLASSIC - 8x10, UK - 4x12, STUDIO - 1x15, JAZZ - 1x15, VOX AC100 - 2x15, US - 2x15, UK - 4x15, LA - 1x18, COMBI - 1x12 & 1x18	Selects the cabinet type	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: Amp Type

h: Cabinet Type

Recommended Combinations of Bass Amp Models and Cabinets:

Amp Type	Cabinet Type
LA STUDIO	LA - 4x10, LA - 1x18
JAZZ	JAZZ - 1x15
GOLD PANEL	MODERN - 4x10
SCOOPED	METAL - 4x10
VALVE2	CLASSIC - 8x10
VALVE	CLASSIC - 8x10
CLASSIC	COMBI - 1x12 & 1x18

23: Tube PreAmp Model (Tube PreAmp Modeling)

This effect simulates a two-stage vacuum tube preamp. You can make individual settings for two vacuum tubes connected in series. This lets you create the warm sound typical of vacuum tubes.

FX Amt = 100: Mono In - Mono Out / FX Amt = 0: Stereo In - Stereo Out

Left — FX Amt

Invert

Tube Pre Amp1 — + / − — Tube Pre Amp2 — Output Level

Right — FX Amt
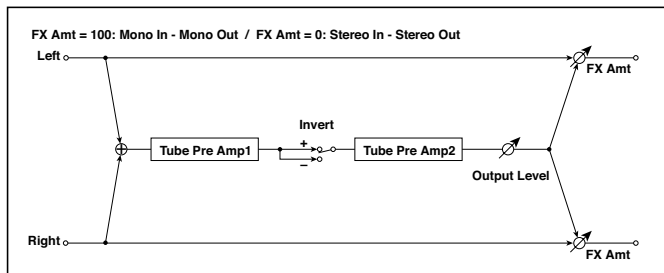
a	Tube1 Low Cut [Hz]	Thru, 21…8.00k	Sets the cutoff frequency for the low cut filter of stage 1
	High Cut [Hz]	53…20.00k, Thru	Sets the cutoff frequency for the high cut filter of stage 1
b	Tube1 Gain [dB]	−24.0…+24.0	Sets the input gain for stage 1
	Saturation [%]	0…100	Sets the input/output response for stage 1
c	Tube1 Bias	0…100	Sets the bias voltage for stage 1
d	Tube1 Phase	Normal, Wet Invert	Turns phase reversal on/off
e	Tube2 Low Cut [Hz]	Thru, 21…8.00k	Sets the cutoff frequency for the low cut filter of stage 2
	High Cut [Hz]	53…20.00k, Thru	Sets the cutoff frequency for the high cut filter of stage 2
f	Tube2 Gain [dB]	−24.0…+24.0	Sets the input gain for stage 2
	Saturation [%]	0…100	Sets the input/output response for stage 2
g	Tube2 Bias	0…100	Sets the bias voltage for stage 2
h	Tube2 Output Level [dB]	−48.0…+0.0	Sets the output level
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

b, f: Saturation [%]

With higher settings of this value, the waveform will change at high gain levels, tending to cause distortion. Lower settings of this value will produce linear response.
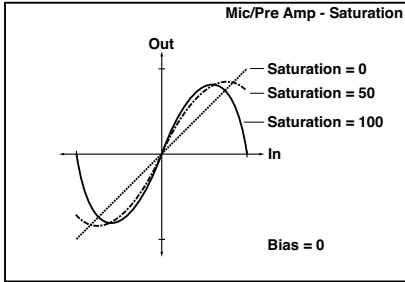
c: Tube1 Bias

This expresses the effect that changes in vacuum tube bias have on the distortion of the waveform. Higher settings of this value will produce distortion even at low gain levels. Since this will also change the overtone structure, you can use it to control the tonal character.
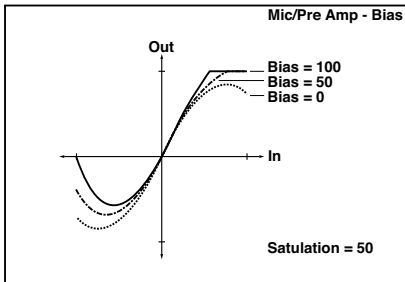
d: Tube1 Phase

With the Wet Invert setting, the phase of the signal will be inverted between stage 1 and stage 2. Since "Bias" is applied to the inverted signal in stage 2, this will change the tonal character.

24: St. Tube PreAmp (Stereo Tube PreAmp Modeling)

This is a stereo vacuum tube preamp simulator (Tube PreAmp Model (Tube PreAmp Modeling)).
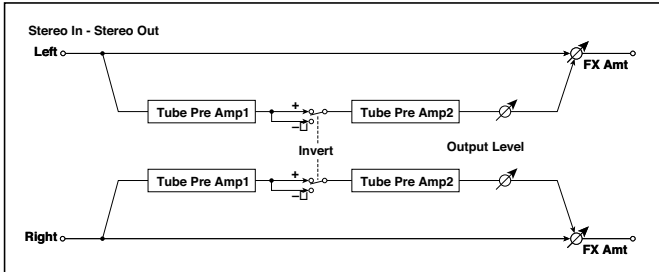
25: Mic Model+PreAmp (Mic Modeling + PreAmp)

This effect simulates a mic and vacuum tube preamp. You can choose from various types of mic and positions to create differing sonic characters.
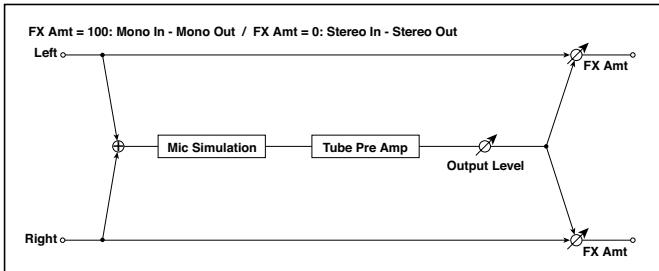
a	Mic Type	Vintage Dynamic, Multi Condenser, Percussion Condenser, Drums Dynamic, Vocal Dynamic, Multi Dynamic, Vocal Condenser, Vocal Tube, Kick Dynamic	Selects the type of mic	
b	Mic Position	Close, On, Off, Far	Sets the mic placement distance	
c	Tube Low Cut [Hz]	Thru, 21…8.00k	Sets the frequency of the low cut filter	
	High Cut [Hz]	53…20.00k, Thru	Sets the frequency of the high cut filter	
d	Tube Gain [dB]	−24.0…+24.0	Sets the input gain to the vacuum tube preamp	
	Saturation [%]	0…100	Sets the input/output response of the preamp	
e	Tube Bias	0…100	Sets the bias level of the preamp	
f	Tube Output Level [dB]	−48.0…+0.0	Sets the output level of the preamp	
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

b: Mic Position

This expresses the effect that the mic position has on the sound. The Close setting is the closest mic position, and the Far setting is the farthest.

Chorus, Flanger, and Phaser (Cho/Fln Phaser)

26: Stereo Chorus

This effect adds thickness and warmth to the sound by modulating the delay time of the input signal. You can add spread to the sound by offsetting the phase of the left and right LFOs from each other.

a	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Phase [degree]	−180…+180	Sets the LFO phase difference between the left and right	
b	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	−20.00…+20.00	Sets the modulation amount of LFO speed	
c	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	◑Sync
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♩…♫	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
d	L Pre Delay [msec]	0.0…50.0	Sets the delay time for the left channel	
	R Pre Delay [msec]	0.0…50.0	Sets the delay time for the right channel	

e	Depth	0…100	Sets the depth of LFO modulation	
	Src	Off…Tempo	Selects the modulation source for the LFO modulation depth	
	Amt	–100…+100	Sets the modulation amount of the LFO modulation depth	
f	EQ Trim	0…100	Sets the EQ input level	
g	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
h	Pre LEQ Gain [dB]	–15.0…+15.0	Gain of the Low EQ	
	Pre HEQ Gain [dB]	–15.0…+15.0	Gain of the High EQ	
i	Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

d: L Pre Delay [msec]

d: R Pre Delay [msec]

Setting the left and right delay time individually allows you to control the stereo image.

27: Black Chorus/Flanger

This models a Danish-made stereo chorus + pitch modulator & flanger. Although this effect was originally intended for guitar, it was also used by numerous keyboard players. Used with electric piano, it produces a distinctive tone.
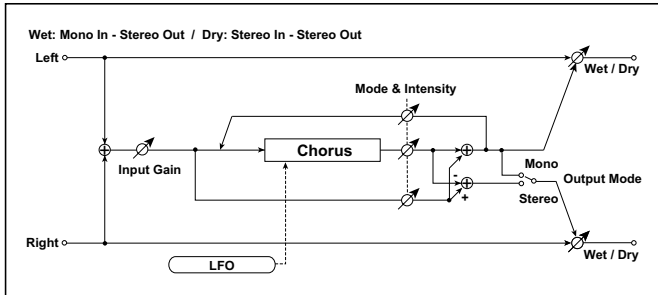
Speed [Hz]	0.10…10.0	Sets the LFO speed	
Intensity	1…100	Sets the intensity of LFO modulation	
Mode	0, 1, 2	Select a mode 0: Chorus 1: Pitch Modulation 2: Flanger	
Width	0…2	Sets the LFO modulation depth	
Input Gain	1…100	Sets the input gain	
Output Mode	0, 1	Select a output mode 0: Mono 1: Stereo	
Wet/Dry	Dry, 1:99 … 99:1, Wet	Balance between the wet and dry signal	D-mod
Source	Off…Tempo	Selects a modulation source for Wet/Dry	
Amount	−100 … +100	Sets the modulation amount for Wet/Dry	

Mode

Intensity

Increasing the "Intensity" value will strengthen the modulation effect. This controls the effect, direct, and feedback values. The values that are controlled will depend on the "Mode" setting.

28: St.HarmonicChorus (Stereo Harmonic Chorus)

This effect applies chorus only to higher frequencies. This can be used to apply a chorus effect to a bass sound without making the sound thinner. You can also use this chorus block with feedback as a flanger.

a	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Phase [degree]	–180…+180	Sets the LFO phase difference between the left and right	
b	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00…+20.00	Sets the modulation amount of LFO speed	
c	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	♩Sync
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♩…	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
d	Pre Delay [msec]	0.0…50.0	Sets the delay time from the original sound	
e	Depth	0…100	Sets the depth of LFO modulation	
	Src	Off…Tempo	Selects the modulation source of the LFO modulation depth	
	Amt	–100…+100	Sets the modulation amount of the LFO modulation depth	
f	High/Low Split Point	1…100	Sets the frequency split point between the low and high range	

g	Feedback	–100...+100	Sets the feed back amount of the chorus block	
	High Damp [%]	0...100	Sets the high range damping amount of the chorus block	
h	Low Level	0...100	Sets the low range output level	
	High Level	0...100	Sets the high range (chorus) output level	
i	Wet/Dry	Dry, 1:99...99:1, Wet	Balance between the wet and dry signal	
	Src	Off...Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100...+100	Amount of modulation source	

f: High/Low Split Point

This parameter sets the frequency that splits the high and low range. Only the high range will be sent to the chorus block.

g: Feedback

Sets the feedback amount of the chorus block. Increasing the feedback will allow you to use the effect as a flanger.

29: St. Biphase Mod. (Stereo Biphase Modulation)

This stereo chorus effect adds two different LFOs together. You can set the Frequency and Depth parameters for each LFO individually. Depending on the setting of these LFOs, very complex waveforms will create an analog-type, unstable modulated sound.
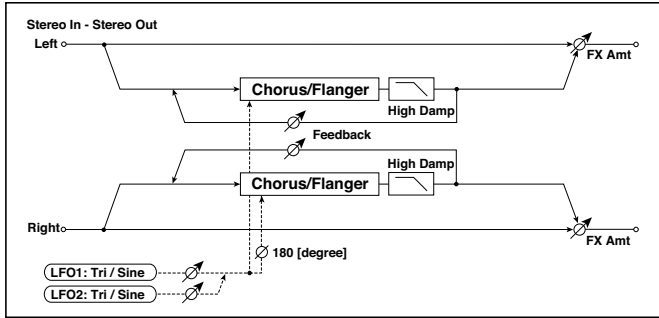
a	LFO1 Waveform	Triangle, Sine	Selects LFO1 waveform	
	LFO2	Triangle, Sine	Selects LFO2 waveform	
	Phase Sw	0 deg, 180 deg	Switches the LFO phase difference between left and right	
b	LFO1 Frequency [Hz]	0.02…30.00	Sets the LFO1 speed	
	Src	Off…Tempo	Selects the modulation source of LFO1&2 speed	
	LFO1 Amt	−30.00…+30.00	Sets the modulation amount of LFO1 speed	
c	LFO2 Frequency [Hz]	0.02…30.00	Sets the LFO2 speed	
	Amt	−30.00…+30.00	Sets the modulation amount of LFO2 speed	
d	Depth1	0…100	Sets the depth of LFO1 modulation	
	Src	Off…Tempo	Selects the modulation source of LFO1&2 modulation depth	
	Amt	−100…+100	Sets the modulation amount of LFO1 modulation depth	
e	Depth2	0…100	Sets the depth of LFO2 modulation	
	Amt	−100…+100	Sets the modulation amount of LFO2 modulation depth	

f	L Pre Delay [msec]	0.0…50.0	Sets the delay time for the left channel	
	R Pre Delay [msec]	0.0…50.0	Sets the delay time for the right channel	
g	Feedback	−100…+100	Sets the feedback amount	
	High Damp [%]	0…100	Sets the damping amount in the high range	
h	Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

30: Multitap Cho/Delay (Multitap Chorus/Delay)

This effect has four chorus blocks with a different LFO phase. You can create a complex stereo image by setting each block's delay time, depth, output level, and pan individually. You can also fix some of the chorus blocks to combine the chorus and delay effects.
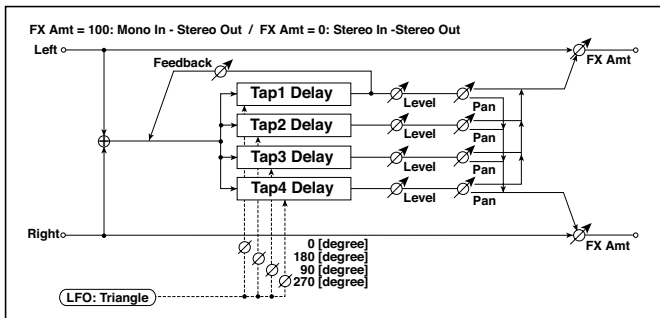
a	LFO Frequency [Hz]	0.02…13.00	Sets the speed of the LFO	
b	Tap1 (000) [msec]	0…1000	Sets the Tap1 (LFO phase=0 degrees) delay time	
	Depth	0…30	Sets the Tap1 chorus depth	
	Level	0…30	Sets the Tap1 output level	
	Pan	L6…L1, C, R1…R6	Sets the Tap1 stereo image	
c	Tap2 (180) [msec]	0…1000	Sets the Tap2 (LFO phase=180 degrees) delay time	
	Depth	0…30	Sets the Tap2 chorus depth	
	Level	0…30	Sets the Tap2 output level	
	Pan	L6…L1, C, R1…R6	Sets the Tap2 stereo image	
d	Tap3 (090) [msec]	0…1000	Sets the Tap3 (LFO phase=90 degrees) delay time	
	Depth	0…30	Sets the Tap3 chorus depth	
	Level	0…30	Sets the Tap3 output level	
	Pan	L6…L1, C, R1…R6	Sets the Tap3 stereo image	
e	Tap4 (270) [msec]	0…1000	Sets the Tap4 (LFO phase=270 degrees) delay time	
	Depth	0…30	Sets the Tap4 chorus depth	
	Level	0…30	Sets the Tap4 output level	
	Pan	L6…L1, C, R1…R6	Sets the Tap4 stereo image	
f	Tap1 Feedback	−100…+100	Sets the Tap1 feedback amount	
	Src	Off…Tempo	Selects the modulation source of Tap1 feedback amount and effect balance	
	Amt	−100…+100	Sets the Tap1 feedback amount and modulation amount	
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

31: Ensemble

This Ensemble effect has three chorus blocks that use LFO to create subtle shimmering, and gives three dimensional depth and spread to the sound, because the signal is output from the left, right, and center.
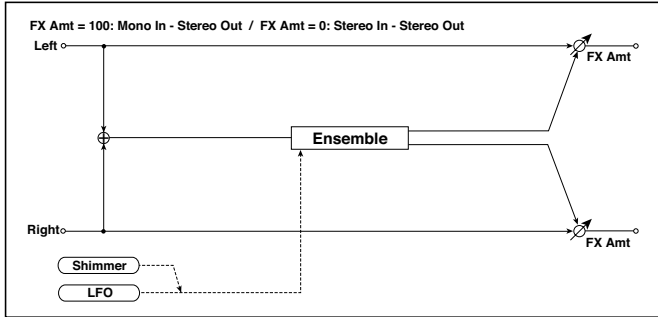
a	Speed	1…100	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	−100…+100	Sets the modulation amount of LFO speed	
b	Depth	0…100	Sets the depth of LFO modulation	
	Src	Off…Tempo	Selects the modulation source of the LFO modulation depth	
	Amt	−100…+100	Sets the modulation amount of the LFO modulation depth	
c	Shimmer	0…100	Sets the amount of shimmering of the LFO waveform	
d	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

c: Shimmer

This parameter sets the amount of shimmering of the LFO waveform. Increasing this value adds more shimmering, making the chorus effect more complex and richer.
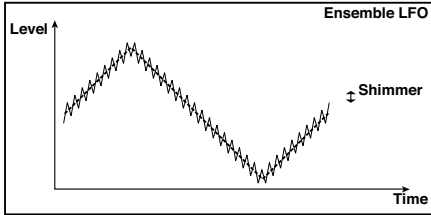
32: Polysix Ensemble

This models the ensemble effect built into the classic KORG PolySix programmable polyphonic synthesizer.
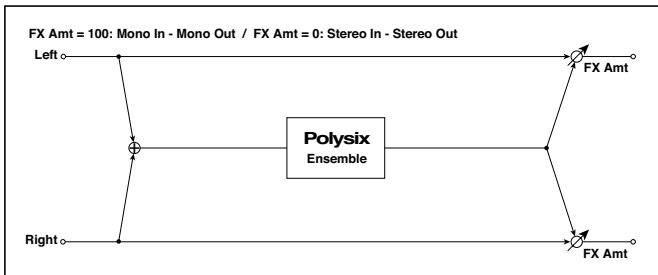
a	Depth	0…100	Sets the depth of the effect
	Src	Off…Tempo	Selects the modulation source that will control the effect depth
	Amt	−100…+100	Sets the amount by which the effect depth will be modulated
b	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

33: Stereo Flanger

This effect gives a significant swell and movement of pitch to the sound. It is more effective when applied to a sound with a lot of harmonics. This is a stereo flanger. You can add spread to the sound by offsetting the phase of the left and right LFOs from each other.

a	Delay Time [msec]	0.0…50.0	Sets the delay time from the original sound
b	LFO Waveform	Triangle, Sine	Selects the LFO Waveform
	LFO Shape	−100…+100	Changes the curvature of the LFO Waveform
c	LFO Phase [degree]	−180…+180	Sets the LFO phase difference between the left and right
d	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	Src	Off…Tempo	Selects a modulation source for LFO speed
	Amt	−20.00…+20.00	Sets the modulation amount of LFO speed
e	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect
	Base Note	♩…♪	Selects the type of notes that specify the LFO speed
	Times	x1…x32	Sets the number of notes that specify the LFO speed
f	Depth	0…100	Sets the depth of LFO modulation

g	Feedback	−100…+100	Sets the feedback amount	
	High Damp [%]	0…100	Sets the feedback damping amount in the high range	
h	Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

g: Feedback

h: Wet/Dry

The peak shape of the positive and negative "Feedback" value is different. The harmonics will be emphasized when the effect sound is mixed with the dry sound if you set a positive value for both "Feedback" and "Wet/Dry", and if you set a negative value for both "Feedback" and "Wet/Dry".

g: High Damp [%]

This parameter sets the amount of damping of the feedback in the high range. Increasing the value will cut high-range harmonics.

34: St. Random Flanger (Stereo Random Flanger)

The stereo effect uses a step-shape waveform and random LFO for modulation, creating a unique flanging effect.

| a	Delay Time [msec]	0.0…50.0	Sets the delay time from the original sound	
b	LFO Waveform	Step-Tri, Random	Selects the LFO Waveform	
	LFO Phase [degree]	–180…+180	Sets the LFO phase difference between the left and right	
c	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects the modulation source used for both LFO speed and step speed	
	Amt	–20.00…+20.00	Sets the modulation amount of LFO speed	
d	LFO Step Freq [Hz]	0.05…50.00	Sets the LFO step speed (speed that changes in steps)	
	Step Amt	–50.00…+50.00	Sets the modulation amount of LFO step speed	
e	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♪…	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	

f	Step Base Note	♩♩	Selects the type of notes to specify the LFO step speed	♫ Sync
	Times	x1…x32	Sets the number of notes to specify the LFO step speed	
g	Depth	0…100	Sets the depth of LFO modulation	
h	Feedback	–100…+100	Sets the feedback amount	
	High Damp [%]	0…100	Sets the feedback damping amount in the high range	
i	Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

35: St. Env. Flanger (Stereo Envelope Flanger)

This Flanger uses an envelope generator for modulation. You will obtain the same pattern of flanging each time you play. You can also control the Flanger directly using the modulation source.
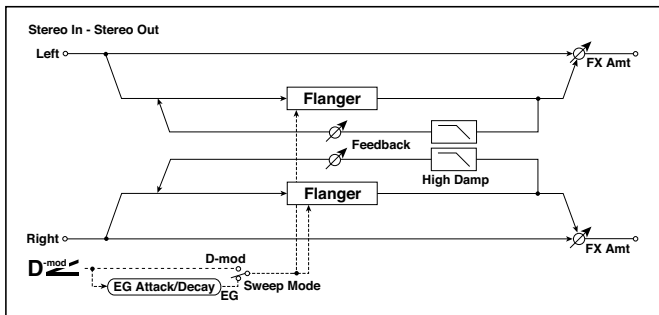
a	L Dly Bottom [msec]	0.0…50.0	Sets the lower limit of the left-channel delay time
	L Dly Top [msec]	0.0…50.0	Sets the upper limit of the left-channel delay time

b	R Dly Bottom [msec]	0.0…50.0	Sets the lower limit of the right-channel delay time
	R Dly Top [msec]	0.0…50.0	Sets the upper limit of the right-channel delay time
c	Sweep Mode	EG, D-mod	Determines whether the flanger is controlled by the envelope generator or by the modulation source
	Src	Off…Tempo	Selects the modulation source that triggers the EG (when Sweep Mode = EG), or the modulation source that causes the flanger to sweep (when Sweep Mode = D-mod)
d	EG Attack	1…100	Sets the EG attack speed
	EG Decay	1…100	Sets the EG decay speed
e	Feedback	−100…+100	Sets the feedback amount
f	High Damp [%]	0…100	Sets the feedback damping amount in the high range
g	Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

c: Sweep Mode

c: Src

This parameter switches the flanger control mode. With "Sweep Mode" = EG, the flanger will sweep using the envelope generator. This envelope generator is included in the envelope flanger, and not related to the Pitch EG, Filter EG, or Amp EG.

The "Src" parameter selects the source that starts the envelope generator. If you select, for example, Gate, the envelope generator will start when the note-on message is received.

When "Sweep Mode" = D-mod, the modulation source can control the flanger directly. Select the modulation source using the "Src" parameter.

MIDI The effect is off when a value for the modulation source specified for the "Src" parameter is smaller than 64, and the effect is on when the value is 64 or higher. The Envelope Generator is triggered when the value changes from 63 or smaller to 64 or higher.

d: EG Attack

d: EG Decay

Attack and Decay speed are the only adjustable parameters on this EG.

36: Stereo Phaser

This effect creates a swell by shifting the phase. It is very effective on electric piano sounds. You can add spread to the sound by offsetting the phase of the left and right LFOs from each other.

a	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100…+100	Changes the curvature of the LFO Waveform	
b	LFO Phase [degree]	–180…+180	Sets the LFO phase difference between the left and right	
c	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00…+20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♩…	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	

e	Manual	0…100	Sets the frequency to which the effect is applied	
	Src	Off…Tempo	Selects the modulation source for the LFO modulation	
	Amt	−100…+100	Sets the modulation amount of the LFO modulation	
f	Depth	0…100	Sets the depth of LFO modulation	
	Src	Off…Tempo	Selects the modulation source for the LFO modulation depth	
	Amt	−100…+100	Sets the modulation amount of the LFO modulation depth	
h	Resonance	−100…+100	Sets the resonance amount	
	High Damp [%]	0…100	Sets the resonance damping amount in the high range	
j	Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

h: Resonance

i: Wet/Dry

The peak shape of the positive and negative Feedback value is different. The harmonics will be emphasized when the effect sound is mixed with the dry sound, if you set a positive value for both "Resonance" and "Wet/Dry", and if you set a negative value for both "Resonance" and "Wet/Dry".

h: High Damp [%]

This parameter sets the amount of damping of the resonance in the high range. Increasing the value will cut high-range harmonics.

37: St. Random Phaser (Stereo Random Phaser)

This is a stereo phaser. The effect uses a step-shape waveform and random LFO for modulation, creating a unique phasing effect.
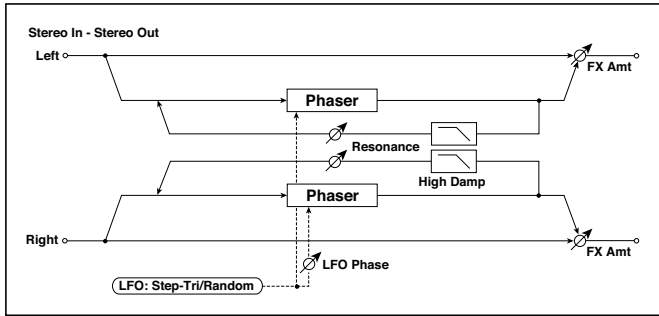
a	LFO Waveform	Step-Tri, Step-Sin, Random	Selects the LFO Waveform	
	LFO Phase [degree]	–180…+180	Sets the LFO phase difference between the left and right	
b	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects the modulation source commonly used for LFO speed and step speed	
	Amt	–20.00…+20.00	Sets the modulation amount of LFO speed	
c	LFO Step Freq [Hz]	0.05…50.00	Sets the LFO step speed	
	Amt	–50.00…+50.00	Sets the modulation amount of LFO step speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	Sync
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♩… ♪	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	

e	Step Base Note		Selects the type of notes to specify the LFO step speed	
	Times	x1…x32	Sets the number of notes to specify the LFO step speed	
f	Manual	0…100	Sets the frequency to which the effect is applied	
	Src	Off…Tempo	Selects the modulation source for the LFO modulation	
	Amt	−100…+100	Sets the modulation amount of the LFO modulation	
g	Depth	0…100	Sets the depth of LFO modulation	
h	Resonance	−100…+100	Sets the resonance amount	
	High Damp [%]	0…100	Sets the resonance damping amount in the high range	
i	Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

38: St. Env. Phaser (Stereo Envelope Phaser)

This stereo phaser uses an envelope generator for modulation. You will obtain the same pattern of phasing each time you play. You can also control the Phaser directly using the modulation source.
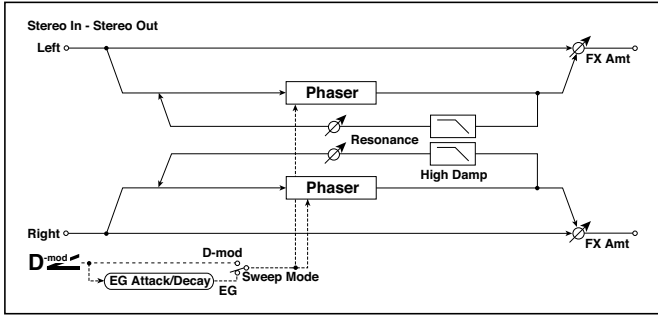
a	L Manu Bottom	0…100	Sets the lower limit of the frequency range for the effect on the left channel	
	L Manu Top	0…100	Sets the upper limit of the frequency range for the effect on the left channel	
b	R Manu Bottom	0…100	Sets the lower limit of the frequency range for the effect on the right channel	
	R Manu Top	0…100	Sets the upper limit of the frequency range for the effect on the right channel	
c	Sweep Mode	EG, D-mod	Determines whether the flanger is controlled by the envelope generator or by the modulation source	
	Src	Off…Tempo	Selects the modulation source that triggers the EG (when EG is selected for Sweep Mode), or modulation source that causes the flanger to sweep (when D-mod is selected for Sweep Mode)	
d	EG Attack	1…100	Sets the EG attack speed	
	EG Decay	1…100	Sets the EG decay speed	
e	Resonance	–100…+100	Sets the resonance amount	
f	High Damp [%]	0…100	Sets the resonance damping amount in the high range	

g	Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

Modulation and Pitch Shift (Mod./P.Shift)

39: Stereo Vibrato

This effect causes the pitch of the input signal to shimmer. Using the AutoFade allows you to increase or decrease the shimmering speed.
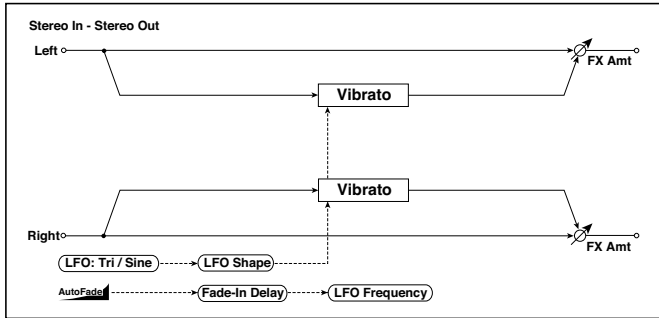
a	AUTOFADE Src	Off…Tempo	Selects the modulation source that starts AutoFade	
b	Fade-In Delay [msec]	00…2000	Sets the fade-in delay time	
	Fade-In Rate	1…100	Sets the rate of fade-in	
c	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100…+100	Changes the curvature of the LFO Waveform	
d	LFO Frequency Mod	D-mod, AUTOFADE	Switches between D-mod and AUTOFADE for the LFO frequency modulation	
e	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00…+20.00	Sets the modulation amount of LFO speed	

f	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♪ … 𝅝	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
g	Depth	0…100	Sets the depth of LFO modulation	
	Src	Off…Tempo	Selects the modulation source of the LFO modulation depth	
	Amt	−100…+100	Sets the modulation amount of the LFO modulation depth	
h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: AUTOFADE Src

b: Fade-In Delay [msec]

b: Fade-In Rate

d: LFO Frequency Mod

When "LFO Frequency Mod" is set to AUTOFADE, you can use the modulation source selected in "AUTOFADE Src" as a trigger to automatically fade in the modulation amount. When "MIDI Sync" is set to On, you cannot use this.

The "Fade-In Rate" parameter specifies the rate of fade-in. The "Fade-In Delay" parameter determines the time from AutoFade modulation source On until the fade-in starts.

The following is an example of fade-in where the LFO speed is increased from "1.0Hz" to "4.0Hz" when a note-on message is received.

AUTOFADE Src=Gate1, LFO Frequency Mod=AUTOFADE, LFO Frequency [Hz]=1.0, Amt=3.0

MIDI The effect is off when a value for the dynamic modulation source specified for the "AUTOFADE Src" parameter is smaller than 64, and the effect is

on when the value is 64 or higher. The AutoFade function is triggered when the value changes from 63 or smaller to 64 or higher.
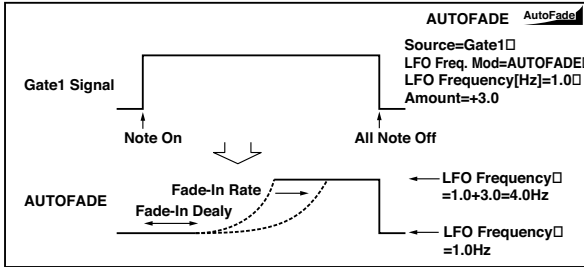
40: St. Auto Fade Mod. (Stereo Auto Fade Modulatiom)

This stereo chorus/flanger effect enables you to control the LFO speed and effect balance using auto fade, and you can spread the sound by offsetting the phase of the left and right LFOs from each other.
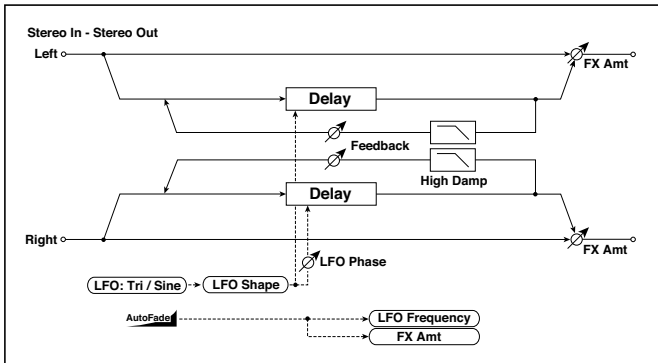
a	AUTOFADE Src	Off…Tempo	Selects the modulation source that starts AutoFade	
	Fade-In Delay [msec]	00…2000	Sets the fade-in delay time	
	Rate	1…100	Sets the rate of fade-in	
b	LFO Frequency Mod	D-mod, AUTOFADE	Switches between D-mod and AUTOFADE for the LFO frequency modulation	
	Wet/Dry Mod	D-mod, AUTOFADE	Switches between D-mod and AUTOFADE for the effect balance modulation	
c	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	–100…+100	Changes the curvature of the LFO Waveform	
d	LFO Phase [degree]	–180…+180	Sets the LFO phase difference between the left and right	
e	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00…+20.00	Sets the modulation amount of LFO speed	
f	L Delay Time [msec]	0.0…500.0	Sets the left channel delay time	
	R Delay Time [msec]	0.0…500.0	Sets the right channel delay time	
g	Depth	0…200	Sets the depth of LFO modulation	
h	Feedback	–100…+100	Sets the feedback amount	
	High Damp [%]	0…100	Sets the feedback damping amount in the high range	
i	Wet/Dry	-Wet, -1:99…Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

41: 2Voice Resonator

This effect resonates the input signal at a specified pitch. You can set the pitch, output level, and pan settings for two resonators individually. You can control the resonance intensity via an LFO.
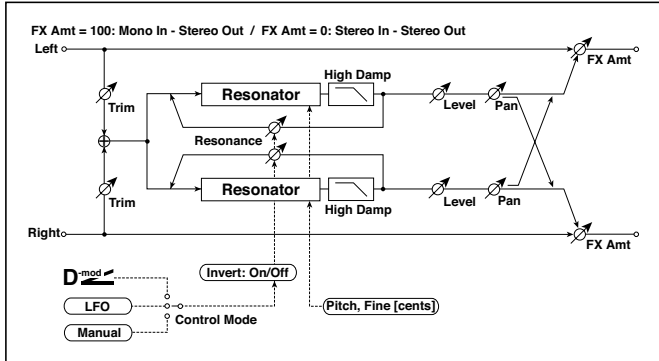
a	Control Mode	Manual, LFO, D-mod	Switches the controls of resonance intensity	
	LFO/D-mod Invert	Off, On	Reverses the Voice 1 and 2 control when LFO/D-mod is selected	
b	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	D-mod Src	Off…Tempo	Selects the modulation source that controls resonance intensity	
c	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♪…𝅝	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
d	Mod. Depth	–100…+100	Sets the amount of resonance intensity control via LFO/D-mod	
	Trim	0…100	Sets the input level at the resonator	
e	Voice1: Pitch	C0…B8	Sets the voice1 Pitch for resonance	
	Fine [cents]	–50…+50	Fine-adjusts the voice 1 pitch for resonance	
	Level	0…100	Sets the Voice1 output level	

f	Voice1: Resonance	−100…+100	Sets the intensity of resonance when Control Mode = Manual	
	High Damp [%]	0…100	Sets the damping amount of resonant sound in the high range	
	Pan	L6…L1, C, R1…R6	Sets the Voice1 stereo image	
g	Voice2: Pitch	C0…B8	Sets the voice 2 Pitch for resonance	
	Fine [cents]	−50…+50	Fine-adjusts the voice 2 pitch for resonance	
	Level	0…100	Sets the Voice2 output level	
h	Voice2: Resonance	−100…+100	Sets the intensity of resonance when Control Mode = Manual	
	High Damp [%]	0…100	Sets the damping amount of resonant sound in the high range	
	Pan	L6…L1, C, R1…R6	Sets the Voice2 stereo image	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Control Mode

f: Voice 1: Resonance

h: Voice 2: Resonance

This parameter determines the resonance intensity.

When "Control Mode" = Manual, the "Resonance" parameter sets the intensity of resonance. If the "Resonance" parameter has a negative value, harmonics will be changed, and resonance will occur at a pitch one octave lower.

When "Control Mode" = LFO, the intensity of resonance varies according to the LFO. The LFO sways between positive and negative values, causing resonance to occur between specified pitches an octave apart in turn.

When "Control Mode" = D-mod, the resonance is controlled by the dynamic modulation source. If JS X or Ribbon is assigned as the modulation source, the pitch an octave higher and lower can be controlled, similar to when LFO is selected for Control Mode.

a: LFO/D-mod Invert

When "Control Mode" = LFO or D-mod, the controlled phase of either Voice 1 or 2 will be reversed. When the resonance pitch is set for Voice 1 (Resonance

has a positive value), Voice 2 will resonate at a pitch an octave below (Resonance has a negative value).

f: Voice 1: Pitch

f: Fine [cents]

h: Voice 2: Pitch

h: Fine [cents]

The Pitch parameter specifies the pitch of resonance by note name. The "Fine" parameter allows for fine adjustment in steps of cents.

g: High Damp [%]

i: High Damp [%]

This sets the amount of damping amount for the high frequencies of the resonant sound. Lower values create a metallic sound with a higher range of harmonics.

42: Doppler

This effect simulates the "Doppler effect" of a moving sound with a changing pitch, similar to the siren of an passing ambulance. Mixing the effect sound with the dry sound will create a unique chorus effect.
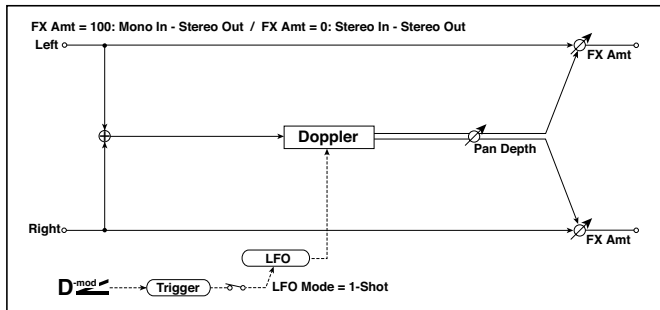
a	LFO Mode	Loop, 1-Shot	Switches LFO operation mode	
	Src	Off…Tempo	Selects the modulation source of LFO reset	
b	LFO Sync	Off, On	Switches between LFO reset on and off when LFO Mode is set to Loop	
c	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	−20.00… +20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	🎵Sync
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♩… ♪	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
e	Pitch Depth	0…100	Sets the pitch variation of the moving sound	
	Src	Off…Tempo	Selects the modulation source of pitch variation	
	Amt	−100…+100	Sets the modulation amount of pitch variation	
f	Pan Depth	−100…+100	Sets the panning of the moving sound	
	Src	Off…Tempo	Selects the modulation source of panning	
	Amt	−100…+100	Sets the modulation amount of panning	
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: LFO Mode

a: Src

b: LFO Sync

The "LFO Mode" parameter switches LFO operation mode. When Loop is selected, the Doppler effect will be created repeatedly. If "LFO Sync" is set to On, the LFO will be reset when the modulation source specified with the "Src" parameter is turned on.

When "LFO Mode" is set to 1-Shot, the Doppler effect is created only once when the modulation source specified in the "Src" field is turned on. At this time if you do not set the "Src" parameter, the Doppler effect will not be created, and no effect sound will be output.

MIDI The effect is off when a value for the modulation source specified for the "Src" parameter is smaller than 64, and the effect is on when the value is 64 or higher. The Doppler effect is triggered when the value changes from 63 or smaller to 64 or higher.

e: Pitch Depth

With the Doppler effect, the pitch is raised when the sound approaches, and the pitch is lowered when the sound goes away. This parameter sets this pitch variation.

f: Pan Depth

This parameter sets the width of the stereo image of the effect sound. With larger values, the sound seems to come and go from much further away. With positive values, the sound moves from left to right; with negative values, the sound moves from right to left.

Doppler - Pitch / Pan Depth
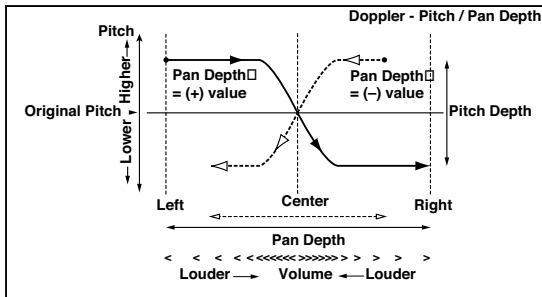
43: Scratch

This effect is applied by recording the input signal and moving the modulation source. It simulates the sound of scratches you can make using a turntable.
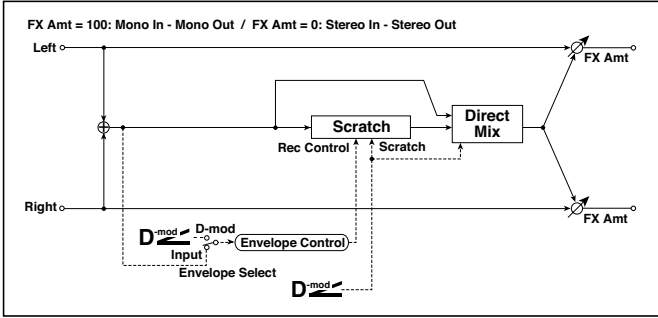
a	Scratch Source	Off…Tempo	Selects the modulation source for simulation control	
b	Response	0…100	Sets the speed of the response to the Scratch Src	
c	Envelope Select	D-mod, Input	Selects whether the start and end of recording is controlled via the modulation source or the input signal level	
	Src	Off…Tempo	Selects the modulation source that controls recording when Envelope Select is set to D-mod	
d	Threshold	0…100	Sets the recording start level when Envelope Select is set to Input	
e	Response	0…100	Sets the speed of the response to the end of recording	
f	Direct Mix	Always On, Always Off, Cross Fade	Selects how a dry sound is mixed	
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Scratch Source

b: Response

The Scratch Source parameter enables you to select the modulation source that controls simulation. The value of the modulation source corresponds to the playback position. The Response parameter enables you to set the speed of the response to the modulation source.
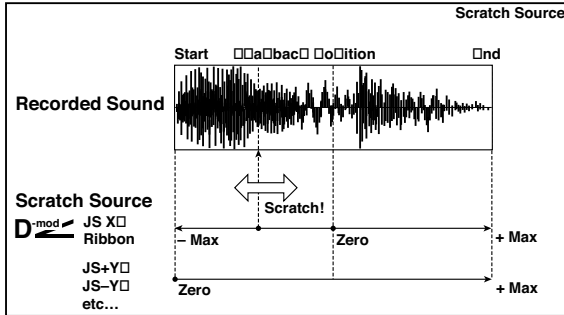
c: Envelope Select

c: Src

d: Threshold

When "Envelope Select" is set to D-mod, the input signal will be recorded only when the modulation source value is 64 or higher.

When "Envelope Select" is set to Input, the input signal will be recorded only when its level is over the Threshold value.

The maximum recording time is 2,730msec. If this is exceeded, the recorded data will start being erased from the top.

e: Response

This parameter enables you to set the speed of the response to the end of recording. Set a smaller value when you are recording a phrase or rhythm pattern, and set a higher value if you are recording only one note.

f: Direct Mix

With Always On, a dry sound is usually output. With Always Off, dry sounds are not output. With Cross Fade, a dry sound is usually output, and it is muted only when scratching.

Set Wet/Dry to 100 to use this parameter effectively.

44: Grain Shifter

This effect cuts extremely short samples ("grains") from the input signal waveform and plays them repeatedly, giving a mechanical character to the sound.

a	Duration	0…100	Sets the duration of the grain	
	Src	Off…Tempo	Selects the source that will modulate the duration of the grain	
	Amt	−100…+100	Sets the amount by which the grain duration will be modulated	
b	LFO Sync Src	Off…Tempo	Selects the modulation source that will reset the LFO	
c	LFO Sample Cycle [Hz]	0.02…20.00	Sets the frequency at which the grain will be switched	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	−20.00…+20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	🎵Sync
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	𝅘𝅥…𝅝	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	

e	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: Duration
c: LFO Sample Cycle [Hz]

Duration sets the length of the sampled grain, and the LFO Sample Cycle controls how often a new grain is sampled. In between Sample Cycles, the current grain is repeated continuously.
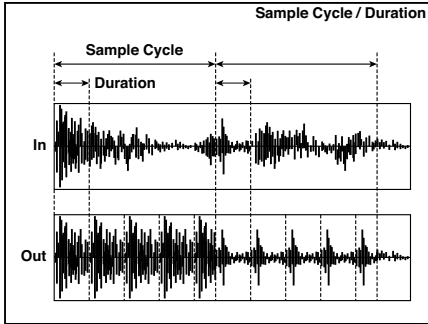
45: Stereo Tremolo

This effect modulates the volume level of the input signal. The effect is stereo, and offsetting the LFO of the left and right phases from each other produces a tremolo effect between left and right.

a	LFO Waveform	Triangle, Sine, Vintage, Up, Down	Selects the LFO Waveform	
	LFO Shape	−100…+100	Changes the curvature of the LFO Waveform	
b	LFO Phase [degree]	−180…+180	Sets the LFO phase difference between the left and right	
c	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	−20.00…+20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	♩=♪Sync
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♫…♩	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
e	Depth	0…100	Sets the depth of LFO modulation	
	Src	Off…Tempo	Selects the modulation source of the depth of modulation	
	Amt	−100…+100	Sets the modulation amount of the depth of modulation	

f	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: LFO Waveform

This parameter sets the basic shape of the LFO. The Vintage waveform models classic guitar-amp tremolo.

Tremolo - LFO Waveform
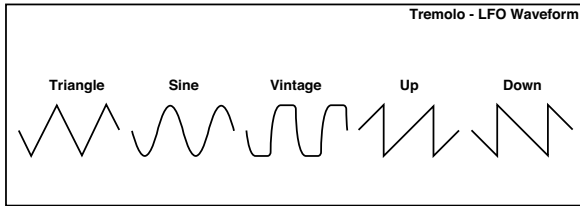
b: LFO Phase [degree]

This parameter determines the difference between the left and right LFO phases. A higher value will simulate the auto-pan effect in which the sound is panned between left and right.

46: St. Env. Tremolo (Stereo Envelope Tremolo)

This effect uses the input signal level to modulate a stereo tremolo (LFO volume modulation). For instance, you can create a tremolo effect that becomes deeper and faster as the input gets more quiet.
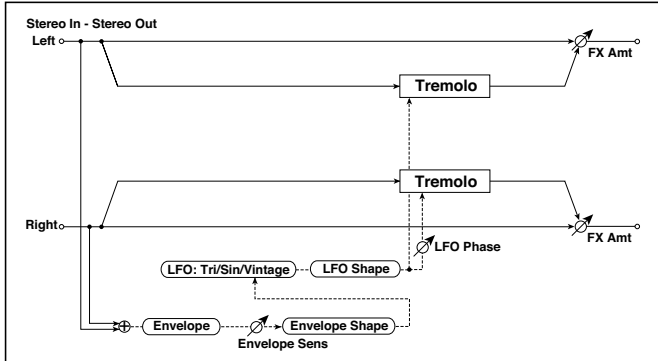
a	Envelope Sens	0…100	Sets the envelope's sensitivity to the input signal	
	Envelope Shape	−100…+100	Sets the envelope's curvature	
b	LFO Waveform	Triangle, Sine, Vintage	Selects the LFO Waveform	
	LFO Shape	−100…+100	Changes the curvature of the LFO Waveform	
c	LFO Phase [degree]	−180…+180	Sets the LFO phase difference between the left and right	
d	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Envelope Amount [Hz]	−20.00…+20.00	Sets the amount added to or subtracted from the Frequency when the envelope is at maximum	
e	Depth	0…100	Sets the initial amount of tremolo	
	Envelope Amount	−100…+100	Sets the amount added to or subtracted from the Depth when the envelope is at maximum	
f	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

d: LFO Frequency [Hz]

d: Envelope Amount [Hz]

e: Depth

e: Envelope Amount

The graphic below shows an example of tremolo modulation with negative modulation of both Depth and Frequency. At the start of the note, the input is at maximum volume. This slows down the LFO Frequency to 1.0Hz, but also modulates the Depth to O–so the tremolo doesn't have any effect.

As the input volume dies down, the Frequency speeds up; the Depth also increases, making the tremolo effect increasingly audible. When the input volume approaches silence, the Depth is at its maximum (100) and Frequency is at 8Hz.
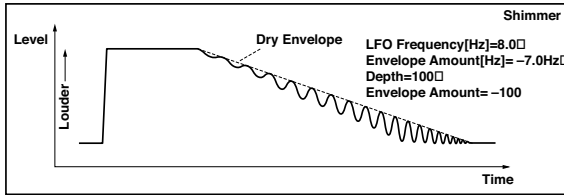
47: Stereo Auto Pan

This is a stereo-in, stereo-out auto-panner. The Phase and Shape parameters lets you create various panning effects, such as making the left and right inputs seem to chase each other around the stereo field.

a	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	−100…+100	Changes the curvature of the LFO Waveform	
b	LFO Phase [degree]	−180…+180	Sets the LFO phase difference between the left and right	
c	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	−20.00…+20.00	Sets the modulation amount of LFO speed	
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	♩Sync
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♪…♩	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
e	Depth	0…100	Sets the depth of LFO modulation	
	Src	Off…Tempo	Selects the modulation source of the depth of modulation	
	Amt	−100…+100	Sets the modulation amount of the depth of modulation	
f	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: LFO Shape

You can change the panning curve by modifying the LFO's Shape.

b: LFO Phase [degree]

This determines the phase difference between the left and right LFOs. When you gradually change the value away from 0, the sounds from the left and right channels will seem to chase each other around. If you set the parameter to +180 or −180, the sounds from each channel will cross over each other.

You'll only hear the effect of this parameter if the input is true stereo, with different signals in the left and right channels.
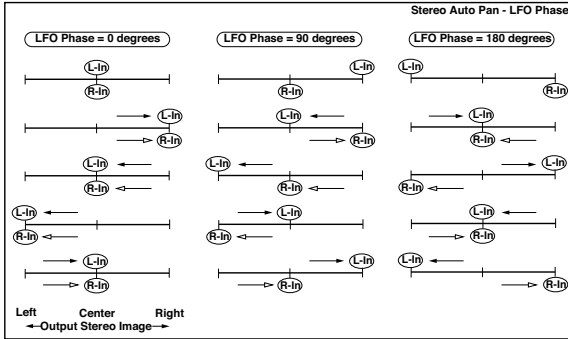
48: St. Phaser + Trml (Stereo Phaser + Tremolo)

This effect combines a stereo phaser and tremolo, with linked LFOs. Swelling phaser modulation and tremolo effects synchronize with each other, creating a soothing modulation effect particularly suitable for electric piano.
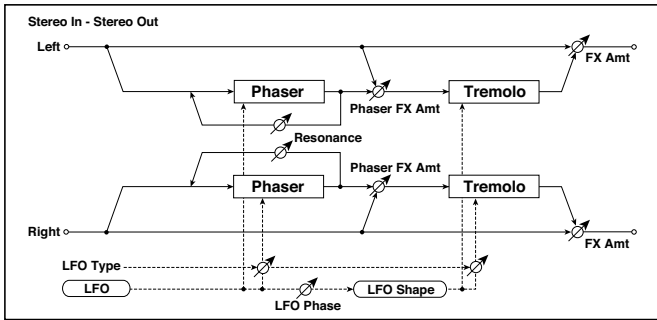
a	Type	Phs - Trml, … Phs LR - Trml LR	Selects the type of the tremolo and phaser LFOs Phaser - Tremolo, Phaser - Tremolo Spin, Phaser - Tremolo LR, Phaser LR - Tremolo, Phaser LR - Tremolo Spin, Phaser LR - Tremolo LR	
	LFO Phase [degree]	–180…+180	Sets the phase difference between the tremolo and phaser LFOs	

b	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	−20.00… +20.00	Sets the LFO speed modulation amount	
c	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	♩Sync
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♪…	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
d	Phaser Manual	0…100	Sets the phaser frequency range	
	Resonance	−100…+100	Sets the phaser resonance amount	
e	Phaser Depth	0…100	Sets the phaser modulation depth	
	Src	Off…Tempo	Selects the modulation source for the phaser modulation depth	
	Amt	−100…+100	Sets the modulation amount for the phaser modulation depth	
f	Phaser Wet/Dry	−Wet, −2 : 98… Dry… 2 : 98, Wet	Sets the balance between the phaser effect and dry sounds	
g	Tremolo Shape	−100…+100	Sets the degree of the tremolo LFO shaping	
h	Tremolo Depth	0…100	Sets the tremolo modulation depth	
	Src	Off…Tempo	Selects the modulation source for the tremolo modulation depth	
	Amt	−100…+100	Sets the modulation amount of the tremolo modulation depth	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Type

a: LFO Phase [degree]

Select the type of phaser LFO and tremolo LFO for the "Type" parameter. How the effect sound moves or rotates depends on the type of LFO. Selecting "LFO Phase" enables you to offset the timing of the phaser peak and control a subtle movement and rotation of the sound.

f: Phaser Wet/Dry

i: Wet/Dry

PHASER Wet/Dry sets the balance between the phaser output and the dry sound. OUTPUT Wet/Dry sets the balance between the final phaser and tremolo output level and the dry sound.

49: St. Ring Modulator (Stereo Ring Modulator)

This effect creates a metallic sound by applying the oscillators to the input signal. Use the LFO or Dynamic Modulation to modulate the oscillator to create a radical modulation. Matching the oscillator frequency with a note number will produce a ring modulation effect in specific key ranges.
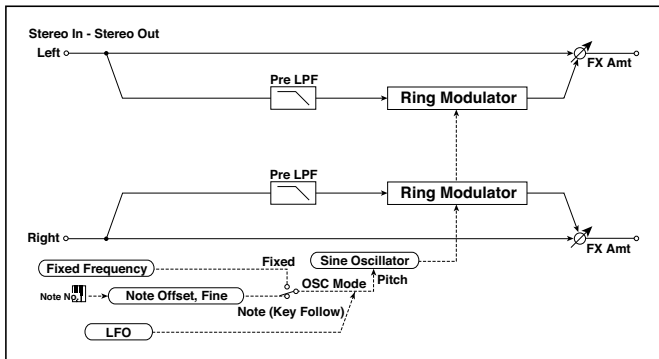
a	OSC Mode	Fixed, Note (Key Follow)	Switching between specifying the oscillator frequency and using a note number	
	Pre LPF	0…100	Sets the damping amount of the high range input to the ring modulator	
b	Fixed Frequency [Hz]	0…12.00k	Sets the oscillator frequency when OSC Mode is set to Fixed	
	Src	Off…Tempo	Selects the modulation source for the oscillator frequency when OSC Mode is set to Fixed	
	Amt	–12.00k… +12.00k	Sets the modulation amount of the oscillator frequency when OSC Mode is set to Fixed	
c	Note Offset	–48…+48	Sets the pitch difference from the original note when OSC Mode is set to Note (Key Follow)	
	Note Fine	–100…+100	Fine-adjusts the oscillator frequency	
d	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Src	Off…Tempo	Selects a modulation source for LFO speed	
	Amt	–20.00… +20.00	Sets the modulation amount of LFO speed	
e	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	◢Sync
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♪…♩	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
f	LFO Depth	0…100	Sets the depth of LFO modulation for the oscillator frequency	
	Src	Off…Tempo	Selects the modulation source of the depth of modulation	
	Amt	–100…+100	Sets the modulation amount of the depth of modulation	
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: OSC Mode

This parameter determines whether or not the oscillator frequency follows the note number.

a: Pre LPF

This parameter enables you to set the damping amount of the high range sound input to the ring modulator. If the input sound contains lots of harmonics, the effect may sound dirty. In this case, cut a certain amount of high range.

b: Fixed Frequency [Hz]

This parameter sets the oscillator frequency when "OSC Mode" is set to Fixed.

c: Note Offset

c: Note Fine

These parameters for the oscillator are used when "OSC Mode" is set to Note (Key Follow). The "Note Offset" sets the pitch difference from the original note in semitone steps. The "Note Fine" parameter fine-adjusts the pitch in cent steps. Matching the oscillator frequency with the note number produces a ring modulation effect in the correct key.

50: Detune

Using this effect, you can obtain a detune effect that offsets the pitch of the effect sound slightly from the pitch of the input signal. Compared to the chorus effect, a more natural sound thickness will be created.

FX Amt = 100: Mono In - Mono Out / FX Amt = 0: Stereo In - Stereo Out
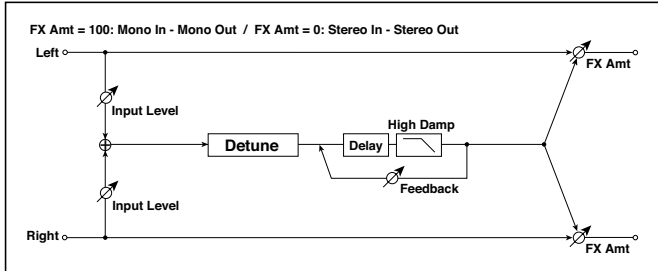
a	Pitch Shift [cents]	−100…+100	Sets the pitch difference from the input signal
	Src	Off…Tempo	Selects a modulation source for pitch shift
	Amt	−100…+100	Sets the modulation amount for pitch shift
b	Delay Time [msec]	0…1000	Sets the delay time
c	Feedback	−100…+100	Sets the feedback amount
	High Damp [%]	0…100	Sets the damping amount in the high range
d	Input Level Dmod [%]	−100…+100	Sets the modulation amount of the input level
	Src	Off…Tempo	Selects the modulation source for the input level
e	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

d: Input Level Dmod [%]

d: Src

This parameter sets the dynamic modulation of the input level.
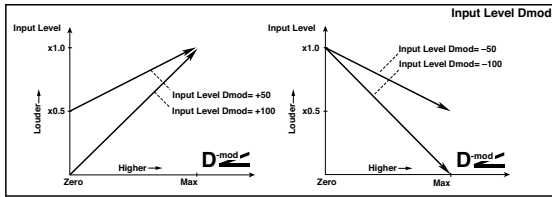
51: Pitch Shifter

This effect changes the pitch of the input signal. You can select from three types: Fast (quick response), Medium, and Slow (preserves tonal quality). You can also create an effect in which the pitch is gradually raised (or dropped) using the delay with feedback.
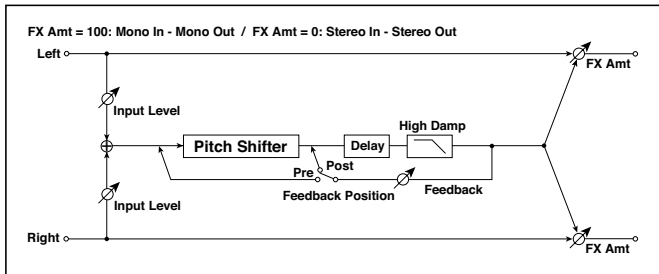
a	Mode	Slow, Medium, Fast	Switches Pitch Shifter mode	
b	Pitch Shift [1/2tone]	−24…+24	Sets the pitch shift amount by steps of a semitone	
	Src	Off…Tempo	Selects the modulation source of pitch shift amount	
	Amt	−24…+24	Sets the modulation amount of pitch shift amount	
c	Fine [cents]	−100…+100	Sets the pitch shift amount by steps of a cent	
	Amt	−100…+100	Sets the modulation amount of pitch shift amount	
d	Delay Time [msec]	0…2000	Sets the delay time	

e	Feedback Position	Pre, Post	Switches the feedback connection	
f	Feedback	–100…+100	Sets the feedback amount	
	High Damp [%]	0…100	Sets the damping amount in the high range	
g	Input Level Dmod [%]	–100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	
h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: Mode

This parameter switches the pitch shifter operating mode. With Slow, tonal quality will not be changed too much. With Fast, the effect becomes a Pitch Shifter that has a quick response, but may change the tone. Medium is in-between these two. If you do not need to set too much pitch shift amount, set this parameter to Slow. If you wish to change the pitch significantly, use Fast.

b: Pitch Shift [1/2tone]

b: Src

b: Amt

c: Fine [cents]

c: Amt

The amount of pitch shift will use the value of the Pitch Shift plus the Fine value. The amount of modulation will use the b: Amt value plus the c: Amt.

The same Modulation Source is used for both Pitch Shift and Fine.

e: Feedback Position

f: Feedback

When Feedback Position is set to Pre, the pitch shifter output is again input to the pitch shifter. Therefore, if you specify a higher value for the Feedback parameter, the pitch will be raised (or lowered) more and more each time feedback is repeated.

If **Feedback Position** is set to **Post**, the feedback signal will not pass through the pitch shifter again. Even if you specify a higher value for the **Feedback** parameter, the pitch-shifted sound will be repeated at the same pitch.

52: Pitch Shifter BPM

This pitch shifter enables you to set the delay time to match the song tempo.

a	Mode	Slow, Medium, Fast	Switches Pitch Shifter mode	
b	Pitch Shift [1/2tone]	–24…+24	Sets the pitch shift amount in steps of a semitone	
	Src	Off…Tempo	Selects the modulation source of pitch shift amount	
	Amt	–24…+24	Sets the modulation amount of pitch shift amount	
c	Fine [cents]	–100…+100	Sets the pitch shift amount in steps of one cent	
	Amt	–100…+100	Sets the modulation amount of pitch shift amount	
d	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	♩Sync
	Time Over?	---, OVER!	Displays an error message when the delay time exceeds the upper limit	
e	Delay Base Note	♩…	Selects the type of notes to specify the delay time	
	Times	x1…x32	Sets the number of notes to specify the delay time	
f	Feedback Position	Pre, Post	Switches the feedback connection	

g	Feedback	−100…+100	Sets the feedback amount	
	High Damp [%]	0…100	Sets the damping amount in the high range	
h	Input Level Dmod [%]	−100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

d: BPM

e: Delay Base Note

e: Times

The delay time is the duration of "Times" number of "Delay Base Note" note values at the "BPM" tempo (or if "BPM" is set to MIDI, the tempo determined by MIDI Clock).

d: Time Over?

You can set the delay time up to 5,290msec. If the delay time exceeds this limit, the error message "OVER!" appears on the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

53: Pitch Shift Mod. (Pitch Shift Modulation)

This effect modulates the detuned pitch shift amount using an LFO, adding a clear spread and width to the sound by panning the effect sound and dry sound to the left and right. This is especially effective when the effect sound and dry sound output from stereo speakers are mixed.

a	Pitch Shift [cents]	–100…+100	Sets the pitch difference from the input signal
b	LFO Waveform	Triangle, Square	Selects the LFO Waveform
c	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	Src	Off…Tempo	Selects a modulation source for LFO speed
	Amt	–20.00…+20.00	Sets the modulation amount of LFO speed
d	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect
	Base Note	♩ … 𝅗𝅥	Selects the type of notes that specify the LFO speed
	Times	x1…x32	Sets the number of notes that specify the LFO speed
e	Depth	–100…+100	Sets the LFO modulation depth for pitch shift amount
	Src	Off…Tempo	Selects the modulation source of the depth of modulation
	Amt	–100…+100	Sets the modulation amount of the depth of modulation
f	Pan	L, 1 : 99…99 : 1, R	Sets the panning effect sound and dry sound separately

g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: Pitch Shift [cents]

e: Depth

These parameters set the amount of pitch shift and amount of modulation by means of the LFO.
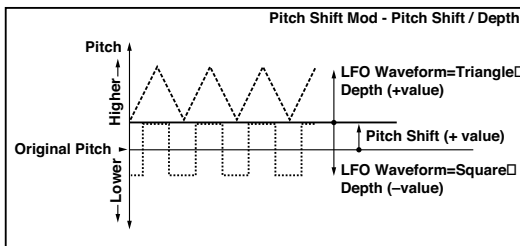
g: Pan

h: Wet/Dry

The Pan parameter pans the effect sound and dry sound to the left and right. With L, the effect sound is panned left, and the dry sound is panned right. With a Wet/Dry = Wet setting, the effect and dry sound will be output in a proportion of 1:1.

54: Organ Vib/Chorus (Organ Vibrato/Chorus)

This effect simulates the chorus and vibrato circuitry of a vintage organ. The modulation speed and depth can be customized.
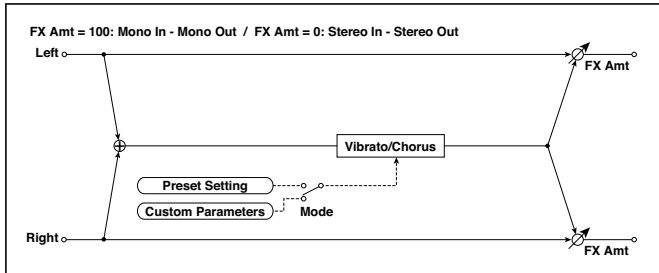
a	Input Trim	0…100	Sets the input level		
b	Control Mode	Preset, Custom	Selects either preset or custom settings		
c	Preset Type	V1, C1, V2, C2, V3, C3	Selects the effect type when Mode=Preset		
			V1/V2/V3 are variations of vibrato, and C1/C2/C3 are variations of chorus		
	Src	Off…Tempo	Selects the modulation source that will change the effect type		
	Amt	−5…+5	Sets the modulation amount for changing the effect type		
d	Custom Mix	Vibrato, 1:99…99:1, Chorus	Sets the mix level of the direct sound when Mode=Preset		
	Src	Off…Tempo	Selects the modulation source that will control the mix level of the direct sound		
	Amt	−100…+100	Sets the modulation amount for controlling the mix level of the direct sound		
e	Custom Depth	0…100	Sets the vibrato depth		
	Src	Off…Tempo	Selects the modulation source that will control vibrato depth		
	Amt	−100…+100	Sets the modulation amount for controlling the vibrato depth		
f	Custom Speed [Hz]	0.02…20.00	Sets the vibrato speed		
	Src	Off…Tempo	Selects the modulation source for controlling the vibrato speed		
	Amt	−20.00…+20.00	Sets the modulation amount for controlling the vibrato speed		

g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

b: Control Mode

c: Preset Type

d: Custom Mix

e: Custom Depth

f: Custom Speed [Hz]

If Control Mode=Preset, you can use c: Preset Type to select the effect. In this case, the Custom Mix/Depth/Speed settings are ignored. If Control Mode=Custom, the Custom Mix/Depth/Speed settings are valid, and the c: Preset Type setting is ignored.

c: Amt

If Preset Type=V1 and Src=JS+Y, you can set this to +5 and move JS +Y to control the effect in the order of V1›C1›V2›C2›V3›C3.

55: Rotary Speaker

This effect simulates a rotary speaker, and obtains a more realistic sound by simulating the rotor in the low range and the horn in the high range separately. The effect also simulates the stereo microphone settings.
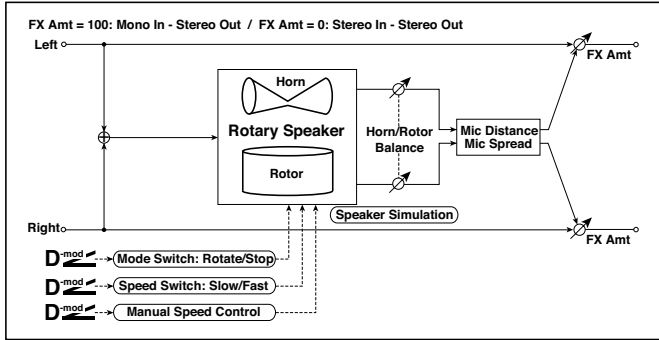
a	Mode Switch	Rotate, Stop	Switches between speaker rotation and stop	
	Src	Off…Tempo	Selects a modulation source for Rotate/Stop	
	Mode	Toggle, Moment	Sets the switch mode for Rotate/Stop modulation	
b	Speed Switch	Slow, Fast	Switches the speaker rotation speed between slow and fast	
	Src	Off…Tempo	Selects a modulation source for Slow/Fast	
	Mode	Toggle, Moment	Sets the switch mode for Slow/Fast modulation	
c	Manual Speed Ctrl	Off…Tempo	Sets a modulation source for direct control of rotation speed	
d	Hore Acceleration	0…100	How quickly the horn rotation speed in the high range is switched	
	Hore Ratio	Stop, 0.50…2.00	Adjusts the (high-range side) horn rotation speed. Standard value is 1.00. Selecting "Stop" will stop the rotation	
e	Rotor Acceleration	0…100	Determines how quickly the rotor rotation speed in the low range is switched	
	Rotor Ratio	Stop, 0.50…2.00	Adjusts the (low-frequency) rotor speed. Standard value is 1.00. Selecting "Stop" will stop the rotation	
f	Horn/Rotor Balance	Rotor, 1…99, Horn	Sets the level balance between the high-frequency horn and low-frequency rotor	

g	Mic Distance	0…100	Sets the distance between the microphone and rotary speaker	
	Mic Spread	0…100	Sets the angle of left and right microphones	
h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: Mode

This parameter sets how the modulation source switches between rotation and stop.

When Mode = Toggle, the speaker rotates or stops alternately each time you press the pedal or move the joystick. Via MIDI, rotation will switch between start and stop each time the modulation amount exceeds 64.

When Mode = Moment, the speaker rotates by default, and stops only when you press the pedal or move the joystick. Via MIDI, modulation values above 64 make the speaker rotate, and values below 64 make it stop.

b: Speed Switch

This parameter controls how the rotation speed (slow and fast) is switched via the modulation source.

When Mode = Toggle, the speed will switch between slow and fast each time you press the pedal or move the joystick. Via MIDI, the speed will switch each time the modulation amount exceeds 64.

When Mode = Moment, the speed is usually slow. It becomes fast only when you press the pedal or move the joystick. Via MIDI, modulation values above 64 set the speed to Fast, and values below 64 set it to Slow.

c: Manual Speed Ctrl

If you wish to control the rotation speed manually, instead of switching between Slow and Fast, select a modulation source in the Manual Speed Ctrl parameter. If you don't want to use manual control, set this to Off.

d: Horn Acceleration

e: Rotor Acceleration

On a real rotary speaker, the rotation speed accelerates or decelerates gradually after you switch the speed. The Horn and Rotor Acceleration parameters set the transition times between fast and slow speeds.

g: Mic Distance

g: Mic Spread

This is a simulation of stereo microphone settings.
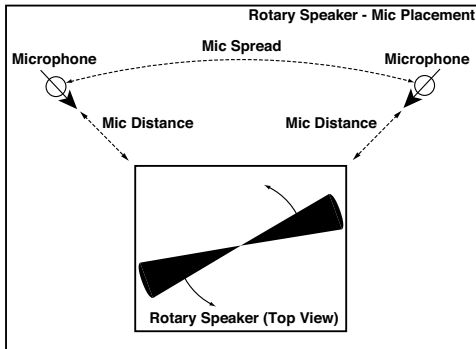
Delay

56: L/C/R Delay

This multitap delay outputs three Tap signals to the left, right, and center respectively. You can also adjust the left and right spread of the delay sound.

a	L Delay Time [msec]	0…2730	Sets the delay time of TapL
	Level	0…50	Sets the output level of TapL
b	C Delay Time [msec]	0…2730	Sets the delay time of TapC
	Level	0…50	Sets the output level of TapC
c	R Delay Time [msec]	0…2730	Sets the delay time of TapR
	Level	0…50	Sets the output level of TapR
d	Feedback (C Delay)	−100…+100	Sets the feedback amount of TapC
	Src	Off…Tempo	Selects the modulation source of the TapC feedback amount
	Amt	−100…+100	Sets the modulation amount of the TapC feedback amount
e	High Damp [%]	0…100	Sets the damping amount in the high range
	Low Damp [%]	0…100	Sets the damping amount in the low range
f	Input Level Dmod [%]	−100…+100	Sets the modulation amount of the input level
	Src	Off…Tempo	Selects the modulation source for the input level
g	Spread	0…50	Sets the width of the stereo image of the effect sound

h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

e: High Damp [%]
e: Low Damp [%]

These parameters set the damping amount of high range and low range. The tone of the delayed sound becomes darker and lighter as it feeds back.

g: Spread

This parameter sets the pan width of the effect sound. The stereo image is widest with a value of 50, and the effect sound of both channels is output from the center with a value of 0.

57: Stereo/CrossDelay

This is a stereo delay, and can by used as a cross-feedback delay effect in which the delay sounds cross over between the left and right by changing the feedback routing.

a	Stereo/Cross	Stereo, Cross	Switches between stereo delay and cross-feedback delay	
b	L Delay Time [msec]	0.0…1360.0	Sets the delay time for the left channel	
c	R Delay Time [msec]	0.0…1360.0	Sets the delay time for the right channel	

d	L Feedback	–100…+100	Sets the feedback amount for the left channel	
	Src	Off…Tempo	Selects the modulation source of feedback amount	
	Amt L	–100…+100	Sets the modulation amount of the left channel feedback	
e	R Feedback	–100…+100	Sets the feedback amount for the right channel	
	Amt R	–100…+100	Sets the modulation amount of the right channel feedback	
f	High Damp [%]	0…100	Sets the damping amount in the high range	
g	Low Damp [%]	0…100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	–100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	
i	Spread	–50…+50	Sets the width of the stereo image of the effect sound	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

58: St. Multitap Delay (Stereo Multitap Delay)

The left and right Multitap Delays have two taps respectively. Changing the routing of feedback and tap output allows you to create various patterns of complex effect sounds.
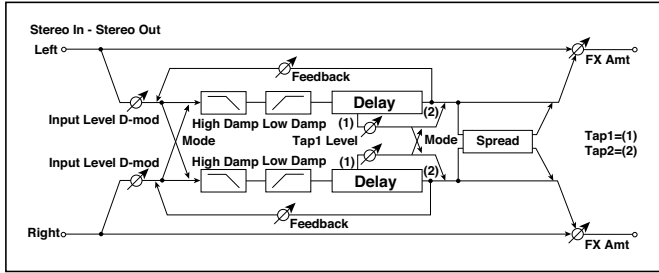
a	Mode	Normal, Cross Feedback, Cross Pan1, Cross Pan2	Switches the left and right delay routing	
b	Tap1 Time [msec]	0.0…1360.0	Sets the Tap1 delay time	
c	Tap2 Time [msec]	0.0…1360.0	Sets the Tap2 delay time	
d	Tap1 Level	0…100	Sets the Tap1 output level	
e	Feedback (Tap2)	−100…+100	Sets the Tap2 feedback amount	
	Src	Off…Tempo	Selects the modulation source of the Tap2 feedback amount	
	Amt	−100…+100	Sets the modulation amount of the Tap2 feedback amount	
f	High Damp [%]	0…100	Sets the damping amount in the high range	
g	Low Damp [%]	0…100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	−100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	
i	Spread	−100…+100	Sets the width of the stereo image of the effect sound	
	Src	Off…Tempo	Selects the modulation source of the effect sound's stereo image width	
	Amt	−100…+100	Sets the modulation amount of the effect sound's stereo image width	

j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Mode

You can change how the left and right delay signals are panned by modifying the routing of the left and right delay as shown in the figure above. You need to input different sounds to each channel in order for this parameter to be effective.

d: Tap1 Level

This parameter sets the output level of Tap1. Setting a different level from Tap2 will add a unique touch to a monotonous delay and feedback.

59: St. Mod Delay (Stereo Modulation Delay)

This stereo delay uses an LFO to sweep the delay time. The pitch also varies, creating a delay sound which swells and shimmers. You can also control the delay time using a modulation source.

a	Modulation Mode	LFO, D-mod	Switches between LFO modulation control and modulation source control
b	D-mod Modulation	L/R:+/+, L/R:+/–	Reversed L/R control by modulation source
	Src	Off…Tempo	Selects the modulation source that controls delay time
	Response	0…30	Sets the rate of response to the modulation source
c	LFO Waveform	Triangle, Sine	Selects the LFO Waveform
	LFO Shape	–100…+100	Changes the curvature of the LFO Waveform
d	LFO Sync	Off, On	Switches LFO reset off/on
	Src	Off…Tempo	Selects the modulation source that resets the LFO
e	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO

f	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	
	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	𝅘𝅥…𝅝	Selects the type of notes that specify the LFO speed	
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
g	L LFO Phase [deg]	–180…+180	Sets the phase obtained when the left LFO is reset	
	L Depth	0…200	Sets the depth of the left LFO modulation	
h	R LFO Phase [deg]	–180…+180	Sets the phase obtained when the right LFO is reset	
	R Depth	0…200	Sets the depth of the right LFO modulation	
i	L Delay Time [msec]	0.0…1000.0	Sets the delay time for the left channel	
	L Feedback	–100…+100	Sets the feedback amount of left delay	
j	R Delay Time [msec]	0.0…1000.0	Sets the delay time for the right channel	
	R Feedback	–100…+100	Sets the feedback amount of right delay	
k	Wet/Dry	-Wet, -1:99…Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

b: D-mod Modulation

When the modulation source is used for control, this parameter reverses the left and right modulation direction.

d: LFO Sync

d: Src

g: L LFO Phase [deg]

h: R LFO Phase [deg]

If "LFO Sync" is On, the LFO will be reset by the modulation source that is received.

The "Src" parameter sets the modulation source that resets the LFO. For example, you can assign Gate as a modulation source so that the sweep always starts from the specified point.

"L LFO Phase" and "R LFO Phase" set the phase obtained when the left and right LFOs are reset. In this way, you can create changes in pitch sweep for the left and right channels individually.

MIDI The effect is off when a value of the modulation source specified in the "Src" parameter is 63 or smaller, and the effect is on when the value is 64 or higher. The LFO is triggered and reset to the "L LFO Phase" and "R LFO Phase" settings when the value changes from 63 or smaller to 64 or higher.

60: St. Dynamic Delay (Stereo Dynamic Delay)

This stereo delay controls the level of delay according to the input signal level. You can use this as a ducking delay that applies delay to the sound only when you play keys at a high velocity or only when the volume level is low.
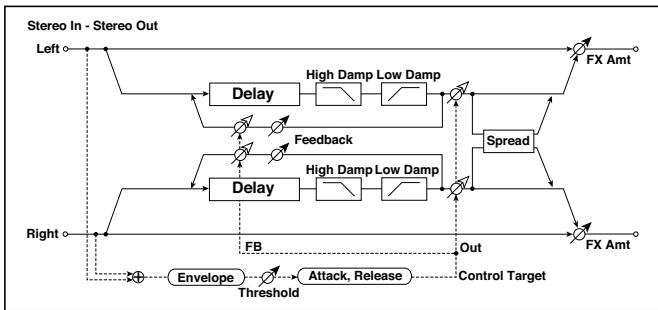
	Control Target	None, Out, FB	Selects from no control, output, and feedback
a			
	Polarity	+, −	Reverses level control
b	Threshold	0…100	Sets the level to which the effect is applied
	Offset	0…100	Sets the offset of level control
c	Attack	1…100	Sets the attack time of level control
d	Release	1…100	Sets the release time of level control
e	L Delay Time [msec]	0.0…1360.0	Sets the delay time for the left channel
f	R Delay Time [msec]	0.0…1360.0	Sets the delay time for the right channel
g	Feedback	−100…+100	Sets the feedback amount

h	High Damp [%]	0…100	Sets the damping amount in the high range	
	Low Damp [%]	0…100	Sets the damping amount in the low range	
i	Spread	–100…+100	Sets the width of the stereo image of the effect sound	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: Control Target

This parameter selects no level control, delay output control (effect balance), or feedback amount control.

a: Polarity

b: Threshold

b: Offset

c: Attack

d: Release

The "Offset" parameter specifies the value for the "Control Target" parameter (that is set to None), expressed as the ratio relative to the parameter value (the "Wet/Dry" value with "Control Target"=Output level, or the "Feedback" value with "Control Target"=Feedback).

When "Polarity" is positive, the "Control Target" value is obtained by multiplying the parameter value by the "Offset" value (if the input level is below the threshold), or equals the parameter value if the input level exceeds the threshold.

When "Polarity" is negative, Control Target value equals the parameter value if the input level is below the threshold, or is obtained by multiplying the parameter value by the "Offset" value if the level exceeds the threshold.

The "Attack" and "Release" parameters specify attack time and release time of delay level control.
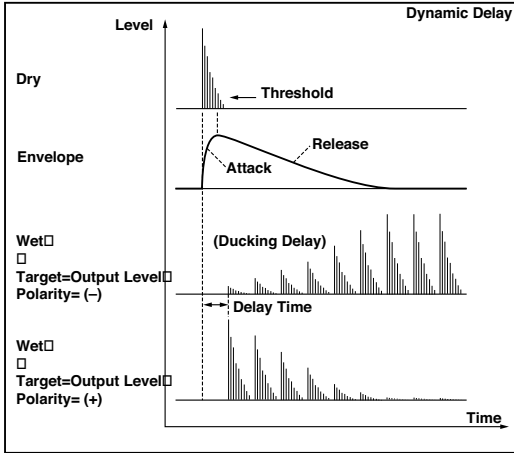
61: St. AutoPanningDly (Stereo Auto Panning Delay)

This stereo delay effect pans the delay sound left and right using the LFO.

a	L Delay Time [msec]	0.0…1360.0	Sets the delay time for the left channel	
	L Feedback	−100…+100	Sets the feedback amount for the left channel	
b	R Delay Time [msec]	0.0…1360.0	Sets the delay time for the right channel	
	R Feedback	−100…+100	Sets the feedback amount for the right channel	
c	High Damp [%]	0…100	Sets the damping amount in the high range	
	Low Damp [%]	0…100	Sets the damping amount in the low range	
d	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	−100…+100	Changes the curvature of the LFO Waveform	
e	Phase [degree]	−180…+180	Sets the LFO phase difference between the left and right	
f	Panning Freq [Hz]	0.02…20.00	Sets the panning speed	
g	MIDI Sync	Off, On	Switches between using the frequency of the panning speed and using the tempo and notes	♩=♩ Sync
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♩… ♩	Selects the type of notes to specify the delay time for the panning speed	
	Times	x1…x32	Sets the number of notes to specify the delay time for the panning speed	
h	Panning Depth	0…100	Sets the panning width	
	Src	Off…Tempo	Selects the modulation source for the panning width	
	Amt	−100…+100	Set the modulation amount of the panning width	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

62: Tape Echo

This effect simulates a tape echo unit with three playback heads. The distortion and tonal change typical of magnetic tape are also reproduced.
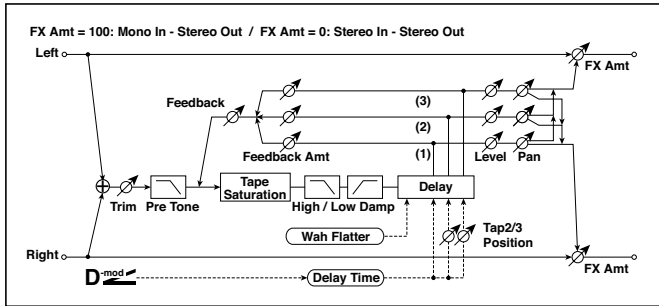
a	Delay (Tap1) [msec]	0…2700	Sets the delay time (tap1)
	Src	Off…Tempo	Selects the modulation source of the delay time
	Amt	−2700…+2700	Sets the modulation amount of delay time
b	Tap2 Position [%]	0…100	Sets the position of Tap 2 relative to the Tap 1 delay time the depth of pitch variation
c	Tap3 Position [%]	0…100	Sets the position of Tap 3 relative to the Tap 1 delay time the depth of pitch variation
d	Tap1 Level	0…100	Sets the Tap1 output level
	Pan	L, 1…99, R	Sets the stereo image of tap1
	FB Amt	−100…+100	Sets the Tap1 feedback amount
e	Tap2 Level	0…100	Sets the Tap2 output level
	Pan	L, 1…99, R	Sets the stereo image of tap2
	FB Amt	−100…+100	Sets the Tap2 feedback amount
f	Tap3 Level	0…100	Sets the Tap3 output level
	Pan	L, 1…99, R	Sets the stereo image of tap3
	FB Amt	−100…+100	Sets the Tap3 feedback amount
g	Feedback	0…100	Sets the amount of feedback for Taps 1, 2, and 3
	Src	Off…Tempo	Selects the modulation source of feedback amount
	Amt	−100…+100	Sets the feedback amount

h	High Damp [%]	0…100	Sets the damping amount in the high range	
	Low Damp [%]	0…100	Sets the damping amount in the low range	
i	Saturation	0…100	Sets the distortion amount	
j	Input Trim	0…100	Sets the input gain	
	Pre Tone	0…100	Sets the tone of the input	
k	Wow Flutter [Hz]	0.02…1.00	Sets the frequency at which pitch variation will occur	
	Wow Flutter depth	0…100	Sets the depth of pitch variation	
l	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Delay (Tap1) [msec]

a: Src

a: Amt

b: Tap2 Position [%]

b: Tap3 Position [%]

The delay time for Tap 2 and 3 is specified as a proportion (%) relative to "Delay (Tap1)." Even if you use dynamic modulation to control "Delay (Tap1)," Tap 2 and 3 will change at the same proportion.

d: FB Amt

e: FB Amt

f: FB Amt

g: Feedback

The feedback output from Tap 1, 2, and 3 is mixed according to the "FB Amt," and then the final amount of feedback is specified by "Feedback."

63: Auto Reverse

This effect records the input signal and automatically plays it in reverse (the effect is similar to a tape reverse sound).
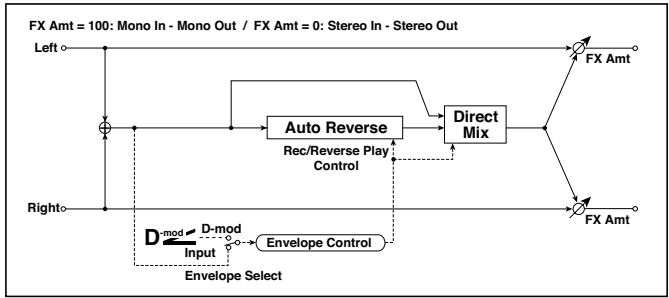
a	Rec Mode	Single, Multi	Sets the recording mode	
b	Reverse Time [msec]	20…2640	Sets the maximum duration of the reverse playback	
c	Envelope Select	D-mod, Input	Selects whether the start and end of recording is controlled via the modulation source or the input signal level	
	Src	Off…Tempo	Selects the modulation source that controls recording when Envelope Select is set to D-mod	
d	Threshold	0…100	Sets the recording start level when Envelope Select is set to Input	
e	Response	0…100	Sets the speed of the response to the end of recording	
f	Direct Mix	Always On, Always Off, Cross Fade	Selects how a dry sound is mixed	
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Rec Mode

b: Reverse Time [msec]

When "Rec Mode" is set to Single, you can set up to 2,640msec for "Reverse Time." If recording starts during the reverse playback, the playback will be interrupted.

When "Rec Mode" is set to Multi, you can make another recording during the reverse playback. However, the maximum Reverse Time is limited to 1,320msec.

If you wish to record a phrase or rhythm pattern, set "Rec Mode" to Single. If you record only one note, set "Rec Mode" to Multi.

The "Reverse Time" parameter specifies the maximum duration of the reverse playback. The part in excess of this limit will not be played in reverse. If you wish to add short pieces of the reverse playback of single notes, make the "Reverse Time" shorter.
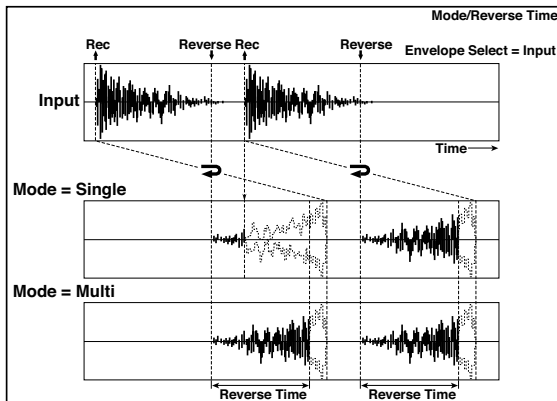
c: Envelope Select

c: Src

d: Threshold

These parameters select the source to control the start and end of recording.

When "Envelope Select" is set to D-mod, the input signal will be recorded only when the value of the modulation source selected by the Src parameter is 64 or higher.

When "Envelope Select" is set to Input, the input signal will be recorded only when its level exceeds the Threshold level.

When recording is completed, reverse playback starts immediately.

64: Sequence BPM Dly (Sequence BPM Delay)

This four-tap delay enables you to select a tempo and rhythm pattern to set up each tap.
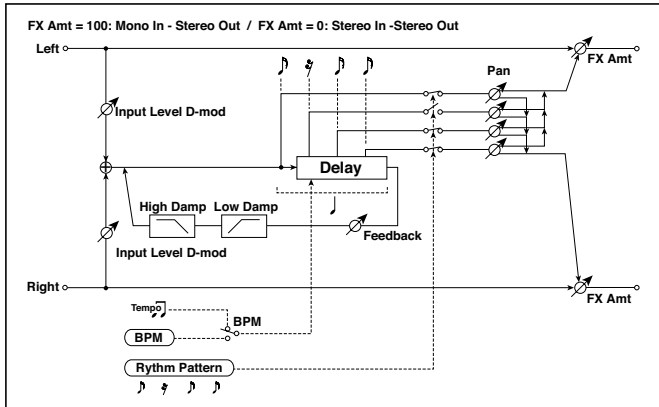
a	BPM	MIDI, 40.00…300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
b	Rhythm Pattern	♪…♪♪♪♪₃	Selects a rhythm pattern	
c	Tap1 Pan	L, 1…99, R	Sets the panning of Tap1	
	Tap2 Pan	L, 1…99, R	Sets the panning of Tap2	
	Tap3 Pan	L, 1…99, R	Sets the panning of Tap3	
	Tap4 Pan	L, 1…99, R	Sets the panning of Tap4	
d	Feedback	–100…+100	Sets the feedback amount	
	Src	Off…Tempo	Selects the modulation source of feedback amount	
	Amt	–100…+100	Sets the feedback amount	
e	High Damp [%]	0…100	Sets the damping amount in the high range	
	Low Damp [%]	0…100	Sets the damping amount in the low range	
f	Input Level Dmod [%]	–100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	

g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: BPM

b: Rhythm Pattern

With the tempo specified by the "BPM" parameter (or the MIDI Clock tempo if "BPM" is set to MIDI), the length of one beat equals the feedback delay time, and the interval between taps becomes equal. Selecting a rhythm pattern will automatically turn the tap outputs on and off. When "BPM" is set to MIDI, the lower limit of the "BPM" is 44.

65: L/C/R BPM Delay

The L/C/R delay enables you to match the delay time with the song tempo. You can also synchronize the delay time with the arpeggiator or sequencer. If you program the tempo before performance, you can achieve a delay effect that synchronizes with the song in real-time. Delay time is set by notes.

a	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	♩=Sync
	Time Over?	---, OVER!	Displays an error message when the delay time exceeds the upper limit	
b	L Delay Base Note	♪...	Selects the type of notes to specify the delay time for TapL	♩=Sync
	Times	x1…x32	Sets the number of notes to specify the delay time for TapL	
	Level	0…50	Sets the output level of TapL	
c	C Delay Base Note	♪...	elects the type of notes to specify the delay time for TapC	♩=Sync
	Times	x1…x32	Sets the number of notes to specify the delay time for TapC	
	Level	0…50	Sets the output level of TapC	
d	R Delay Base Note	♪...	Selects the type of notes to specify the delay time for TapR	♩=Sync
	Times	x1…x32	Sets the number of notes to specify the delay time for TapR	
	Level	0…50	Sets the output level of TapR	
e	Feedback (C Delay)	−100… +100	Sets the feedback amount of TapC	
	Src	Off… Tempo	Selects the modulation source for the TapC feedback	
	Amt	−100… +100	Sets the modulation amount of the TapC feed-back	
f	High Damp [%]	0…100	Sets the damping amount in the high range	
	Low Damp [%]	0…100	Sets the damping amount in the low range	
g	Input Level Dmod [%]	−100… +100	Sets the modulation amount of the input level	
	Src	Off… Tempo	Selects the modulation source for the input level	
h	Spread	0…50	Sets the width of the stereo image of the effect sound	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off… Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100… +100	Amount of modulation source	

a: Time Over?

You can set the delay time up to 5,460msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

66: Stereo BPM Delay

This stereo delay enables you to set the delay time to match the song tempo.

a	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over? L	---, OVER!	Display the error message if the left channel delay time exceeds the upper limit	
	R	---, OVER!	Display the error message if the right channel delay time exceeds the upper limit	
b	L Delay Base Note	♩...	Selects the type of notes to specify the left channel delay time	Sync
	Times	x1…x32	Sets the number of notes to specify the left channel delay time	
	Adjust [%]	–2.50… +2.50	Fine-adjust the left channel delay time	
c	R Delay Base Note	♩...	Selects the type of notes to specify the right channel delay time	Sync
	Times	x1…x32	Sets the number of notes to specify the right channel delay time	
	Adjust [%]	–2.50… +2.50	Fine-adjust the right channel delay time	

d	L Feedback	–100…+100	Sets the feedback amount for the left channel	
	Src	Off…Tempo	Selects the modulation source of feedback amount	
	Amt L	–100…+100	Sets the modulation amount of the left channel feedback	
e	R Feedback	–100…+100	Sets the feedback amount for the right channel	
	Amt R	–100…+100	Sets the modulation amount of the right channel feedback	
f	High Damp [%]	0…100	Sets the damping amount in the high range	
g	Low Damp [%]	0…100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	–100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: Time Over? L, R

You can set the delay time up to 2,730msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

67: St.BPM Mtap Delay (Stereo BPM Multi tap Delay)

This four-tap delay enables you to select a tempo and rhythm pattern to set up each tap.
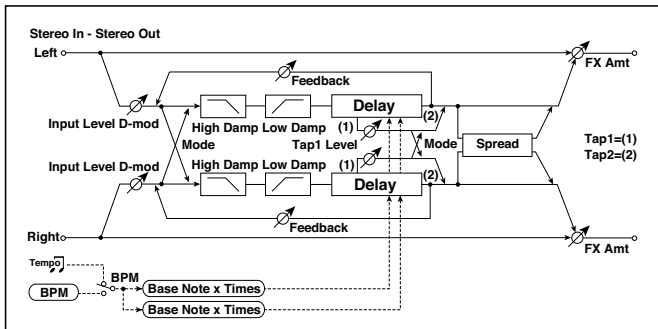
	a	Mode	Normal, Cross Feedback, Cross Pan1, Cross Pan2	Switches the left and right delay routing	
	b	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
		Time Over? 1	---, OVER!	Displays an error message when the delay time for Tap1 exceeds the upper limit	
		2	---, OVER!	Displays an error message when the delay time for Tap2 exceeds the upper limit	
	c	Tap 1 Base Note	♪…	Selects the type of notes to specify the delay time for Tap1	Sync
		Times	x1…x32	Sets the number of notes to specify the delay time for Tap1	
	d	Tap 2 Base Note	♪…	Selects the type of notes to specify the delay time for Tap2	Sync
		Times	x1…x32	Sets the number of notes to specify the delay time for Tap2	
	e	Tap1 Level	0…100	Sets the Tap1 output level	
	f	Feedback (Tap2)	–100…+100	Sets the Tap2 feedback amount	
		Src	Off…Tempo	Selects the modulation source of the Tap2 feedback amount	
		Amt	–100…+100	Sets the modulation amount of the Tap2 feedback amount	

g	High Damp [%]	0…100	Sets the damping amount in the high range	
	Low Damp [%]	0…100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	–100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	
i	Spread	–100…+100	Sets the width of the stereo image of the effect sound	
	Src	Off…Tempo	Selects the modulation source of the effect sound's stereo image width	
	Amt	–100…+100	Sets the modulation amount of the effect sound's stereo image width	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

68: St.BPM Mod. Delay (Stereo BPM Modulation Delay)

This is a stereo modulation delay that lets you synchronize the delay time to the tempo of the song.

a	Modulation Mode	LFO, D-mod	Switches between LFO modulation control and modulation source control	
b	D-mod Modulation	L/R:+/+, L/R:+/−	Reversed L/R control by modulation source	
	Src	Off…Tempo	Selects the modulation source that controls delay time	
	Response	0…30	Sets the rate of response to the modulation source	
c	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	LFO Shape	−100…+100	Changes the curvature of the LFO Waveform	
d	LFO Sync	Off, On	Switches LFO reset off/on	
	Src	Off…Tempo	Selects the modulation source that resets the LFO	
e	LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	

f	MIDI Sync	Off, On	When this is on, the LFO speed is set by BPM, Base Note, and Times, instead of Frequency	♩Sync
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♪…	Selects the type of notes that specify the LFO speed	♩Sync
	Times	x1…x32	Sets the number of notes that specify the LFO speed	
g	L LFO Phase [deg]	–180…+180	Sets the phase obtained when the left LFO is reset	
	Depth	0…200	Sets the depth of the left LFO modulation	
h	R LFO Phase [deg]	–180…+180	Sets the phase obtained when the right LFO is reset	
	Depth	0…200	Sets the depth of the right LFO modulation	
i	BPM(Delay)	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Time Over? L	---, OVER!	Display the error message if the left channel delay time exceeds the upper limit	
	R	---, OVER!	Display the error message if the right channel delay time exceeds the upper limit	
j	L Delay Base Note	♪…	Selects the type of notes to specify the left channel delay time	♩Sync
	Times	x1…x32	Sets the number of notes to specify the left channel delay time	
	Feedback	–100…+100	Sets the feedback amount of left delay	
k	R Delay Base Note	♪…	Selects the type of notes to specify the right channel delay time	♩Sync
	Times	x1…x32	Sets the number of notes to specify the right channel delay time	
	Feedback	–100…+100	Sets the feedback amount of right delay	
l	Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

i: Time Over? L, R

You can set the delay time up to 2,550msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

69: St.BPMAutoPanDly (Stereo BPM Auto Panning Delay)

This stereo auto panning delay enables you to set the delay time to match the song tempo.

a	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Time Over? L	---, OVER!	Display the error message if the left channel delay time exceeds the upper limit	
	R	---, OVER!	Display the error message if the right channel delay time exceeds the upper limit	
b	L Delay Base Note	𝅘𝅥 … 𝅘𝅥𝅮	Selects the type of notes to specify the left channel delay time	Sync
	Times	x1…x32	Sets the number of notes to specify the left channel delay time	
	Feedback	−100…+100	Sets the feedback amount for the left channel	
c	R Delay Base Note	𝅘𝅥 … 𝅘𝅥𝅮	Selects the type of notes to specify the right channel delay time	Sync
	Times	x1…x32	Sets the number of notes to specify the right channel delay time	
	Feedback	−100…+100	Sets the feedback amount for the right channel	

d	High Damp [%]	0…100	Sets the damping amount in the high range	
	Low Damp [%]	0…100	Sets the damping amount in the low range	
e	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
	Shape	–100…+100	Changes the curvature of the LFO Waveform	
	LFO Phase	–180…+180	Sets the LFO phase difference between the left and right	
f	Panning Freq [Hz]	0.02…20.00	Sets the panning speed	
g	MIDI Sync	Off, On	When this is on, the pan LFO speed is set by BPM, Base Note, and Times, instead of Frequency	♩Sync
	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Base Note	♩… ♫	Selects the type of notes to specify the delay time for the panning speed	♩Sync
	Times	x1…x32	Sets the number of notes to specify the delay time for the panning speed	
h	Panning Depth	0…100	Sets the panning width	
	Src	Off…Tempo	Selects the modulation source for the panning width	
	Amt	–100…+100	Set the modulation amount of the panning width	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

70: Tape Echo BPM

This is a tape echo that lets you synchronize the delay time to the tempo of the song.
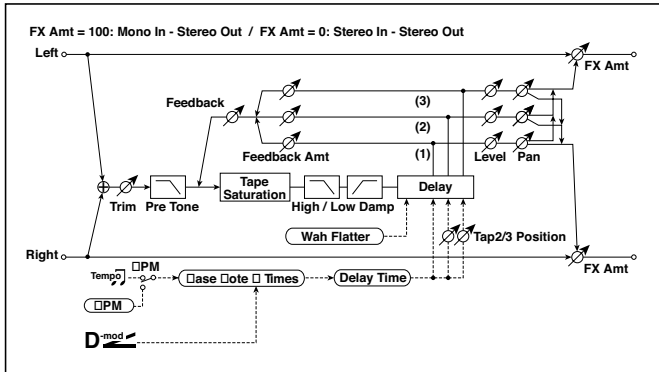
a	BPM (Delay)	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	Sync
	Tap1 Dmod Src	Off…Tempo	Selects the modulation source of the delay time	
b	Tap1 Delay Note	♪…	Selects the type of notes to specify the delay time (tap1)	Sync
	Times	x1…x32	Sets the number of notes to specify the delay time (tap1)	
	Time Over?	---, OVER!	Displays an error message when the delay time exceeds the upper limit	
c	Tap1 Dmod Note	♪…	Selects the note value used to specify the delay time when the modulation is at maximum	Sync
	Times	x1…x32	Specifies the number of notes used to specify the delay time when the modulation is at maximum	
d	Tap2 Position [%]	0…100	Sets the position of Tap 2 relative to the Tap 1 delay time the depth of pitch variation	
e	Tap3 Position [%]	0…100	Sets the position of Tap 3 relative to the Tap 1 delay time the depth of pitch variation	
f	Tap1 Level	0…100	Sets the Tap1 output level	
	Pan	L, 1…99, R	Sets the stereo image of tap1	
	FB Amt	−100…+100	Sets the Tap1 feedback amount	

g	Tap2 Level	0…100	Sets the Tap2 output level	
	Pan	L, 1…99, R	Sets the stereo image of tap2	
	FB Amt	−100…+100	Sets the Tap2 feedback amount	
h	Tap3 Level	0…100	Sets the Tap3 output level	
	Pan	L, 1…99, R	Sets the stereo image of tap3	
	FB Amt	−100…+100	Sets the Tap3 feedback amount	
i	Feedback	0…100	Sets the amount of feedback for Taps 1, 2, and 3	
	Src	Off…Tempo	Selects the modulation source of feedback amount	
	Amt	−100…+100	Sets the depth by which feedback amount will be modulated	
j	High Damp [%]	0…100	Sets the damping amount in the high range	
	Low Damp [%]	0…100	Sets the damping amount in the low range	
k	Saturation	0…100	Sets the distortion amount	
l	Input Trim	0…100	Sets the input gain	
	Pre Tone	0…100	Sets the tone of the input	
m	Wow Flutter [Hz]	0.02…1.00	Sets the frequency at which pitch variation will occur	
	Wow Flutter depth	0…100	Sets the depth of pitch variation	
n	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Tap1 Dmod Src

b: Tap1 Delay Note

b: Times

c: Tap1 Dmod Note

c: Times

If "Tap1 Dmod Src" is Off or the selected modulation is at 0, the delay time will be the length specified by "Tap1 Delay Note" and "Times."

If "Tap1 Dmod Src" is other than Off, the delay time will change so that it will be as specified by "Tap1 Dmod Note" and "Times" when the maximum modulation is reached.

b: Time Over?

You can set the delay time up to 5,400msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

Reverb and Early Reflections (Reverb ER)

71: Reverb Hall

This hall-type reverb simulates the reverberation of mid-size concert halls or ensemble halls.

72: Reverb SmoothHall

This hall-type reverb simulates the reverberation of larger halls and stadiums, and creates a smooth release.

73: Reverb Wet Plate

This plate reverb simulates warm (dense) reverberation.

74: Reverb Dry Plate

This plate reverb simulates dry (light) reverberation.
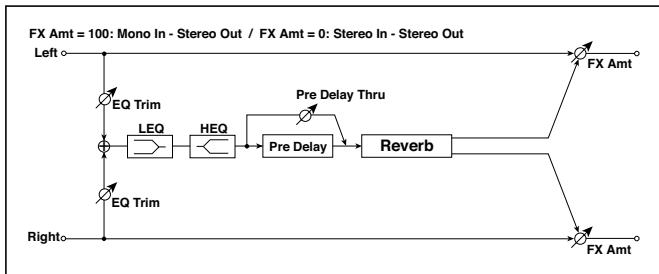
a	Reverb Time [sec]	0.1…10.0	Sets the reverberation time	
	High Damp [%]	0…100	Sets the damping amount in the high range	
b	Pre Delay [msec]	0…200	Sets the delay time from the dry sound	
	Pre Delay Thru [%]	0…100	Sets the mix ratio of non-delay sound	
c	EQ Trim	0…100	Sets the EQ input level	

d	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
e	Pre LEQ Gain [dB]	−15.0…+15.0	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	−15.0…+15.0	Sets the gain of High EQ	
f	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

b: Pre Delay [msec]

b: Pre Delay Thru [%]

The "Pre Delay" sets the delay time to the reverb input, allowing you to control spaciousness.

Using the "Pre Delay Thru" parameter, you can mix the dry sound without delay, emphasizing the attack of the sound.
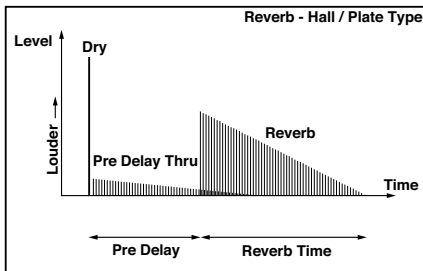
75: Reverb Room

This room-type reverb emphasizes the early reflections that make the sound tighter. Changing the balance between the early reflections and reverb sound allows you to simulate nuances, such as the type of walls of a room.

76: Reverb BrightRoom

This room-type reverb emphasizes the early reflections that make the sound brighter.
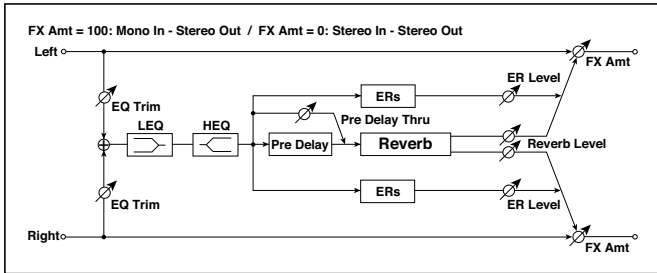
a	Reverb Time [sec]	0.1…3.0	Sets the reverberation time	
	High Damp [%]	0…100	Sets the damping amount in the high range	
b	Pre Delay [msec]	0…200	Sets the delay time from the dry sound	
	Pre Delay Thru [%]	0…100	Sets the mix ratio of non-delay sound	
c	ER Level	0…100	Sets the level of early reflections	
d	Reverb Level	0…100	Sets the reverberation level	
e	EQ Trim	0…100	Sets the EQ input level	
f	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
g	Pre LEQ Gain [dB]	−15.0…+15.0	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	−15.0…+15.0	Sets the gain of High EQ	
h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

c: ER Level

d: Reverb Level

These parameters set the early reflection level and reverb level.

Changing these parameter values allows you to simulate the type of walls in the room. That is, a larger "ER Level" simulates a hard wall, and a larger "Reverb Level" simulates a soft wall.
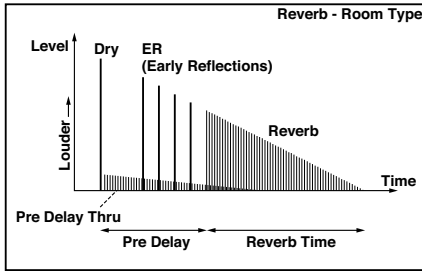
77: Early Reflections

This effect is only the early reflection part of a reverberation sound, and adds presence to the sound. You can select one of the four decay curves.
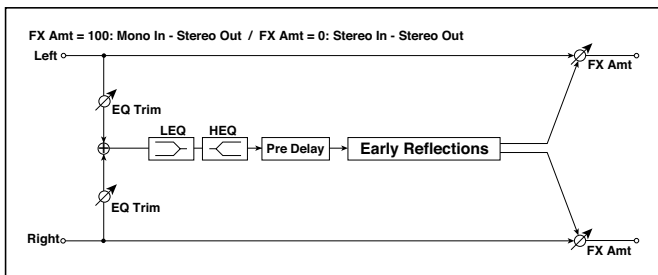
a	Type	Sharp, Loose, Modulated, Reverse	Selects the decay curve for the early reflection	
b	ER Time [msec]	10…800	Sets the time length of early reflection	
c	Pre Delay [msec]	0…200	Sets the time taken from the original sound to the first early reflection	
d	EQ Trim	0…100	Sets the input level of EQ applied to the effect sound	

e	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
f	Pre LEQ Gain [dB]	–15.0…+15.0	Gain of the Low EQ	
	Pre HEQ Gain [dB]	–15.0…+15.0	Gain of the High EQ	
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: Type

This parameter selects the decay curve for the early reflection.

Early Reflections - Type
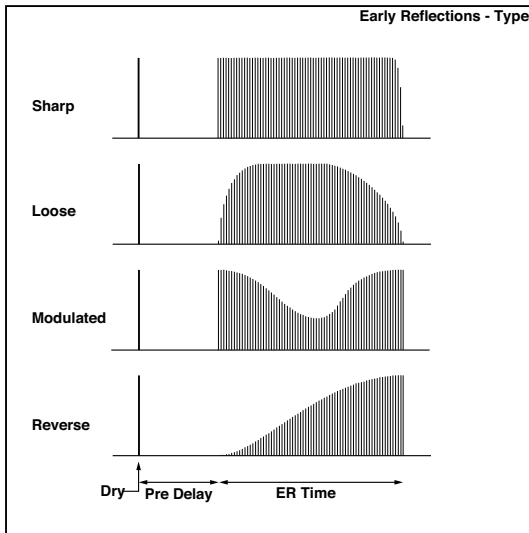
Mono-Mono Serial (Mono-Mono)

78: P4EQ - Exciter (Parametric 4-Band EQ - Exciter)

This effect combines a mono four-band parametric equalizer and an exciter.

P4EQ			
a	[E]Trim	0…100	Sets the parametric EQ input level
b	[E]B1 Cutoff [Hz]	20…1.00k	Sets the center frequency of Band 1
	Q	0.5…10.0	Sets the bandwidth of Band 1
	Gain [dB]	−18…+18	Sets the gain of Band 1
c	[E]B2 Cutoff [Hz]	50…5.00k	Sets the center frequency of Band 2
	Q	0.5…10.0	Sets the bandwidth of Band 2
	Gain [dB]	−18…+18	Sets the gain of Band 2
d	[E]B3 Cutoff [Hz]	300…10.00k	Sets the center frequency of Band 3
	Q	0.5…10.0	Sets the bandwidth of Band 3
	Gain [dB]	−18…+18	Sets the gain of Band 3
e	[E]B4 Cutoff [Hz]	500…20.00k	Sets the center frequency of Band 4
	Q	0.5…10.0	Sets the bandwidth of Band 4
	Gain [dB]	−18…+18	Sets the gain of Band 4
EXCITER			
f	[X]Exciter Blend	−100…+100	Sets the intensity (depth) of the Exciter effect
g	[X]Emphasis Freq	0…70	Sets the frequency range to be emphasized

h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

79: P4EQ - Wah (Parametric 4-Band EQ - Wah/Auto Wah)

This effect combines a mono four-band parametric equalizer and a wah. You can change the order of the connection.
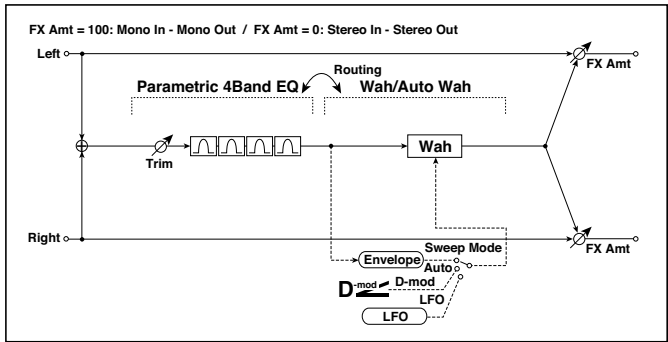
P4EQ				
a	[E]Trim	0…100	Sets the parametric EQ input level	
	Routing	P4EQ › Wah, Wah › P4EQ	Changes the order of the parametric equalizer and wah connection	
b	[E]B1 Cutoff [Hz]	20…1.00k	Sets the center frequency of Band 1	
	Q	0.5…10.0	Sets the bandwidth of Band 1	
	Gain [dB]	−18…+18	Sets the gain of Band 1	
c	[E]B2 Cutoff [Hz]	50…5.00k	Sets the center frequency of Band 2	
	Q	0.5…10.0	Sets the bandwidth of Band 2	
	Gain [dB]	−18…+18	Sets the gain of Band 2	
d	[E]B3 Cutoff [Hz]	300…10.00k	Sets the center frequency of Band 3	
	Q	0.5…10.0	Sets the bandwidth of Band 3	
	Gain [dB]	−18…+18	Sets the gain of Band 3	

e	[E]B4 Cutoff [Hz]	500…20.00k	Sets the center frequency of Band 4	
	Q	0.5…10.0	Sets the bandwidth of Band 4	
	Gain [dB]	−18…+18	Sets the gain of Band 4	
WAH				
f	[W]Frequency Bottom	0…100	Sets the lower limit of the wah center frequency	
	Frequency Top	0…100	Sets the upper limit of the wah center frequency	
g	[W]Sweep Mode	Auto, D-mod, LFO	Selects the control from auto-wah, modulation source, and LFO	
	Src	Off…Tempo	Selects the modulation source for the wah when Sweep Mode=D-mod	
h	[W]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Resonance	0…100	Sets the resonance amount	
	LPF	Off, On	Switches the wah low pass filter on and off	
i	[W] Wet/Dry	Dry,1 : 99…99 : 1, Wet	Sets the wah effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the wah	
	Amt	−100…+100	Sets the Wet/Dry modulation amount for the wah	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

80: P4EQ - Cho/Flng (Parametric 4-Band EQ - Chorus/Flanger)

This effect combines a mono four-band parametric equalizer and a chorus/flanger.

P4EQ			
a	[E]Trim	0…100	Sets the parametric EQ input level
b	[E]B1 Cutoff [Hz]	20…1.00k	Sets the center frequency of Band 1
	Q	0.5…10.0	Sets the bandwidth of Band 1
	Gain [dB]	–18…+18	Sets the gain of Band 1
c	[E]B2 Cutoff [Hz]	50…5.00k	Sets the center frequency of Band 2
	Q	0.5…10.0	Sets the bandwidth of Band 2
	Gain [dB]	–18…+18	Sets the gain of Band 2
d	[E]B3 Cutoff [Hz]	300…10.00k	Sets the center frequency of Band 3
	Q	0.5…10.0	Sets the bandwidth of Band 3
	Gain [dB]	–18…+18	Sets the gain of Band 3
e	[E]B4 Cutoff [Hz]	500…20.00k	Sets the center frequency of Band 4
	Q	0.5…10.0	Sets the bandwidth of Band 4
	Gain [dB]	–18…+18	Sets the gain of Band 4
CHORUS/FLANGER			
f	[F]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform
g	[F]Delay Time [msec]	0.0…1350.0	Sets the delay time
	Depth	0…100	Sets the depth of LFO modulation
	Feedback	–100…+100	Sets the feedback amount

h	[F]Cho/Flng Wet/ Dry	-Wet, -1:99… Dry…99:1, Wet	Sets the effect balance of the chorus/ flanger	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the chorus/flanger	
	Amt	–100…+100	Sets the Wet/Dry modulation amount for the chorus/flanger	
i	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/ flanger	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

i: Output Mode

When Wet Invert is selected, the right channel phase of the chorus/flanger effect sound is inverted. This creates pseudo-stereo effects and adds spread.

However, if a mono-input type effect is connected after this effect, the left and right sounds may cancel each other, eliminating the chorus/flanger effects.

81: P4EQ - Phaser (Parametric 4-Band EQ - Phaser)

This effect combines a mono four-band parametric equalizer and a phaser.

P4EQ				
a	[E]Trim	0…100	Sets the parametric EQ input level	

b	[E]B1 Cutoff [Hz]	20…1.00k	Sets the center frequency of Band 1	
	Q	0.5…10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18…+18	Sets the gain of Band 1	
c	[E]B2 Cutoff [Hz]	50…5.00k	Sets the center frequency of Band 2	
	Q	0.5…10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18…+18	Sets the gain of Band 2	
d	[E]B3 Cutoff [Hz]	300…10.00k	Sets the center frequency of Band 3	
	Q	0.5…10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18…+18	Sets the gain of Band 3	
e	[E]B4 Cutoff [Hz]	500…20.00k	Sets the center frequency of Band 4	
	Q	0.5…10.0	Sets the bandwidth of Band 4	
	Gain [dB]	–18…+18	Sets the gain of Band 4	
PHASER				
f	[P]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
g	[P]Manual	0…100	Sets the frequency to which the effect is applied	
	Depth	0…100	Sets the depth of LFO modulation	
	Resonance	–100…+100	Sets the resonance amount	
h	[P]Phaser Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Sets the phaser effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the phaser	
	Amt	–100…+100	Sets the Wet/Dry modulation amount for the phaser	
i	[P]Output Mode	Normal, Wet Invert	Selects the phaser output mode	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

82: P4EQ - Mt. Delay (Parametric 4-Band EQ - Multitap Delay)

This effect combines a mono four-band parametric equalizer and a multitap delay.

	P4EQ		
a	[E]Trim	0…100	Sets the parametric EQ input level
b	[E]B1 Cutoff [Hz]	20…1.00k	Sets the center frequency of Band 1
	Q	0.5…10.0	Sets the bandwidth of Band 1
	Gain [dB]	–18…+18	Sets the gain of Band 1
c	[E]B2 Cutoff [Hz]	50…5.00k	Sets the center frequency of Band 2
	Q	0.5…10.0	Sets the bandwidth of Band 2
	Gain [dB]	–18…+18	Sets the gain of Band 2
d	[E]B3 Cutoff [Hz]	300…10.00k	Sets the center frequency of Band 3
	Q	0.5…10.0	Sets the bandwidth of Band 3
	Gain [dB]	–18…+18	Sets the gain of Band 3
e	[E]B4 Cutoff [Hz]	500…20.00k	Sets the center frequency of Band 4
	Q	0.5…10.0	Sets the bandwidth of Band 4
	Gain [dB]	–18…+18	Sets the gain of Band 4
	MULTITAP DELAY		
f	[D]Tap1 Time [msec]	0.0…1360.0	Sets the Tap1 delay time
	Tap1 Level	0…100	Sets the Tap1 output level
g	[D]Tap2 Time [msec]	0.0…1360.0	Sets the Tap2 delay time
	Feedback (Tap2)	–100…+100	Sets the Tap2 feedback amount
h	[D]High Damp [%]	0…100	Sets the damping amount in the high range

i	[D]Mt.Delay Wet/Dry	Dry, 1:99…99:1, Wet	Sets the multitap delay effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the multitap delay	
	Amt	–100…+100	Sets the Wet/Dry modulation amount for the multitap delay	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

83: Comp - Wah (Compressor - Wah/Auto Wah)

This effect combines a mono compressor and a wah. You can change the order of the connection.

COMPRESSOR				
a	[C] Sensitivity	1…100	Sets the sensitivity	
b	[C]Attack	1…100	Sets the attack level	
	Output Level	0…100	Sets the compressor output level	
c	[C]EQ Trim	0…100	Sets the EQ input level	
d	[C]Pre LEQ Gain [dB]	−15…+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	−15…+15	Sets the gain of High EQ	
WAH				
e	[W]Frequency Bottom	0…100	Sets the lower limit of the wah center frequency	
	Frequency Top	0…100	Sets the upper limit of the wah center frequency	
f	[w]Sweep Mode	Auto, D-mod, LFO	Selects the control from auto-wah, modulation source, and LFO	
	Src	Off…Tempo	Selects the modulation source for the wah when Sweep Mode=D-mod	
g	[W]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	Resonance	0…100	Sets the resonance amount	
	LPF	Off, On	Switches the wah low pass filter on and off	
h	[W]Wet/Dry	Dry, 1 : 99…99 : 1, Wet	Sets the wah effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the wah	
	Amt	−100…+100	Sets the Wet/Dry modulation amount for the wah	
i	Routing	Comp › Wah, Wah › Comp	Switches the order of the compressor and wah	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

84: Comp - Amp Sim (Compressor - Amp Simulation)

This effect combines a mono compressor and an amp simulation. You can change the order of the effects.

	COMPRESSOR		
a	[C] Sensitivity	1…100	Sets the sensitivity
b	[C]Attack	1…100	Sets the attack level
	Output Level	0…100	Sets the compressor output level
c	[C]EQ Trim	0…100	Sets the EQ input level
d	[C]Pre LEQ Gain [dB]	–15…+15	Sets the gain of Low EQ
	Pre HEQ Gain [dB]	–15…+15	Sets the gain of High EQ
	AMP SIM		
e	[A]Amplifier Type	SS, EL84, 6L6	Selects the type of guitar amplifier
f	Routing	Comp › Amp, Amp › Comp	Switches the order of the compressor and amp simulation
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	–100…+100	Amount of modulation source

85: Comp - OD/HiGain (Compressor - Overdrive/Hi.Gain)

This effect combines a mono compressor and an overdrive/high-gain distortion. You can change the order of the effects.
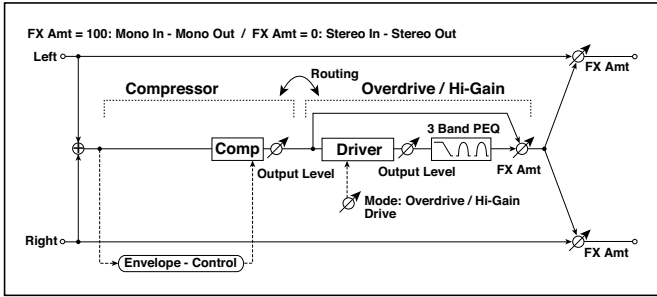
	COMPRESSOR		
a	[C] Sensitivity	1…100	Sets the sensitivity
b	[C] Attack	1…100	Sets the attack level
	Output Level	0…100	Sets the compressor output level
	OD/HI-GAIN		
c	[O] Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and high-gain distortion
	Drive	1…100	Sets the degree of distortion
d	[O]Output Level	0…50	Sets the overdrive output level
	Src	Off…Tempo	Selects the modulation source for the overdrive output level
	Amt	−50…+50	Sets the modulation amount of the overdrive output level
e	[O]Low Cutoff [Hz]	20…1.00k	Sets the center frequency for Low EQ (shelving type)
	Gain [dB]	−18…+18	Sets the gain of Low EQ
f	[O]Mid1 Cutoff [Hz]	300…10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)
	Q	0.5…10.0	Sets the band width of Mid/High EQ 1
	Gain [dB]	−18…+18	Sets the gain of Mid/High EQ 1
g	[O]Mid2 Cutoff [Hz]	500…20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)
	Q	0.5…10.0	Sets the band width of Mid/High EQ 2
	Gain [dB]	−18…+18	Sets the gain of Mid/High EQ 2

h	[O]Wet/Dry	Dry, 1 : 99…99 : 1, Wet	Sets the overdrive effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the overdrive	
	Amt	–100…+100	Sets the Wet/Dry modulation amount for the overdrive	
i	Routing	Comp › OD/HG, OD/HG › Comp	Switches the order of the compressor and overdrive	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

86: Comp - P4EQ (Compressor - Parametric 4-Band EQ)

This effect combines a mono compressor and a four-band parametric equalizer. You can change the order of the effects.
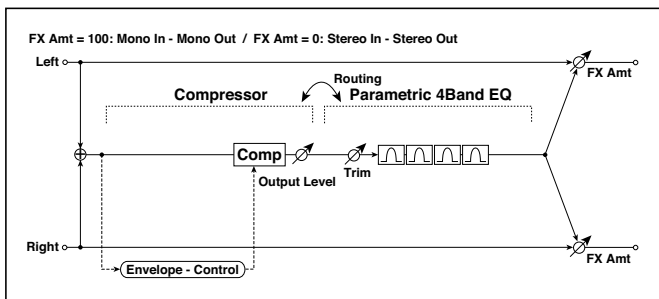
COMPRESSOR				
a	[C]Sensitivity	1…100	Sets the sensitivity	
b	[C]Attack	1…100	Sets the attack level	
	Output Level	0…100	Sets the compressor output level	
P4EQ				
c	[E]Trim	0…100	Sets the parametric EQ input level	

d	[E]B1 Cutoff [Hz]	20…1.00k	Sets the center frequency of Band 1	
	Q	0.5…10.0	Sets the bandwidth of Band 1	
	Gain [dB]	–18…+18	Sets the gain of Band 1	
e	[E]B2 Cutoff [Hz]	50…5.00k	Sets the center frequency of Band 2	
	Q	0.5…10.0	Sets the bandwidth of Band 2	
	Gain [dB]	–18…+18	Sets the gain of Band 2	
f	[E]B3 Cutoff [Hz]	300…10.00k	Sets the center frequency of Band 3	
	Q	0.5…10.0	Sets the bandwidth of Band 3	
	Gain [dB]	–18…+18	Sets the gain of Band 3	
g	[E]B4 Cutoff [Hz]	500…20.00k	Sets the center frequency of Band 4	
	Q	0.5…10.0	Sets the bandwidth of Band 4	
	Gain [dB]	–18…+18	Sets the gain of Band 4	
h	Routing	Comp › P4EQ, P4EQ › Comp	Switches the order of the compressor and parametric EQ	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

87: Comp - Cho/Flng (Compressor - Chorus/Flanger)

This effect combines a mono compressor and a chorus/flanger. You can change the order of the effects.

COMPRESSOR				
a	[C] Sensitivity	1…100	Sets the sensitivity	
b	[C]Attack	1…100	Sets the attack level	
	Output Level	0…100	Sets the compressor output level	
c	[C]EQ Trim	0…100	Sets the EQ input level	
d	[C]Pre LEQ Gain [dB]	−15…+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	−15…+15	Sets the gain of High EQ	
CHORUS/FLANGER				
e	[F]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
f	[F]Delay Time [msec]	0.0…1350.0	Sets the delay time	
	Depth	0…100	Sets the depth of LFO modulation	
	Feedback	−100…+100	Sets the feedback amount	
g	[F]Cho/Flng Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Sets the effect balance of the chorus/flanger ,	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the chorus/flanger	
	Amt	−100…+100	Sets the Wet/Dry modulation amount for the chorus/flanger	
h	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/flanger	
i	Routing	Comp › Flanger, Flanger › Comp	Switches the order of the compressor and chorus/flanger	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

h: [F]Output Mode

i: Routing

When Wet Invert is selected, the right channel phase of the chorus/flanger effect sound is inverted. This creates pseudo-stereo effects and adds spread.

However, if a mono-input type effect is connected after this effect, the left and right sounds may cancel each other, eliminating the chorus/flanger effects.

When "Routing" is set to Flanger/Comp, "[F]Output Mode" will be set to Normal.

88: Comp - Phaser (Compressor - Phaser)

This effect combines a mono compressor and a phaser. You can change the order of the effects.

COMPRESSOR				
a	[C] Sensitivity	1…100	Sets the sensitivity	
b	[C]Attack	1…100	Sets the attack level	
	Output Level	0…100	Sets the compressor output level	
c	[C]EQ Trim	0…100	Sets the EQ input level	
d	[C]Pre LEQ Gain [dB]	−15…+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	−15…+15	Sets the gain of High EQ	
PHASER				
e	[P]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
f	[P]Manual	0…100	Sets the frequency to which the effect is applied	
	Depth	0…100	Sets the depth of LFO modulation	
	Resonance	−100…+100	Sets the resonance amount	

g	[P]Phaser Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Sets the phaser effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the phaser	
	Amt	–100…+100	Sets the Wet/Dry modulation amount for the phaser	
h	[F]Output Mode	Normal, Wet Invert	Selects the phaser output mode	
i	Routing	Comp › Phaser, Phaser › Comp	Switches the order of the compressor and phaser	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

89: Comp - Mt. Delay (Compressor - Multitap Delay)

This effect combines a mono compressor and a multitap delay. You can change the order of the effects.

COMPRESSOR				
a	[C]Sensitivity	1…100	Sets the sensitivity	
b	[C]Attack	1…100	Sets the attack level	
	Output Level	0…100	Sets the compressor output level	
c	[C]EQ Trim	0…100	Sets the EQ input level	

d	[C]Pre LEQ Gain [dB]	−15…+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	−15…+15	Sets the gain of High EQ	

MULTITAP DELAY				
e	[D]Tap1 Time [msec]	0.0…1360.0	Sets the Tap1 delay time	
	Tap1 Level	0…100	Sets the Tap1 output level	
f	[D]Tap2 Time [msec]	0.0…1360.0	Sets the Tap2 delay time	
	Feedback (Tap2)	−100…+100	Sets the Tap2 feedback amount	
g	[D]High Damp [%]	0…100	Sets the damping amount in the high range	
h	[D]Mt.Delay Wet/Dry	Dry, 1 : 99…99 : 1, Wet	Sets the multitap delay effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the multitap delay	
	Amt	−100…+100	Sets the Wet/Dry modulation amount for the multitap delay	
i	Routing	Comp › Mt.Delay, Mt.Delay › Comp	Switches the order of the compressor and multitap delay	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

90: Limiter - P4EQ (Limiter - Parametric 4-Band EQ)

This effect combines a mono limiter and a four-band parametric equalizer. You can change the order of the effects.

	LIMITER		
a	[L]Ratio	1.0 : 1… 50.0 : 1, Inf : 1	Sets the signal compression ratio
	Threshold [dB]	−40…0	Sets the level above which the compressor is applied
b	[L]Attack	1…100	Sets the attack time
	Release	1…100	Sets the release time
c	[L]Gain Adjust [dB]	−Inf, −38…+24	Sets the limiter output gain
	P4EQ		
d	[E]Trim	0…100	Sets the parametric EQ input level
e	[E]B1 Cutoff [Hz]	20…1.00k	Sets the center frequency of Band 1
	Q	0.5…10.0	Sets the bandwidth of Band 1
	Gain [dB]	−18…+18	Sets the gain of Band 1
f	[E]B2 Cutoff [Hz]	50…5.00k	Sets the center frequency of Band 2
	Q	0.5…10.0	Sets the bandwidth of Band 2
	Gain [dB]	−18…+18	Sets the gain of Band 2
g	[E]B3 Cutoff [Hz]	300…10.00k	Sets the center frequency of Band 3
	Q	0.5…10.0	Sets the bandwidth of Band 3
	Gain [dB]	−18…+18	Sets the gain of Band 3
h	[E]B4 Cutoff [Hz]	500…20.00k	Sets the center frequency of Band 4
	Q	0.5…10.0	Sets the bandwidth of Band 4
	Gain [dB]	−18…+18	Sets the gain of Band 4

i	Routing	Limiter › P4EQ, P4EQ › Limiter	Switches the order of the limiter and parametric EQ	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: [L]Ratio

a: Threshold [dB]

c: [L]Gain Adjust [dB]

This parameter sets the signal compression "[L]Ratio". Compression is applied only when the signal level exceeds the "Threshold" value.

Adjust the output level using the "Gain Adjust" parameter, since compression causes the entire level to be reduced.
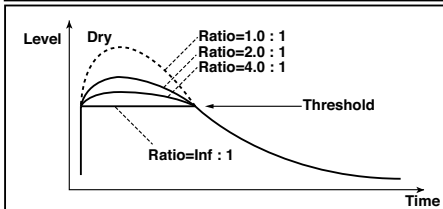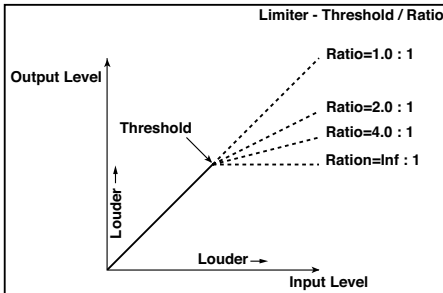
91: Limiter - Cho/Flng (Limiter - Chorus/Flanger)

This effect combines a mono limiter and a chorus/flanger. You can change the order of the effects.

LIMITER			
a	[L]Ratio	1.0 : 1… 50.0 : 1, Inf : 1	Sets the signal compression ratio
	Threshold [dB]	–40…0	Sets the level above which the compressor is applied
b	[L]Attack	1…100	Sets the attack time
	Release	1…100	Sets the release time
c	[L]Gain Adjust [dB]	–Inf, –38…+24	Sets the limiter output gain
CHORUS/FLANGER			
d	[F]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform
e	[F]Delay Time [msec]	0.0…1350.0	Sets the delay time
	Depth	0…100	Sets the depth of LFO modulation
	Feedback	–100…+100	Sets the feedback amount
f	[F]EQ Trim	0…100	Sets the EQ input level
g	[F]Pre LEQ Gain [dB]	–15…+15	Sets the gain of Low EQ
	Pre HEQ Gain [dB]	–15…+15	Sets the gain of High EQ
h	[F]Cho/Flng Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Sets the effect balance of the chorus/flanger
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the chorus/flanger
	Amt	–100…+100	Sets the Wet/Dry modulation amount for the chorus/flanger

i	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/flanger
	Routing	Limiter › Flanger, Flanger › Limiter	Switches the order of the limiter and chorus/flanger
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

92: Limiter - Phaser

This effect combines a mono limiter and a phaser. You can change the order of the effects.

	LIMITER		
a	[L]Ratio	1.0 : 1… 50.0 : 1, Inf : 1	Sets the signal compression ratio
	Threshold [dB]	−40…0	Sets the level above which the compressor is applied
b	[L]Attack	1…100	Sets the attack time
	Release	1…100	Sets the release time
c	[L]Gain Adjust [dB]	−Inf, −38…+24	Sets the limiter output gain
	PHASER		
d	[P]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform

e	[P]Manual	0…100	Sets the frequency to which the effect is applied
	Depth	0…100	Sets the depth of LFO modulation
	Resonance	–100…+100	Sets the resonance amount
f	[P]Phaser Wet/Dry	-Wet, -1:99…Dry…99:1, Wet	Sets the phaser effect balance
	Src	Off…Tempo	Selects the phaser's Wet/Dry modulation source
	Amt	–100…+100	Sets the phaser's Wet/Dry modulation amount
g	[P]Output Mode	Normal, Wet Invert	Selects the phaser output mode
h	Routing	Limiter › Phaser, Phaser › Limiter	Switches the order of the limiter and phaser
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	–100…+100	Amount of modulation source

93: Limiter - Mt.Delay (Limiter - Multitap Delay)

This effect combines a mono limiter and a multitap delay. You can change the order of the effects.

	LIMITER		
a	[L]Ratio	1.0 : 1… 50.0 : 1, Inf : 1	Sets the signal compression ratio
	Threshold [dB]	−40…0	Sets the level above which the compressor is applied
b	[L]Attack	1…100	Sets the attack time
	Release	1…100	Sets the release time
c	[L]Gain Adjust [dB]	−Inf, −38…+24	Sets the limiter output gain
	MULTITAP DELAY		
d	[D]Tap1 Time [msec]	0.0…1360.0	Sets the Tap1 delay time
	Tap1 Level	0…100	Sets the Tap1 output level
e	[D]Tap2 Time [msec]	0.0…1360.0	Sets the Tap2 delay time
	Feedback	−100…+100	Sets the Tap2 feedback amount
f	[D]High Damp [%]	0…100	Sets the damping amount in the high range
g	[D]Mt.Delay Wet/Dry	Dry, 1:99…99:1, Wet	Sets the multitap delay effect balance
	Src	Off…Tempo	Selects the multitap delay's Wet/Dry modulation source
	Amt	−100…+100	Sets the multitap delay's Wet/Dry modulation amount
h	Routing	Limiter › Mt.Delay, Mt.Delay › Limiter	Switches the order of the limiter and multitap delay
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

94: Exciter - Comp (Exciter -Compressor)

This effect combines a mono exciter and a compressor. You can change the order of the effects.
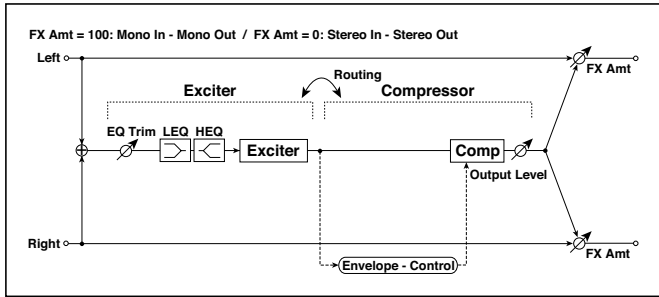
	EXCITER		
a	[X]Exciter Blend	−100…+100	Sets the intensity (depth) of the Exciter effect
b	[X]Emphasis Frequency	0…70	Sets the frequency range to be emphasized
c	[X]EQ Trim	0…100	Sets the EQ input level
d	[X]Pre LEQ Gain [dB]	−15…+15	Sets the gain of Low EQ
	Pre HEQ Gain [dB]	−15…+15	Sets the gain of High EQ
	COMPRESSOR		
e	[C] Sensitivity	1…100	Sets the sensitivity
f	[C]Attack	1…100	Sets the attack level
	Output Level	0…100	Sets the compressor output level
g	Routing	Exciter › Comp, Comp › Exciter	Switches the order of the exciter and compressor
h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

95: Exciter - Limiter

This effect combines a mono exciter and a limiter. You can change the order of the effects.
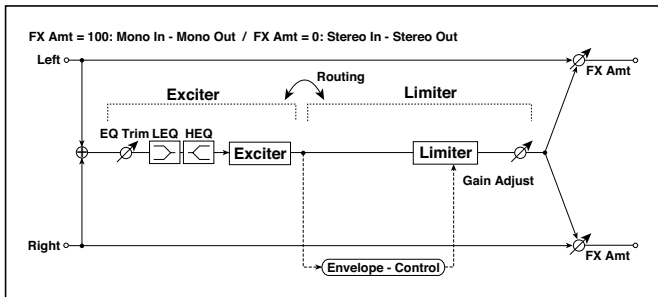
	EXCITER		
a	[X]Exciter Blend	−100…+100	Sets the intensity (depth) of the Exciter effect
b	[X]Emphasis Frequency	0…70	Sets the frequency range to be emphasized
c	[X]Trim	0…100	Sets the EQ input level
d	[X]Pre LEQ Gain [dB]	−15…+15	Sets the gain of Low EQ
	Pre HEQ Gain [dB]	−15…+15	Sets the gain of High EQ
	LIMITER		
e	[L]Ratio	1.0 : 1… 50.0 : 1, Inf : 1	Sets the signal compression ratio
f	[L]Threshold [dB]	−40…0	Sets the level above which the compressor is applied
g	[L]Attack	1…100	Sets the attack time
	Release	1…100	Sets the release time
h	[L]Gain Adjust [dB]	−Inf, −38…+24	Sets the limiter output gain
i	Routing	Exciter › Limiter, Limiter › Exciter	Switches the order of the exciter and limiter
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

96: Exciter - Cho/Flng (Exciter - Chorus/Flanger)

This effect combines a mono limiter and a chorus/flanger.

	EXCITER		
a	[X]Exciter Blend	–100…+100	Sets the intensity (depth) of the Exciter effect
b	[X]Emphasis Frequency	0…70	Sets the frequency range to be emphasized
c	[X]Trim	0…100	Sets the EQ input level
d	[X]Pre LEQ Gain [dB]	–15…+15	Sets the gain of Low EQ
	Pre HEQ Gain [dB]	–15…+15	Sets the gain of High EQ
	CHORUS/FLANGER		
e	[F]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform
f	[F]Delay Time [msec]	0.0…1350.0	Sets the delay time
	Depth	0…100	Sets the depth of LFO modulation
	Feedback	–100…+100	Sets the feedback amount
g	[F]Cho/Flng Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Sets the effect balance of the chorus/flanger
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the chorus/flanger
	Amt	–100…+100	Sets the Wet/Dry modulation amount for the chorus/flanger
h	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/flanger

i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

97: Exciter - Phaser

This effect combines a mono limiter and a phaser.

EXCITER				
a	[X]Exciter Blend	−100…+100	Sets the intensity (depth) of the Exciter effect	
b	[X]Emphasis Frequency	0…70	Sets the frequency range to be emphasized	
c	[X]Trim	0…100	Sets the EQ input level	
d	[X]Pre LEQ Gain [dB]	−15…+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	−15…+15	Sets the gain of High EQ	
PHASER				
e	[P]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
f	[P]Manual	0…100	Sets the frequency to which the effect is applied	
	Depth	0…100	Sets the depth of LFO modulation	
	Resonance	−100…+100	Sets the resonance amount	

g	[P]Phaser Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Sets the phaser effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the phaser	
	Amt	−100…+100	Sets the Wet/Dry modulation amount for the phaser	
h	[P]Output Mode	Normal, Wet Invert	Selects the phaser output mode	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

98: Exciter - Mt.Delay (Exciter - Multitap Delay)

This effect combines a mono exciter and a multitap delay.

EXCITER				
a	[X]Exciter Blend	−100…+100	Sets the intensity (depth) of the Exciter effect	
b	[X]Emphasis Frequency	0…70	Sets the frequency range to be emphasized	
c	[X]Trim	0…100	Sets the EQ input level	
d	[X]Pre LEQ Gain [dB]	−15…+15	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	−15…+15	Sets the gain of High EQ	
MULTITAP DELAY				
e	[D]Tap1 Time [msec]	0.0…1360.0	Sets the Tap1 delay time	
	Tap1 Level	0…100	Sets the Tap1 output level	

f	[D]Tap2 Time [msec]	0.0…1360.0	Sets the Tap2 delay time	
	Feedback (Tap2)	−100…+100	Sets the Tap2 feedback amount	
g	[D]High Damp [%]	0…100	Sets the damping amount in the high range	
h	[D]Mt.Delay Wet/Dry	Dry, 1:99…99:1, Wet	Sets the multitap delay effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the multitap delay	
	Amt	−100…+100	Sets the Wet/Dry modulation amount for the multitap delay	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

99: OD/HG - Amp Sim (Overdrive/Hi.Gain - Amp Simulation)

This effect combines a mono overdrive/high-gain distortion and an amp simulation. You can change the order of the effects.

OD/HI-GAIN				
a	[O]Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and high-gain distortion	
	Drive	1…100	Sets the degree of distortion	
b	[O]Output Level	0…50	Sets the overdrive output level	
	Src	Off…Tempo	Selects the modulation source for the overdrive output level	
	Amt	−50…+50	Sets the modulation amount of the overdrive output level	
e	[O]Low Cutoff [Hz]	20…1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	−18…+18	Sets the gain of Low EQ	
f	[O]Mid1 Cutoff [Hz]	300…10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)	
	Q	0.5…10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	−18…+18	Sets the gain of Mid/High EQ 1	
g	[O]Mid2 Cutoff [Hz]	500…20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)	
	Q	0.5…10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	−18…+18	Sets the gain of Mid/High EQ 2	
AMP SIM				
h	[A]Amplifier Type	SS, EL84, 6L6	Selects the type of guitar amplifie	
i	Routing	OD/HG › Amp, Amp › OD/HG	Switches the order of the overdrive and amp	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

100: OD/HG - Cho/Flng (Overdrive/Hi.Gain - Chorus/Flanger)

This effect combines a mono overdrive/high-gain distortion and a chorus/flanger. You can change the order of the effects.

	OD/HI-GAIN		
a	[O]Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and high-gain distortion
	Drive	1…100	Sets the degree of distortion
b	[O]Output Level	0…50	Sets the overdrive output level
	Src	Off…Tempo	Selects the modulation source for the overdrive output level
	Amt	−50…+50	Sets the modulation amount of the overdrive output level
e	[O]Low Cutoff [Hz]	20…1.00k	Sets the center frequency for Low EQ (shelving type)
	Gain [dB]	−18…+18	Sets the gain of Low EQ
f	[O]Mid1 Cutoff [Hz]	300…10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)
	Q	0.5…10.0	Sets the band width of Mid/High EQ 1
	Gain [dB]	−18…+18	Sets the gain of Mid/High EQ 1
g	[O]Mid2 Cutoff [Hz]	500…20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)
	Q	0.5…10.0	Sets the band width of Mid/High EQ 2
	Gain [dB]	−18…+18	Sets the gain of Mid/High EQ 2
	CHORUS/FLANGER		
h	[F]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform

i	[F]Delay Time [msec]	0.0…1350.0	Sets the delay time	
	Depth	0…100	Sets the depth of LFO modulation	
	Feedback	–100…+100	Sets the feedback amount	
j	[F]Cho/Flng Wet/ Dry	-Wet, -1:99… Dry…99:1, Wet	Sets the effect balance of the chorus/ flanger	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the chorus/flanger	
	Amt	–100…+100	Sets the Wet/Dry modulation amount for the chorus/flanger	
k	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the cho-rus/flanger	
	Routing	OD/HG › Flanger, Flanger › OD/HG	Switches the order of the overdrive and chorus / flanger	
l	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

101: OD/HG - Phaser (Overdrive/Hi.Gain - Phaser)

This effect combines a mono overdrive/high-gain distortion and a phaser. You can change the order of the effects.

OD/HI-GAIN				
a	[O]Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and high-gain distortion	
	Drive	1…100	Sets the degree of distortion	
b	[O]Output Level	0…50	Sets the overdrive output level	
	Src	Off…Tempo	Selects the modulation source for the overdrive output level	
	Amt	−50…+50	Sets the modulation amount of the overdrive output level	
e	[O]Low Cutoff [Hz]	20…1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	−18…+18	Sets the gain of Low EQ	
f	[O]Mid1 Cutoff [Hz]	300…10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)	
	Q	0.5…10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	−18…+18	Sets the gain of Mid/High EQ 1	
g	[O]Mid2 Cutoff [Hz]	500…20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)	
	Q	0.5…10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	−18…+18	Sets the gain of Mid/High EQ 2	
PHASER				
h	[P]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
i	[P]Manual	0…100	Sets the frequency to which the effect is applied	
	Depth	0…100	Sets the depth of LFO modulation	
	Resonance	−100…+100	Sets the resonance amount	
j	[P]Phaser Wet/Dry	-Wet, -1:99…Dry…99:1, Wet	Sets the phaser effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the phaser	
	Amt	−100…+100	Sets the Wet/Dry modulation amount for the phaser	

k	[P]Output Mode	Normal, Wet Invert	Selects the phaser output mode
	Routing	OD/HG › Phaser, Phaser › OD/HG	Switches the order of the over-drive and phaser
l	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

102: OD/HG - Mt.Delay (Overdrive/Hi.Gain - Multitap Delay)

This effect combines a mono overdrive/high-gain distortion and a multitap delay.

OD/HI-GAIN			
a	[O]Drive Mode	Overdrive, Hi-Gain	Switches between overdrive and high-gain distortion
	Drive	1…100	Sets the degree of distortion
b	[O]Output Level	0…50	Sets the overdrive output level
	Src	Off…Tempo	Selects the modulation source for the overdrive output level
	Amt	−50…+50	Sets the modulation amount of the overdrive output level
e	[O]Low Cutoff [Hz]	20…1.00k	Sets the center frequency for Low EQ (shelving type)
	Gain [dB]	−18…+18	Sets the gain of Low EQ

f	[O]Mid1 Cutoff [Hz]	300…10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)
	Q	0.5…10.0	Sets the band width of Mid/High EQ 1
	Gain [dB]	–18…+18	Sets the gain of Mid/High EQ 1
g	[O]Mid2 Cutoff [Hz]	500…20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)
	Q	0.5…10.0	Sets the band width of Mid/High EQ 2
	Gain [dB]	–18…+18	Sets the gain of Mid/High EQ 2
MULTITAP DELAY			
h	[D]Tap1 Time [msec]	0.0…1360.0	Sets the Tap1 delay time
	Tap1 Level	0…100	Sets the Tap1 output level
i	[D]Tap2 Time [msec]	0.0…1360.0	Sets the Tap2 delay time
	Feedback	–100…+100	Sets the Tap2 feedback amount
j	[D]High Damp [%]	0…100	Sets the damping amount in the high range
k	[D]Mt.Delay Wet/Dry	Dry, 1:99…99:1, Wet	Sets the multitap delay effect balance
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the multitap delay
	Amt	–100…+100	Sets the Wet/Dry modulation amount for the multitap delay
l	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	–100…+100	Amount of modulation source

103: Wah - Amp Sim (Wah - Amp Simulation)

This effect combines a mono wah and an amp simulation. You can change the order of the effects.
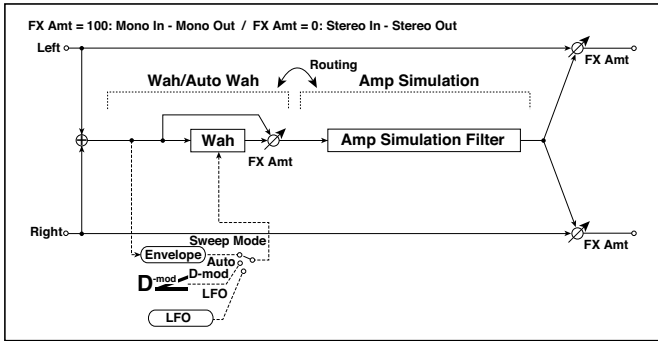
	WAH		
a	[W]Frequency Bottom	0…100	Sets the lower limit of the wah center frequency
	Frequency Top	0…100	Sets the upper limit of the wah center frequency
b	[W]Sweep Mode	Auto, D-mod, LFO	Selects the control from auto-wah, modulation source, and LFO
	Src	Off…Tempo	Selects the modulation source for the wah when Sweep Mode=D-mod
c	[W]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
	Resonance	0…100	Sets the resonance amount
	LPF	Off, On	Switches the wah low pass filter on and off
d	[W]Wet/Dry	Dry, 1:99…99:1, Wet	Sets the wah effect balance
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the wah
	Amt	−100…+100	Sets the Wet/Dry modulation amount for the wah
	AMP SIM		
e	[A]Amplifier Type	SS, EL84, 6L6	Selects the type of guitar amplifier
f	Routing	Wah › Amp, Amp › Wah	Switches the order of the wah and amp simulation

g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

104: Decimator - Amp (Decimator - Amp Simulation)

This effect combines a mono decimator and an amp simulation. You can change the order of the effects.

FX Amt = 100: Mono In - Mono Out / FX Amt = 0: Stereo In - Stereo Out

DECIMATOR				
a	[D]Pre LPF	Off, On	Turn the harmonic noise caused by lowered sampling on and off	
	High Damp [%]	0…100	Sets the ratio of high-range damping	
b	[D]Sampling Freq [Hz]	1.00k…48.00k	Sets the sampling frequency	
	Resolution	4…24	Sets the data bit length	
c	[D]Output Level	0…100	Sets the decimator output level	
AMP SIM				
d	[A]Amplifier Type	SS, EL84, 6L6	Selects the type of guitar amplifier	
e	Routing	Decimator › Amp, Amp › Decimator	Switches the order of the decimator and amp simulation	
f	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

105: Decimator - Comp (Decimator - Compressor)

This effect combines a mono decimator and a compressor. You can change the order of the effects.

DECIMATOR			
a	[D]Pre LPF	Off, On	Turn the harmonic noise caused by lowered sampling on and off
	High Damp [%]	0…100	Sets the ratio of high-range damping
b	[D]Sampling Freq [Hz]	1.00k…48.00k	Sets the sampling frequency
	Resolution	4…24	Sets the data bit length
c	[D]Output Level	0…100	Sets the decimator output level
COMPRESSOR			
d	[C] Sensitivity	1…100	Sets the sensitivity
e	[C]Attack	1…100	Sets the attack level
	Output Level	0…100	Sets the compressor output level
f	Routing	Decimator › Comp, Comp › Decimator	Switches the order of the decimator and compressor
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	–100…+100	Amount of modulation source

106: AmpSim - Tremolo (Amp Simulation- Tremolo)

This effect combines a mono amp simulation and a tremolo.
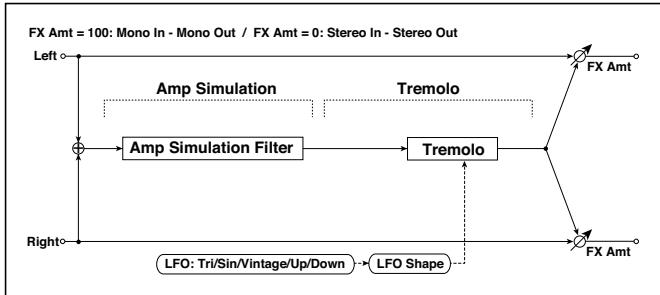
AMP SIM			
a	[A]Amplifier Type	SS, EL84, 6L6	Selects the type of guitar amplifier
TREMOLO			
b	[T]LFO Waveform	Triangle, Sine, Vintage, Up, Down	Selects the LFO Waveform
	LFO Shape	–100…+100	Changes the curvature of the LFO Waveform
c	[T]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO
d	[T]Depth	0…100	Sets the depth of LFO modulation
e	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	–100…+100	Amount of modulation source

107: Cho/Flng - Mt.Dly (Chorus/Flanger - Multitap Delay)

This effect combines a mono chorus/flanger and a multitap delay.
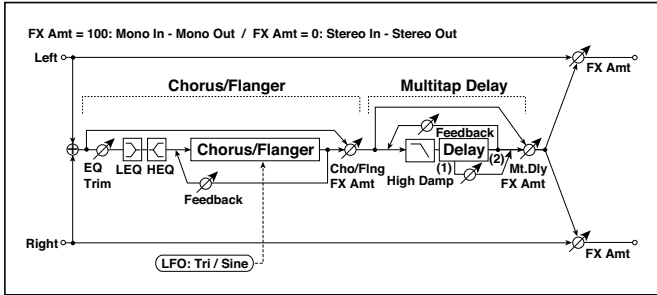
	CHORUS/FLANGER			
a	[F]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
b	[F]Delay Time [msec]	0.0…1350.0	Sets the delay time	
	Depth	0…100	Sets the depth of LFO modulation	
	Feedback	−100…+100	Sets the feedback amount	
c	[F]EQ Trim	0…100	Sets the EQ input level	
d	[F]PreLEQ Gain [dB]	−15…+15	Sets the gain of Low EQ	
	PreHEQ Gain [dB]	−15…+15	Sets the gain of High EQ	
e	[F]Cho/Flng Wet/Dry	−Wet…−1 : 99, Dry, 1 : 99…Wet	Sets the effect balance of the chorus/flanger	
	MULTITAP DELAY			
a	[D]Tap1 Time [msec]	0.0…1360.0	Sets the Tap1 delay time	
	Tap1 Level	0…100	Sets the Tap1 output level	
b	[D]Tap2 Time [msec]	0.0…1360.0	Sets the Tap2 delay time	
	Feedback	−100…+100	Sets the Tap2 feedback amount	
c	[D]High Damp [%]	0…100	Sets the damping amount in the high range	

d	[D]Mt.DelayWet/Dry	Dry, 1:99…99:1, Wet	Sets the multitap delay effect balance	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the multitap delay	
	Amt	−100…+100	Sets the Wet/Dry modulation amount for the multitap delay	
e	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

108: Phaser - Cho/Flng (Phaser - Chorus/Flanger)

This effect combines a mono phaser and a chorus/flanger.
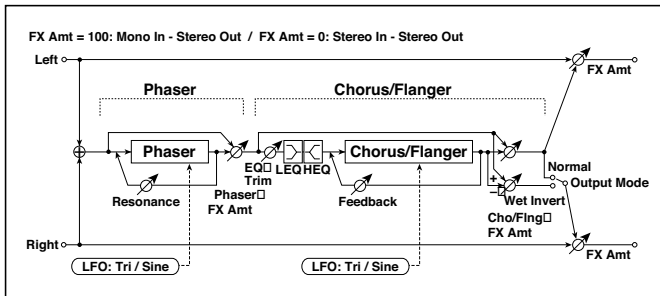
	PHASER			
a	[P]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
b	[P]Manual	0…100	Sets the frequency to which the effect is applied	
	Depth	0…100	Sets the depth of LFO modulation	
	Resonance	−100…+100	Sets the resonance amount	
c	[P]Phaser Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Sets the phaser effect balance	

CHORUS/FLANGER				
d	[F]LFO Frequency [Hz]	0.02…20.00	Sets the speed of the LFO	
	LFO Waveform	Triangle, Sine	Selects the LFO Waveform	
e	[F]Delay Time [msec]	0.0…1350.0	Sets the delay time	
	Depth	0…100	Sets the depth of LFO modulation	
	Feedback	−100…+100	Sets the feedback amount	
f	[F]EQ Trim	0…100	Sets the EQ input level	
g	[F]PreLEQ Gain [dB]	−15…+15	Sets the gain of Low EQ	
	PreHEQ Gain [dB]	−15…+15	Sets the gain of High EQ	
h	[F]Cho/Flng Wet/Dry	-Wet, -1:99… Dry…99:1, Wet	Sets the effect balance of the chorus/flanger	
	Src	Off…Tempo	Selects the Wet/Dry modulation source for the chorus/flanger	
	Amt	−100…+100	Sets the Wet/Dry modulation amount for the chorus/flanger	
i	[F]Output Mode	Normal, Wet Invert	Selects the output mode for the chorus/flanger	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

109: Reverb - Gate

This effect combines a mono reverb and a gate.

FX Amt = 100: Mono In - Mono Out / FX Amt = 0: Stereo In - Stereo Out
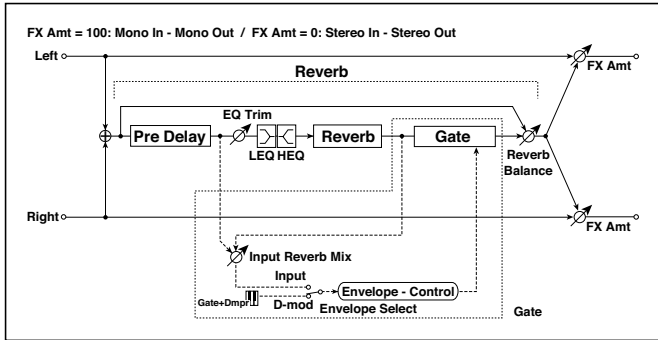
REVERB			
a	[R]Reverb Time [sec]	0.1…10.0	Sets the reverberation time
	High Damp [%]	0…100	Sets the damping amount in the high range
b	[R]Pre Delay [msec]	0…200	Sets the delay time of the reverb sound and gate control signal
c	[R]EQ Trim	0…100	Sets the EQ input level
	Reverb Balance	0…100	Sets the reverb effect balance
d	[R]PreLEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer
e	[R]PreLEQ Gain [dB]	–15.0…+15.0	Sets the gain of Low EQ
	Pre HEQ Gain [dB]	–15.0…+15.0	Sets the gain of High EQ
GATE			
f	[G]Envelope Select	D-mod, Input	Switches between modulation source control and input signal control
	Src	Off…Tempo	Selects the modulation source that controls the gate when Envelope Select is set to D-mod
g	[G]Input Reverb Mix	0…100	Sets the balance between the dry and reverb sounds of the gate control signal
	Threshold	0…100	Sets the gate threshold level

h	[G]Polarity	+, –	Switches between non-invert and in-vert of the gate on/off state
i	[G]Attack	1…100	Sets the attack time
	Release	1…100	Sets the release time
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry sig-nal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	–100…+100	Amount of modulation source

f: [G]Envelope Select

f: Src

g: [G]Input Reverb Mix

g: Threshold

The "[G]Envelope Select" parameter enables you to select whether turning the gate on and off is triggered by the input signal level or controlled directly by the modulation source. You can select from Off to Tempo for the Src parameter to specify the modulation source.

When "[G]Envelope Select" is set to Input, the gate is controlled by the level of signals that are the combination of the dry sound and the reverb sound. When the signal level exceeds the threshold, the gate opens and the reverb sound is output.

Normally, set "[G]Input Reverb Mix" to Dry (the gate is controlled only by the dry sound). If you wish to extend the gate time, set the "[G]Input Reverb Mix" value higher and adjust the "Threshold" value.

Double Size

Double-size effects can only be assigned to the FX2 processors (either in the A or B FX group).

110: St. Mltband Limiter (Stereo Mltband Limiter)

This is a stereo multiband limiter.

a	Ratio	1.0 : 1… 50.0 : 1, Inf : 1	Sets the signal compression ratio	
b	Threshold [dB]	−40…0	Sets the level above which the compressor is applied	
c	Attack	1…100	Sets the attack time	
d	Release	1…100	Sets the release time	
e	Low Offset [dB]	−40…0	Sets the low range gain of trigger signal	
f	Mid Offset [dB]	−40…0	Sets the mid range gain of trigger signal	
g	High Offset [dB]	−40…0	Sets the high range gain of trigger signal	
h	Gain Adjust [dB]	−Inf, −38…+24	Sets the output gain	
	Src	Off…Tempo	Selects the modulation source for the output gain	
	Amt	−63…+63	Sets the modulation amount of the output gain	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

111: PianoBody/Damper (PianoBody/Damper Simulation)

This effect simulates the resonance of the piano sound board caused by the string vibration, and also simulates the resonance of other strings that are not being played when you press the damper pedal. It will create a very realistic sound when applied to acoustic piano sounds.

FX Amt = 100: Mono In - Stereo Out / FX Amt = 0: Stereo In - Stereo Out
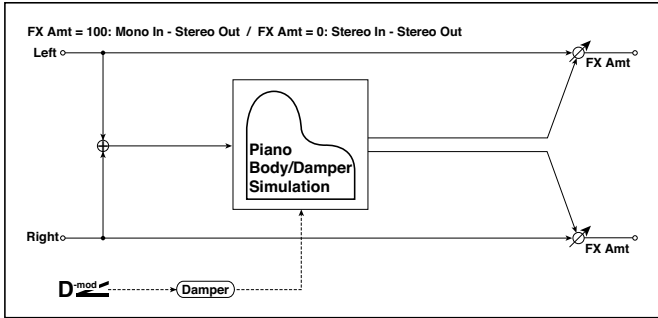
a	Sound Board Depth	0…100	Sets the intensity of resonance of the sound board	
b	Damper Depth	0…100	Sets the intensity of the string resonance created when the damper pedal is pressed	
	Src	Off…Tempo	Selects the modulation source of damper effect	
c	Tone	1…100	Sets tonal quality of effect sound	
d	Mid Shape	0…36	Sets the mid range of tonal quality	
e	Tune	−50…+50	Fine tuning	
f	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Sound Board Depth

This parameter sets the intensity of resonance of the piano sound board.

b: Damper Depth
b: Src

This parameter sets the resonance intensity of the other strings created when the damper pedal is pressed. The "Src" parameter selects the modula-

tion source from which the damper effect is applied. Usually, select Damper #64 Pdl (Damper pedal).

MIDI The effect is off when a value for the modulation source specified for the "Src" parameter is 63 or smaller, and the effect is on when the value is 64 or higher.

c: Tone

d: Mid Shape

These parameters control the tonal quality of the effect sound.

e: Tune

Since this effect simulates the resonance of the strings, the sound varies depending on the pitch. If you have changed tuning using the "Master Tuning" (Global > General Controls > Basic), adjust this parameter value.

112: OD/HyperGain Wah (Overdrive/Hyper Gain Wah)

This distortion effect has two modes: overdrive and hyper-gain that produces a strong distortion. A higher high-gain setting is required for this effect relative to a normal-size effect.

a	Wah	Off, On	Switches Wah on/off	
	Src	Off…Tempo	Selects the modulation source that switches the Wah on and off	
	Sw	Toggle, Moment	Selects the switching mode for the modulation source that switches the Wah on and off	
b	Wah Sweep Range	–10…+10	Sets the range of Wah	
	Wah Sweep Src	Off…Tempo	Selects the modulation source that controls the Wah	

c	Drive Mode	Overdrive, Hyper-Gain	Switches between overdrive and hi-gain distortion	
d	Drive	1…120	Sets the degree of distortion	
	Pre Low-cut	0…10	Sets the low range cut amount of the distortion input	
e	Output Level	0…50	Sets the output level	
	Src	Off…Tempo	Selects the modulation source for the output level	
	Amt	−50…+50	Sets the modulation amount of the output level	
f	Low Cutoff [Hz]	20…1.00k	Sets the center frequency for Low EQ (shelving type)	
	Gain [dB]	−18…+18	Sets the gain of Low EQ	
g	Mid1 Cutoff [Hz]	300…10.00k	Sets the center frequency for Mid/High EQ 1 (peaking type)	
	Q	0.5…10.0	Sets the band width of Mid/High EQ 1	
	Gain [dB]	−18…+18	Sets the gain of Mid/High EQ 1	
h	Mid2 Cutoff [Hz]	500…20.00k	Sets the center frequency for Mid/High EQ 2 (peaking type)	
	Q	0.5…10.0	Sets the band width of Mid/High EQ 2	
	Gain [dB]	−18…+18	Sets the gain of Mid/High EQ 2	
i	Direct Mix	0…50	Sets the amount of the dry sound mixed to the distortion	
	Speaker Simulation	Off, On	Switches the speaker simulation on/off	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

113: GuitarAmp + P4EQ (Guitar Amp Model + Parametric 4-Band EQ)

This combines a guitar amp simulation (which even faithfully replicates the distortion and tone control circuitry) with a four-band equalizer.

By using this in conjunction with St. Guitar Cabinet (Stereo Guitar Cabinet), you can obtain an even more realistic guitar sound that simulates a guitar amp + speaker cabinet.
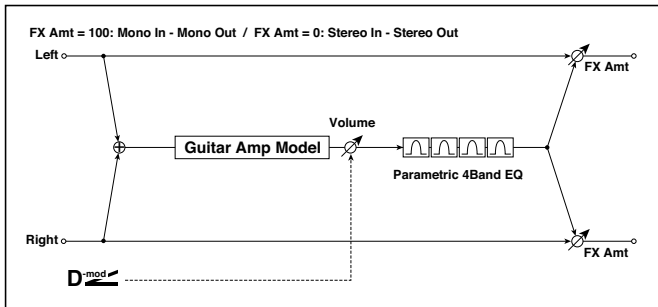
a	Amp Type	VOX AC15, VOX AC15TB, VOX AC30, VOX AC30TB, UK BLUES, UK 70'S, UK 80'S, UK 90'S, UK MODERN, US MODERN, US HIGAIN, BOUTIQUE OD, BOUTIQUE CL, BLACK 2x12, TWEED - 1x12, TWEED - 4x10	Selects the type of the amplifier	
	Drive Gain	0…100	Sets the input gain	
b	Volume	0…100	Sets the output level	
	Src	Off…Tempo	Selects the modulation source for the output level	
	Amt	–100…+100	Sets the modulation amount of the output level	
c	Bass	0…100	Sets the bass (low range) level	
	Middle	0…100	Sets the middle (mid range) level	

d	Treble	0…100	Sets the treble (high range) level	
	Presence	0…100	Sets the presence (high-frequency tone)	
e	Post P4EQ	Thru, On	Selects through or on for the equalizer	
e	Band1 Cutoff [Hz]	20…1.00k	Sets the center frequency of Band 1	
	Q	0.5…10.0	Sets Band 1's bandwidth	
	Gain [dB]	−18…+18	Sets the gain of Band 1	
f	Band2 Cutoff [Hz]	50…5.00k	Sets the center frequency of Band 2	
	Q	0.5…10.0	Sets Band 2's bandwidth	
	Gain [dB]	−18…+18	Sets the gain of Band 2	
g	Band3 Cutoff [Hz]	300…10.00k	Sets the center frequency of Band 3	
	Q	0.5…10.0	Sets Band 3's bandwidth	
	Gain [dB]	−18…+18	Sets the gain of Band 3	
h	Band4 Cutoff [Hz]	500…20.00k	Sets the center frequency of Band 4	
	Q	0.5…10.0	Sets Band 4's bandwidth	
	Gain [dB]	−18…+18	Sets the gain of Band 4	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Amp Type
d: Presence

If the Amp Type is VOX AC15…VOX AC30TB, this sets the attenuation of the high-frequency range. For other types, this sets the boost of the high-frequency range.

This corresponds to the Cut knob control of amps made by the VOX Corporation.

e: Post P4EQ

By chaining this with 19: St.Guitar Cabinet you can simulate the combination of a guitar amp and speaker cabinet. In this case, we recommend that you

set Post P4EQ to "Thru," but if necessary you can turn it "On" and adjust the tone.

Recommended Combinations of Guitar Amp Models and Cabinet Simulators:

Amp Type	Cabinet Type
VOX AC15	VOX AC15 - 1x12
VOX AC15TB	VOX AC15 - 1x12
VOX AC30	VOX AC30 - 2x12
VOX AC30TB	VOX AC30 - 2x12
UK BLUES	UK H30 - 4x12
UK 70'S	UK H30 - 4x12
UK 80'S	UK T75 - 4x12
UK 90'S	UK T75 - 4x12
UK MODERN	UK T75 - 4x12, US V30 - 4x12
US MODERN	US V30 - 4x12
US HIGAIN	US V30 - 4x12, UK T75 - 4x12
BOUTIQUE OD	UK H30 - 4x12
BOUTIQUE CL	UK H30 - 4x12
BLACK 2x12	BLACK - 2x12
TWEED - 1x12	TWEED - 1x12
TWEED - 4x10	TWEED - 4x10

114: BassTubeAmp+Cab. (Bass Tube Amp Model + Cabinet)

This simulates a bass amp (with gain and drive) and speaker cabinet.

a	Amp Type		Selects the type of the amplifier	
		STUDIO COMBO	A tube combo ideal for the Motown sound	
		VOX AC100	A 100W tube amp AC100 made by Vox	
		UK MAJOR	A 200W tube amp made in the UK	
b	Drive Gain	0…100	Sets the input gain	
c	Volume	0…100	Sets the output level	
	Src	Off…Tempo	Selects the modulation source for the output level	
	Amt	−100…+100	Sets the modulation amount of the output level	
d	Bass	0…100	Sets the bass (low range) level	
e	Middle	0…100	Sets the middle (mid range) level	
f	Treble	0…100	Sets the treble (high range) level	
g	Presence	0…100	Sets the presence (high-frequency tone)	
h	Cabinet Simulator	Off, On	Switches the cabinet simulator on/off	
i	Cabinet Type	LA - 4x10, MODERN - 4x10, METAL - 4x10, CLASSIC -8x10, UK - 4x12, STUDIO - 1x15, JAZZ - 1x15, VOX AC100 - 2x15, US - 2x15, UK - 4x15, LA - 1x18, COMBI - 1x12 & 1x18	Selects the cabinet type	

j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Amp Type

i: Cabinet Type

Recommended Combinations of Bass Amp Models and Cabinets:

Amp Type	Cabinet Type
STUDIO COMBO	STUDIO - 1x15
AC100	VOX AC100 - 2x15
UK MAJOR	UK - 4x15, UK - 4x12

115: St. Mic + PreAmp (Stereo Mic Modeling + PreAmp)

This is a stereo mic and preamp simulator (Mic Model+PreAmp (Mic Modeling + PreAmp)). For example you might use this to simulate micing of a stereo source such as a rotary speaker.
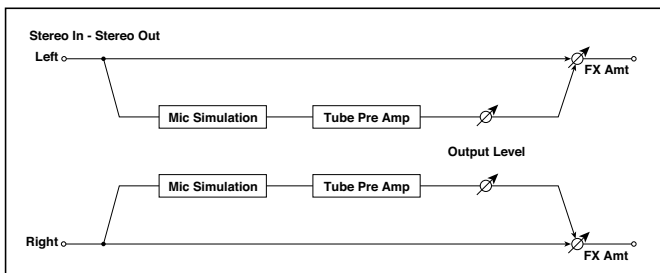
116: Multitap Cho/Delay (Multitap Chorus/Delay)

This effect has six chorus blocks with different LFO phases. You can produce a complex stereo image by setting a different delay time and depth for each block. You can control the delay output level via a modulation source.
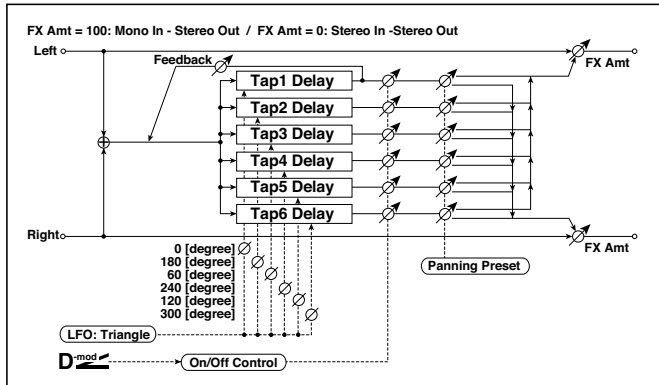
a	LFO Frequency [Hz]	0.02…13.00	Sets the speed of the LFO	
b	Tap1 (000) [msec]	0…2000	Sets the Tap1 (LFO phase=0 degrees) delay time	
	Depth	0…30	Sets the Tap1 chorus depth	
	Status	Always On, Always Off, On›Off (Dm), Off›On (Dm)	Selects on, off, or modulation source for the control of Tap1 output	
c	Tap2 (180) [msec]	0…2000	Sets the Tap2 (LFO phase=180 degrees) delay time	
	Depth	0…30	Sets the Tap2 chorus depth	
	Status	Always On, Always Off, On›Off (Dm), Off›On (Dm)	Selects on, off, or modulation source for the control of Tap2 output	
d	Tap3 (060) [msec]	0…2000	Sets the Tap3 (LFO phase=60 degrees) delay time	
	Depth	0…30	Sets the Tap3 chorus depth	
	Status	Always On, Always Off, On›Off (Dm), Off›On (Dm)	Selects on, off, or modulation source for the control of Tap3 output	

e	Tap4 (240) [msec]	0…2000	Sets the Tap4 (LFO phase=240 degrees) delay time	
	Depth	0…30	Sets the Tap4 chorus depth	
	Status	Always On, Always Off, On›Off (Dm), Off›On (Dm)	Selects on, off, or modulation source for the control of Tap4 output	
f	Tap5 (120) [msec]	0…2000	Sets the Tap5 (LFO phase=120 degrees) delay time	
	Depth	0…30	Sets the Tap5 chorus depth	
	Status	Always On, Always Off, On›Off (Dm), Off›On (Dm)	Selects on, off, or modulation source for the control of Tap5 output	
g	Tap6 (300) [msec]	0…2000	Sets the Tap1 (LFO phase=300 degrees) delay time	
	Depth	0…30	Sets the Tap6 chorus depth	
	Status	Always On, Always Off, On›Off (Dm), Off›On (Dm)	Selects on, off, or modulation source for the control of Tap6 output	
h	Panning Preset	1 : L 1 2 3 4 5 6 R, 2 : L 135 246 R, 3 : L 1 3 5 2 4 6 R, 4 : L 1 4 5 6 3 2 R	Selects the stereo panning pattern for each tap	
i	Tap1 Feedback	–100…+100	Sets the Tap1 feedback amount	
	Src	Off…Tempo	Selects the modulation source for the Tap output level, feedback amount, and effect balance	
	Amt	–100…+100	Sets the modulation amount of Tap1 feedback amount	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

b, c, d, e, f, g: Status

These parameters set the output status of each Tap.

Always On: Output is always on. (No modulation)

Always Off: Output is always off. (No modulation)

On/Off (dm): Output level is switched from on to off depending on the modulation source.

Off/On (dm): Output level is switched from off to on depending on the modulation source.

Combining these parameters, you can change from 4-phase chorus to two-tap delay by crossfading them gradually via the modulation source during a performance.

h: Panning Preset

This parameter selects combinations of stereo images of the tap outputs.

117: St. Pitch Shifter (Stereo Pitch Shifter)

This is a stereo pitch shifter. The pitch shift amount for the left and right channels can be reversed from each other.

a	Mode	Slow, Medium, Fast	Switches Pitch Shifter mode	
	L/R Pitch	Normal, Up/Down	Determines whether or not the L/R pitch shift amount is inverted	
b	Pitch Shift [1/2tone]	−24…+24	Sets the pitch shift amount in steps of a semitone	
	Src	Off…Tempo	Selects the modulation source of pitch shift amount	
	Amt	−24…+24	Sets the modulation amount of pitch shift amount	

c	Fine [cents]	–100…+100	Sets the pitch shift amount in steps of one cent	
	Amt	–100…+100	Sets the modulation amount of pitch shift amount	
d	L Delay [msec]	0…2000	Sets the delay time for the left channel	
e	R Delay [msec]	0…2000	Sets the delay time for the right channel	
f	Feedback	–100…+100	Sets the feedback amount	
	High Damp [%]	0…100	Sets the damping amount in the high range	
g	Feedback Position	Pre, Post	Switches the feedback connection	
	Spread	–100…+100	Sets the width of the stereo image of the effect sound	
h	Input Level Dmod [%]	–100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: L/R Pitch

When you select Up/Down for this parameter, the pitch shift amount for the right channel will be reversed. If the pitch shift amount is positive, the pitch of the left channel is raised, and the pitch of the right channel is lowered.

118: St. PitchShift BPM (Stereo Pitch Shifter BPM)

This stereo pitch shifter enables you to set the delay time to match the song tempo.

a	Mode	Slow, Medium, Fast	Switches Pitch Shifter mode	
	L/R Pitch	Normal, Up/Down	Determines whether or not the L/R pitch shift amount is inverted	
b	Pitch Shift [1/2tone]	–24…+24	Sets the pitch shift amount in steps of a semitone	
	Src	Off…Tempo	Selects the modulation source of pitch shift amount	
	Amt	–24…+24	Sets the modulation amount of pitch shift amount	
c	Fine [cents]	–100…+100	Sets the pitch shift amount in steps of one cent	
	Amt	–100…+100	Sets the modulation amount of pitch shift amount Sets the modulation amount of pitch shift amount	
d	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	♩Sync
	Time Over? L	---, OVER!	Display the error message if the left channel delay time exceeds the upper limit	
	R	---, OVER!	Display the error message if the right channel delay time exceeds the upper limit	
e	L Delay Base Note	♪…♩	Selects the type of notes to specify the left channel delay time	♩Sync
	Times	x1…x32	Sets the number of notes to specify the left channel delay time	

f	R Delay Base Note	♩…♩	Selects the type of notes to specify the right channel delay time	♩Sync
	Times	x1…x32	Sets the number of notes to specify the right channel delay time	
g	Feedback Position	Pre, Post	Switches the feedback connection	
	Spread	−100…+100	Sets the width of the stereo image of the effect sound	
h	Feedback	−100…+100	Sets the feedback amount	
	High Damp [%]	0…100	Sets the damping amount in the high range	
i	Input Level Dmod [%]	−100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

119: Rotary SpeakerOD (Rotary Speaker Overdrive)

This is a stereo rotary speaker effect. It has an internal speaker simulator that simulates overdrive (recreating the amp distortion) and characteristics of the rotary speaker, producing a very realistic rotary speaker sound.
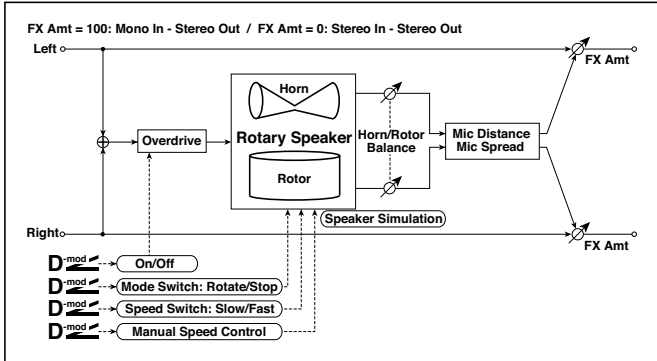
a	Overdrive	Off, On	Switches overdrive on/off	
	Src	Off…Tempo	Selects a modulation source to switch overdrive on/off	
	Sw	Toggle, Moment	Sets the switch mode for overdrive on/off modulation	
b	Overdrive Gain	0…100	Determines the degree of distortion	
	Overdrive Level	0…100	Sets the overdrive output level	
C	Overdrive Tone	0…15	Sets the tonal quality of the overdrive	
	Speaker Simulator	Off, On	Switches the speaker simulation on/off	
d	Mode Switch	Rotate, Stop	Switches between speaker rotation and stop	
	Src	Off…Tempo	Selects a modulation source for Rotate/Stop	
	Sw	Toggle, Moment	Sets the switch mode for Rotate/Stop modulation	
e	Speed Switch	Slow, Fast	Switches the speaker rotation speed between slow and fast	
	Src	Off…Tempo	Selects a modulation source for Slow/Fast	
	Sw	Toggle, Moment	Sets the switch mode for Slow/Fast modulation	

f	Horn/Rotor Balance	Rotor, 1…99, Horn	Sets the volume balance between the high-range horn and low-range rotor
	Manual SpeedCtrl	Off…Tempo	Sets a modulation source for direct control of rotation speed
g	Horn Acceleration	0…100	Sets how quickly the horn rotation speed changes
	Horn Ratio	Stop, 0.50…2.00	Adjusts the (high-frequency) horn rotation speed. Standard value is 1.00. "Stop" stops the rotation
h	Rotor Acceleration	0…100	Sets how quickly the rotor speed changes
	Rotor Ratio	Stop, 0.50…2.00	Adjusts the (low-frequency) rotor rotation speed. Standard value is 1.0. "Stop" stops the rotation
i	Mic Distance	0…100	Distance between the microphone and rotary speaker
	Mic Spread	0…100	Angle of left and right microphones
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	–100…+100	Amount of modulation source

a: Sw

This parameter determines how to switch on/off the overdrive via a modulation source.

When "Sw" = Toggle, overdrive is turned on/off each time the pedal or joystick is operated.

MIDI Overdrive will be switched on/off each time the value of the modulation source exceeds 64.

When "Sw" = Moment, overdrive is applied only when you press the pedal or operate the joystick.

MIDI Only when the value for the modulation source is 64 or higher, the overdrive effect is applied.

120: L/C/R Long Delay

This multitap delay outputs three Tap signals to left, right and center respectively. You can set a maximum of 5,460msec for the delay time.

a	L Delay Time [msec]	0…5460	Sets the delay time of TapL
	Level	0…50	Sets the output level of TapL
b	C Delay Time [msec]	0…5460	Sets the delay time of TapC
	Level	0…50	Sets the output level of TapC
c	R Delay Time [msec]	0…5460	Sets the delay time of TapR
	Level	0…50	Sets the output level of TapR
d	Feedback (C Delay)	−100…+100	Sets the feedback amount of TapC
	Src	Off…Tempo	Selects the modulation source for the TapC feedback
	Amt	−100…+100	Sets the modulation amount of the TapC feedback
e	High Damp [%]	0…100	Sets the damping amount in the high range
	Low Damp [%]	0…100	Sets the damping amount in the low range
f	Input Level Dmod [%]	−100…+100	Sets the modulation amount of the input level
	Src	Off…Tempo	Selects the modulation source for the input level
g	Spread	0…50	Sets the width of the stereo image of the effect sound

h	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

121: St/Cross Long Delay (Stereo/Cross Long Delay)

This is a stereo delay, and can by used as a cross-feedback delay effect in which the delay sounds cross over between left and right by changing the feedback routing. You can set a maximum of 2,730msec for the delay time.

a	Stereo/Cross	Stereo, Cross	Switches between stereo delay and cross-feedback delay
b	L Delay Time [msec]	0.0…2730.0	Sets the delay time for the left channel
c	R Delay Time [msec]	0.0…2730.0	Sets the delay time for the right channel
d	L Feedback	−100…+100	Sets the feedback amount for the left channel
	Src	Off…Tempo	Selects the modulation source of feedback amount
	Amt	−100…+100	Sets the modulation amount of the left channel feedback
e	R Feedback	−100…+100	Sets the feedback amount for the right channel
	Amt	−100…+100	Sets the modulation amount of the right channel feedback
f	High Damp [%]	0…100	Sets the damping amount in the high range
g	Low Damp [%]	0…100	Sets the damping amount in the low range

h	Input Level Dmod [%]	–100…+100	Sets the modulation amount of the input level
	Src	Off…Tempo	Selects the modulation source for the input level
i	Spread	–50…+50	Sets the width of the stereo image of the effect sound
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	–100…+100	Amount of modulation source

122: Hold Delay

This effect records the input signal and plays it back repeatedly. You can control the start of recording and reset via a modulation source. Easy to use for real-time performances.
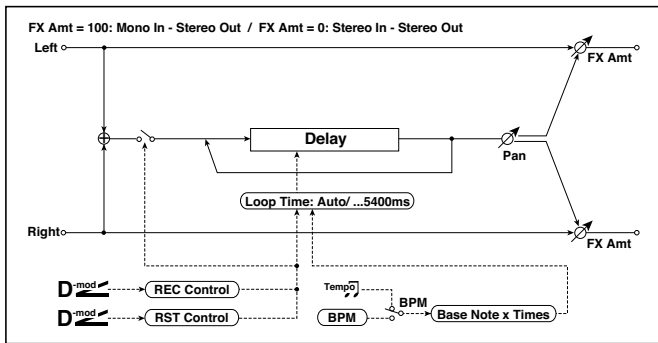
a	Loop Time [msec]	Auto, 1…10800	Sets Automatic loop time setup mode or specifies loop time
b	Loop BPM Sync	Off, On	Specifies whether delay time is set in milliseconds, or as a note value relative to tempo

c	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect
	Time Over?	---, OVER!	An error indication that appears if delay time exceeds the upper limit when MIDI/Tempo Sync=On
d	Loop Base Note	♪…	Selects the type of notes to specify the delay time
	Times	x1…x32	Sets the number of notes to specify the delay time
e	REC Control Src	Off…Tempo	Selects control source for recording
f	RST Control Src	Off…Tempo	Selects control source for reset
g	Manual REC Control	REC Off, REC On	Sets the recording switch
h	Manual RST Control	Off, RESET	Sets the reset switch
i	Pan	L100…L1, C, R1…R100	Sets the stereo image of the effect
	Src	Off…Tempo	Selects the modulation source of stereo image of the effect
	Amt	−100…+100	Sets the modulation amount of stereo image of the effect
j	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)
	Amt	−100…+100	Amount of modulation source

a: Loop Time [msec]

With Auto, the loop time is automatically set. Otherwise, you can specify the loop time.

When Auto is selected, the Loop Time is automatically set to the time it takes for a performance recorded while the Modulation Source or "Manual REC Control" is on. However, if the time length exceeds 10,800msec, the loop time will be automatically set to 10,800msec.

c: Time Over?

You can set the delay time up to 10,800msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

b: Loop BPM Sync

c: BPM

d: Loop Base Note

d: Times

If "Loop BPM Sync" is on, the "Times" setting is ignored; the loop time is determined by "BPM," "Loop Base Note," and "Times." Even in this case, the delay time cannot exceed 10,800 msec.

"Hold" procedure (when Loop Time = Auto)

1   "Rec Src"JS +Y: #01

"Reset Src"JS -Y: #02

"Manual REC Control"REC Off

"Manual RST Control"RESET

"Loop Time [msec]"Auto

"MIDI/Tempo Sync"Off

It should be noted that all recordings will be deleted while Reset is On.

2   "Manual RST Control"Off

Reset is cancelled and the unit enters Rec ready mode.

3   Push the joystick in the +Y direction (forward) and play a phrase you wish to hold. When you pull the joystick to its original position, the recording will be finished and the phrase you just played will be held.

Loop Time is automatically set only for the first recording after resetting. If the time length exceeds 10,800msec, Loop Time will be automatically set to 10,800msec. (If you have set "Times" to 1–10,800msec, the specified loop time will be used regardless of the time taken from pushing the joystick forward until it is pulled back. However, the recording method remains the same. The phrase being played while the joystick is pushed forward will be held.)

4   If you made a mistake during recording, pull the joystick in the -Y direction (back) to reset. In this way, the recording will be erased. Repeat step 4. again.

5   The recorded phrase will be repeated again and again. You can use this to create an accompaniment.

6   By pushing the joystick in the +Y direction (forward), you can also overdub performances over the phrase that is being held.

e: REC Control Src

g: Manual REC Control

"REC Control Src" selects the modulation source that controls recording.

If this modulation is on, or if "Manual REC Control" is set to On, you can record the input signal. If a recording has already been carried out, additional signals will be overdubbed.

MIDI The effect is off when a value for the modulation source specified for the "REC Control Src" parameter is 63 or smaller, and the effect is on when the value is 64 or higher.

f: RST Control Src

h: Manual RST Control

The "RST Control Src" parameter specifies the modulation source that controls the reset operation.

When you set this modulation source to On, or "Manual RST Control" to RESET, you can erase what you recorded. If the Loop Time parameter has been set to Auto, the loop time is also reset.

MIDI The effect is off when a value for the modulation source specified for the "RST Control Src" parameter is 63 or smaller, and the effect is on when the value is 64 or higher.

123: LCR BPM Long Dly

The L/C/R delay enables you to match the delay time with the song tempo.

a	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect	
	Time Over?	---, OVER!	Displays an error message when the delay time exceeds the upper limit	
b	L Delay Base Note		Selects the type of notes to specify the delay time for TapL	
	Times	x1…x32	Sets the number of notes to specify the delay time for TapL	
	Level	0…50	Sets the output level of TapL	
c	C Delay Base Note		elects the type of notes to specify the delay time for TapC	
	Times	x1…x32	Sets the number of notes to specify the delay time for TapC	
	Level	0…50	Sets the output level of TapC	
d	R Delay Base Note		Selects the type of notes to specify the delay time for TapR	
	Times	x1…x32	Sets the number of notes to specify the delay time for TapR	
	Level	0…50	Sets the output level of TapR	
e	Feedback (C Delay)	−100…+100	Sets the feedback amount of TapC	
	Src	Off…Tempo	Selects the modulation source for the TapC feedback	
	Amt	−100…+100	Sets the modulation amount of the TapC feedback	

f	High Damp [%]	0…100	Sets the damping amount in the high range	
	Low Damp [%]	0…100	Sets the damping amount in the low range	
g	Input Level Dmod [%]	−100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	
h	Spread	0…50	Sets the width of the stereo image of the effect sound	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	−100…+100	Amount of modulation source	

a: Time Over?

You can set the delay time up to 10,920msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

124: St. BPM Long Dly (Stereo BPM Long Delay)

The stereo delay enables you to match the delay time with the song tempo.

a	BPM	MIDI, 40.00… 300.00	MIDI syncs to the system tempo; 40–300 sets the tempo manually for this individual effect
	Time Over? L	---, OVER!	Display the error message if the left channel delay time exceeds the upper limit
	R	---, OVER!	Display the error message if the right channel delay time exceeds the upper limit
b	L Delay Base Note	♪…♩	Selects the type of notes to specify the left channel delay time
	Times	x1…x32	Sets the number of notes to specify the left channel delay time
	Adjust [%]	–2.50…+2.50	Fine-adjust the left channel delay time
c	R Delay Base Note	♪…♩	Selects the type of notes to specify the right channel delay time
	Times	x1…x32	Sets the number of notes to specify the right channel delay time
	Adjust [%]	–2.50…+2.50	Fine-adjust the right channel delay time
d	L Feedback	–100…+100	Sets the feedback amount for the left channel
	Src	Off…Tempo	Selects the modulation source of feedback amount
	L Amt	–100…+100	Sets the modulation amount of the left channel feedback

e	R Feedback	–100…+100	Sets the feedback amount for the right channel	
	R Amt	–100…+100	Sets the modulation amount of the right channel feedback	
f	High Damp [%]	0…100	Sets the damping amount in the high range	
g	Low Damp [%]	0…100	Sets the damping amount in the low range	
h	Input Level Dmod [%]	–100…+100	Sets the modulation amount of the input level	
	Src	Off…Tempo	Selects the modulation source for the input level	
i	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

a: Time Over? L, R

You can set the delay time up to 5,460msec. If the delay time exceeds this limit, the error message "OVER!" appears in the display. Set the delay time parameters so that this message will not appear. "Time Over?" is only a display parameter.

125: Early Reflections

This early reflection effect has more precise early reflections with twice the maximum length of a normal-size effect (Early Reflections). You can create a very smooth and dense sound.
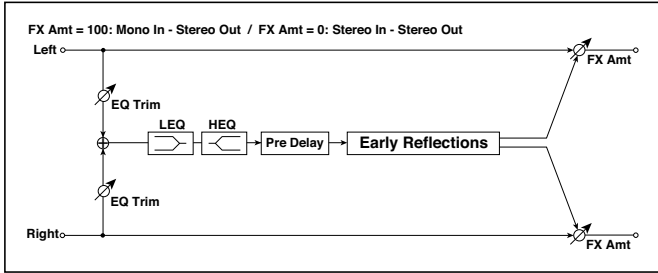
a	Type	Sharp, Loose, Modulated, Reverse	Selects the decay curve for the early reflection	
b	ER Time [msec]	10…1600	Sets the time length of early reflection	
c	Pre Delay [msec]	0…200	Sets the time taken from the original sound to the first early reflection	
d	EQ Trim	0…100	Sets the input level of EQ applied to the effect sound	
e	Pre LEQ Fc	Low, Mid-Low	Selects the cutoff frequency (low or mid-low) of the low-range equalizer	
	Pre HEQ Fc	High, Mid-High	Selects the cutoff frequency (high or mid-high) of the high-range equalizer	
f	Pre LEQ Gain [dB]	–15.0…+15.0	Sets the gain of Low EQ	
	Pre HEQ Gain [dB]	–15.0…+15.0	Sets the gain of High EQ	
g	Wet/Dry	Dry, 1:99…99:1, Wet	Balance between the wet and dry signal	
	Src	Off…Tempo	See DMS (Dynamic Modulation Source)	
	Amt	–100…+100	Amount of modulation source	

37   Limiter, Master EQ

Limiter

The Limiter allows for an increased loudness of the Sounds (Keyboard, Styles and MIDI Songs), by compressing the signal exceeding a defined threshold. MP3 files are not affected by the Limiter (since they are usually already 'produced', and do not need to pass through the Limiter again).

Accessing the Limiter

■   Go to the Global > Audio & EQ > Limiter page.
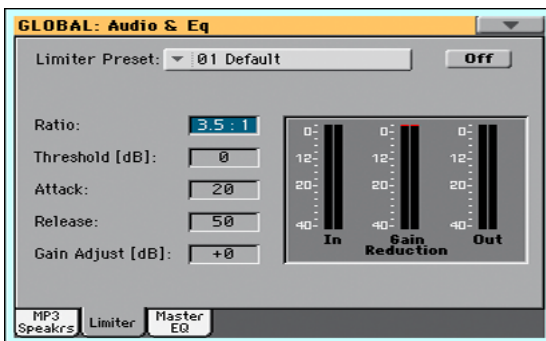
Choosing a Limiter Preset

■   Use the Limiter Preset pop-up menu to choose one of the available Limiter Presets, and automatically reconfigure the parameters.

Turning the Limiter on or off

■   Use the On/Off switch to turn the Limiter on or off.

Programming the Limiter

You can edit the Limiter parameters, to adapt to your own style of playing.

Limiter Parameter	Meaning	Value
Ratio	Sets the signal compression ratio. Compression is applied only when the signal level exceeds the Threshold value. 1.0:1 means no compression.	Inf:1 … 1.0:1
Threshold	Sets the level above which compression is applied. 0dB means no signal processed.	-40 … 0
Attack	Sets the attack time. A higher attack time will cause the compres- sion to be applied more slowly, and not react fast enough for notes with faster transients.	1 … 100
Release	Sets the release time. A higher release time will cause the com- pression to be released more slowly; this may help sustaining longer notes.	1 … 100
Gain Adjust	Sets the output gain. Use it to compensate for the gain loss caused by compression.	-Inf … +24

Checking the Limiter action

You can use the bargraph meters to check the level of the audio entering and going out of the Limiter.
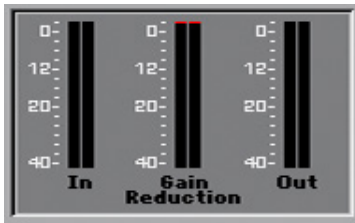
- If the input level is too high, decrease the level of the Sounds, Styles and/or Songs that are playing.

- If the output level is too high, decrease the level of the Gain Adjust control.

- Look at the gain reduction indicator, to understand the amount of limiting going on. Excessive limiting may dramatically change the quality of the musical program.

Open the Write Limiter Preset dialog

1   While in the Limiter page, choose the Write Limiter Preset command from the page menu to open the Write Limiter Preset dialog.
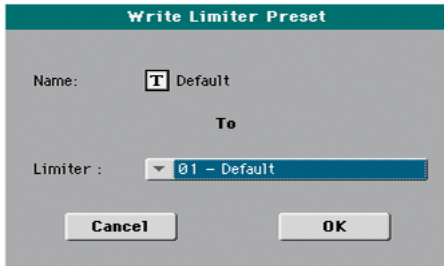
Write over the current Limiter Preset

▪   If you want to overwrite the current Preset, just touch the OK button.

Write to a different Limiter Preset location

1   If you want to choose a different location, use the Limiter pop-up menu.

2   If you want to change the name of the Preset, touch the Text Edit ($\boxed{T}$) icon to open the virtual keyboard and edit the name.

3   When done editing the name, confirm by touching the OK button under the virtual keyboard.

4   When back at the Write Limiter Preset dialog, confirm the Write operation by touching the OK button.

Master EQ

A fully parametric Master EQ is placed at the end of the audio path, just before the various audio outputs (Audio Outs, Phones, integrated speakers). Both Sounds (Keyboard, Styles and MIDI Songs) and MP3 Songs are equalized.

This is a full spectrum frequency equalization, that gives you the power to design EQ curves and shape your sound. Master EQ features four fully programmable bands with fully adjustable gain, frequency, and Q parameters.

Accessing the Master EQ

■ Go to the Global > Audio & Video > Master EQ page.

Choosing an EQ Preset

■ Use the EQ Preset pop-up menu to choose one of the available EQ Presets, and automatically reconfigure the parameters.

Turning the Limiter on or off

■ Use the On/Off switch to turn the Master EQ on or off.

Programming the Master EQ

You can edit the Master EQ parameters, to adapt to your own style of playing.

■ Use the Input Trim knob (0…100) to adjust the level of the signal entering the EQ. Excessive amount of signal may cause distortion when boosting the EQ bands.

■ Edit the EQ bands.

EQ Par.	Meaning	Value			
		Low	**Mid-Low**	**Mid-High**	**High**
Q	'Quality' of the EQ filter; higher values correspond to narrower, more accurate filters. Use higher values for near-surgical correction on isolated frequencies, lower values for more musical, softer equalization.	0.5…10			
Freq	Center frequency of the corresponding band. Center it on the problematic frequency, or the harmonics you want to emphasize or attenuate.	20Hz… 1kHz	50Hz… 10kHz	300Hz… 10kHz	500Hz… 20kHz
Gain	Gain of the corresponding band. Use it to make the frequencies stronger or weaker.	-18…0…+18dB			

Checking the EQ effect

You can use the diagram to check the EQ curve, and the level of the audio entering and coming out of the Master EQ.

- If the input level is too high, decrease the level of the Input Trim parameter.

- If the output level is too high, decrease the level of the Gain controls.

- Keep in mind that boosting the Gain is not always the best way of making your sound appear louder; cutting the Gain of some band may make the other bands appear louder.

Saving a Master EQ Preset

Open the Write Master EQ Preset dialog

1 While in the Master EQ page, choose the Write Master EQ Preset command
   from the page menu to open the Write Master EQ Preset dialog.

Write over the current Master EQ Preset

▪ If you want to overwrite the current Preset, just touch the OK button.

Write to a different Master EQ Preset location

1 If you want to choose a different location, use the Master EQ pop-up menu.

2 If you want to change the name of the Preset, touch the Text Edit (**T**) icon
   to open the virtual keyboard and edit the name.

3 When done editing the name, confirm by touching the OK button under the
   virtual keyboard.

4 When back at the Write Master EQ Preset dialog, confirm the Write opera-
   tion by touching the OK button.

PART IX: GLOBAL SETTINGS, PREFERENCES

38   Customizing the user interface

Colors and language

Choosing the chords and keyboard language

1   Since the instrument must be restarted at the end of this procedure, be sure to first save all unsaved data.

2   Go to the Global > General Controls > Interface page.

3   Use the Language pop-up menu to select one of the available languages.

4   Touch the Change button to apply the selected language.

5   A message will ask you to reboot the instrument. Touch the OK button to close the message window.

6   Turn off, then restart the instrument to activate the new language.

Please note that some of the characters can only be used when editing SongBook Entry names.

Customizing the display colors

You can choose your preferred color scheme for the display.

1   Go to the Global > General Controls > Interface page.

2   Use the Color pop-up menu to select one of the color schemes.
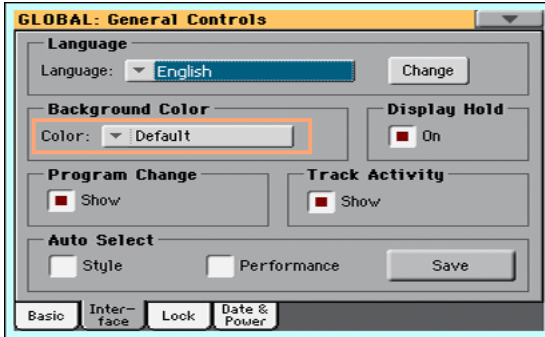
Automatically closing the Select windows

You may prefer to leave a Select window open after you have chosen a Sound, Performance, STS or Style, to continue trying other elements in that window. Or, you may prefer it automatically closes after you have completed your choice. This is determined by the Display Hold parameter.

1   Go to the Global > General Controls > Interface page.
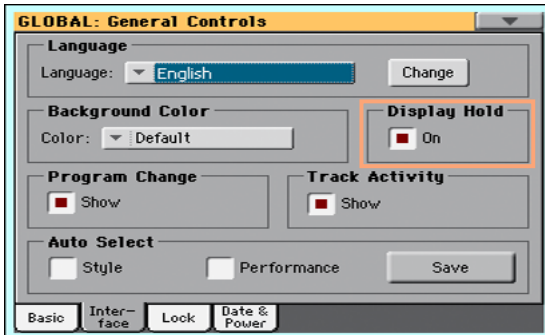
2   Select the Display Hold checkbox to let the Select windows remain open until you press the EXIT button. Deselect it to let the Select windows automatically close after you choose an element.

Program Change and activity indicators

Showing/Hiding the Program Change number

You can make Program Change numbers be shown next to Sound names in the Sound Select window. By default, this option is turned on.
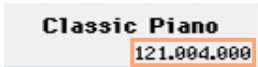
Please note that Program Change numbers are always shown in the various Track Info areas.

1 Go to the Global > General Controls > Interface page.

2 Select/deselect the Program Change > Show checkbox.
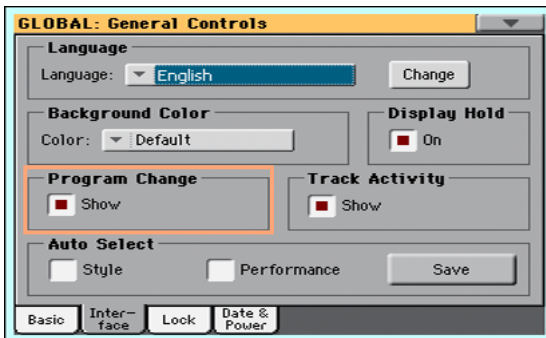
Showing/Hiding the track's activity

You can turn on/off the Track Activity display. When it is turned on, you can monitor events coming from the tracks or the USB inputs. Incoming events are shown by the color changing on each track's label.
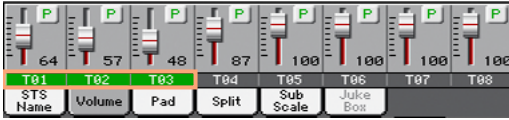
1   Go to the Global > General Controls > Interface page.

2   Select/deselect the Track Activity > Show checkbox.
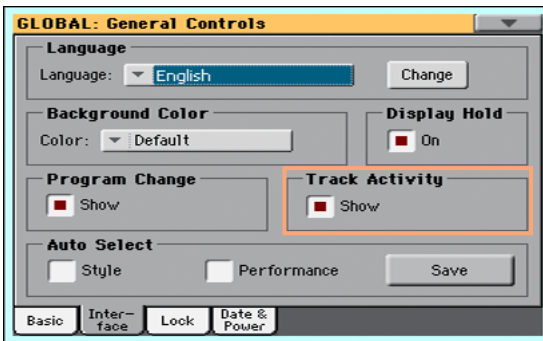
39   Auto selection and locking

Automatically choosing Styles and Performances

Preferred Styles and Performances can be assigned to the Style and Performance bank tabs, and to the PERFORMANCE buttons.
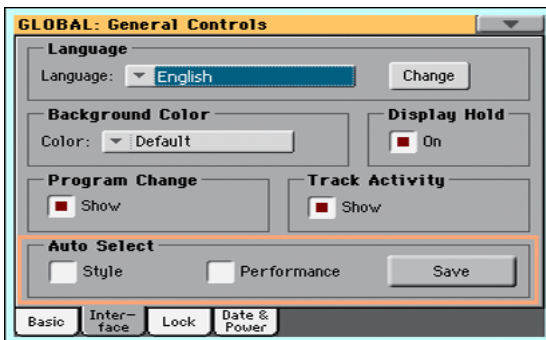
Automatically selecting the Styles

When the Auto Select > Style parameter is activated, touching the name of a bank in the Style Select window automatically selects the latest selected Style in that bank.

1   Choose a Style for each bank you want to program.

2   Go to the Global > General Controls > Interface page.

3   Select the Style checkbox in the Auto Select section.

4   Touch the Save button to save the Style assignment to all banks.

Automatically selecting the Performances

When the Auto Select > Performance parameter is activated, pressing one of the PERFORMANCE buttons, or touching the name of a bank in the Performance Select window, automatically selects the Performance you latest selected in that bank. This way, you can assign your preferred Performance to each control panel's button, and select it just with a single press.

However, the Performance Select window still appears, so that you can select a different item if desired.

1   Choose a Performance for each PERFORMANCE button you want to program.

2   Go to the Global > General Controls > Interface page.

3   Select the Performance checkbox in the Auto Select section.

4   Touch the Save button to save the Performance assignment to all buttons.

Locking parameters to prevent changes

In various pages, next to some parameters, you can find a lock (🔒) icon. All these locks are collected in the Global > General Controls > Lock pages for easy access.

Locking the Tuning parameters

1   Go to the Global > General Controls > Lock > Tuning page.

```
GLOBAL: General Controls          ▼

  Lock
  🔒  Master Transpose                    Tuning
  🔒  SubScale/Quarter Tone               Control
  🔒  SubScale/Quarter Tone from STS      Style
  🔒  Auto Octave



  Basic   Inter-   Lock   Date &
          face            Power
```

2   Select/deselect the desired locks.

Tuning lock	Meaning
Master Transpose	Prevents Master Transpose from changing when choosing a Performance, Style or SongBook Entry. It also prevents transposing when loading a Standard MIDI File created by HAVIAN 30 or an instrument of the KORG Pa-Series.
Sub Scale/Quarter Tone	Prevents the Sub-Scale or Quarter Tone value from changing when choosing a Performance, STS or SongBook Entry.
SubScale/Quarter Tone from STS	Prevents the Sub-Scale or Quarter Tone value from changing when choosing an STS
Auto Octave	Depending on the status of this lock, the Upper Sounds can be automatically transposed when turning the SPLIT on and off. • If locked, turning the SPLIT on or off will not cause Upper Sounds transposition. • If unlocked, when turning the SPLIT button off (Full keyboard mode) the Upper Sound's Octave Transpose will be automatically set to "0". When turning the SPLIT button on (Split keyboard mode) the Upper Sound's Octave Transpose will be automatically set to "-1".

Locking the Control parameters

1 Go to the Global > General Controls > Lock > Control page.
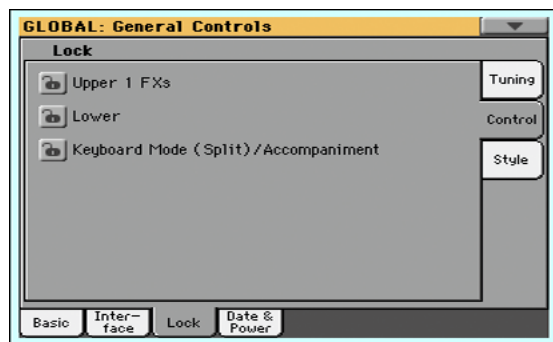
2 Select/deselect the desired locks.

Control lock	Meaning
Upper 1 FXs	When choosing the Upper 1 Sound, the FX settings contained in the Sound or those contained in the Performance/STS can be selected.
	• If this lock is closed, Performance/STS FX parameters are left untouched when choosing an Upper 1 Sound.
	• If this lock is open, FX parameters are changed when choosing an Upper 1 Sound.
	Please note that if the effects associated to the selected Sound are not compatible with the effects already assigned to the FX B block, the Master FX Send values on the other Keyboard Sounds will be automatically set to zero.
	For example, assume a chorus effect is assigned to the Master 2 FX processor. If the new Sound assigns a distortion effect to the Master 2 FX processor, the Master 2 FX Send value on the Upper 2, Upper 3, and Lower Sounds will be set to zero, to avoid these Sounds to sound odd. This way, the Upper 1 Sound (usually the most important one for solo playing) will sound with the needed effects, while the other Keyboard Sounds will just sound dry.
Lower	When this lock is closed, the Lower Sound remains unchanged when a different Style, Performance or STS is selected.
	This is useful if, for example, you prefer to only play chords with the left hand, while leaving the Sound in mute.
Keyboard Mode (Split)/ Accompaniment	When this lock is closed, the status of the SPLIT button (therefore of the keyboard mode) remains unchanged when a different Performance or STS is selected.
	This is useful if, for example, you prefer to always play in Full Keyboard mode, with chords recognized on the full keyboard range.

Locking the Style parameters

1   Go to the Global > General Controls > Lock > Tuning page.

2   Select/deselect the desired locks.

Style locks	Meaning
Style Tracks Volume	When this lock is closed, the Style Sounds' volume do not change when a different Style is selected.
	This is useful when you create your own User Styles, and prefer to dynamically adjust the volume by using the internal mixer. It is not recommended with Factory Styles, each one already mixed at its best right at the factory.
Style Tracks Play/ Mute Lock	When this lock is closed, selecting a Style does not cause the Play/Mute status of the Style Sounds to be changed. This way, you can, for example, turn the bass track off during a whole show, to allow your bassist to play the part live. Also, you could mute all Acc tracks, to only play with the Drum and Bass tracks.
Style Element	When this lock is closed, the selected Style Element (Variation, Intro...) will not change when choosing a different Style.
	This lock has no effect on the Styles automatically selected when choosing a SongBook Entry. The Style Element memorized in the SongBook Entry is always selected.
Bass Inversion	When locked, selecting a Performance or STS will not change the Bass Inversion status.
Manual Bass	When locked, selecting a Performance or STS will not change the Manual Bass status.

40 System preferences

Setting the date and time for file saving

HAVIAN 30 lets you specify a date and time to be recorded as the date & time stamp for the files being saved. This is useful for keeping track of when you created and saved your data. File date stamps are shown when you use the Media functions, or when reading data with a personal computer.

Since HAVIAN 30 does not include an internal clock, the date is not automatically updated. If it's important for your files to be stamped with the correct date, be sure to check this setting before saving.

Please note that when editing a resource file (Performances, Styles…), all items in the same bank have their modification date changed. For example, if you edit a single Style in the 'Pop' bank, all Styles in that bank will get the new modification date.

1   Go to the Global > General Controls > Date & Power page.

2   Set the Date and Time values.

Use the Time numeric field to input the time, in the 'hour:minute:second' format.

3   After having edited all calendar and time fields, touch the Apply button to apply the changes.

Automatic power off

HAVIAN 30 can automatically enter standby after two hours of not being used, to save power and help preserving the environment.

1   Go to the Global > General Controls > Date & Power page.

2   Select/deselect the Auto Power Off checkbox.

When this parameter is checked, a few minutes before automatic standby a message will warn you that the instrument is going to be put in standby. All unsaved data currently in editing or recording will be lost.

At this message, you can let the instrument enter standby, or you can touch the display, press any button on the display, or play the keyboard to leave it turned on and continue using it.

41   Mode preferences

Style Play preferences

Choosing the Memory Mode

You can decide how the MEMORY button works.

1   Go to the Global > Mode Preferences > Style page.

2   Use the Memory Mode pop-up menu to choose the Memory mode.
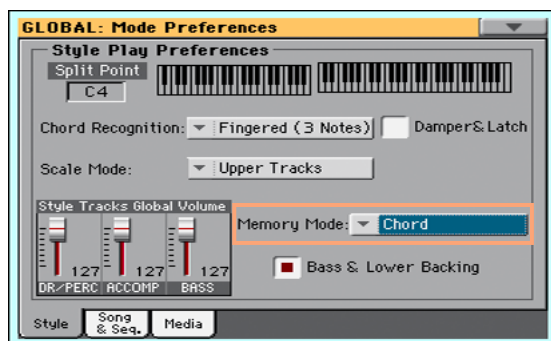
Memory Mode	Meaning
Chord	When the MEMORY LED is on, recognized chords are kept in memory even when raising your hand from the keyboard. When the LED is off, chords are reset when raising your hand.
Chord + Lower	When the MEMORY LED is on, recognized chords are kept in memory, and the Lower sound is held until the next note or chord is played. When the LED is off, both the chord (and therefore the accompaniment) and Lower sound are cut when raising the hand from the keyboard.
Fixed Arr. + Lower	When the MEMORY LED is on, recognized chords are kept in memory, and the Lower sound is held until the next note or chord is played. When the MEMORY LED is off, the Lower sound is cut when raising the hand from the keyboard; on the contrary, the chord is kept in memory (so that the accompaniment can continue to play).

Bass & Lower Backing

With the Bass & Lower Backing function activated, you can play a sparser accompaniment with your left hand.

Activate the Bass & Lower Backing function

1   Go to the Global > Mode Preferences > Style page.

2   Select the Bass & Lower Backing checkbox.
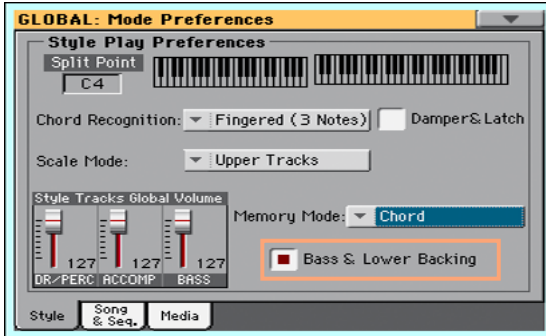
The Backing icon will appear in the Lower Sound's area.
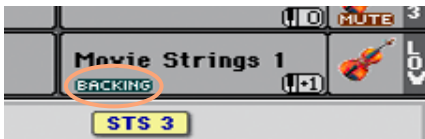
Play a Bass & Lower Backing

▪   Play a chord with your left hand.

The chord will be played by the Lower Sound (even if it is muted), while the chord root will be played by the Bass Sound.

▪   When starting the accompaniment, the automatic accompaniment will play again as usual.

Song Play and Sequencer preferences

Choosing the Melody track

You can define a MIDI Song's track as the Melody track. You will then be able to mute it by using the Song Melody - Mute function, that you can assign to the footswitch.

1   Go to the Global > Mode Preferences > Song page.

2   Use the SMF Melody Track pop-up menu to choose one of the Song tracks to be used as the Melody track.
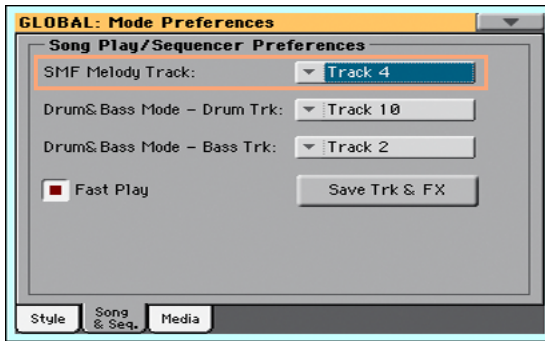
Choosing the Drum & Bass tracks

You can define two MIDI Song's tracks as the Drum and Bass tracks. These tracks will play when selecting the Drum&Bass function, that you can assign to the footswitch.

1   Go to the Global > Mode Preferences > Song page.

2   Use the Drum & Bass Mode - Drum pop-up menu to choose one of the Song tracks to be used as the Drum track.

3   Use the Drum & Bass Mode - Bass pop-up menu to choose one of the Song tracks to be used as the Bass track.
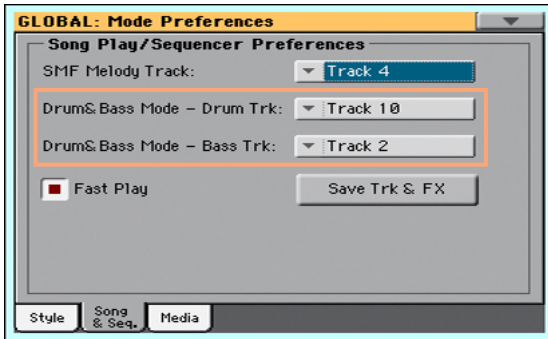
Letting a MIDI Song start immediately

MIDI Songs (MID and KAR files) may contain a silent setup measure at the beginning. You can skip this measure and let the Song start immediately.

1   Go to the Global > Mode Preferences > Song page.

2   Select the Fast Play checkbox to let the MIDI Songs ignore the silent setup measure at the beginning.
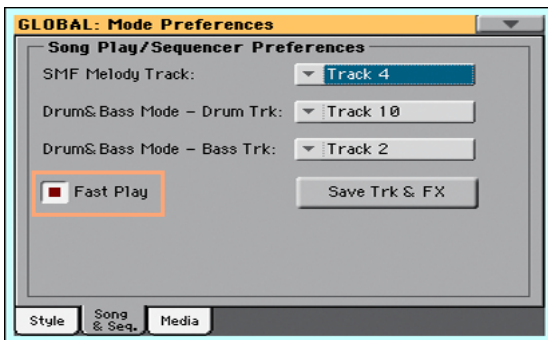
While the beats are skipped, setup data they may contain are read and considered.

Please note that MP3 Songs, being audio data, are not affected by this option.

Media and file preferences

The Media Preferences page is where you can set your view preferences for the storage devices and file management.
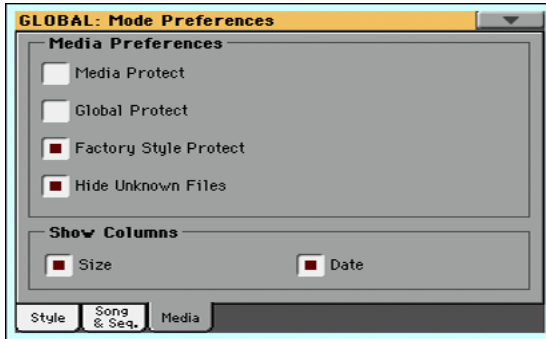
Protecting the media

You can protect the internal drive from writing.

1   Go to the Global > Media Preferences page.

As an alternative, keep the SHIFT button pressed and press the MEDIA button to open the Media page.

2   Select the Media Protect checkbox to protect the internal DISK [KORG DISK] medium from writing.

Protecting the global preferences from changing

When loading data from disk, global parameters may change due to different settings in the loaded data. You can prevent changes to happen.

1   Go to the Global > Media Preferences page.

As an alternative, keep the SHIFT button pressed and press the MEDIA button to open the Media page.

2   Select the Global Protect checkbox to protect global preferences to change when loading data from disk.

Please note that global preferences from compatible KORG Pa-Series instruments are not loaded in any case.

Removing protection from Factory Styles (and Factory STSs)

Factory Styles (and the Factory STSs they contain) are normally protected, to avoid overwriting the standard musical resources. You can, however, remove this protection and use any Factory Style location as if they were User locations.

1   Go to the Global > Mode Preferences > Media page.

As an alternative, keep the SHIFT button pressed and press the MEDIA button to open the Media page.

2   Deselect the Factory Style Protect checkbox to remove protection.

This protection will be automatically reset when turning the instrument off.

Hint: Should you accidentally delete, change or overwrite some Factory data, reload the Backup data or use the Factory Restore procedure (in the Media > Utility page).

Hiding unknown files

To make file lists cleaner and easier to browse through, non-proprietary files can be hidden when using Media operations.

1   Go to the Global > Mode Preferences > Media page.

2   Select the Hide Unknown Files checkbox to hide non-proprietary files.

This protection will be automatically reset when turning the instrument off.

Seeing the file's size and date

To view longer names in their entirety, you can hide the Size and Date columns in the File Selector window.

1   Go to the Global > Mode Preferences > Media page.

2   Use the Show Columns > Size checkbox to show or hide the file size.

3   Use the Show Columns > Date checkbox to show or hide the file creation date stamp.

42 Controllers

Programming the Joystick

Assigning the Joystick to the Sounds

You can activate/deactivate Pitch Bend on each Sound.

1 Go to the Keyboard/Ensemble > Keyboard Control page.
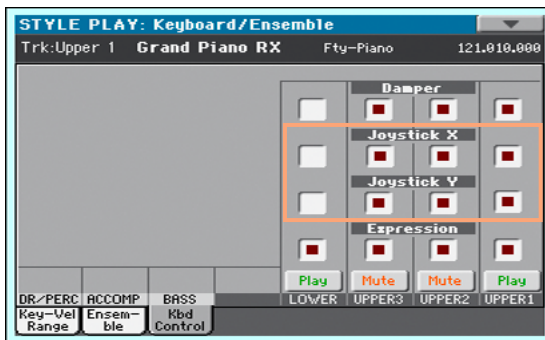
2 Use the Joystick X checkbox to turn the left/right Joystick movements on/off on each Sound.

3 Use the Joystick Y checkbox to turn the up/down Joystick movements on/off on each Sound.

4 Write the changes to a Sound set.

Assigning function to the Joystick

The left/right (X) movement of the joystick usually controls Pitch Bend. It can however controls a Sound parameter, depending on the Sound programming.

The up movement (Y+) is usually Modulation, and sometimes a different Sound parameter, depending on the Sound programming. The down movement (Y-) can be assigned to various controls, or isn't active.

Assigning Sound parameters to the joystick can be done in Sound Edit.

Setting the Pitch Bend range

Pitch Bend range is defined for each Sound set, and can change with different Performances, STSs and SongBook Entries.

1 Go to the Mixer/Tuning > Tuning page.

2 Use the PB Sensitivity knobs to set the Pitch Bend range for each Sound.
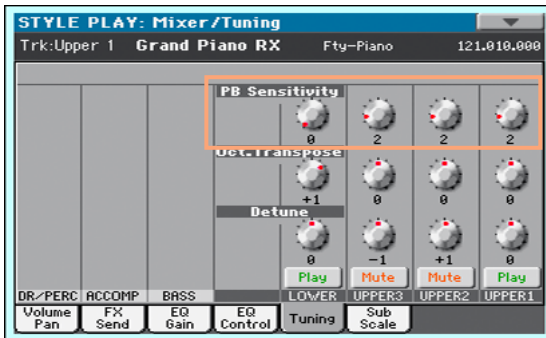
PB Sensitivity	Meaning
1 … 12	Maximum up/down pitch bend range (in semitones). 12 = ±1 octave.
0	No pitch bend allowed.

3 Write the changes to a Sound set.

Setting the velocity curve

You can define how the keyboard responds to your striking velocity.

1   Go to the Global > Controllers > Hand Controllers page.

2   Use the Velocity Curve parameter to set the sensitivity of the keyboard to your playing strength.
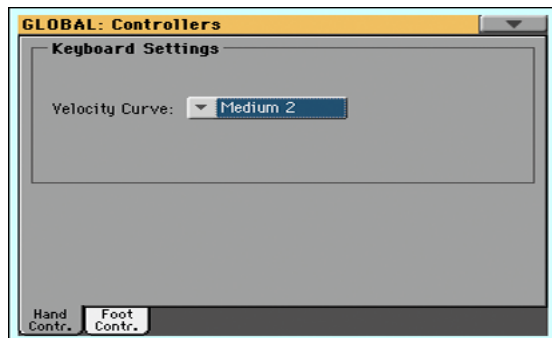
Velocity Curve	Meaning
Fixed	No dynamic control available. Dynamic values are fixed, as in classic organs. When this option is chosen, you can set the fixed velocity value:
Soft1 … Hard3	Curves, from the lightest one to the hardest one.

3   Write the changes to a Sound set.

Programming the Pedal/Footswitch

Assigning a function to the pedal/footswitch

By default, the supplied DS2H pedal, connected to the PEDAL connector, works as a Damper (Sustain) pedal. You can however program it for any footswitch-type control.

You can connect to this connector any other footswitch. Or, you can connect a Volume/Expression pedal for continuous-type controls. Depending on the connected type of pedal, you will choose a suitable function.

Program the pedal/footswitch

1   Connect the pedal or footswitch to the PEDAL connector.

2   Go to the Global > Controllers > Foot Controllers page.

3   Use the Function parameter to choose a control function.
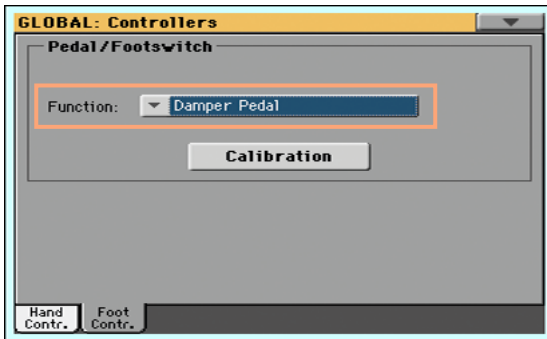
Functions assignable to a footswitch

Footswitch function	Meaning
Off	No function assigned
Style/Player Start/Stop	Same functions of the control panel buttons with the same name
Player - Go to Beginning	
Chord Seq. Rec.	
Chord Seq. Play	
Synchro Start	
Synchro Stop	
Tap Tempo/Reset	
Tempo Lock	
Intro 1…3	
Ending 1…3	
Fill 1…4	Selects the corresponding Fill
Break	Selects the Break
Variation 1…4	Same functions of the control panel buttons with the same name
Variation Up	Selects the next Variation
Variation Down	Selects the previous Variation
Memory	Same functions of the control panel button with the same name
Bass Inversion	Selects the Bass Inversion
Manual Bass	Same functions of the control panel button with the same name
Style Up	Selects the next Style
Style Down	Selects the previous Style
STS1…4	Same functions of the control panel buttons with the same name
STS Up	Selects the next STS
STS Down	Selects the previous STS
Perform. Up	Selects the next Performance
Perform. Down	Selects the previous Performance
Transpose (b)	Same functions of the control panel buttons with the same name
Transpose (#)	
Upper Octave Up	
Upper Octave Down	
Punch In/Out	Turns Punch Recording on/off

Footswitch function	Meaning
Style-Upper1…3 Mute	Same functions of the same functions in the display
Style-Lower Mute	
Style-Drum Mute	
Style-Perc Mute	
Style-Bass Mute	
Style-Acc1…5 Mute	
Style-Acc1-5 Mute	Mute/Unmute all the Acc tracks
Song-Melody Mute	Mute of the Standard MIDI File's track selected as the Melody track (Global > Mode Preference > Song & Seq.).
Song-Drum&Bass Mode	Mute of all tracks, apart for track 2 (usually Bass) and 10 (usually Drum). It doesn't work on MP3 files.
Solo Selected Track	Turns solo on/off
Damper Pedal	Damper function. Corresponds to the right pedal of an acoustic piano. It holds the notes played when the pedal is pressed down.
Soft Pedal	Soft function. Corresponds to the 'I corda' pedal of an acoustic piano. Makes the sound softer.
Sostenuto Pedal	Sostenuto function. Corresponds to the left pedal of a grand piano. It holds the notes already held when pressing the pedal down.
Bass&Lower Backing	When the Style is not playing and you are in Split mode, you can play the Lower track with your left hand, while the Bass still plays the chord root.
Ensemble On/Off	Turns Ensemble on/off
QuarterTone	Turns Quarter Tone on/off
Global-Scale	When the switch or footswitch is pressed, the Global > General Controls > Scale is recalled in the display.
SubScale Preset 1…4 - SC1	Same functions of the SC Preset buttons in the display.
Chord Latch	Holds the recognized chord until the pedal is released
Glide	When the pedal is pressed, affected notes on Upper tracks are bent down, according to settings for the Pitch Bend on the same tracks. When the pedal is released, notes return to the normal pitch.
Rotary Spkr On/Off	Rotary Speaker controls
Rotary Spkr Fast/Slow	
Text Page Down	These options let you move to the previous or next page, when reading a text file loaded with a Song or SongBook Entry.
Text Page Up	
SongBook Next	Moves to the next SongBook entry in the selected Custom List.

Functions assignable to a pedal

Pedal function	Meaning
Off	No function assigned
Master Volume	Master Volume control
Accompaniment Volume	Volume of the Accompaniment Sounds
Keyboard Expression	Relative Volume of the Keyboard Sounds. All the other Sounds will not be varied.
MP3 Volume	Volume of the MP3 Songs.
Upper VDF Cutoff	Filter cutoff (for Sounds assigned to the Upper tracks)
Upper VDF Resonance	Filter resonance (for Sounds assigned to the Upper tracks)

Assigning the Damper pedal to the Sounds

Damper is the default control assigned to the supplied pedal. It can be assigned to any footswitch pedal (also called a Damper pedal).

1   Go to the Keyboard/Ensemble > Keyboard Control page.

2   Use the Damper checkbox to turn the Damper pedal on/off on each Keyboard Sound.
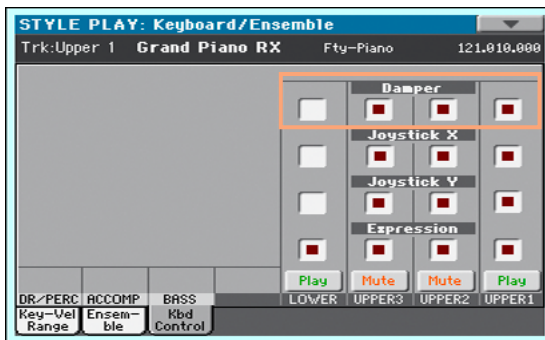
3   Write the changes to a Sound set.

Assigning the Expression pedal to the Sounds

Expression is a relative level control, always subtracted from the Volume value. It can be assigned to any continuous pedal (also called a Volume/Expression pedal).

As an example, imagine you have a Piano sound assigned to Upper 1, and a Strings sound assigned to Upper 2. If you turn the Expression switch on on

Upper 2, and off on Upper 1, you can use a continuous pedal to control only the Strings' volume, while the Piano remains unchanged.

1   Go to the Keyboard/Ensemble > Keyboard Control page.

2   Use the Expression checkbox to turn the Expression pedal on/off on each Keyboard Sound.
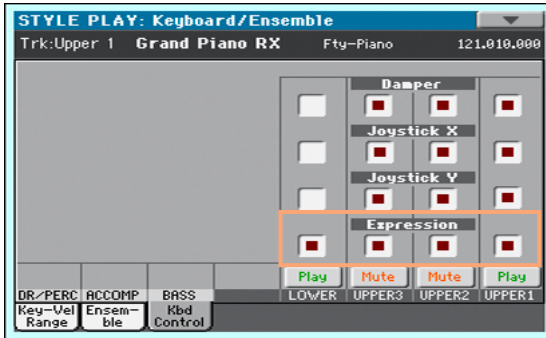
3   Write the changes to a Sound set.

Calibrating the pedal and setting its polarity

From time to time, you might have to calibrate the supplied damper pedal to use its full range of values, without any 'dead spot'.

Calibrate the pedal

1   Go to the Global > Controllers > Foot Controllers page.
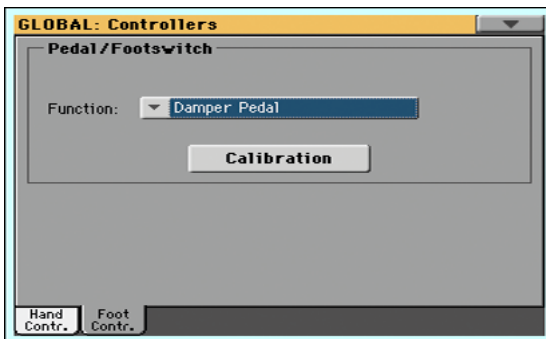
2 Touch the Calibration button to make the Damper & Pedal/Footswitch Calibration dialog appear.
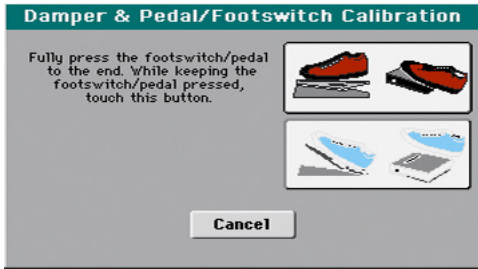
3 Fully press the pedal down, and while continuing to press touch the Push button to confirm the maximum value.

4 When the following dialog appears, release the pedal.

5 Touch the Push button in the display to confirm the minimum value. Check if the pedal is working properly. In case it isn't, repeat the procedure.

6 Press the EXIT button to return to the previous page.

43   Master Transpose and Tuning

Master Tuning

You can fine tune the instrument (in cents of a semitone), to adapt it to an acoustic instrument that is not possible to tune (for example an acoustic piano without a professional tuner or the right tools, or a period instrument).

1   Go to the Global > Tuning > Basic page.

2   Use the Master Tuning parameter to fine tune the instrument.
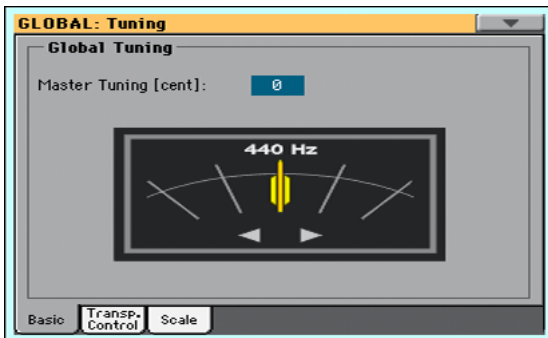
Tuning	Meaning
-100 cents	Lowest pitch (half a semitone down)
0 cents	Standard pitch (A4 = 440Hz)
+100 cents	Highest pitch (half a semitone up)

Master Transpose

Transposing the whole instrument

The instrument's key can be transposed to make singing or playing together with another instrument more comfortable.

The transpose value is usually shown in the page header.

Transpose down from the control panel

■ Use the TRANSPOSE > FLAT (♭) button to lower the Master Transpose in steps of one semitone.

Transpose up from the control panel

■ Use the TRANSPOSE > SHARP (♯) button to raise the Master Transpose in steps of one semitone.

Reset transposition

■ Press both TRANSPOSE buttons together.

Transposing MP3 Songs

MP3 Songs can be transposed inside the range of -5…+6 semitones. This range is enough to cover all keys, while avoiding excessive audio degradation. Any further transposing will be reversed to fit the range. So, you might see a +7 transpose value (Just Fifth Up) shown in the display, but the MP3 Song will actually play 5 semitones lower (Just Fourth Down).

MIDI Songs and Master Transpose

Saving Master Transpose with the Song

When saving a MIDI Song from the Sequencer mode, the Master Transpose value is saved with the Song. This value is preserved when playing back the Song in Song Play mode.

Preventing unwanted transposition

When loading a MIDI Song containing Master Transpose data, the instrument's Master Transpose is modified. This may cause problems with other Songs or when playing the Styles. To avoid this to happen, you may lock the Master Transpose in Global > General Controls > Lock.

If you still want to transpose the Song, use the Transpose function found in the Sequencer > Song Edit > Transpose page to transpose the MID file.

As a general rule, you should use the Master Transpose (TRANSPOSE buttons on the control panel) when you want to transpose the Keyboard Sounds together with the Song. You should use the Song Edit's Transpose function when only the Song has to be transposed.

When is Master Transpose applied?

You can decide when the Master Transpose will take effect.

1   Go to the Global > Tuning > Transpose Control page.

2   Use the Transpose applies to Style and Kbd Tracks pop-up menu to choose when transposition will apply.

Transpose	Meaning
Off	No Master Transpose is applied to Accompaniment and Keyboard Sounds. Chords shown in the Lyrics page are, however, transposed.
In Sync	When you press either of the TRANSPOSE buttons, the new transpose setting will not take effect until the first beat of the next measure is reached.
In Realtime	When you press either of the TRANSPOSE buttons, the new transpose setting will separately occur when the next note is played by the Accompaniment or Keyboard Sounds. If, for example, you play a note on the keyboard when the Accompaniment is still playing a chord, only the Keyboard Sounds will be transposed, and the Accompaniment Sounds will only be transposed at the next chord.

Apply Master Transpose to the Player and MIDI IN notes

Master Transpose can be applied to the MIDI Song Player and to the MIDI notes entering the USB DEVICE port.

1   Go to the Global > Tuning > Transpose Control page.

2   Select the Transpose applies to Player checkbox to apply transposition to the internal Player.

3   Select the Transpose applies to Midi In notes checkbox to apply transposition to the MIDI notes incoming from the USB DEVICE port.
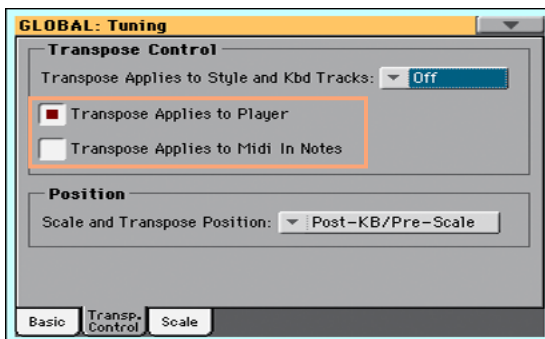
Master Transpose and Scale

You can define the relation between the Scale and the Master Transpose.

1   Go to the Global > Tuning > Transpose Control page.

2   Use the Scale and Transpose position pop-up menu to choose where trans-
position will apply in relation to the Scale.
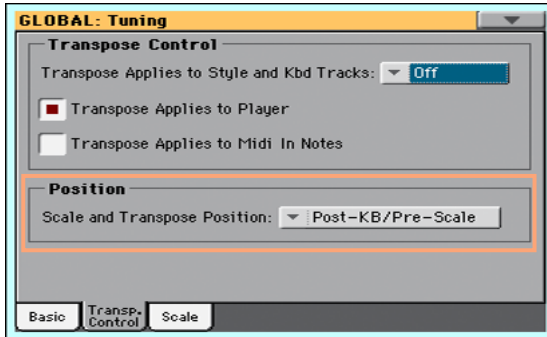
Transpose position	Meaning
Post-KB/Pre-Scale	When this option is selected, notes will be transposed immediately after they leave the keyboard. The Scale will be applied to the transposed notes. For example, if you altered an E, and then set the Master Transpose to +1, the E key will play F, and the altered key will be E (that will play an altered E).
Post-KB & Scale	When this option is selected, all notes are transposed immediately before they enter the internal tone generator, or are sent to the USB DEVICE port, but after the Scale. For example, if you altered an E, and set the Master Transpose to +1, the altered key will still be E (that will play an altered F).
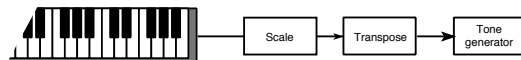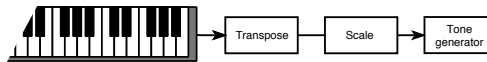
MIDI Songs and chord transpose

When changing the Master Transpose, chord abbreviations contained in MIDI Songs are transposed and correctly shown in the display. Master Transpose must be applied to the Player, but not to the Keyboard.
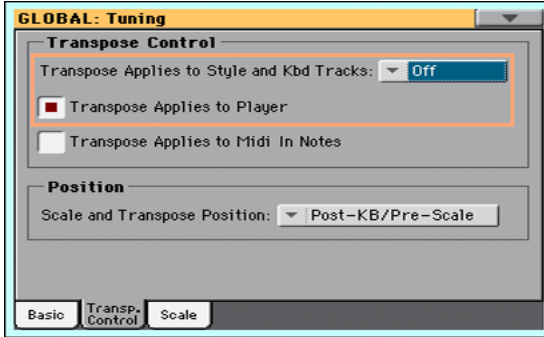
Please note that chords contained in a linked TXT file or shown in a CDG file are not transposed.

Drum Kits and transpose

Drum Kits are never transposed. If you want that an ordinary Sound is not transposed as well, assign it to a track set to Drum mode in the Track Control > Mode page.

44   Scale

Main Scale

Choosing the main scale

There is a main scale for all or most the Sounds. The main scale is used wherever there is no sub-scale assigned.

Choose the main scale

1   Go to the Global > Tuning > Scale page.
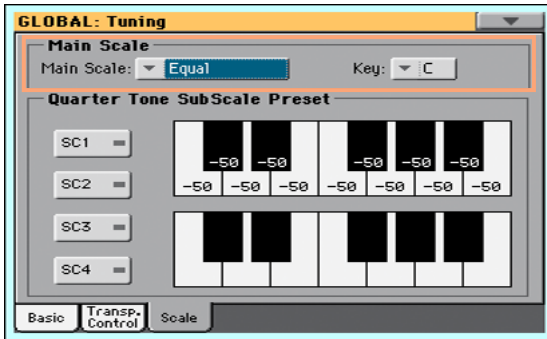
2   Use the Main Scale pop-up menu to choose the main scale of the instrument.

All Sounds, apart for those for which a different sub-scale has been selected by a Performance or STS, will use this scale.

If needed, choose a key

- Use the Key parameter (needed by some scales) to set the preferred key.

Scales list

Scale	Description
Equal	Equal tuning, the standard scale for modern Western music. It is made of 12 identical semitones.
Pure Major	Major chords in the selected key are perfectly tuned.
Pure Minor	Minor chords in the selected key are perfected tuned.
Arabic	An arabic scale, using quarters of tone. Set the Key parameter as follows: C - for the "rast C/bayati D" scale D - for the "rast D/bayati E" scale F - for the "rast F/bayati G" scale G - for the "rast G/bayati A" scale A# - for the "rast Bb/bayati C" scale
Pythagorean	Pythagorean scale, based on the music theories of the great Greek philosopher and mathematician. It is most suitable for melodies.
Werckmeister	Late Baroque/Classic Age scale. Very suitable for XVIII Century music.
Kirnberger	Harpsichord scale, very common during the XVIII Century.
Slendro	Scale of the Indonesian Gamelan. The octave is divided in 5 notes (C, D, F, G, A). The remaining notes are tuned as in the Equal tuning.
Pelog	Scale of the Indonesian Gamelan. The octave is divided in 7 notes (all white keys, when Key is = C). The black keys are tuned as in the Equal tuning.
Stretch	Simulates the "stretched" tuning of an acoustic piano. Basically an equal tuning, the lowest notes are slightly lower, while the highest notes are slightly higher than the standard.
User	User scale, i.e. scale programmed by the user for the Style Play, Backing Sequence and Song Play modes. The User scale can be saved to a Performance, Style Settings, STS or Song. You can't select a User scale in the Global.

Sub-Scale

Choosing a sub-scale

You can assign a different scale (a sub-scale) to the Keyboard Sounds (or any other Sound). This will allow, for example, to play a solo with a Stretch tuning, while the backing tracks continue to play in the Equal tuning. A different sub-scale can be associated to each Performance or STS.

Choose a sub-scale

1   Go to the Sub-Scale pane from the main page of the Style Play and Song Play modes.
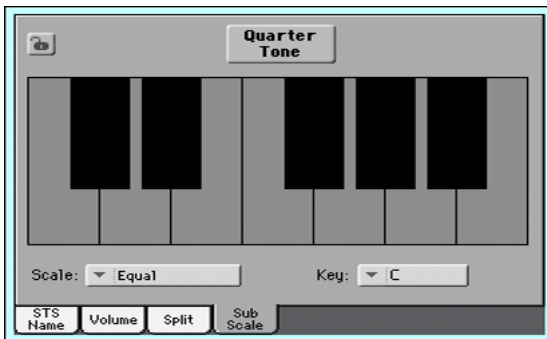
As an alternative, go to the Mixer/Tuning > Sub-Scale page.
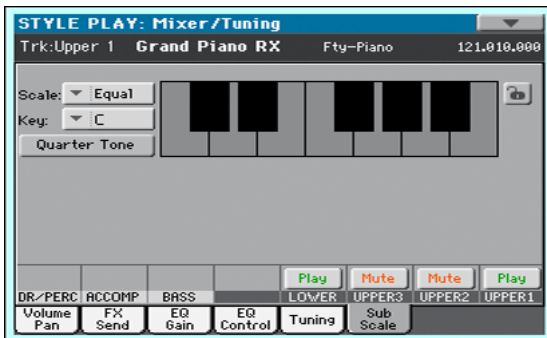
2   Use the Scale pop-up menu to choose the sub-scale. See above for a list of the available scales.

If needed, choose a key

∎ Use the Key parameter (needed by some scales) to set the preferred key.

Assign the sub-scale to the Sounds

1 Go to the Global > Mode Preferences > Style page.

2 Use the Scale Mode parameter to choose the Sounds to which to apply the sub-scale. All the other Sounds will use the main scale.
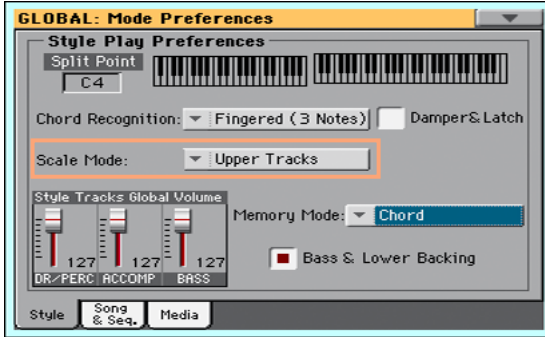
Tracks	Meaning
Keyboard Tracks	The sub-scale will affect all the Keyboard Sounds
Upper Tracks	The sub-scale will only affect the Upper 1-3 Keyboard Sounds
All Tracks	The sub-scale will affect all Sounds (Keyboard, Style)

Choosing and editing the User sub-scale

In addition to the supplied scales, you can program your own User sub-scale.

Choose the User sub-scale

1 Go to the Mixer/Tuning > Sub-Scale page.
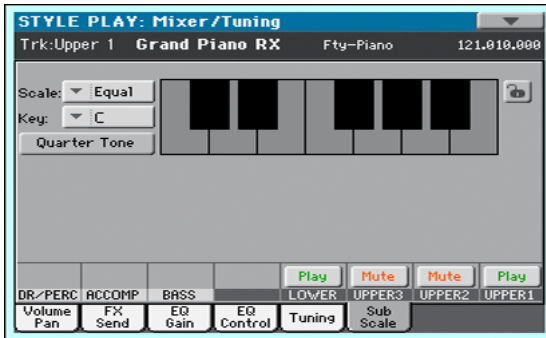
2 Use the Scale pop-up menu to choose the User sub-scale.

Edit the User sub-scale

When the User sub-scale is selected, the keyboard diagram will become active, letting you program a custom scale.

▪ Use the numbers appearing in each note of the keyboard diagram to fine tune each note pitch. Detuning is referred to Equal tuning considered as zero detune.

Detuning	Meaning
-99 … +99	Note detuning in cents or a semitone. Zero is no detuning (Equal tuning), ±50 is a full quarter tone up or down, ±99 is nearly one whole semitone up or down.

Save the User sub-scale into a Sound set

▪ Write the changes to a Sound set.

Quarter Tone Sub-Scale (SC Presets)

Editing a Quarter Tone sub-scale (SC Preset)

Quarter Tone scales (SC Presets) are custom scales where detuning can be activated or deactivated while playing. Changing note tuning while playing is typical of Middle East/Arabic music. The detuning interval is usually next to a quarter tone.

You can save up to four Quarter Tone scales into the SC (Scale) Presets. The SC Presets are global and do not change with Sound sets, Styles or Songs.

Program a Quarter Tone scale

1   Go to the Global > Tuning > Scale page.
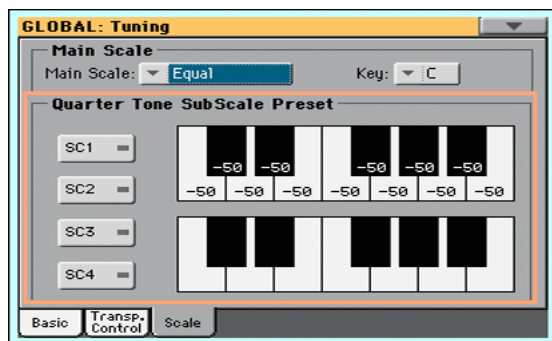
2   Touch one of the SC1...4 buttons to choose an SC Presets to be edited.

3   Program the User Quarter Tone sub-scale.

■   In the upper scale diagram, fine tune each note of the scale.
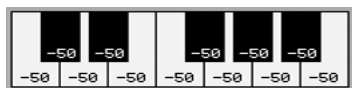
Detuning	Meaning
-99 … +99	Note detuning in cents or a semitone. Zero is no detuning, ±50 is a full quarter tone up or down, ±99 is nearly one whole semitone up or down.

■ In the lower scale diagram, turn on (black dot shown) the scale degree you want to be detuned, and turn off (black dot hidden) the scale degree that will use the standard tuning.

When no preset is selected, a default scale is automatically recalled. This scale assigns a -50 cent value (equivalent to a quarter tone down) to all notes, and turns all scale degrees off.

Save the new Quarter Tone sub-scale into an SC Preset

1   Choose the Write Quarter Tone SC Preset command from the page menu to open the Writer Quarter Tone Scale Preset dialog.
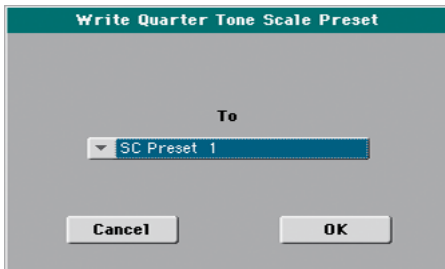
2   Choose one of the SC Preset locations to save the new scale, then confirm by touching the OK button.

Using the Quarter Tone sub-scales (SC Presets)

You can instantly recall a Quarter Tone sub-scale, by just choosing one of the SC Presets.

Activate the Quarter Tone sub-scale

1 Go to the Sub-Scale pane from the main page of the Style Play and Song Play modes.
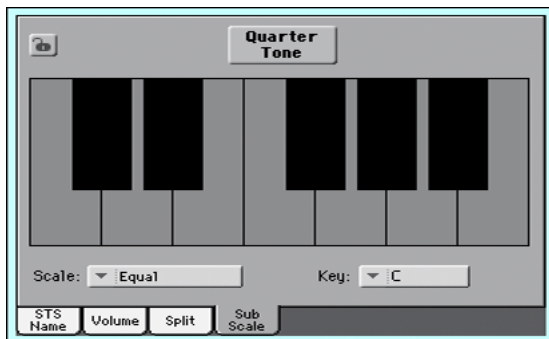
As an alternative, go to the Mixer/Tuning > Sub-Scale page.
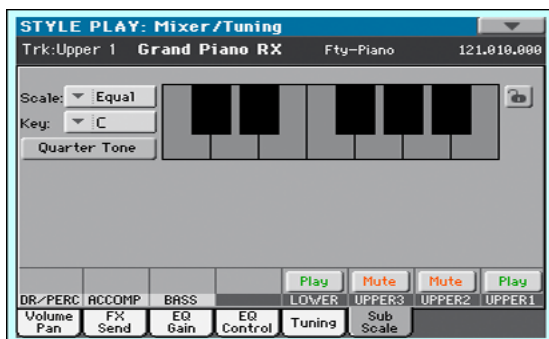
2 Touch the Quarter Tone button to make it appear selected. The SC Preset buttons will appear.
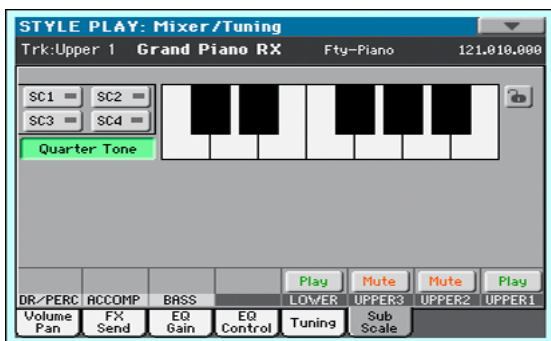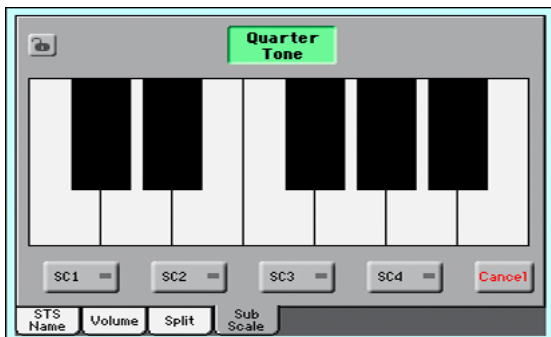
Choose an SC Preset

■ Touch one of the SC1…4 buttons to choose the corresponding SC Preset.

The saved Quarter Tone sub-scale will be selected.

Use the Quarter Tone sub-scale

■ Touch any note you want to lower a quarter tone, making a big dot appear on the note diagram.

■ Touch the note again to make the dot disappear, and reset to standard tuning.

Scale alteration made in this page is momentary and is not memorised. It is only meant to allow for fast scale alteration while playing.

Deactivate the Quarter Tone sub-scale

■ Touch the Quarter Tone button to make it appear deselected. The SC Preset buttons will disappear. The main scale will be in use again.

Activating the Quarter Tone function by using a footswitch

To make realtime changes faster, you can assign the Quarter Tone function to a footswitch. This will allow for those sudden scale changes typical of the Middle East/Arabic music.

Since these changes are not saved anywhere, the scale is easily 'wiped-out' when selecting a different Performance or STS, or when pressing the Quarter Tone pedal again.

1 Program the footswitch to be the Quarter Tone switch.

Go to the Global > Controllers > Foot Controllers page, and assign the Quarter Tone function to the Pedal/Footswitch parameter.

2 Lower some note pitches.

Keep the Quarter Tone pedal pressed. The keyboard will not play at this time. Press the notes whose pitch you want to lower. Release the pedal.

The black dots will appear in the keyboard diagram of the Mixer/Tuning > Sub-Scale page.

3 Play with your new scale. The pitch of the notes you pressed are now lowered.

4 Reset the original scale.

Press and release the Quarter Tone pedal again, without playing any note. All pitches will be reset, and the original scale will be recalled.

Choosing an SC Preset by using a footswitch

You can also select an SC Preset by assigning the relevant function to the footswitch.

1 Go to the Global > Controllers > Foot Controllers page.

2 Use the Function parameter to assign one of the SubScale Preset functions to the footswitch.

PART X: MIDI CONNECTIONS

45   MIDI

Introduction to MIDI

Ports, channels, messages

What is MIDI?

MIDI stands for Musical Instruments Digital Interface. This interface lets you connect two musical instruments, or a computer and various musical instruments.

From a software point of view, MIDI is a protocol that describes messages for playing notes and controlling them. It is sort of a grammar to let different instruments and computers speak the same language, and let the one tell the other what to do.

From a physical point of view, MIDI messages travel across the USB DEVICE port, a modern connector replacing the MIDI ports found in older musical instruments with a single port and cable. HAVIAN 30 can be connected to a Windows or Mac computer with no need of special software. However, for full and easy use of all its MIDI features, we suggest that you install the KORG USB MIDI Driver, a special software that you can find in the Accessory Disc, or can download from our web site (www.korg.com).

Channels and messages

Basically, a MIDI or USB cable transmits 16 channels of data. Think to each MIDI channel as a TV channel: the receiver must be set on the same channel of the transmitter. The same happens with MIDI messages: when you send a Note On message on channel 1, it will be received on channel 1 only. This allows for multitimbricity: you can have more than one sound playing on the same MIDI instrument.

There are various messages, but here are the most commonly used:

MIDI Message	CC#	Meaning
Note On		This message instructs an instrument to play a note on a specific channel. Notes have both a name (C4 standing for the center C) and a number (60 being the equivalent for C4). A Note Off message is often used to say the note has been released.
		Together with the Note On message, a Velocity value is always sent. This value tells the instrument how loud the note must play.
Pitch Bend (PB)		You can generate this message acting on the joystick (X direction). The pitch is translated up or down.
Program Change (PC)		When you select a Sound, a Program Change message is generated on the channel. Use this message, together with Control Change 00 and 32, to remotely select HAVIAN 30 data from a sequencer or a master keyboard.
Control Change (CC)		This is a wide array of messages, controlling most of the instrument parameters. Some examples:
Bank Select MSB	00	This message pair is used to select a Sound Bank. Together with the Program Change message, they are used to select a Sound.
Bank Select LSB	32	
Modulation	01	This is the equivalent of pressing up the joystick. A vibrato effect is usually triggered on.
Master Volume	07	Use this controller to set the channel's volume.
Pan	10	This one sets the channel's position on the stereo front.
Expression	11	Use this controller to set the relative volume of tracks, with the maximum value matching the current setting of the CC07 control.
Damper Pedal	64	Use this controller to simulate the Damper pedal.

Tempo

Tempo is a global MIDI message, that is not tied to a particular channel. Each MIDI Song includes Tempo data.

Lyrics

Lyric Meta Events are intended to display text together with the music. HAVIAN 30 can read many of the available Lyrics format on the market.

MIDI standards

Standard MIDI Files

Standard MIDI Files (abbreviated as SMF) are a practical way of exchanging songs between different instruments and computers. HAVIAN uses the SMF format as its default MIDI Song format, so reading a song from a computer, or saving a song that a computer software can read, is not a problem at all.

The internal Player is compatible with SMFs format 0 (all data in one track; it is the most common format) and 1 (multitrack). HAVIAN 30 can read SMFs in Song Play mode and modify/save them in Sequencer mode. It can save a Song in SMF format 0 from Sequencer mode.

When in Song Play mode, HAVIAN 30 can also display SMF lyrics in Solton, M-Live (Midisoft), Tune1000, Edirol, GMX, HitBit, and XF formats, and the chord abbreviations of SMF in Solton, M-Live (Midisoft), GMX, and XF format. (Please note that the above trademarks are the property of their respective holders. No endorsement is intended by their inclusion in this list.)

Standard MIDI Files usually have the .mid or .kar filename extension.

The General MIDI standard

Some years ago, the musical instruments world felt a need for some further standardization. Then, the General MIDI Standard (GM) was born. This extension of the basic MIDI sets new rules for compatibility between instruments:

- A minimum of 16 MIDI channels was required.
- A basic set of 128 Sounds, correctly ordered, was mandatory.
- The Drum Kit had a standard order.
- Channel 10 had to be devoted to the Drum Kit.

  A most recent extension is the GM2, that further expands the Sounds database. HAVIAN 30 is sound-compatible with the GM2 standard.

Special MIDI channels

The Global channel

Any MIDI channel set as the Global channel can simulate the HAVIAN 30 integrated keyboard. When HAVIAN 30 is connected to a master keyboard, transmission should take place over the Global channel of HAVIAN 30.

The MIDI messages received over a Global channel and not over a standard channel are affected by the status of the SPLIT button, as well from the split point. Therefore, if the SPLIT button's LED is lit up, notes arriving to HAVIAN 30 over this channel will be divided by the split point into the Upper (above the split point) and Lower (below the split point) parts.

Notes arriving to a Global channel (in the Global > MIDI > MIDI IN Channels page) are used for the chord recognition of the automatic accompaniment. If the SPLIT LED is turned on, only the notes below the split point will be used.

The Control channel

You can set a MIDI IN channel as the Control channel (in the Global > MIDI > MIDI IN Channels page), to select Styles, Performance and SongBook Entries from an external device. See the Appendix for a list of messages corresponding to HAVIAN 30's internal data.

Quick settings using MIDI Presets

Using the MIDI Presets

Connecting an instrument to a master keyboard, a personal computer or a tablet, usually requires some programming. To help you configure the MIDI channels, we have provided some MIDI Presets, that will automatically configure MIDI according to your needs.

Choosing a MIDI Preset

1   Go to the Global > MIDI > General Controls page.

2   Use the Preset pop-up menu to choose one of the available MIDI Presets.
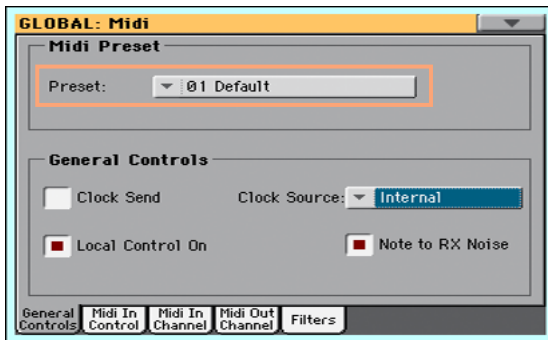
Parameter		Default	Master Kbd	Player	Ext. Seq.	Tablet
MIDI IN Channel	1	Ply Tr 1	Global	Ply Tr 1	Ply Tr 1	–
	2	Ply Tr 2	Control	Ply Tr 2	Ply Tr 2	–
	3	Ply Tr 3	-	Ply Tr 3	Ply Tr 3	–
	4	Ply Tr 4	-	Ply Tr 4	Ply Tr 4	–
	5	Ply Tr 5	-	Ply Tr 5	Ply Tr 5	–
	6	Ply Tr 6	-	Ply Tr 6	Ply Tr 6	–
	7	Ply Tr 7	-	Ply Tr 7	Ply Tr 7	–
	8	Ply Tr 8	-	Ply Tr 8	Ply Tr 8	–
	9	Ply Tr 9	-	Ply Tr 9	Ply Tr 9	–
	10	Ply Tr 10	-	Ply Tr 10	Ply Tr 10	–
	11	Ply Tr 11	-	Ply Tr 11	Ply Tr 11	–
	12	Ply Tr 12	-	Ply Tr 12	Ply Tr 12	–
	13	Ply Tr 13	-	Ply Tr 13	Ply Tr 13	–
	14	Ply Tr 14	-	Ply Tr 14	Ply Tr 14	–
	15	Ply Tr 15	-	Ply Tr 15	Ply Tr 15	–
	16	Ply Tr 16	-	Ply Tr 16	Ply Tr 16	Control
MIDI OUT Channel	1	Upper 1	Upper 1	Ply Tr 1	Upper 1	–
	2	Upper 2	Upper 2	Ply Tr 2	–	–
	3	Upper 3	Upper 3	Ply Tr 3	–	–
	4	Lower	Lower	Ply Tr 4	–	–
	5	-	-	Ply Tr 5	–	–
	6	-	-	Ply Tr 6	–	–
	7	-	-	Ply Tr 7	–	–
	8	-	-	Ply Tr 8	–	–
	9	-	-	Ply Tr 9	–	–
	10	-	-	Ply Tr 10	–	–
	11	-	-	Ply Tr 11	–	–
	12	-	-	Ply Tr 12	–	–
	13	-	-	Ply Tr 13	–	–
	14	-	-	Ply Tr 14	–	–
	15	-	-	Ply Tr 15	–	–
	16	-	-	Ply Tr 16	–	Control
MIDI IN Oct. Trp.		On	On	On	On	Off
MIDI IN Track Mute		-	On	–	On	Off

You will use the supplied MIDI Presets in the following cases:

MIDI Preset	Use
Default	Generic settings, good for most situations
Master Kbd	When connecting to an external master keyboard
Player	When using an external sound generator (an expander or a virtual instrument)
External Sequencer	When slaving HAVIAN 30 to an external sequencer (for example, a software running on a computer)
Tablet	When connecting to a tablet

Editing the MIDI Presets

Editing a MIDI Preset

1   Choose a MIDI Preset containing programming similar to what you want to achieve.

2   While in the Global > MIDI pages, edit the various parameters.

MIDI Presets can be considered as a starting point that can be freely tweaked. Once you have selected the most appropriate MIDI Preset for the connection to be made, you can modify the parameters as needed.

The parameters that will be saved to a MIDI Preset are the ones shown in the above table.

Saving a MIDI Preset

Open the Write Midi Preset dialog

1   Go to the any page of the Global > MIDI section.

2   Choose the Write Midi Preset command from the page menu to open the Write Midi Preset dialog.

```
                    Write Midi Preset

   Name:        T  Default

                        To

   Midi Preset:    ▼  01 Default

        Cancel              OK
```
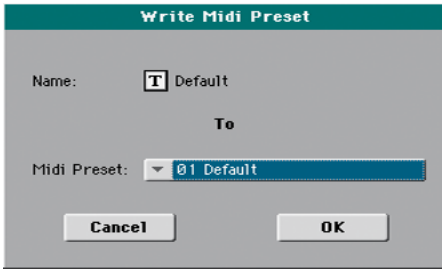
Write over the current MIDI Preset

▪   If you want to overwrite the current Preset, just touch the OK button.

Write to a different MIDI Preset location

1   If you want to choose a different location, use the Midi Preset pop-up menu.

2   If you want to change the name of the MIDI Preset, touch the Text Edit (T) icon to open the virtual keyboard and edit the name.

3   When done editing the name, confirm by touching the OK button under the virtual keyboard.

4   When back at the Write Midi Preset dialog, confirm the Write operation by touching the OK button.

MIDI communication settings

Connecting the keyboard to the internal or external sounds

The 'local' controls (keyboard, physical controllers) can be connected to the internal sounds directly, or echoed back from an external device.

1   Go to the Global > MIDI > General Controls page.

2   Use the Local Control On parameter to connect or disconnect the keyboard and controllers to the internal sounds.

Local Control	Meaning
On	When you play the keyboard, MIDI data are sent to the internal sound generator. If Sounds are assigned to a MIDI OUT channel, data are also sent to the USB DEVICE port.
Off	The keyboard is connected to the USB DEVICE port, but cannot play the internal sound generator.
	This is very useful when working with an external sequencer, to send notes and various MIDI messages from the integrated keyboard and controllers to the external sequencer, and then let the sequencer send them back to the sound generator, without overlapping.

This parameter is automatically activated each time the instrument is turned on.

Receiving notes as RX Noises

RX Noises are special ambience or mechanical sounds that allow Sounds to be more realistic. They are usually located above C7, depending on the Sound.

1   Go to the Global > MIDI > General Controls page.

2   Select the Note to RX Noise checkbox to convert incoming notes to RX Noises.
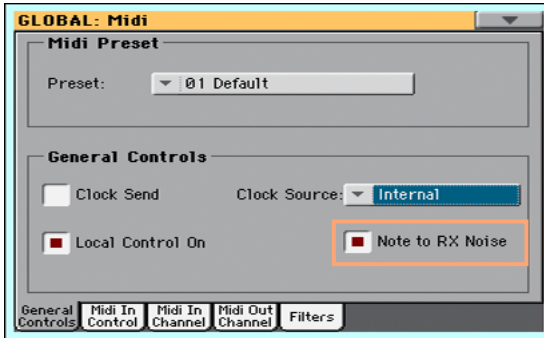
When this parameter is turned on, notes received from the USB DEVICE port, or performed by the internal Player, in the RX Noises range, are recognized and converted to RX Noises.

This parameter is automatically activated each time the instrument is turned on.

Transposing received notes

Applying master and octave transposition to received notes

1   Go to the Global > Tuning > Transpose Control page.

2   Use the Transpose Applies to Midi In Notes checkbox to determine if notes received on the USB DEVICE port have to be transposed.
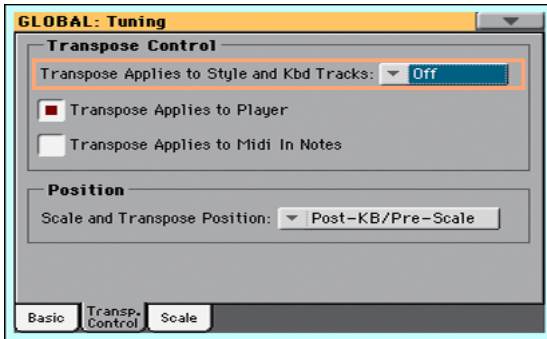
Midi In Transpose	Meaning
On	Notes received on the USB DEVICE port are transposed according to the Master Transpose.
Off	Data received on the USB Device port are not transposed.

Applying octave transposition to received notes

1   Go to the Global > MIDI > MIDI IN Controls page.

2   Use the Midi In Octave Transpose checkbox to determine if notes received on the USB DEVICE port have to be octave-transposed.
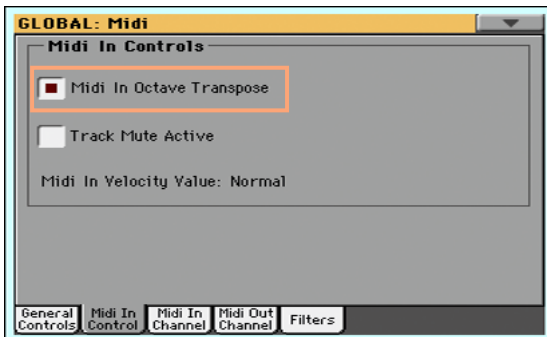
Midi In Octave	Meaning
On	Notes received on the USB DEVICE port are transposed according to the Octave Transpose setting for each Sound.
Off	Data received on the USB Device port are not transposed.

Playing muted tracks via MIDI

1   Go to the Global > MIDI > MIDI IN Controls page.

2   Use the Track Mute Active checkbox to determine if notes received on the USB DEVICE port will play on muted tracks.

```
GLOBAL: Midi                         ▼
 ┌─Midi In Controls─────────────────────
 │   ■ Midi In Octave Transpose
 │
 │   □ Track Mute Active
 │
 │   Midi In Velocity Value: Normal
 │
 └──────────────────────────────────────
  General Midi In  Midi In  Midi Out
  Controls Control Channel Channel  Filters
```
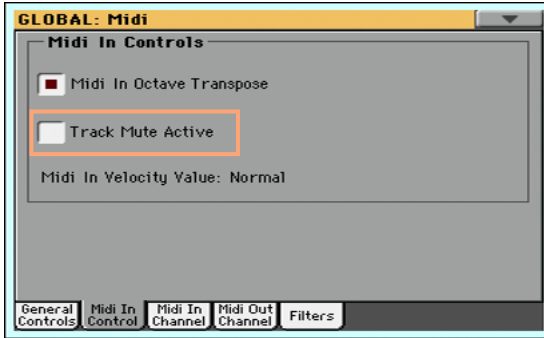
Track Mute Active	Meaning
On	No data received on the USB DEVICE port can play on muted tracks.
Off	Data received on the USB DEVICE port can play on muted tracks.

Choosing a fixed velocity value

1   Go to the Global > MIDI > MIDI IN Controls page.

2   Use the Midi In Velocity Value parameter to set a fixed velocity value for all the notes received via MIDI. This is useful when playing HAVIAN 30 with an organ or a MIDI accordion.

```
GLOBAL: Midi                                    ▼
┌─ Midi In Controls ────────────────────────────┐
│                                                │
│   ■  Midi In Octave Transpose                  │
│                                                │
│   □  Track Mute Active                         │
│                                                │
│   Midi In Velocity Value: Normal               │
│                                                │
│                                                │
│                                                │
└────────────────────────────────────────────────┘
 General  Midi In  Midi In  Midi Out  Filters
 Controls Control  Channel  Channel
```
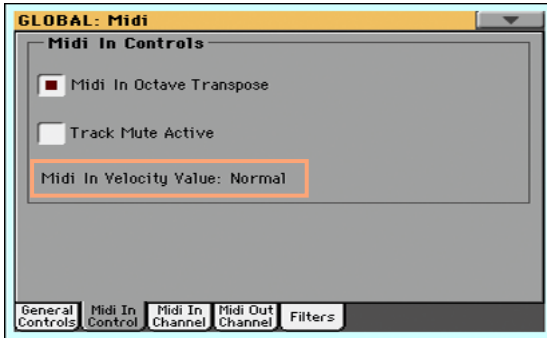
Midi In Velocity	Meaning
Normal	Received velocity values are left unchanged.
40 … 127	All received velocity values are converted to the selected value.

Synchronizing Tempo with other instruments

MIDI Clock in Song Play mode

In Song Play mode, MIDI Clock is always generated by the internal Player. While in this mode, HAVIAN 30 can't receive MIDI Clock messages.

Sending the MIDI Clock

1   Go to the Global > MIDI > General Controls page.
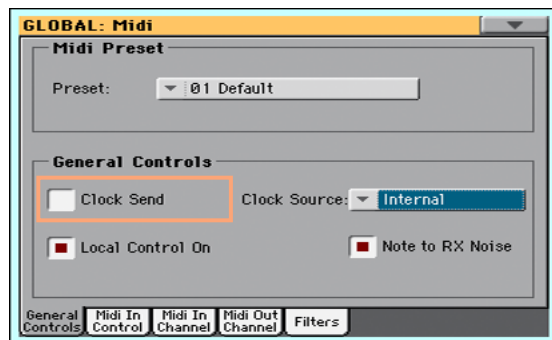
2   Select the Clock Send parameter to send the internal MIDI Clock to the USB DEVICE port.

When the MIDI Clock signal is sent, you can slave another instrument to the HAVIAN 30 Tempo, Start/Stop and Play/Stop commands.

This parameter is automatically deactivated each time the instrument is turned on.

Receiving the MIDI Clock

1   Go to the Global > MIDI > General Controls page.
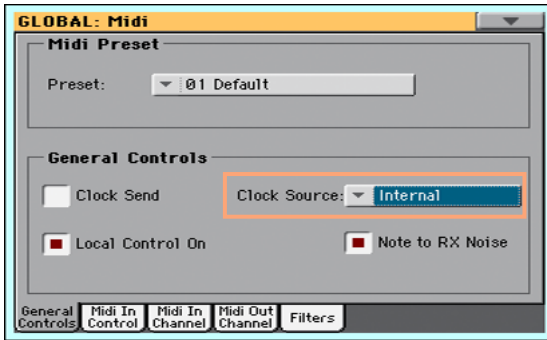
2   Use the Clock Source pop-up menu to choose a MIDI Clock source for the Style Play and Sequencer modes.

Clock Source	Meaning
Internal	MIDI Clock is generated by the HAVIAN 30's Arranger and Player internal metronome. When in Song Play mode, the Internal clock is always used.
External USB	MIDI Clock received from the USB DEVICE port. In Style Play or Sequencer mode, HAVIAN 30 is slaved to an external device. The Start/Stop and Play/Stop commands, as well as the Tempo value, cannot be selected from HAVIAN 30. Use the external device to set the Tempo and Start or Stop the Sequencer or Arranger.

This parameter is automatically set to Internal each time the instrument is turned on.

Programming the MIDI channels

Programming the MIDI IN channels

1 Go to the Global > MIDI > MIDI IN Channels page.

```
GLOBAL: Midi                                    ▼
┌─ Midi In Channels ─────────────────────────────┐
│  Ch01: ▼ Ply. Tr 01      Ch09: ▼ Ply. Tr 09   │
│  Ch02: ▼ Ply. Tr 02      Ch10: ▼ Ply. Tr 10   │
│  Ch03: ▼ Ply. Tr 03      Ch11: ▼ Ply. Tr 11   │
│  Ch04: ▼ Ply. Tr 04      Ch12: ▼ Ply. Tr 12   │
│  Ch05: ▼ Ply. Tr 05      Ch13: ▼ Ply. Tr 13   │
│  Ch06: ▼ Ply. Tr 06      Ch14: ▼ Ply. Tr 14   │
│  Ch07: ▼ Ply. Tr 07      Ch15: ▼ Ply. Tr 15   │
│  Ch08: ▼ Ply. Tr 08      Ch16: ▼ Ply. Tr 16   │
└────────────────────────────────────────────────┘
 Setup   Midi In  Midi In  Midi Out  Filters
 Gen.Ctl Control  Channel  Channel
```

2 Use the Channel pop-up menus to assign an instrument's track to each MIDI channel.

Track	Meaning
Off	Nothing assigned
Lower	Keyboard's Lower Sound
Upper 1...3	One of the Keyboard's Upper Sounds
Drum	Style's Drum Sound
Percussion	Style's Percussion Sound
Bass	Style's Bass Sound
Acc 1...5	One of the Style's Accompaniment Sounds
Ply Tr 01...16	One of the Player's tracks (Sounds).
Global	Special channel to simulate HAVIAN 30's integrated controllers (keyboard, pedals, joystick) with an external keyboard or controller. MIDI messages coming on this channel are seen as if they were generated by HAVIAN 30's integrated controllers.
Control	On this special channel, HAVIAN 30 receives MIDI messages to remotely select Styles, Performances, STS, Style Elements and SongBook Entries. See tables in the Appendix for more information about the received data.

Programming the MIDI OUT Channels

1   Go to the Global > MIDI > MIDI OUT Channels page.

```
GLOBAL: Midi                                    ▼
  Midi Out Channels
   Ch01:  ▼  Upper 1       Ch09:  ▼  Off
   Ch02:  ▼  Upper 2       Ch10:  ▼  Off
   Ch03:  ▼  Upper 3       Ch11:  ▼  Off
   Ch04:  ▼  Lower         Ch12:  ▼  Off
   Ch05:  ▼  Off           Ch13:  ▼  Off
   Ch06:  ▼  Off           Ch14:  ▼  Off
   Ch07:  ▼  Off           Ch15:  ▼  Off
   Ch08:  ▼  Off           Ch16:  ▼  Off

 Setup   Midi In  Midi In  Midi Out  Filters
Gen.Ctl  Control  Channel  Channel
```

2   Use the Channel pop-up menus to assign an instrument's track to each MIDI channel.

Track	Meaning
Off	Nothing assigned
Lower	Keyboard's Lower Sound
Upper 1...3	One of the Keyboard's Upper Sounds
Drum	Style's Drum Sound
Percussion	Style's Percussion Sound
Bass	Style's Bass Sound
Acc 1...5	One of the Style's Accompaniment Sounds
Ply Tr 01...16	One of the Player's tracks (Sounds).
Chord	Use this channel to send notes recognized by the Chord Recognition engine to the USB DEVICE port. This is useful, for example, to control an external Harmonizer playing on the Lower part (even if the part is muted).
Control	On this special channel, HAVIAN 30 sends messages corresponding to the selected SongBook Entry.

Filtering out MIDI messages

You can set up to eight filters for the MIDI data received or sent. Filters are applied to all MIDI channels at the same time.

1   Go to the Global > MIDI > Filters page.
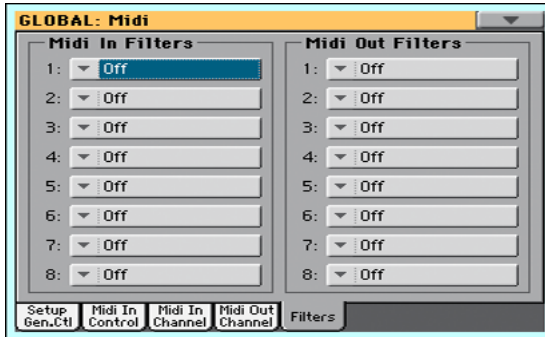
2   Use the Midi In Filters pop-up menus to choose filters on the data received.

3   Use the Midi Out Filters pop-up menus to choose filters on the data sent.

Filter	Meaning
Off	No filter
Pitch Bend	Pitch Bend
MonoTouch	Mono (or Channel) After Touch
PolyTouch	Poly After Touch
PrgChange	Program Change
SysExcl	System Exclusive
All CC	All Control Change messages
0 … 127	Control Change message #0...127. See the Appendix for a list of available Control Change messages.
Notes	Note events

Installing the KORG USB MIDI Driver

The USB DEVICE port can be used for MIDI communication between HAVIAN 30 and a personal computer. A dedicated driver is supplied in the Accessory Disc, and an up-to-date driver can be found on our web site.

KORG USB-MIDI Driver system requirements

Be sure your personal computer meets the following requirements.

OS	Computer	Operating System
Windows	A computer with an USB port, that satisfies the requirements of Microsoft Windows Vista, 7 or 8	Windows Vista/7/8/8.1, 32 or 64 bit
Mac	An Apple Mac with an USB port that satisfies the requirements of Mac OS X	Mac OS X version 10.3 or later

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Installing the KORG USB-MIDI Driver on a Windows PC

Please connect HAVIAN 30 to the computer via an USB cable only after having installed the KORG USB-MIDI Driver Tools.

1   Insert the included Accessory Disc into the optical drive of your Windows PC.

2   Open the folder DVD-ROM\USB-MIDI Driver\Win - KORG USB-MIDI Driver v.n.nn\ and double-click on KORG USB-MIDI Driver Tools Setup v.n.nn.exe to run the installer ('n.nn' meaning the version number).

3   Follow the instructions appearing on screen. At the end, the tools will be installed.

4　When installation is completed, connect the USB DEVICE port of your HAVIAN 30 to one of the USB ports of your Windows PC by using a standard USB cable. The Auto Installer will immediately start.

5　When finished, the USB-MIDI driver will be installed, and HAVIAN 30 will be able to communicate with your computer via USB.

You can access the tools and manuals from the Start menu.

Installing the KORG USB-MIDI Driver on Mac OS X

1　Insert the included Accessory Disc into the optical drive of your Mac.

2　If the DVD content does not appear on screen, double-click the DVD icon to open a window in the Finder.

3　Open the folder /USB-MIDI Driver/Mac - KORG USB- MIDI Driver v.n.nn/ and double-click on KORG USB- MIDI Driver v.n.n.n.dmg to open a virtual drive in the Finder ('n.n.n' meaning the version number).

4　Double-click on KORG USB-MIDI Driver.pkg to run the installer.

5　Follow the instructions appearing on screen.

6　When installation is completed, eject the virtual drive, and connect the USB DEVICE port of your HAVIAN 30 to one of the USB ports of your Mac by using a standard USB cable.

Driver ports

After installation, the following ports will be shown in your MIDI application among the other MIDI devices:

Device	Meaning
HAVIAN 30 KEYBOARD	This allows for reception of MIDI messages from HAVIAN 30 (keyboard and controllers) to the MIDI application running on the computer.
HAVIAN 30 SOUND	This allows for transmission of MIDI messages from the MIDI application running on the computer, to the internal tone generator of HAVIAN 30.

Connecting HAVIAN 30 to a personal computer or tablet

You can program a new song on a personal computer or tablet connected to HAVIAN 30. The computer has to run some sequencing or notation software. When a song is ready, you can transfer it to the internal memory of HAVIAN 30, and read it with the internal Player.

Connections and settings

1   Install the KORG USB MIDI Driver, as explained above.

2   Connect HAVIAN 30 and the computer or tablet via the USB DEVICE port.

3   On the computer, activate the MIDI Thru function (please refer to the software's user manual).

4   On HAVIAN 30, go to the Global > MIDI > General Controls page and choose the External Sequencer or Tablet MIDI Preset.

5   Still in the Global > MIDI > General Controls page, deselect the Local Control On checkbox to set the instrument to the Local Off status.

6   Press the SEQUENCER button to go to the Sequencer mode.

7   Play the keyboard.

   Notes played on the keyboard will go from the USB port of HAVIAN 30 to the USB port of the computer or tablet. Notes generated by the computer are sent from the USB port of the computer to the USB port of HAVIAN 30.

The Sounds

The song that is played back by the sequencer can select HAVIAN 30 Sounds through the MIDI messages Bank Select MSB, Bank Select LSB (bank selection, two messages), and Program Change (Sound selection). See the list of Sounds and corresponding MIDI values in the Appendix.

As a hint for those who program songs on computer: even though it is not mandatory, for a wider compatibility you should set bass on channel 2, melody on channel 4, drum kit on channel 10, controls for an harmonizer on channel 5.

Control Change messages

The following is a table including all Control Change messages, and their effect on various functions of the instrument. Note that not all controllers are available in all operative modes.

CC#	CC Name	HAVIAN 30 Function
0	Bank Select	Sound selection
1	Modulation 1 (Y+)	Joystick forward
2	Modulation 2 (Y-)	Joystick backward
3	Undefined controller	
4	Foot controller	
5	Portamento time	
6	Data entry	
7	Volume	Track volume
8	Balance	
9	Undefined controller	
10	Pan Pot	Track panning
11	Expression	Expression
12	FX controller 1	CC#12
13	FX controller 2	CC#13
14-15	Undefined controller	
16	Gen.pc.1	
17	Gen.pc.2	
18	Slider	
19	Gen.pc.4	
20-31	Undefined controller	
Control Change #32-63 are the LSB (Least Significant Bytet) of Control Change #0-31, i.e. the MSB (Most Significant Byte), and are changed according to their MSB counterparts.		
64	Damper	Damper pedal
65	Portamento	
66	Sostenuto	Sostenuto pedal
67	Soft	Soft pedal
68	Legato	
69	Hold 2	
70	Sustain level	
71	Filter Resonance Hp	Filter resonance

CC#	CC Name	HAVIAN 30 Function
72	Release	Release time
73	Attack	Attack time
74	Filter cutoff	Filter cutoff (Brilliance)
75	Decay Time	Decay time
76	Lfo1 Speed	Vibrato speed
77	Lfo1 Dpt	Vibrato depth
78	Lfo1 Dly	Vibrato initial delay
79	FilterEgb	
80	Gen.pc.5	Sound Controller 1
81	Gen.pc.6	Sound Controller 2
82	Gen.pc.7	
83	Gen.pc.8	
84	Portamento control	
85-90	Undefined controller	
91	FX 1 depth	A/B Master FX 1 (reverb) send level
92	FX 2 controller	
93	FX 3 depth	A/B Master FX 2 (modul.) send level
94	FX 4 controller	
95	FX 5 controller	
96	Data Increment	
97	Data Decrement	
98	NRPN LSB	See table below(*)
99	NRPN MSB*	See table below(*)
100	RPN LSB	See MIDI Implementation Chart
101	RPN MSB	See MIDI Implementation Chart
102-119	Undefined controller	
120	AllSOff	
121	Res Ctl	Reset All Controllers
122	LocalCt	
123	NoteOff	
124	OmniOff	
125	Omni On	
126	Mono On	
127	Poly On	

(*) The following NRPN messages are recognized in Song Play and Sequencer mode only. These controls are reset when stopping a Song, or choosing a different Song.

NRPN	CC#99 (MSB)	CC#98 (LSB)	CC#06 (Data Entry)
Vibrato Rate	1	8	0…127
Vibrato Depth	1	9	0…127[a]
Vibrato Decay	1	10	0…127[a]
Filter Cutoff	1	32	0…127[a]
Resonance	1	33	0…127[a]
EG Attack Time	1	99	0…127[a]
EG Decay Time	1	100	0…127[a]
EG Release Time	1	102	0…127[a]
Drum Filter Cutoff	20	dd	0…127[a]
Drum Filter Resonance	21	dd[b]	0…127[a]
Drum EG Attack Time	22	dd[b]	0…127[a]
Drum EG Decay Time	23	dd[b]	0…127[a]
Drum Coarse Tune	24	dd[b]	0…127[a]
Drum Fine Tune	25	dd[b]	0…127[a]
Drum Volume	26	dd[b]	0…127
Drum Panpot	28	dd[b]	0…127[a]
Drum Rev Send (FX 1)	29	dd[b]	0…127[a]
Drum Mod Send (FX 2)	30	dd[b]	0…127[a]
(a). 64 = No change to the original parameter's value			
(b). dd = Drum Instrument No. 0…127 (C0…C8)			

(*) The following NRPN messages are recognized in Style Play and Song Play mode only.

NRPN	CC#99 (MSB)	CC#98 (LSB)	CC#06 (Data Entry)
SongBook Entry	2	64	0…99

Controlling the Styles and Player via MIDI

Style Elements

You can remotely select the various Style Elements, by sending Program Change messages on the Control channel.

PC	Style Element	PC	Style Element	PC	Style Element	PC	Style Element
80	Intro 1	81	Intro 2	82	Intro 3/Count In	83	Variation 1
84	Variation 2	85	Variation 3	86	Variation 4	87	Fill 1
88	Fill 2	89	Fill 3	90	Fill 4	91	Break
92	Ending 1	93	Ending 2	94	Ending 3		

Style and Player controls

You can remotely send various commands to the Arranger or Player, by sending it Program Change messages on the Control channel.

PC	Control	PC	Control	PC	Control
97	Auto Fill	98	Memory	99	Bass Inversion
100	Manual Bass	101	Tempo Lock	103	Start/Stop (Arranger)
104	Play/Stop (Player)				

Single Touch Settings (STS)

You can remotely select Single Touch Settings (STS), by sending Bank Select MSB (CC#0), Bank Select LSB (CC#32) and Program Change messages on the Control channel. If a Style is already selected, just send the Program Change message.

CC00	CC32	PC	STS	PC	STS	PC	STS	PC	STS
The same as the Style to which the STS belongs		64	STS 1	65	STS 2	66	STS 3	67	STS 4

The Program Change and Control Change numbers shown in this page follow the 0-127 numbering system.

PART XI: FILE MANAGEMENT

46 Managing files

Overview on file management

You can access Media pages by pressing the MEDIA button. Media pages are where you manage files and storage devices.

Media page structure

Most Media pages share some basic elements.
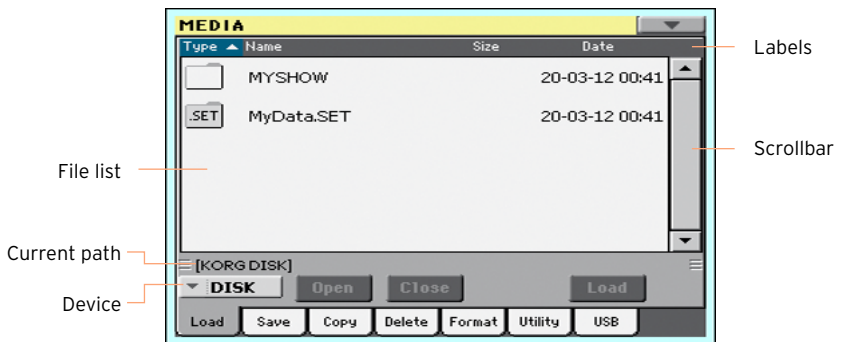
Browsing through the files

You can see the files and folders in the center of the Media pages.

- Scroll the file list by using the scrollbar.
- Open the selected folder by touching the Open button.
- Close the open folder by touching the Close button.

Selecting and deselecting files

■ Select a file or folder by touching it.

■ Deselect it by touching an `empty area` in the file list, or by touching the **Device** pop-up menu, and choosing the current device again.

Changing the list view

You can touch one of the `labels` on top of the file list to change the order in which files are shown. For example, by touching the **Name** label, the list is alphabetically re-ordered according to the file names. The selected label appears highlighted, showing the currently selected ordering.

If you touch the highlighted label again, the alphabetic order changes from ascending to descending, or vice-versa. The small arrow next to the label name shows the selected order.

Current path

The place in the drive you are currently exploring is always shown under the file list.

[KORG DISK]\STARTUP\ALL\STYLE\USER01.STY

Selecting a storage device (drive)

A device can be selected by using the Device pop-up menu, shown in the lower left corner of most Media pages:

Device pop-up menu
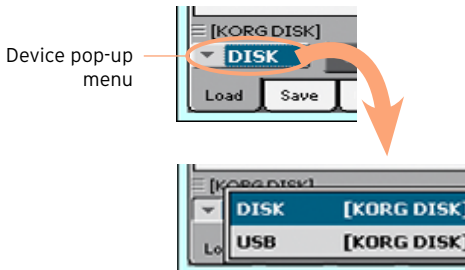
Supported device

HAVIAN 30 supports external devices, like hard disks or USB memory sticks, formatted in FAT16 or FAT32 with long file names. NTSF (Windows NT/2000/XP/Vista/7/8), HFS (Mac OS 9) and HFS+ (Mac OS X) formats are not supported.

You can access the following mass storage device types:

Name	Media type
DISK [KORG DISK]	User-accessible area of the internal memory. This is where you can store Songs and other files.
USB [DEVICE_LABEL]	USB memory device (like a memory stick) connected to the front USB HOST port.

Types of files

The following table describes all the file and folder types HAVIAN 30 can read or write.

Extension	File/folder type
SET	All the User data. This is a reserved folder containing other reserved folders.
BKP	Backup file, created with the Full Resource Backup function of the Media > Utility page
GBL	Global Setup
QTP	Quarter Tone Scale Presets
MPR	MIDI Presets
AUD	Limiter and Master EQ Presets
PRF	Performance
PCG	Sound (KORG HAVIAN and Pa-Series)
STY	Style
SBD	SongBook
SBL	SongBook's Custom List
JBX	Jukebox
MID	Standard MIDI File, SMF (MIDI Song)
MP3	MP3 file (MP3 Song)
TXT	Plain text file

HAVIAN 30 can also read (but not write) the following types of data.

Extension	File type
PKG	Operating System and Musical Resource files
KAR	Karaoke file
CDG	CD+Graphics file
PCG	KORG Triton Programs

Ordinary data and reserved data

Each device (and the internal memory) can contain files and folders. Data inside HAVIAN 30 is slightly more rigidly structured than data in a computer, due to the pre-configured type of data inside the instrument's memory. The diagram below shows the global structure of an HAVIAN 30 device.

Factory Styles can only be seen when the Factory Style Protect parameter is deselected, and only when loading or saving a single Style bank, or when erasing something (this can be done in the Global > Mode Preferences > Media page, see page 637).

Media structure

- 📁 MYDIR.SET
  - 📁 GLOBAL
    - 📄 SETUP.GBL
    - 📄 MASTEREQ.AUD
    - 📄 LIMITER.AUD
    - 📄 MIDI.MPR
    - 📄 QTPRESET.QTP
  - 📁 PERFORM
    - 📁 BANK01.PRF
      - 📄 1-1 Grand Piano
      - 📄 ...
      - 📄 1-40 Full Strings
    - 📁 BANK ... .PRF
    - 📁 BANK6.PRF
      - 📄 6-1 Rock Brass
      - 📄 ...
      - 📄 6-40 Rock Strings
  - 📁 SONGBOOK
    - 📁 SONGDB.SBD
    - 📄 LISTDB.SBL
  - 📁 SOUND
    - 📁 USER01.PCG
      - 📄 1 Piano 1
      - 📄 ...
      - 📄 128 SynBrass22
    - 📁 USER02.PCG
      - 📄 1 SopranoSax
      - 📄 ...
      - 📄 128 Noise
    - 📁 USERDK.PCG
      - 📄 1 Standard Ki t
      - 📄 ...
      - 📄 128 Orchestral Kit
  - 📁 STYLE
    - 📁 BANK01.STY
      - 📄 1-1 Pop 1
      - 📄 ...
      - 📄 1-40 Pop 40
    - 📁 BANK ... .STY
    - 📁 BANK15.STY
      - 📄 15-1 Contemp. 1
      - 📄 ...
      - 📄 15-40 Contemp. 40
    - 📁 FAVORITE01.ST Y
      - 📄 1 Favorite 1
      - 📄 ...
      - 📄 40 Favorite 40
    - 📁 FAVORITE ... .ST Y
    - 📁 FAVORITE08.ST Y
      - 📄 1 Favorite 1
      - 📄 ...
      - 📄 40 Favorite 40
    - 📁 USER01.STY
      - 📄 U1-1 User 1
      - 📄 ...
      - 📄 U1-40 User 40
    - 📁 USER02.STY
      - 📄 U2-1 User 1
      - 📄 ...
      - 📄 U2-40 User 40
    - 📁 USER03.STY
      - 📄 U3-1 User 1
      - 📄 ...
      - 📄 U3-40 User 40

Loading musical resources and settings

Loading files or folders

You can load all the memory content, a separate type of musical resources, a separate bank, or a single resource.

Choose the data to be loaded

1   Go to the Media > Load page.
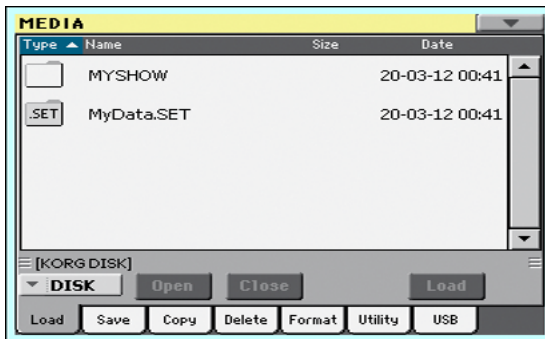
2   If loading from an external device, connect the device to the USB HOST port.

3   Use the Device pop-up menu to choose the source device.

4   Touch an item (file or folder) in the file list to select it.

5   Browse through the folders. Touch the Open button to open the selected folder. Touch the Close button to close the current folder.

6   When you see the item you are looking for, select it and touch the Load button to load it.

Load the data

1   When loading single banks or items, choose a target location in memory.

In this example you are choosing a target where to load a bank of Styles:

Name of the Style
bank being loaded

Name of the target
bank in memory
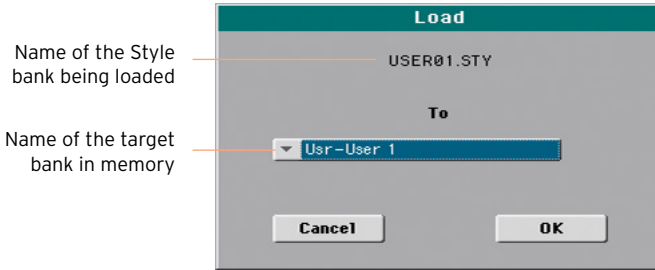
In this example you are choosing a target where to load a single Style:

Name of the Style
being loaded

Name of the target
location in memory

Touch here to open
the Select window
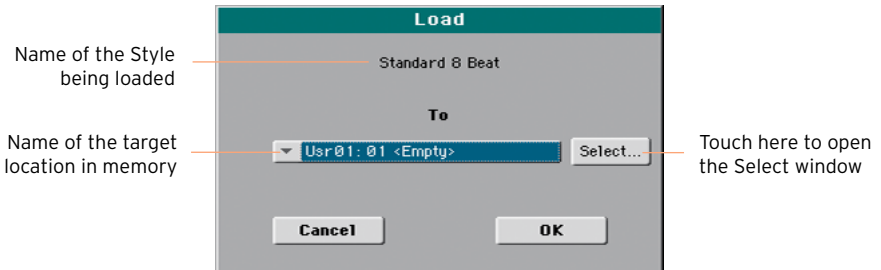
2   Touch OK to confirm. After confirming, any item you are overwriting will be deleted.

Loading a SET folder

A SET folder may contain all the data of the internal memory. Loading it may either delete all the data contained in the internal memory, or merge the loaded data with the data already in memory.

Loading a type of data

A folder may contain all the data of a particular type (Styles, Performances…). Loading it may either delete all the data of the same type contained in the internal memory, or merge the loaded data with the data already in memory.

Loading a bank

You can load single banks of data. All data contained in the target bank in memory are deleted.

Loading data from other instruments

Loading Global data from Pa-Series instruments

Being unique to each instrument, Global data (Preferences, MIDI Presets, Limiter and Master EQ settings, etc.) cannot be loaded from KORG Pa-Series instruments. They are therefore discarded when loading a SET folder generated by an instrument other than HAVIAN 30.

Loading data from Pa-Series instruments

You can load most data from KORG Pa-Series instruments. The following table shows what you can load from the other instrument, and if you can load HAVIAN 30 data to them.

Pa-Series	Load from	Load to
Pa3X	You can load data exactly as if they were HAVIAN 30 data (apart for the Global). User Sounds based on User Samples will not be loaded. Due to the different order in memory, Styles must be manually reassigned to SongBook Entries by using the KORG SongBook Editor software. Sounds and Effects (in particular, the Insert FXs) can be different.	√
Pa3XLe, Pa900, Pa600, Pa300	You can load data exactly as if they were HAVIAN 30 data (apart for the Global). User Sounds based on User Samples will not be loaded. Due to the different order in memory, Styles must be manually reassigned to SongBook Entries by using the KORG SongBook Editor software. Sounds from Pa3XLe and Pa900 can be a bit different.	√
Pa2X, Pa800, Pa1X, Pa800, Pa588	You can load data exactly as if they were HAVIAN 30 data (apart for the Global). User Sounds based on User Samples will not be loaded. Due to the different order in memory, Styles must be manually reassigned to SongBook Entries by using the KORG SongBook Editor software.	–
Pa80, Pa60, Pa50, Pa50SD	You can load data exactly as if they were HAVIAN 30 data (apart for the Global). The only difference is that the SOUND folder of HAVIAN 30 is called PROGRAM in the older instruments. Therefore, to load Sounds, you first have to do one of the following operations: • Rename the PROGRAM folder SOUND (by using a personal computer) before loading a SET folder; or • First load the SET folder, then separately load the PCG file from the PROGRAM folder.	–

Loading data from i-Series instruments

HAVIAN 30 is compatible with the Styles of the older KORG i-Series instruments. You can load them as if they were ordinary HAVIAN 30 data.

1   Copy the old i-Series data into an USB device, or transfer them to the internal memory of HAVIAN 30.

2   Go to the Media > Load page.

3   Use the Device pop-up menu to select the device containing the i-Series data.

4   If you are reading an i30 file, select the SET folder, then touch the Open button.

5   Select the STY folder.

6   At this point, you can load the whole STY folder, or open it and choose a single Style.

■   To load the whole folder, touch the Load button. If it contains more than 40 Styles, they will be loaded into the USER banks sequentially, otherwise you will be prompted to select one of the USER Style banks or the FAVORITE Style banks in memory. Once the target bank is selected, touch Load to load the bank. The 'Are you sure?' message will appear. Touch OK to confirm.

■   To load a single Style, touch Open in the display to open the STY folder. Since a conversion will be started at this point, please wait some seconds for the operation to be completed.

   Select the Style to load, then touch Load. You will be prompted to select a target location in memory. Once the target location is selected, touch Load to load the Style. The 'Are you sure?' message will appear. Touch OK to confirm.

   Please note that loading a whole SET folder from an i30 file may take some time due to format conversion.

7   Go to the Style Play mode, and select (one of) the loaded Style. Adjust the Tempo value, then choose the Write Current Style Settings command from the page menu to write changes.

8   Due to the difference in Sounds, you will probably want to make some adjustments to the old Styles, once they are loaded in HAVIAN 30 (changing the Sound, Volume, Pan, Tempo, Drum Mapping, Wrap Around...).

9   To make the Sound assignment to the Style tracks effective, be sure the Original Style Sounds parameter is not checked (Volume pane, Style track view).

10 Save the Style Settings again, by choosing the Write Current Style Settings command from the page menu.

Merging data

When loading all User data, or all data of a specified type, most data loaded from a storage device are merged with data already existing in memory. For example, if there is data in all three USER Style banks in memory (USER01, USER02, USER03), and there is only the USER01 Style bank in the storage device, the USER01 bank will be overwritten, while USER02 and USER03 banks will be left unchanged.

As a result, there will be a STYLE folder in memory containing the USER01 bank you just loaded, and the old USER02 and USER03 banks.

Loading User Samples

HAVIAN 30 includes a 32 MB User Sample memory, allowing to load User Sounds and Drum Kits based on User Samples in the KORG Pa-Series format. Compressed Samples are loaded, but will not sound. Please check the User Sounds after loading.

You can load all the Samples contained in a SET folder. In case not all the Samples can fit in memory, just load single Sounds with their associated Samples.

User Samples are automatically reloaded when turning the instrument on. As a consequence, startup times will increase slightly.

Saving musical resources and settings

Saving files or folders

You can save all the memory content, a separate type of musical resources, a separate bank, or a single resource.

HAVIAN 30's proprietary data has to be saved into special folders with the '.set' filename extension. These special folders can be saved inside ordinary folders.

Choose the data to be saved

1   Go to the Media > Save page.
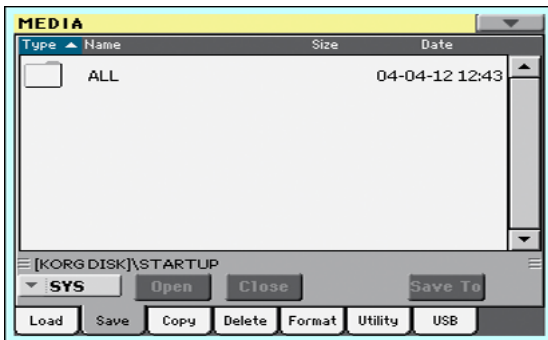
2   Touch an item (file or folder) in the file list to select it.

3   Browse through the folders. Touch the Open button to open the selected folder. Touch the Close button to close the current folder.

4   When you see the item you are looking for, select it and touch the Save To button to save it.

Choose the target device

After touching Save, the target device appears:
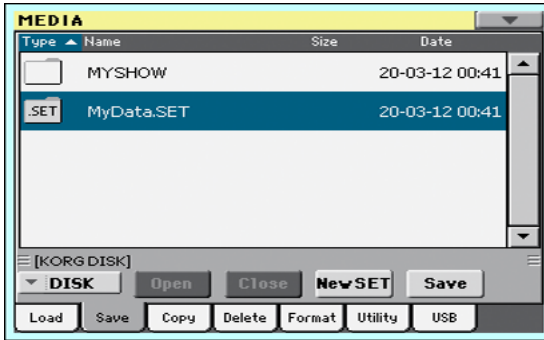
1　If saving to an external device, connect the device to the USB HOST port.

2　Use the Device pop-up menu to choose the target device.

Choose an existing SET folder

You can save data into an existing SET folder. If you are saving data that is not yet in the target folder, data will be merged. Otherwise, it will be over-written.

■　Select an existing SET folder, and touch the Save command to confirm.

Create a new SET folder

You can create a new, empty SET folder to save your data without overwriting anything.

1　Touch the New SET button to create a new SET folder. The Create New SET Folder dialog appears:

2　Touch the Text Edit (T) icon to open the virtual keyboard and edit the name. When done editing the name, confirm by touching the OK button under the virtual keyboard.

3   When back at the Create New SET Folder dialog, touch the OK button to create the new SET folder and exit the dialog.

Save all data

1   After having selected an existing SET folder or having created a new one, touch the Save button to confirm. A dialog appears, asking you to select the type of data to save:

■   Save All dialog with the Factory Style Protect option activated:

■   Save All dialog with the Factory Style Protect option deactivated:
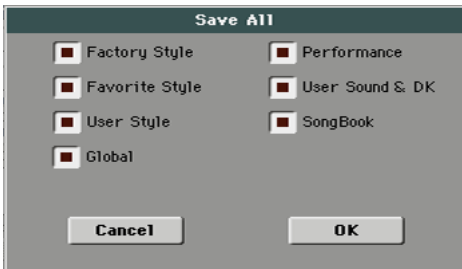
2   Check all data type you want to save, then touch OK to confirm.

Save single banks

■   When saving single banks, choose a target location in the storage device.

In this example you are choosing a target where to save a bank of Styles:

Name of the Style bank being saved

Name of the target bank in the storage device
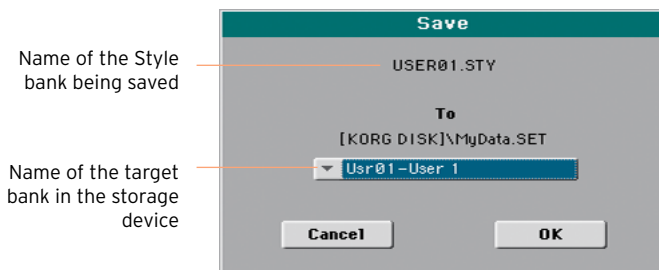
Save single items

1   When saving single items, choose a target location in the storage device.

     In this example you are choosing a target where to save a single Style:

Name of the Style being saved

Name of the target location in the storage device

```
                        Save
                     Slide Blues

                         To
                  [KORG DISK]\MyData.SET
              ▼  Usr01: 5 Salsa

              Cancel              OK
```

2   Touch OK to confirm. After confirming, any item you are overwriting will be deleted.

Copying files and folders

Copying files or folders

You can copy files and folders. Folders can be generic or SET folders. In addition, you can copy the content of the generic folder you are in. You can copy inside the same device, or from a device to a different one (both devices must be connected to HAVIAN 30 during the copy operation).

To preserve data structure integrity, during Copy operations you can't open SET folders and copy only one of the files it contains. You can only open and get inside generic folders.

Choose the data to be copied

1   Go to the Media > Copy page.

Current path
Device
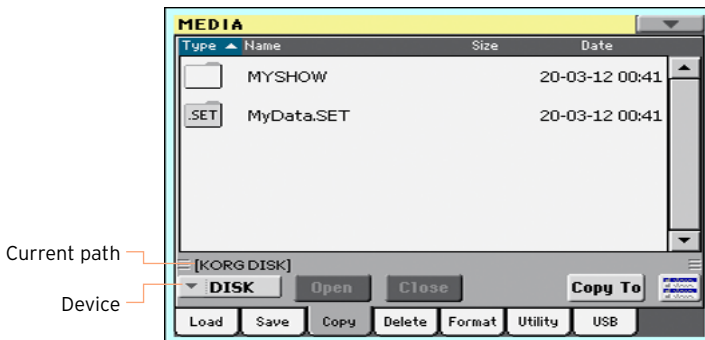
2   If copying from an external device, connect the device to the USB HOST port.

3   Use the Device pop-up menu to choose the source device.

4   Touch an item (file or folder) in the file list to select it.

If nothing is selected, the content of the current folder will be copied.

5   Browse through the folders. Touch the Open button to open the selected folder. Touch the Close button to close the current folder.

6   When you see the item you are looking for, select it and touch the Copy To button to copy it.

Choose the target device

After touching Copy To, the target device appears:

Current path —
Device —
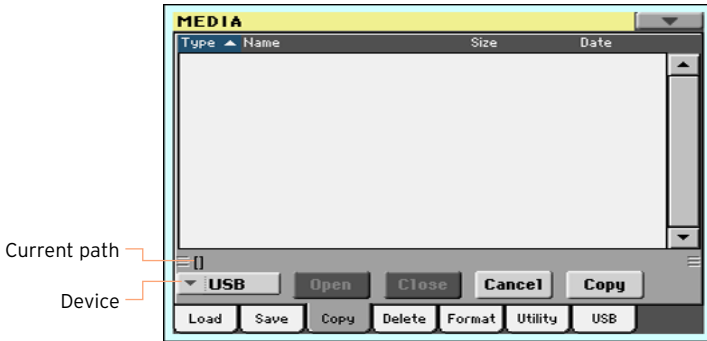
1   If copying to an external device, connect the device to the USB HOST port.

2   Use the Device pop-up menu to choose the target device.

Choose a target and confirm copying

■   Select an existing folder, and touch the Copy command to confirm.

If no folder is selected, you will copy into the current folder.

While copying, a dialog shows the copy progress:
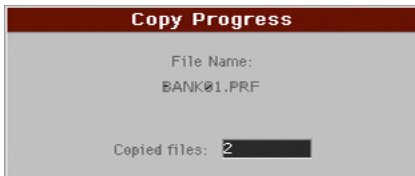
Overwriting existing files or folders

When copying files, a file or folder with the same name of the file or folder being copied might be found in the target device. In this case, HAVIAN 30 asks you if you want to overwrite it.

When a duplicate file or folder is met, the following dialog box appears:
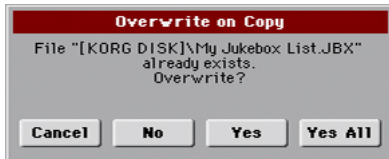
Overwrite	Meaning
Cancel	The procedure is interrupted.
No	The file or folder is not overwritten. The source file or folder is not copied. The procedure will continue with the other files and folders.
Yes	The file or folder is overwritten. The procedure will continue with the other files and folders.
Yes (to) All	The file or folder is overwritten. Any following duplicate file or folders will be overwritten as well, without this dialog box appearing again. The procedure will continue with the other files and folders.

Deleting files and folders

Deleting files or folders

You can delete files and folders from a storage device.

Choose the data to be deleted

1 Go to the Media > Delete page.
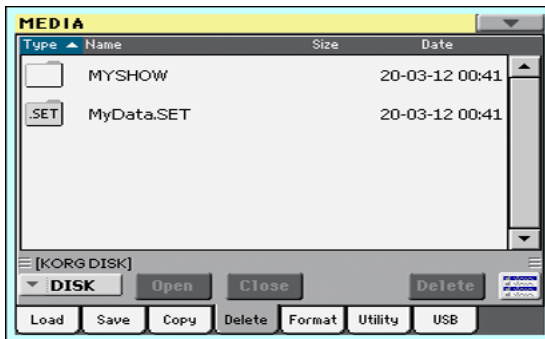
2 If deleting from an external device, connect the device to the USB HOST port.

3 Use the Device pop-up menu to choose the source device.

4 Touch an item (file or folder) in the file list to select it.

5 Browse through the folders. Touch the Open button to open the selected folder. Touch the Close button to close the current folder.

6 When you see the item you are looking for, select it and touch the Delete button to delete it.

Selecting more items at once

While in the Copy and Delete pages, you can select several files or folders at the same time before executing the operation. Files or folders can be selected consecutively (that is, in a row), or discontinuously (that is, with other files or folders in the middle).

To choose either to select files in a consecutive or discontinue way, use the Select Mode button on the right of the page command buttons, to choose how pressing the SHIFT button will work.

Select Mode	Meaning
(icon)	Choose this option to select files or folders consecutively (i.e., in a row).
(icon)	Choose this option to select files or folders discontinuously (i.e., with other files or folders in the middle).

Select more files or folders consecutively

1 Touch the Select Mode button to choose the SHIFT function.

2 Select the first file or folder to be selected.

3 Press and keep the SHIFT button pressed.

4 Select the last file or folder to be selected.

5 Release the SHIFT button.

Select more files or folders discontinuously

1 Touch the Select Mode button to choose the SHIFT function.

2 Select the first file or folder to be selected.

3 Press and keep the SHIFT button pressed.

4 Select a second file or folder to be selected.

5 While keeping the SHIFT button pressed, continue selecting the other files or folders to be selected.

6 Release the SHIFT button.

Deselect the files or folders

- To deselect one or more files or folders, without deselecting everything, keep SHIFT pressed and touch the file or folder to be deselected.
- To deselect everything, select any other file or folder. All selected files and folders will be deselected.

Formatting storage devices

Formatting a storage device

The Format function lets you initialize a device. HAVIAN 30 uses a PC-compliant device format (DOS FAT16 and FAT32).

Warning: Formatting a storage device deletes all the data it contains!

Choose the device to be formatted

1   Go to the Media > Format page.
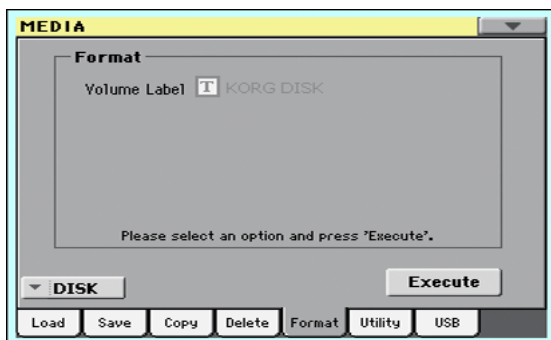
2   If formatting an external device, connect the device to the USB HOST port.

3   Use the Device pop-up menu to choose the device.

Assign a name to the device

1   Use the Volume Label parameter to assign a name to an external device to be formatted.

Since this is a reserved name, you cannot rename the label (name) of the internal volume. When formatting the internal disk, the label cannot be edited.

Also, if you try to rename the internal volume when HAVIAN 30 is connected to a PC through the USB port, the original name is automatically restored.

2   Touch the Text Edit ($\boxed{T}$) icon to open the virtual keyboard and edit the name. When done editing the name, confirm by touching the OK button under the virtual keyboard.

Please note that renaming a device, containing Standard MIDI Files or MP3 files used in the SongBook, will break the links to the files. We suggest to give the device the same name it had before formatting. In case you changed the

name, please use SongBook Editor (freely available on our web site) to edit the links.

Format the device

1 Touch the **Execute** button to start formatting.

2 Confirm the following warning message(s).

Backing up and restoring musical resources

A set of file backup and restore utilities can be found in the Media > Utility page.
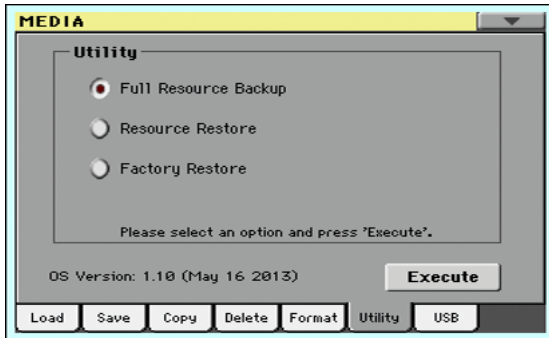
Backing up the musical resources

You can backup the internal data (musical resources and settings) to a storage device. Backup should only be used for archiving purpose, since you will not be able to load individual data from a backup archive.

To save data that has to remain accessible with the normal Media > Load operations, for example to load User data after updating the musical resources, use the Media > Save operations instead.

Choose the backup command

1 Go to the Media > Utility page.

2 Select the Full Resource Backup option, then touch the Execute button to see the file selector.

Choose the target device and folder

After touching Execute, the target device appears:
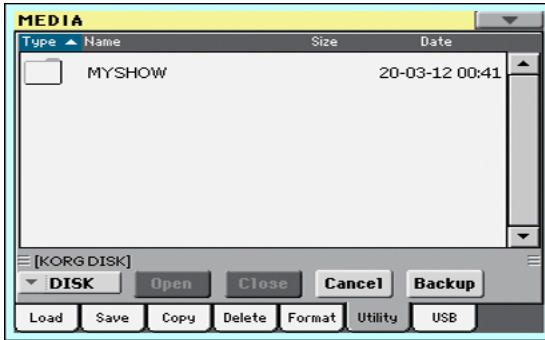
1   If you are making a backup to an external device, connect the device to the USB HOST port.

2   Use the Device pop-up menu to choose the target device.

3   Browse through the folders. Touch the Open button to open the selected folder. Touch the Close button to close the current folder.

4   Select the folder where to backup the data, then touch the Backup command to confirm.

    If nothing is selected, data will be saved to the current folder.

Assign a name to the backup archive

After touching Backup, a dialog box will appear, asking you to assign a name to the backup file.
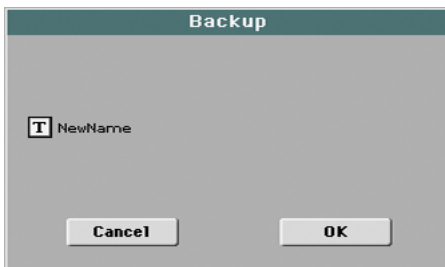
1   Touch the Text Edit (T) icon to open the virtual keyboard and edit the name. When done editing the name, confirm by touching the OK button under the virtual keyboard.

2   When at the Backup dialog again, touch the OK button to start backing up.

3   When finished backing, save the storage device in a safe place.

Restoring the musical resources

You can restore data from a backup archive created with the Full Resource Backup command.

Warning: To avoid data loss, don't play the keyboard while restoring data, and stay in the Media mode. Wait until the 'Wait' message disappears.

Choose the restore command

1. Go to the Media > Utility page.

2. Select the Resource Restore option, then touch the Execute button to see the file selector.

Choose the source device and folder

1. If you are restoring from an external device, connect the device to the USB HOST port.

2. Use the Device pop-up menu to choose the target device.

3. Browse through the folders. Touch the Open button to open the selected folder. Touch the Close button to close the current folder.

4. When the backup archive appears, select it and touch the Restore command.

Choose the data to restore

5. After touching Restore, a dialog will appear, with a list of types of data to be restored. Only check the types of data you want to restore.
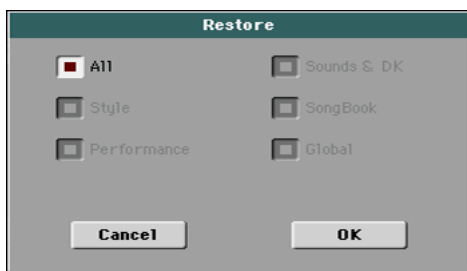
6. Touch OK to start restoring.

Warning: This command will delete from the internal memory all types of data selected in this dialog box (including your custom data).

7. When done, a message will appear, asking you to restart the instrument ('Data Restored. Please switch off'). Turn the instrument off, then turn it on again.

Restoring the original musical resources

After an OS update, or when you want to erase all changes to your Factory and User data, and restore your HAVIAN 30 to the same condition it was when new, use the Factory Restore operation.

Warning: This command deletes all data from memory (including your custom data).

1   Go to the Media > Utility page.

2   Select the Factory Restore option, then touch the Execute button.

3   A dialog box will appear, with a list of types of data to be restored. Only check the types of data you want to restore.

Warning: This command will delete from the internal memory all types of data selected in this dialog box (including your custom data).

4   When done, a message will appear, asking you to restart the instrument ('Data Restored. Please switch off'). Turn the instrument off, then turn it on again.

Connecting the internal drive to a personal computer

The USB DEVICE port allows you to access the internal drive from a personal computer, by just connecting HAVIAN 30 to the computer's USB interface. This way, you can exchange files between the user-accessible area of the internal drive of HAVIAN 30 (DISK device), and a personal computer.

You don't need any dedicated driver to connect HAVIAN 30 and a personal computer.

Connect HAVIAN 30 to the personal computer

■ Use a standard USB cable to connect the USB DEVICE port of HAVIAN 30 to an USB port of the personal computer.

Enable USB communication

■ Go to the Media > USB page, and touch the Enable button. The icon of the HAVIAN 30's internal drive will appear among those of all the devices connected to your personal computer.

While USB file transfer is enabled, you cannot access other functions on HAVIAN 30. MIDI Over USB is also disabled.

After starting the USB connection, accessing the internal drive from the computer may take some time, depending on the size of the internal drive and the amount of data it contains.

Do not try to change the label (name) of its internal drive when HAVIAN 30 is connected to a personal computer. If you try to do it, the original name is automatically restored.

Also, do not modify the structure of the SET folders, or you will no longer be able to use them on HAVIAN 30. Only use the USB connection for data exchange purpose, or to modify ordinary folders.

Disable USB communication

1   When finished transferring the files, you can disconnect HAVIAN 30 from the personal computer.

■   On a Windows PC, select the dedicated command by clicking on the USB device icon ( ) with the right mouse button.

■   On a Mac, select the USB device icon ( ), then select the Eject command or drag the drive icon to the eject icon in the Dock ( ) .

2   On HAVIAN 30, touch the Disable button to disable the USB DEVICE port for file transfer, and gain access to all the instrument's functions.

> **Warning:** Do not disconnect USB communication before the personal computer has really finished transferring files. Sometimes, the on-screen indicator tells the procedure has been completed BEFORE it has really finished. Disconnecting USB communication (or disconnecting the USB cable) before data transfer has been completed may cause data loss.

Storage device management

Creating folders

You can create generic folders, where to store any type of data (other folders, Songs, SET folders...).

1   While in any of the Media pages, browse through the folders to find the place where to create a new folder. Touch the Open button to open the selected folder. Touch the Close button to close the current folder.

2   Choose the Create New Folder command from the page menu to open the Create New Folder dialog.
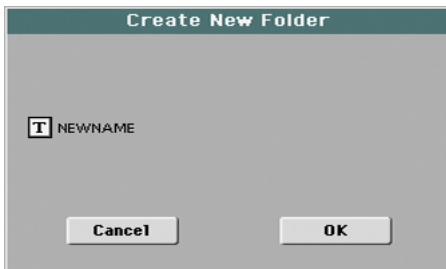
3   Touch the Text Edit (T) icon to open the virtual keyboard and edit the name. When done editing the name, confirm by touching the OK button under the virtual keyboard.

4   When back at the Create New Folder dialog, touch the OK button to create the folder at the chosen position.

Renaming files or folders

1   While in any of the Media pages, select the item to rename (generic file or folder) and choose the Rename command from the page menu.
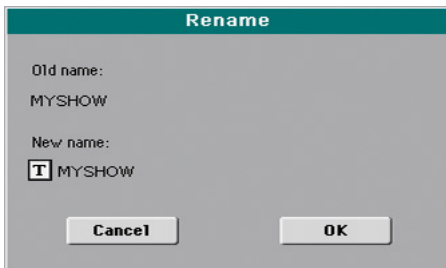
To preserve consistency through the data structure, you cannot rename folders and files inside a SET folder. Also, you cannot change the 3-character extension of files and SET folders, since they are used to identify the type of file or folder.

2   Touch the Text Edit ($\boxed{T}$) icon to open the virtual keyboard and edit the name. When done editing the name, confirm by touching the OK button under the virtual keyboard.

3   When back at the Rename dialog, touch the OK button to confirm the new name.

Getting information on the selected items

▪   While in any of the Media pages, select one or more items and choose the Object(s) Info command from the page menu.

Select this command to see the size of any selected file or folder. Also, the number of files and directories (folders) it contains are shown.

Getting information on the selected device, and changing its name

Open the Device Info dialog

■ While in any of the Media pages, choose the Device Info command from the page menu.

Read the information

While in the Device Information dialog, you can see various information on the selected device. To select a different device, exit from the dialog and use the Device pop-up menu to select a different storage device.

Rename the storage device

■ While in the Device Information dialog, touch the Text Edit ($\boxed{T}$) icon to open the virtual keyboard and edit the name. When done editing the name, confirm by touching the OK button under the virtual keyboard.

Please note that renaming a device, containing Standard MIDI Files or MP3 files used in the SongBook, will break the links to the files. In case you changed the name, please use SongBook Editor (freely available on our web site) to edit the links.

Protecting files and folders

Protect the files or folders

■ While in any of the Media pages, select one or more items and choose the Protect command from the page menu.

Choosing this command will protect the selected file(s) or folder(s) from writing or erasing. The lock icon will appear next to the file or folder name.

Unprotect the files or folders

■ While in any of the Media pages, select one or more protected items and choose the Unprotect command from the page menu.

Exporting playlists

Exporting a list of Songs as a text file

A list of the Songs contained inside a folder or a Jukebox list, or the SongBook and Custom Lists, can be exported, to be printed and be used as the playlist of the show.

Exporting a list of songs contained in a folder

1   Open the Song Select window.

2   Browse through the files and folders, and open the folder whose content you would like to export as a text file.

3   Choose the Export Song List command from the page menu to open the Write Song List dialog.
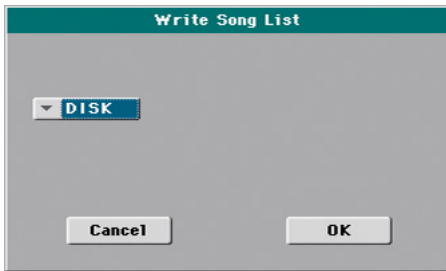
4   Use the Device pop-up menu to choose a device where to save the list as a TXT file. The file will be saved in the device's root.

When saved, the text file will be named after the selected folder. For example, a folder named 'Dummy' will generate a 'Dummy.txt' file. If you are saving from the root of the device, a 'Root.txt' file will be generated.

If a file with the same name already exists on the target device, it will be overwritten without waiting for confirmation.

The list will include the progressive number assigned to each Song, the file names, the total number of files in the list.

Exporting a Jukebox list

1   While a Jukebox file is assigned to the Player, choose the Export Jukebox List command from the page menu to open the Write Jukebox List dialog.
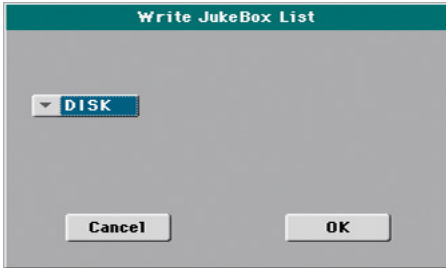
2   Use the Device pop-up menu to choose a device where to save the list as a TXT file. The file will be saved in the device's root.

When saved, the text file will be named after the selected Jukebox file. For example, a Jukebox file named 'Dummy.jbx' will generate a 'Dummy.txt' file. A new, unnamed Jukebox file will generate a 'New_name.txt' file.

If a file with the same name already exists on the target device, it will be overwritten without waiting for confirmation.

The list will include the progressive number assigned to each Song, the file names, the total number of files in the list.

Exporting a SongBook Book list or Custom List

1   While you are in the SongBook > Book or SongBook > Custom List page, choose the desired list filtering.

2   Choose the Export as Text File command from the page menu to open the Export as Text File dialog.
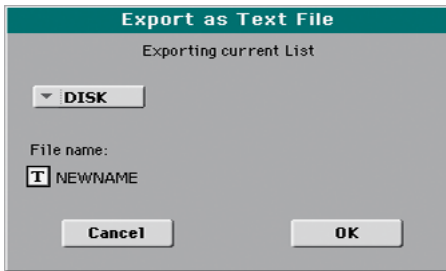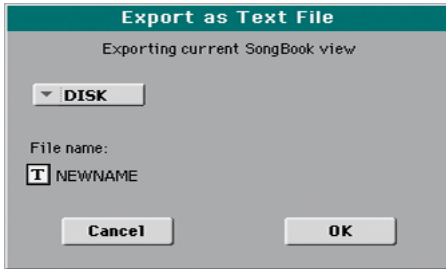
3   Use the Device pop-up menu to choose a device where to save the list as a TXT file. The file will be saved in the device's root.

4   You may change the name of the list. Touch the Text Edit ($\boxed{T}$) icon to open the virtual keyboard and edit the name. When done editing the name, confirm by touching the OK button under the virtual keyboard.

5   When back at the Export as Text File dialog, confirm exporting by touching the OK button.

A TXT file containing the filtered data will be created. If a file with the same name already exists on the target device, it will be overwritten without waiting for confirmation.

Reading the text file on a personal computer

To correctly display and print the list on a personal computer, use a fixed size (i.e., non-proportional) character in your text editor.

Care of storage devices

HAVIAN 30 can save most of the data contained in memory to the internal drive, or to external devices (like hard drives or USB memory sticks) connected to the USB HOST port. Here are some precautions when handling these devices.

Internal memory write protection

You can protect the internal memory from writing, by using the software protection found in the Global > Mode Preferences > Media page (Media Protect checkbox).

Precautions

■ Do not remove a device or move the instrument while the device is operating.

■ In order to avoid losing data in case of damage, make a backup copy of the data contained in a device. You can backup your data to a personal computer, and from there to a backup unit. You can transfer data from the internal drive of HAVIAN 30 (DISK unit) to a personal computer by using the USB DEVICE connection.

■ Do not leave an USB device connected to the USB ports while carrying the instrument, or it may be damaged.

■ Keep the memory devices or the instrument away from sources of magnetic fields, for example televisions, refrigerators, computers, monitors, speakers, cellular phones and transformers. Magnetic fields can alter the contents of the devices.

■ Do not keep memory devices in very hot or wet places, do not expose them to direct sunlight and do not store them without use in dusty or dirty places.

■ Do not place heavy objects on top of the devices.

■ Regular care is recommended with your devices. Defragmenting and repairing the internal drive can be made with any computer utility while HAVIAN 30 is connected via USB.

Possible issues

Magnetic fields, dirt, humidity and usage can damage data in a device. You can try to recover the data with disk repair utilities for personal computers. It is, however, advisable to always make a backup copy of your data.

PART XII: APPENDIX

47   Musical Resources

The following pages list all the musical resources supplied as standard with your HAVIAN 30.

Styles

This list shows the Styles and their position number inside the bank.

#	Style
Pop	
1	Guitar Pop
2	Guitar Beat
3	Standard 8 Beat
4	Standard 16 Beat
5	Piano Pop
6	Classic Pop
7	Pop Chart 1
8	Pop Chart 2
9	Liverpool 1
10	Liverpool 2
11	British Pop
12	Slow Latin Pop
13	6/8 Slow Pop
14	12/8 Pop
15	Pop Shuffle 1
16	Pop Shuffle 2
17	Easy Beat 1
18	Easy Beat 2
19	Real 8 Beat
20	Real 16 Beat
21	Soft 8 Beat
22	Soft 16 Beat
23	Analog Beat 1
24	Analog Beat 2
25	8 Beat Analog 1
26	8 Beat Analog 2
27	Pop Funk 1
28	Pop Funk 2
29	Easy Pop 1
30	Easy Pop 2

#	Style
31	Modern Beat
32	6/4 Pop
33	Cool Pop
34	Kool Beat
35	Take Beat
36	Elektro Pop
Ballad	
1	Soft Ballad 1
2	Soft Ballad 2
3	Moonlight Ballad
4	6/8 Brush Ballad
5	Piano Ballad
6	Guitar Ballad
7	Easy Ballad
8	Organ Ballad
9	Contemporary Bld
10	Orchestral Bld
11	Jazzy Ballad
12	Blues Ballad
13	Analog Ballad 1
14	Analog Ballad 2
15	Rock Ballad 1
16	Rock Ballad 2
17	Waltz Ballad
18	6/8 Slow
19	6/8 Ballad 1
20	6/8 Ballad 2
21	Pop Hit Ballad
22	Oriental Ballad
23	Blue Ballad
24	Funky Ballad

#	Style
25	Modern Ballad 1
26	Modern Ballad 2
27	Groove Ballad
28	Folk Ballad
29	Pop Ballad
Ballroom	
1	Quick Step
2	Paso Dance
3	Jive 1
4	Jive 2
5	Argentina Tango
6	Modern Tango
7	Slow Fox
8	Organ Foxtrot
9	Slow Waltz 1
10	Slow Waltz 2
11	Slow Waltz 3
12	Organ Waltz
13	Foxtrot 1
14	Foxtrot 2
15	Slow Band
16	Big Band Jump
17	Big Band Fox
18	40's Big Band
19	Fox Shuffle 1
20	Fox Shuffle 2
21	Italian Tango 1
22	Italian Tango 2
23	Twist
24	Hully Gully
25	50'sFox

#	Style
26	Italian Fox
27	Irish Fox
28	Easy Listening
29	12/8 Slow

Dance

#	Style
1	70's Disco Rmx
2	70's Disco 1
3	70's Disco 2
4	80's Dance
5	90's Dance
6	Electro Dance
7	Dance Chart 1
8	Dance Chart 2
9	Funky Disco
10	Techno
11	Garage
12	House
13	Club House
14	Euro Trance
15	Fashion Funk
16	Dance Fever
17	Barry Dance
18	Sister & Girl
19	Philly Disco
20	Miami Disco
21	Love Disco
22	Dance Motown
23	Dance Mix
24	Soca Dancing

Rock

#	Style
1	Pop Rock
2	English Rock
3	Fire Rock
4	Hard Rock
5	Open Rock 1

#	Style
6	Open Rock 2
7	Heavy Rock
8	Funky Rock
9	Rock Oldie
10	Rock & Roll
11	South Shuffle
12	Slow Latin Rock
13	Latin Rock 1
14	Latin Rock 2
15	Surf Rock
16	60's Rock
17	Slow Rock 1
18	Slow Rock 2
19	60's Slow Rock
20	6/8 Rock
21	Steely Rock
22	Abbey Rock
23	SouthStrait Rock
24	Rock Cha Cha
25	Rock Shuffle
26	8 Beat Rock
27	Johnny Rock
28	Rock the Clock
29	Alabama Rock

Unplugged

#	Style
1	Unplugged Heaven
2	Sally Groove
3	UnpluggedBallad1
4	UnpluggedBallad2
5	UnpluggedBallad3
6	Unplugged Slow
7	Desert Shuffle
8	Serenade
9	Unplugged
10	Meditando

#	Style
11	Unplugged 8 Bt
12	Unplugged 16 Bt
13	Unplugged Gtr 1
14	Unplugged Gtr 2
15	Unplugged Gtr 3
16	Unplugged Gtr 4
17	Slide Blues
18	Unplugged Rock
19	Unplugged Latin
20	Unplugged Swing
21	3/4 Unplugged
22	3/4 Acoustic Bld

Country

#	Style
1	Easy Country
2	Country Blues
3	Country Strum
4	Country QuikStep
5	Country Beat 1
6	Country Beat 2
7	Country Ballad 1
8	Country Ballad 2
9	Finger Picking
10	3/4 Country
11	Modern Country
12	Country Pop
13	Bar Country
14	Bluegrass
15	Country Boogie
16	Country Shuffle
17	Country 8 Beat
18	Country 16 Beat

Traditional

#	Style
1	German Waltz 1
2	German Waltz 2
3	German Waltz 3

#	Style
4	Vienna Waltz
5	Italian Waltz
6	Musette Waltz
7	French Waltz
8	Irish Waltz
9	Laendler Waltz
10	German Polka
11	Italian Polka 1
12	Italian Polka 2
13	Italian Polka 3
14	Italian Mazurka1
15	Italian Mazurka2
16	Italian Mazurka3
17	9/8
18	Vahde
19	2/4 Oyun
20	Ciftetelli
21	Halay
22	5/8
23	Oryantal
24	Turkish Pop
Latin	
1	Samba Brazil
2	Bossa Nova
3	Classic Salsa
4	Classic Cha Cha
5	Classic Mambo
6	Classic Merengue
7	Classic Bachata
8	Guajira
9	6/8 Afro
10	Cumbia
11	Rhumba 1
12	Rhumba 2
13	Salsa 1

#	Style
14	Salsa 2
15	Cool Latin Jazz
16	Latin Big Band
17	Meditation Bossa
18	Organ Bossa
19	Orch. Bossa 1
20	Orch. Bossa 2
21	Fast Bossa
22	Cool Bossa
23	Natural Bossa
24	Pop Cha Cha
25	Habanera
26	Latin Vocal
27	Latin Bolero
28	Latin Pop
29	Modern Latin
30	Bossa Lounge
Latin Dance	
1	Reggaeton
2	Lambada
3	Meneaito
4	Macarena
5	Bomba Dance
6	Tortura Dance
7	Gipsy Dance
8	Sambalegre
9	Samba Dance
10	Disco Samba
11	Mambo Party
12	Modern Bachata
13	Classic Beguine
14	Bayon
15	Modern Bossa
16	Disco Cha Cha
17	Calypso

#	Style
18	Reggae 1
19	Reggae 2
20	Club Latino
21	Andean
Jazz	
1	Bigger Band
2	Serenade Band
3	Jazz Club
4	BeBop
5	Medium BigBand1
6	Medium BigBand2
7	Fast Big Band 1
8	Fast Big Band 2
9	Slow Swing Brush
10	Swing Ballad 1
11	Swing Ballad 2
12	Swing Ballad 3
13	Slow JazzWaltz
14	Medium JazzWaltz
15	Fast Jazz Waltz
16	Orchestral Swing
17	Jazzy Blues
18	Organ Swing
19	Organ Blues
20	Swing Quintet
21	Medium Swing
22	Vocal Swing
23	Moon Swing
24	Soft Jazz
25	Django
26	5/4 Swing
27	Jazz Brush
28	Jazzy Lounge
29	Afro-Cuban Jazz
30	Dixieland

#	Style
31	Stride
32	Ragtime
33	Slow Smooth Jazz
34	Fast Smooth Jazz
35	Smooth JazzWaltz
36	Smooth LatinJazz
37	Classic Swing
38	Class JazzWaltz
Movie & Show	
1	Orchestral Movie
2	Broadway
3	Show Time
4	Ritz Swing
5	Hollywood 1
6	Hollywood 2
7	Tap Dance
8	Movie Ballad
9	Movie Swing
10	Safari Swing
11	Western Movie
12	Mystery Man
13	Cartoon Time
14	Horror Movie
15	Love Movie
16	Artie's Theme
17	Christmas Waltz
18	Christmas Swing
19	Theatre Swing
20	Theatre March
21	Love Ballad
22	Army Band
23	Burt's Bounce
Funi & Soul	
1	Funk R&B
2	Kool Funk

#	Style
3	Al Funk
4	Elektrik Funk
5	Classic Funk
6	Urban Funk
7	Talkin' Jazz
8	Funky Sisters
9	Rhythm & Blues
10	Blues
11	Soul
12	Gospel
13	Gospel Swing
14	Gospel Shuffle
15	Modern Gospel 1
16	Modern Gospel 2
17	Al Swing
18	Groove
19	Groove Funk
20	Jazz Funk
21	Motown Shuffle 1
22	Motown Shuffle 2
23	Cool Vocal
24	70's Beat Groove
25	Cool Funk
26	Soul Ballad
27	Funky R&B
28	Slow & Jazzy
29	Slow Mood
30	Slow Funk
31	Swing HipHop
32	Soft HipHop
World	
1	Spanish Dance
2	4/4 Flamenco
3	3/4 Flamenco
4	Casatchock

#	Style
5	Greek Rumba
6	Xasapiko
7	Sirtaki
8	Zouk
9	Hawaiian
10	Mexican Waltz
11	Norteno
12	Kebradita
13	Bolero Ranchero
14	Mariachi Polka
15	Mariachi Valtz
16	Mariachi Cumbia
17	Alpen Schlager
18	Classic Schlager
19	Modern Schlager
20	Viennese Waltz
21	Tarantella
22	Rumba Napoletana
23	Raspa
24	Mad Ska
25	Celtic Dream
26	Celtic Waltz
27	Celtic Ballad
28	Scottish Reel
29	Banda
30	OrchestralBolero
31	Minuetto
32	Baroque
33	New Age
34	Kyoto Lounge
Piano Style	
1	Arpeggio 1 Piano
2	Arpeggio 2 Piano
3	Arpeggio 3 Piano
4	Classic Piano

#	Style	#	Style	#	Style
5	3/4 ClassicPiano	14	Pop 2 Piano	23	Shuffle Piano
6	Waltz Piano	15	Pop 3 Piano	24	Boogie Piano
7	Ballad Piano	16	Pop 4 Piano	25	Latin Piano
8	RockBallad Piano	17	Country Piano	26	Bossa Piano
9	March Piano	18	50's Rock Piano	27	Ballad Trio1 Pno
10	Swing Piano	19	Tango Piano	28	Ballad Trio2 Pno
11	JazzBallad Piano	20	Blues Piano	29	Ballad Quart.Pno
12	Jazz Waltz Piano	21	Gospel Piano	30	Jazz Trio Piano
13	Pop 1 Piano	22	Ragtime Piano	31	Latin Trio Piano

Performances

This list shows the Performances and their position number inside the bank.

#	Performance
Acoustic Piano	
1	Concert Grand
2	Classic Grand
3	Grand Piano Live
4	Upright Piano
5	Honky-Tonk
6	Jazz Piano
7	Rock Piano
8	Piano & Strings
9	Harpsichord
10	Clav
11	Korg M1 Piano
12	Electric Grand
13	Digital Grand
14	Piano & E.Piano
15	Piano & VPM
16	Piano & Pad
17	Harpsi & Orch.
18	Piano & Ensemble
19	Piano &SynVoice
20	Piano Atmosphere
21	Octave Piano
22	Piano & Scat
23	Glide Piano
24	Piano & Bass
25	Piano Jazz Trio
26	Piano & Whistle
27	Vynil Upright
28	Study w/Teacher
29	Vibraphone
30	Piano & Vibes

#	Performance
31	Marimba Trill
32	Xylophone
33	Music Box
34	Tropical
35	Bell & Whistle
36	Bell & Accordion
Electric Piano	
1	Electric Piano
2	Ballad E.Piano
3	Phaser E.Piano
4	Tremolo E.Piano
5	Dyno E.Piano
6	Amp. E.Piano
7	Classic E.Piano
8	Distorsion E.P.
9	Wurly Logic
10	Amp. Wurly
11	Clean Wurly 1
12	Clean Wurly 2
13	Natural Wurly
14	Amp&Comp.Wurly
15	Tremolo Wurly
16	Bell Tine E.P.
17	Wurly & Pad
18	VPM E.Piano
19	R&B E.Piano
20	Comp&Phaser E.P.
21	E.Piano & Pad
22	E.Piano &Strings
23	E.Piano&SynVoice
24	E.P. Atmosphere

#	Performance
25	Digital E.P. Bld
26	Stage E.Piano
27	Hybrid E.Piano 1
28	Hybrid E.Piano 2
29	Chorus E.Piano
30	Stereo E.Piano
31	Digital E.Piano
32	Jazz Club E.P.
Organ	
1	Jimmy Organ V.
2	Hot BX3 Y+
3	Gospel Organ V.
4	Jazz Organ Y+
5	Full Pipes
6	Pipe Flute
7	Harmonica
8	Natural Musette
9	Click Organ Y+
10	Split Organ
11	Entert.Organ1 V.
12	Entert.Organ2 V.
13	Old Theatre Org1
14	Old Theatre Org2
15	Sweet Harmonica
16	ItalianAccordion
17	Distortion Organ
18	Dirty BX3 Y+
19	Theatre Organ 1
20	Theatre Organ 2
21	Real Theatre Org
22	Theatre Org&Bell

#	Performance
23	Blues Harmonica
24	Bandoneon
25	Rock Organ V.
26	DWB Organ V.
27	BX3 DWB 3V.
28	BX3 Jazz Org V.
29	Real Cassotto 1
30	Real Cassotto 2
31	Master Fisa 1
32	Master Fisa 2
33	Dark Organ V.
34	90's Organ Layer
35	Clarinet Accord.
36	Small Accordion
37	Musette Acc.
38	Acc. & Bass Acc.
39	That's Amore Acc
40	Alps Accordion

Strings / Pads

#	Performance
1	Movie Strings
2	Orchestra TUTTI
3	Jazz Violin
4	Bell & Strings
5	A Cappella Voice
6	Dreaming Choir
7	Vienna Strings
8	Pizzicato&Mallet
9	Serenade Violin
10	Studio Strings
11	Natural Strings
12	Viola
13	Small Orchestra
14	Wiener StringPad
15	Smooth Orchestra
16	Strings & Bell

#	Performance
17	Moon Pad
18	Square Pad
19	Fresh Pad
20	Pa800 Pad
21	Gliding Pad
22	Talking Pad
23	Dream Pad
24	Fresh Bell Pad
25	Noisy Stabb
26	Cosmic Sweep

Winds

#	Performance
1	Tenor Sax
2	Alto Sax
3	Soprano Sax
4	Clarinet
5	Trumpet
6	Trombone
7	Shake Brass X+
8	Flute
9	Growl Tenor Sax
10	Sweet Alto Sax
11	Baritone Sax
12	Oboe
13	Jazz Trumpet
14	Jazz Trombone
15	Horn Section
16	Cornet
17	Breath Tenor Sax
18	Soft Latin Sax
19	Soft Sax Section
20	Miller Serenade
21	Miles Trumpet
22	Dixie Trumpet
23	Super Brass Y+
24	Wind Section

#	Performance
25	Sax Section
26	Trumpet & Sax
27	Sax & Brass V.
28	Trump.& Clarinet
29	Band Trumpet V.
30	Sforzato Brass
31	Far West Horns
32	Sweet FlugelHorn
33	Reeds & Trombone
34	Flute & Clarinet
35	Flute & Muted
36	Horns & Strings
37	Cornet & Muted
38	Pan Flute
39	Synth Pan Flute
40	Whistle RX

Guitar / Synth

#	Performance
1	Nylon Guitar
2	Folk Guitar
3	Jazz Guitar
4	Crunch Guitar
5	Gtrs Atmosphere
6	Ambience Guitar
7	12 Strings Gtr
8	Wah E.Guitar Y-
9	George Gtr&Scat
10	Toot Gtr&Whistle
11	Nylon Gtr & Pad
12	Nylon Gtr & Fret
13	Rock & Roll Gtr
14	Overdrive Gtr
15	Overdr&Harmonics
16	Carlos Guitar
17	Octave Jazz Gtr
18	Shadow Guitar

#	Performance
19	Steel Gtr & Pad
20	Pedal Steel Gtr
21	Tambra
22	Sitar
23	Hawaiian Guitar

#	Performance
24	Napoli Mandolin
25	Mini Lead
26	Saw Lead
27	Gliding Lead
28	Hybrid Lead

#	Performance
29	Portamento Lead
30	Big Lead
31	Distortion Synth
32	Wave Cycle
33	VCF Modulation

Sounds and Drum Kits (Bank order)

The following table lists all Factory Sounds and Drum Kits as they appear in the Sound Select window. The table also includes MIDI data used to remotely select the Sounds. **CC00:** Control Change 0, or Bank Select MSB. **CC32:** Control Change 32, or Bank Select LSB. **PC:** Program Change.

Sound	CC32	CC00	PC
Factory/Piano			
Grand Piano RX 1	121	10	0
Grand Piano RX 2	121	12	0
Grand Piano RX 3	121	13	0
Upright Piano RX	121	14	0
Bright Piano RX	121	5	1
Classic Piano	121	4	0
Jazz Piano	121	5	0
Honky-Tonk RX	121	2	3
Rock Piano	121	8	0
Piano Layers	121	6	2
G.Piano Stack 1	121	8	2
G.Piano Stack 2	121	9	2
Grand&MovingPad	121	9	0
Piano & Strings	121	7	0
Piano & Pad	121	4	1
Grand & FM Stack	121	7	2
Harpsichord	121	7	6
Harpsichord 8+4'	121	8	6
E. Grand Phaser	121	10	2
Clav RX	121	5	7
Synth Clav RX	121	6	7
Clav Wah RX	121	2	7
Piano & Vibes	121	6	0
Classic Clav	121	7	7
Upright Piano	121	15	0
Grand Piano	121	3	0

Sound	CC32	CC00	PC
Factory/E. Piano			
Tine EP Phaser	121	27	4
Tine EP Dyno	121	28	4
Tine EP Amp/Phas	121	29	4
Wet Tine EP	121	31	4
Dist. Tine EP	121	30	4
Bell Tine EP	121	32	4
Suit Case88 EP1	121	33	4
Suit Case88 EP2	121	34	4
Wurly Logic	121	36	4
Wurly Amp	121	38	4
Wurly Clean 1	121	39	4
Wurly Clean 2	121	41	4
Reed EP Clean	121	37	4
Wurly Amp/Comp	121	40	4
Natural Wurly	121	44	4
Wurly RX Noise	121	42	4
VPM E. Piano	121	17	5
Digi E. Piano	121	14	5
Classic Tines	121	9	5
DW8000 EP	121	11	5
Natural EP	121	43	4
E.Piano RX Noise	121	35	4
EP+Damper 1 RX	121	25	4
EP+Damper 2 RX	121	26	4
Tine E.Piano RX	121	18	4
Club E. Piano	121	11	4

Sound	CC32	CC00	PC
Suit E.Piano 1	121	20	4
Suit E.Piano 2	121	21	4
Classic Wurly 1	121	17	4
Classic Wurly 2	121	12	4
Tremolo Wurly	121	16	4
R&B E. Piano	121	8	4
FM Pad EP	121	15	5
White Pad EP	121	13	5
Thin E. Piano	121	9	4
Tine E. Piano	121	19	4
Dyno Tine EP 1	121	10	4
Dyno Tine EP 2	121	22	4
Studio EP	121	7	4
Pro Dyno EP	121	5	4
Pro Stage EP	121	6	4
Bell E. Piano 1	121	23	4
Bell E. Piano 2	121	24	4
Road Piano	121	11	2
Factory/Mallet & Bell			
Vibraphone 1	121	2	11
Marimba	121	7	12
Marimba Key Off	121	2	12
Xylophone	121	1	13
Glockenspiel	121	2	9
Celesta	121	1	8
Music Box	121	2	10
Balaphon	121	6	12
Kalimba 1	121	2	108
Kalimba 2	121	1	108
Sistro	121	1	9
Orgel	121	1	10
Warm Steel	121	1	114
Vs Bell Boy	121	2	98
Tubular Bell	121	4	14
Bells	121	3	14

Sound	CC32	CC00	PC
Santur	121	1	15
Mallet Clock	121	5	12
Factory/Accordion			
Harmonica RX	121	5	22
Cassotto 16'	121	12	21
Cassotto	121	9	21
Master Accordion	121	23	21
Sweet Musette	121	11	21
French Musette	121	18	21
2 Voices Musette	121	16	21
3 Voices Musette	121	17	21
Accordion16,8,4'	121	3	23
Cassotto Or.Tune	121	13	21
Acc.Clarinet OT	121	19	21
Acc. Piccolo OT	121	21	21
Harmonica 1	121	3	22
Harmonica 2	121	4	22
Harmonica 3	121	2	22
Fisa Master	121	8	21
Accordion 16,8'	121	2	23
Acc.16,8,4' Plus	121	8	23
Fisa 16,8'	121	6	21
Accordion 16,4'	121	7	23
Musette 1	121	3	21
Musette 2	121	4	21
Fisa 16,4'	121	7	21
Fisa Tango!	121	1	23
Tango Accordion	121	10	23
Accordion	121	24	21
Acc.16,8' & Bass	121	4	23
Acc. & Acc. Bass	121	9	23
Steirisch.Akk.1	121	25	21
Steirisch.Akk.2	121	26	21
Steirisch.Akk.3	121	27	21
Steirisch.Akk.4	121	28	21

Sound	CC32	CC00	PC
Accordion Bass	121	5	23
Acc.Voice Change	121	6	23
Factory/Organ			
Jimmy Organ	121	13	18
Perc. Organ 1	121	10	17
Perc. Organ 2V.	121	9	17
Perc. Organ 3V.	121	11	17
BX3 Rock 1 V.	121	10	16
BX3 Rock 2 V.	121	1	18
BX3 Rock 3 V.	121	5	18
BX3 Rock 4 V.	121	12	18
BX3 Full V.	121	6	16
BX3 Jazz V.	121	20	16
BX3 Jazz Pc. V.	121	9	18
BX3 Gospel V.	121	21	16
Gospel Organ V.	121	13	16
Drawbars Slow V.	121	19	16
Drawbars Fast V.	121	18	16
Drawbars Organ	121	14	16
Jimmy Organ V.	121	10	18
Jazz Organ	121	8	16
Organ Hi V.	121	17	16
Organ LowPc V.	121	4	17
Organ Low 1 V.	121	4	16
Organ Low 2 V.	121	15	16
Organ Mid V.	121	16	16
Big Theatre Org.	121	30	16
Theatre Organ 1	121	22	16
Theatre Organ 2	121	23	16
Church Pipes	121	4	19
Full Pipes	121	5	19
Pipe Tutti 1	121	6	19
Pipe Tutti 2	121	8	19
Pipe Tutti 3	121	9	19
Pipe Tutti 4	121	10	19

Sound	CC32	CC00	PC
Pipe Flute 1	121	4	20
Pipe Flute 2	121	5	20
Pipe Mixture	121	3	19
Flauto Pipes	121	3	20
Small Pipe	121	2	20
Positive Organ	121	7	19
Factory/Guitar			
RealNylon Gtr ST	121	16	24
Real Nylon Gtr	121	17	24
Crunch Gtr RX	121	3	29
RealSteel Gtr ST	121	28	25
RealFolk Gtr ST1	121	29	25
RealFolk Gtr ST2	121	30	25
Steel Gtr RX	121	35	25
Jazz Gtr RX	121	7	26
Soft Jazz Guitar	121	5	26
Single Coil Pro	121	14	27
Nylon Guitar RX	121	18	24
Natural Nylon	121	19	24
RealFolk Gtr RX	121	34	25
Real 12 Strings	121	33	25
Nylon Gtr Pro1	121	8	24
Nylon Gtr Pro2	121	11	24
Nylon Slide Pro	121	14	24
Steel Guitar Pro	121	19	25
12 Strings Pro	121	17	25
Steel 12 Strings	121	5	25
Real Steel Gtr	121	31	25
Real Folk Gtr	121	32	25
Real El. Gtr ST1	121	28	27
Real El. Gtr ST2	121	29	27
Real El. Guitar1	121	30	27
Real El. Guitar2	121	31	27
JazzGtr SlidePro	121	6	26
Club Jazz Gtr 1	121	2	26

Sound	CC32	CC00	PC
Clean Jazz 1	121	22	27
Clean Jazz 2	121	23	27
Pop Steel Gtr 1	121	21	25
Pop Steel Gtr 2	121	22	25
5th Mute Gtr	121	21	28
Stereo Dist.Gtr	121	8	30
Solid Guitar	121	21	27
Clean Guitar 1	121	20	27
Steel Slide Pro1	121	13	25
Steel Slide Pro2	121	14	25
Clean Funk RX1	121	10	28
Clean Funk RX2	121	11	28
Dist. Guitar RX1	121	9	30
Dist. Guitar RX2	121	10	30
Vintage S. 1	121	19	27
Vintage S. 2	121	4	27
Steel Guitar 1	121	4	25
Steel Guitar 2	121	20	25
Ac.Guitar KeyOff	121	5	24
Clean Mute Gtr	121	6	28
Clean Gtr Pro 1	121	13	27
Clean Gtr Pro 2	121	15	27
Dist. Clean Gtr	121	11	30
Chorus Gtr Pro	121	18	27
Pedal Steel	121	4	26
'54 E. Guitar	121	24	27
Stra. Vel. Pro	121	16	27
New Stra.Guitar	121	7	27
Single Coil	121	6	27
Soft Overdrive	121	2	29
Chorus Guitar	121	3	27
Processed E.Gtr	121	5	27
L&R E.Guitar 1	121	9	27
R&R Guitar	121	4	28
Power Chords	121	4	30

Sound	CC32	CC00	PC
Mute Monster	121	5	30
Disto Mute	121	9	28
Vox Wah Chick RX	121	3	120
Funky Wah RX	121	12	27
12 Strings RX	121	18	25
Nylon Gtr RX1	121	12	24
Nylon Gtr RX2	121	13	24
Steel Guitar RX1	121	15	25
Steel Guitar RX2	121	16	25
Pop SteelGtr RX1	121	24	25
Pop SteelGtr RX2	121	25	25
Clean Guitar RX1	121	14	28
Clean Guitar RX2	121	15	28
Clean Guitar RX3	121	16	28
Clean Guitar RX4	121	17	28
Clean Guitar RX5	121	18	28
Clean Guitar RX6	121	20	28
Funk Stein RX1	121	12	28
Funk Stein RX2	121	13	28
Factory/Strings & Vocal			
Movie Str.1 RX	121	7	49
Movie Str.2 RX	121	8	49
Scat Voices RX1	121	20	52
Classic Harp	121	2	46
Movie Strings 1	121	5	49
Movie Strings 2	121	6	49
Violin Expr. 1	121	2	40
Violin Expr. 2	121	4	40
Concert Str.RX	121	23	48
Strings Ens. RX	121	22	48
Full Strings	121	2	49
Ensemble & Solo	121	11	48
Tremolo Strings	121	1	44
Class.Contrabass	121	1	43
Cello	121	1	42

Sound	CC32	CC00	PC
Viola Expr.	121	1	41
Violin & Viola	121	2	41
Slow Violin	121	3	40
Strings Quartet	121	9	48
Chamber Strings	121	12	48
Orchestra Tutti1	121	14	48
Orchestra Tutti2	121	19	48
Orch. & Oboe 1	121	16	48
Orch. & Oboe 2	121	17	48
Orchestra&Flute	121	20	48
Strings & Horns	121	15	48
Strings & Glock.	121	18	48
Octave Strings	121	8	48
Pizz. Ensemble	121	1	45
Pizz. Section	121	2	45
Spiccato Strings	121	4	49
Symphonic Bows	121	10	48
Analog Strings 1	121	5	50
Synth Strings 1	121	6	50
Scat V.& Bass1	121	17	52
Scat V.& Bass2	121	18	52
Wuuh Choir	121	8	52
Oh-Ah Voices	121	9	52
Femal&Male Scat	121	14	52
Take Voices 1	121	4	52
Ooh Slow Voice	121	3	52
Scat Voices RX2	121	19	52
Male Scat	121	16	52
Femal Scat	121	15	52
Grand Choir	121	11	52
Ooh Choir	121	6	52
Ooh Voices	121	2	52
Choir Light	121	12	52
Synth Voices	121	6	54
Full Vox Pad	121	9	91

Sound	CC32	CC00	PC
Vocalesque	121	2	54
Fresh Breath	121	7	91
Vocalscape	121	3	54
Heaven	121	3	91
Airways	121	3	53
Factory/Trumpet & Trbn.			
Jazz Trumpet RX	121	24	56
Jazz Cornet RX	121	25	56
Trombone RX	121	13	57
Trumpet Expr.1	121	15	56
Trumpet Expr.2	121	4	56
Cornet Expr.	121	21	56
Wah Trumpet	121	2	59
Mute Trumpet	121	5	59
Sweet FlugelHorn	121	12	56
Trombone Expr. 1	121	6	57
Trombone Expr. 2	121	7	57
Trumpet Pro 1	121	10	56
Trumpet Pro 2	121	11	56
Trumpet Pro 3	121	16	56
Trumpet Overb.	121	2	56
Cornet Pro 1	121	22	56
Cornet Pro 2	121	23	56
Trombone Vel. 1	121	8	57
Trombone Vel. 2	121	9	57
Trombone Vel. 3	121	10	57
Flugel Horn Pro	121	13	56
Concert Trumpet	121	19	56
Concert Trp. Pro	121	20	56
Dual Trumpets	121	6	56
Hard Trombone	121	3	57
Trombone Pro Vel	121	11	57
Alp Trumpet	121	17	56
Trumpet	121	14	56
Trumpet Shake Y+	121	18	56

Sound	CC32	CC00	PC
Trumpet Pitch	121	5	56
Tuba Gold	121	2	58
Oberkr. Tuba	121	1	58
Factory/Brass			
Big Band Brass 1	121	32	61
Big Band Brass 2	121	4	61
Trpts &Trombs	121	34	61
Tight Brass Pro	121	28	61
Tight Brass 1	121	27	61
Tight Brass 2	121	29	61
Tight Brass 3	121	2	61
Tight Brass 4	121	12	61
Trumpet Ens2 Y+	121	36	61
Trumpet Ens.	121	9	61
Trombone Ens.	121	10	61
Trombones	121	11	61
Dyna Brass 1	121	14	61
Trpts & Brass	121	7	61
Fat Brass	121	13	61
Brass of Power	121	30	61
Glenn & Friends	121	3	61
Glenn & Boys	121	6	61
Sax & Brass	121	5	61
Brass & Sax	121	16	61
Mute Ensemble 1	121	3	59
Mute Ensemble 2	121	4	59
Sforzato Brass	121	23	61
Movie Brass	121	20	61
Flute Muted	121	6	73
French Section	121	2	60
Horns & Ensemble	121	4	60
Classic Horns	121	3	60
Synth Brass 1	121	5	62
Electrik Brass	121	4	62
Brass Section	121	31	61

Sound	CC32	CC00	PC
Brass Fall	121	26	61
Brass Impact	121	4	55
Brass Hit	121	25	61
Factory/Sax			
Alto Sax RX1	121	12	65
Tenor Sax RX	121	12	66
Alto Sax RX2	121	10	65
Jazz Tenor RX	121	9	66
Sweet Soprano 1	121	3	64
Sweet Soprano 2	121	4	64
Sweet Soprano 3	121	1	64
Soprano Pro	121	2	64
Sweet Alto Sax1	121	5	65
Sweet Alto Sax 2	121	6	65
Soft Alto Sax	121	7	65
Alto Sax Pro	121	8	65
Tenor SaxNoise1	121	1	66
Tenor Sax Noise2	121	6	66
Baritone Sax Pro	121	3	67
Baritone Sax	121	4	67
Alto Sax Expr.	121	9	65
Tenor Sax Expr.1	121	7	66
Tenor Sax Expr.2	121	8	66
Jazz Tenor	121	10	66
Baritone Growl	121	1	67
Cool Sax Ens.	121	11	65
Sax Ensemble	121	2	65
Reed of Power	121	11	66
Factory/Woodwind			
Clarinet RX	121	13	71
Flute RX	121	11	73
Whistle RX1	121	5	78
Blown Bottle	121	1	76
Bassoon	121	1	70
Piccolo	121	3	72

Sound	CC32	CC00	PC
Ocarina	121	1	79
Flute Switch	121	2	73
Jazz Flute RX	121	10	73
Jazz Flute Expr.	121	1	73
Flute Dyn. 5th	121	3	73
Flute Frullato	121	4	73
Clarinet Pro 1	121	8	71
Clarinet Pro 2	121	9	71
Jazz Clarinet	121	1	71
Whistle	121	1	78
Whistle RX2	121	3	78
Whistle RX3	121	4	78
Whistle Breathe	121	2	78
Double Reed	121	1	68
Orchestra Flute	121	5	73
Woodwinds	121	6	71
Small Orchestra	121	1	72
Clarinet Ens.	121	5	71
Section Winds 1	121	3	71
Section Winds 2	121	4	71
Reeds & Saxes	121	10	71
Oboe RX	121	4	68
Pan Flute Y-	121	4	75
Factory/Synth Pad			
Warm Pad	121	15	89
Deep Noise	121	4	127
The Pad	121	4	89
Dark Pad	121	6	89
Analog Pad 1	121	8	89
Analog Pad 2	121	9	89
Analog Pad 3	121	10	89
OB Pad	121	12	89
Dark Anna	121	13	89
Symphonic Ens.	121	14	89
Future Pad	121	5	91

Sound	CC32	CC00	PC
Air Clouds	121	1	97
Tinklin Pad	121	3	97
Pods In Pad	121	4	97
Vintage Sweep	121	7	95
Money Pad	121	5	89
Tsunami Wave	121	6	91
Ravelian Pad	121	8	91
Meditate	121	2	95
Cinema Pad	121	5	95
Super Sweep	121	4	90
Wave Sweep	121	5	90
Cross Sweep	121	6	90
Digi Ice Pad	121	2	101
Virtual Traveler	121	1	88
Motion Ocean	121	1	96
Moon Cycles	121	5	102
Bell Pad	121	6	98
Big Panner	121	4	63
Rave	121	6	97
Moving Bell	121	5	98
Big Sweep Stab	121	12	90
Fresh Air 1	121	2	91
Fresh Air 2	121	11	91
Pop Synth Pad 1	121	4	91
Pop Synth Pad 2	121	12	91
80's Pop Synth	121	2	93
Wave Cycle	121	3	96
Factory/Synth Lead			
Bass Phat Saw	121	12	87
Old Portamento	121	3	80
Power Saw	121	5	81
Octo Lead	121	6	81
Electro Lead	121	2	87
Rich Lead	121	3	87
Thin Analog Lead	121	4	87

Sound	CC32	CC00	PC	Sound	CC32	CC00	PC
Dance Lead	121	4	80	Sitar Tambou	121	2	104
Wave Lead	121	5	80	Kanoun 1	121	5	107
Sine Wave	121	6	80	Kanoun 2	121	2	107
Express. Lead	121	5	87	Kanoun Trem. 1	121	6	107
HipHop Lead	121	6	87	Kanoun Trem. 2	121	3	107
Analog Lead	121	7	80	Kanoun Mix	121	4	107
Phat Saw Lead	121	8	81	Bouzouki	121	5	104
Glide Lead	121	9	81	Oud 1	121	5	105
Gliding Square	121	9	80	Oud 2	121	2	105
Power Synth	121	3	89	Nay	121	2	72
Sine Switch	121	10	80	Clarinet G	121	2	71
Cosmic	121	1	93	Klarnet 1	121	11	71
Fire Wave	121	10	81	Klarnet 2	121	12	71
Digital PolySix	121	7	90	Kawala	121	1	75
A Leadload	121	11	87	Hichiriki	121	2	111
Noisy Stabb	121	8	90	HighlandBagPipes	121	3	109
Mega Synth	121	9	90	Uillean BagPipes	121	2	109
Dark Element	121	3	95	Old Shakuhachi	121	1	77
Metallic Rez	121	4	84	Indian Frets	121	4	104
Synth Pianoid	121	12	81	Zurna 1	121	3	111
Arp Angeles	121	2	88	Zurna 2	121	1	111
Big & Raw	121	8	87	Ac. Baglama 1	121	7	107
Caribbean	121	2	96	Ac. Baglama 2	121	8	107
OB Lead	121	10	87	Ac. Baglama Grp.	121	9	107
Port Whine	121	12	80	Gamelan	121	1	112
2VCO Planet Lead	121	13	80	Garbage Mall	121	3	112
VCF Modulation	121	3	101	Jaw Harp	121	3	105
Factory/Ethnic				**Factory/Bass**			
Sitar	121	8	104	Finger Bass RX1	121	16	33
Fiddle	121	1	110	Jazz Bass	121	9	32
Mandolin Ens. 1	121	26	25	Acous. Bass Pro1	121	3	32
Mandolin Ens. 2	121	27	25	Acous. Bass Pro2	121	4	32
Mandolin Trem.	121	11	25	Finger Bass 1	121	6	33
Banjo Key Off	121	1	105	Finger Bass 2	121	7	33
Banjo RX	121	4	105	Finger Bass 3	121	10	33

Sound	CC32	CC00	PC
Finger Bass 4	121	15	33
Acoustic Bass 1	121	8	32
Finger Slap	121	12	33
The Other Slap	121	5	37
Thumb Bass	121	1	37
Pick Bass 1	121	7	34
Pick Bass 2	121	8	34
Super Bass 1	121	1	36
Super Bass 2	121	2	36
Sweet Fretless	121	3	35
Finger E.Bass 1	121	2	33
Finger E.Bass 2	121	3	33
Finger E.Bass 3	121	4	33
Fretless Bass 1	121	1	35
Fretless Bass 2	121	2	35
Bass & Ride 1	121	6	32
Bass & Ride 2	121	2	32
Bright Finger B.	121	9	33
Picked E.Bass 1	121	1	34
Picked E.Bass 2	121	2	34
Picked E.Bass 3	121	11	34
Chorus Fing.Bass	121	8	33
Bass Mute	121	5	34
Synth Bass 1	121	18	38
Synth Bass 2	121	15	39
Bass&Gtr Double	121	6	34
FingerB.& Guitar	121	14	33
Bass & Guitar	121	4	34
30303 Bass	121	5	38
Digi Bass 1	121	9	38
Digi Bass 2	121	10	38
Digi Bass 3	121	11	38
Jungle Rez	121	5	39
Syn Bass Res	121	8	38
Jungle Bass	121	13	38

Sound	CC32	CC00	PC
Hybrid Bass	121	15	38
Stein Bass	121	3	34
Organ Pedal 1	121	10	32
Organ Pedal 2	121	11	32
Acoustic Bass 2	121	14	32
Acous. Bass RX	121	7	32
Finger Bass RX2	121	13	33
SlapFing Bass RX	121	4	36
Picked Bass RX	121	10	34
SlapPick Bass RX	121	5	36
FunkSlap Bass RX	121	3	36
Factory/Drum & SFX			
Standard Kit RX1	120	0	5
Standard Kit RX2	120	0	1
Standard Kit RX3	120	0	2
Standard Kit RX4	120	0	6
Ambient Kit RX	120	0	3
Pop Std. Kit RX	120	0	4
Electro Kit RX1	120	0	75
Electro Kit RX2	120	0	76
Brush Kit RX1	120	0	42
Brush Kit RX2	120	0	43
Brush Kit RX3	120	0	44
HipHop Kit RX	120	0	72
Jazz Kit RX1	120	0	33
Jazz Kit RX2	120	0	34
Jazz Kit RX3	120	0	35
Techno Kit RX	120	0	73
House Kit RX1	120	0	30
House Kit RX2	120	0	31
Power Kit RX1	120	0	18
Power Kit RX2	120	0	19
Dance Kit RX	120	0	74
Analog Kit	120	0	123
Jungle Kit	120	0	10

Sound	CC32	CC00	PC
Electro Kit	120	0	122
Room Kit 1	120	0	120
HipHop Kit 1	120	0	9
Techno Kit 1	120	0	11
Pop Std. Kit 1	120	0	89
Pop Std. Kit 2	120	0	90
Elektro Kit 1	120	0	96
Elektro Kit 2	120	0	97
Standard PercKit	120	0	69
Arabian Kit 1	120	0	51
Arabian Kit 2	120	0	117
Turkish Kit	120	0	118
Oriental PercKit	120	0	119
Percussion Kit	120	0	64
Latin Perc.Kit 1	120	0	65
Latin Perc.Kit 2	120	0	68
Trinity Perc.Kit	120	0	66
i30 Perc. Kit	120	0	67
Synth Kit	120	0	58
SFX Kit 1	120	0	60
SFX Kit 2	120	0	57
Legacy/Piano			
M1 Piano	121	2	2
Piano Pad 1	121	2	1
Piano Pad 2	121	3	1
90's Piano	121	3	2
2000's Piano	121	4	2
Chorus Piano	121	5	2
Grand RX DEMO	121	11	0
Honky-Tonk	121	4	3
Harpsi Korg	121	4	6
Harpsi 16' RX	121	5	6
Clav Snap	121	3	7
Sticky Clav	121	4	7

Sound	CC32	CC00	PC
Legacy/E. Piano			
Vintage EP	121	4	4
Stereo Dig. EP	121	6	5
FM Stack EP	121	16	5
Hybrid EP	121	8	5
Phantom Tine	121	10	5
Soft Wurly	121	13	4
Hard Wurly	121	14	4
Velo Wurly	121	15	4
Sweeping EP	121	12	5
Classic Dig. EP	121	7	5
Syn Piano X	121	5	5
Legacy/Mallet & Bell			
Vibraphone 2	121	3	11
Monkey Skuls	121	3	12
Digi Bell	121	4	98
Krystal Bell	121	3	98
Legacy/Accordion			
Sweet Harmonica	121	1	22
Akordeon	121	2	21
Cassotto NorTune	121	14	21
Acc. Clarinet NT	121	20	21
Acc. Piccolo NT	121	22	21
Detune Accordion	121	15	21
Musette Clar.	121	5	21
Arabic Accordion	121	10	21
Legacy/Organ			
Classic Click	121	4	18
Perc.Short Decay	121	8	18
Rock Organ 2	121	11	18
Dirty B	121	3	18
Killer B	121	2	18
BX3 Short Decay	121	7	17
Super BX Perc.	121	6	18

Sound	CC32	CC00	PC
Gospel Organ	121	9	16
Old Wheels	121	3	17
Dark Organ 1	121	7	16
Dark Organ 2	121	5	16
Rotary Organ	121	8	17
VOX Legend	121	11	16
M1 Organ	121	5	17
Dirty JazzOrgan	121	7	18
Arabian Organ	121	12	16
Theatre Organ 3	121	24	16
Theatre Organ 4	121	25	16
Tibia	121	26	16
Tibia 16+8+4'	121	27	16
Tibia & Vox	121	28	16
Post Horn Trem.	121	29	16
Tibia & Kinura	121	31	16
Tibia Vox Glock	121	32	16
Techno Org.Bass	121	6	17
Legacy/Guitar			
Nylon Bossa	121	4	24
Nylon Vel. Harm.	121	10	24
Spanish Guitar	121	6	24
Nylon Guitar	121	15	24
Brazilian Guitar	121	9	24
Steel Folk Gtr	121	9	25
Guitar Strings	121	7	24
Finger Key Off	121	7	25
Club Jazz Gtr 2	121	3	26
Pop Steel Slide	121	23	25
Finger Tips	121	8	25
Country Nu	121	11	27
Reso Guitar	121	12	25
Tel. Midddle	121	26	27
Clean Funk	121	8	28
Wet Dist. Guitar	121	6	30

Sound	CC32	CC00	PC
Hackbrett	121	6	25
Tel. Bridge	121	27	27
Guitarish	121	8	27
Stra. Gtr Slide	121	17	27
Stra. Chime	121	5	28
Clean Guitar 2	121	25	27
L&R E.Guitar 2	121	10	27
Rhythm E.Guitar	121	7	28
Muted Guitar	121	19	28
E.Gtr Harmonics	121	2	31
Solo Dist.Guitar	121	7	30
Dist. Steel Gtr	121	12	30
Joystick Gtr Y-	121	3	30
Legacy/Strings & Vocal			
Strings Ens. 1	121	21	48
Strings Ens. 2	121	3	49
i3 Strings	121	5	48
Stereo Strings	121	3	48
Master Pad	121	2	89
N Strings	121	6	48
Arco Strings	121	7	48
Legato Strings	121	4	48
Double Strings	121	3	45
Arabic Strings	121	13	48
Sweeper Strings	121	1	49
Analog Strings 2	121	2	50
Synth Strings 2	121	1	51
Take Voices 2	121	5	52
Aah Choir	121	7	52
Slow Choir	121	10	52
Cyber Choir	121	2	85
Odissey	121	4	50
Strings Choir	121	13	52
Analog Velve	121	3	50
Ether Voices	121	1	85

Sound	CC32	CC00	PC
Dream Voice	121	5	54
Classic Vox	121	4	54
Doolally	121	2	53
Legacy/Trumpet & Trbn.			
Mono Trumpet	121	3	56
Warm Flugel	121	8	56
Pitch Trombone	121	5	57
Soft Trombone	121	4	57
Trombone	121	12	57
BeBop Cornet	121	9	56
Flugel Horn	121	7	56
Dynabone	121	3	58
Ob.Tuba&E.Bass 1	121	4	58
Ob.Tuba&E.Bass 2	121	5	58
Legacy/Brass			
Attack Brass	121	8	61
Big BandShake Y+	121	33	61
Trumpet Ens1 Y+	121	35	61
Dyna Brass 2	121	22	61
Double Brass	121	24	61
Power Brass	121	21	61
Brass Expr.	121	15	61
Film Brass	121	17	61
Brass Slow	121	18	61
Fanfare	121	19	61
Synth Brass 2	121	5	63
Brass Pad	121	3	63
Netherland Hit	121	8	55
Legacy/Sax			
Folk Sax	121	5	66
Breathy Baritone	121	2	67
Alto Breath	121	1	65
Tenor Breath	121	3	66
Breathy Alto Sax	121	3	65
Alto Sax Growl	121	4	65

Sound	CC32	CC00	PC
Soft Tenor	121	2	66
Tenor Growl	121	4	66
Legacy/Woodwind			
Folk Clarinet	121	7	71
Flute	121	9	73
Wooden Flute	121	7	73
Bambu Flute	121	8	73
English Horn	121	1	69
Recorder 1	121	1	74
Recorder 2	121	2	74
Legacy/Synth Pad			
Sky Watcher	121	2	90
Vintage Pad	121	11	89
You Decide	121	8	95
Korgmatose	121	13	90
Reoccuring Astra	121	6	95
Astral Dream	121	1	95
Reso Down	121	2	97
Crimson 5ths	121	1	86
Freedom Pad	121	7	89
Noble Pad	121	5	97
Mellow Pad	121	4	95
Lonely Spin	121	1	100
Synth Ghostly	121	2	100
Farluce	121	11	90
Bell Choir	121	7	98
Dance ReMix	121	10	91
Elastick Pad	121	7	97
Legacy/Synth Lead			
Motion Raver	121	1	101
Synchro City	121	2	84
Wild Arp	121	6	55
Seq Lead	121	7	81
Old & Analog	121	8	80
Flip Blip	121	7	55

Sound	CC32	CC00	PC
Reso Sweep	121	1	90
Synth Sweeper	121	3	90
Sync Kron	121	3	84
Tecno Phonic	121	10	90
Band Passed	121	3	102
Cat Lead	121	9	87
Pan Reso	121	4	102
Square Rez	121	11	80
Rezbo	121	11	81
Auto Pilot 1	121	14	38
Square Bass	121	7	87
Brian Sync	121	5	84
Arp Twins	121	6	84
LoFi Ethnic	121	7	84
Legacy/Ethnic			
Shakuhachi	121	2	77
Mandolin Key Off	121	10	25
War Pipes	121	1	109
Sitar Sitar	121	7	104
Hit in India	121	5	55
Tambra	121	6	104
Indian Stars	121	3	104
Bali Gamelan	121	2	112
Ukulele Gtr	121	26	24
Legacy/Bass			
Ac. Bass Buzz	121	1	32
Slap Bass 1	121	6	36
Slap Bass 2	121	6	37
Slap Bass 3	121	7	37
Dyna Slap Bass	121	3	37
Chorus Slap Bass	121	4	37
DarkWoody A.Bass	121	5	32
More Mid! Bass	121	11	33
Woofer Pusher	121	6	35
Dark R&B Bass1	121	4	35

Sound	CC32	CC00	PC
Dyna Bass	121	2	37
Ticktacing Bass	121	9	34
Fretless Bass 3	121	7	35
Stick Bass	121	5	33
Dark R&B Bass2	121	5	35
Auto Pilot 2	121	13	39
Bass4 Da Phunk	121	14	39
Dr. Octave	121	16	38
Monofilter Bass	121	11	39
Synth Bass 80ish	121	9	39
Reso Bass	121	12	39
Autofilter Bass	121	10	39
Drive Bass	121	17	38
Nasty Bass	121	6	39
Euro Bass	121	4	39
30303 Square	121	6	38
Bass Square	121	7	38
Phat Bass	121	7	39
Blind As A Bat	121	12	38
Poinker Bass	121	8	39
Legacy/Drum & SFX			
Standard Kit	120	0	7
Bdrum&Sdrum Kit	120	0	50
Room Kit 2	120	0	12
Power Kit 1	120	0	121
Power Kit 2	120	0	17
HipHop Kit 2	120	0	13
Techno Kit 2	120	0	14
Techno Kit 3	120	0	15
House Kit 1	120	0	26
House Kit 2	120	0	27
House Kit 3	120	0	28
Brush Kit 1	120	0	125
Brush Kit 2	120	0	41
Orchestra Kit	120	0	49

Sound	CC32	CC00	PC
Log Drum	121	4	12
Reverse Tom	121	2	117
Reverse Snare	121	3	118
Reverse Cymbal	121	2	119
Dragon Gong	121	1	119
Stadium	121	6	126
Castanets Plus	121	2	115
Timpani	121	1	47
Woodblock	121	3	115
Footstep Walk	121	7	126
GM/Piano			
AcousticPiano GM	121	0	0
Ac. Piano Wide	121	1	0
Ac. Piano Dark	121	2	0
Bright Piano GM	121	0	1
Bright PianoWide	121	1	1
E.Grand Piano GM	121	0	2
E. Grand Wide	121	1	2
Honky-Tonk GM	121	0	3
Honky Wide	121	1	3
E. Piano 1 GM	121	0	4
Detuned EP 1	121	1	4
EP 1 Veloc. Mix	121	2	4
60's E. Piano	121	3	4
E. Piano 2 GM	121	0	5
Detuned EP 2	121	1	5
EP 2 Veloc. Mix	121	2	5
EP Legend	121	3	5
EP Phase	121	4	5
Harpsichord GM	121	0	6
Harpsi OctaveMix	121	1	6
Harpsi Wide	121	2	6
Harpsi Key Off	121	3	6
Clav GM	121	0	7
Pulse Clav	121	1	7

Sound	CC32	CC00	PC
GM/Chrom. Perc.			
Celesta GM	121	0	8
Glockenspiel GM	121	0	9
Music Box GM	121	0	10
Vibraphone GM	121	0	11
Vibraphone Wide	121	1	11
Marimba GM	121	0	12
Marimba Wide	121	1	12
Xylophone GM	121	0	13
Tubular Bell GM	121	0	14
Church Bell	121	1	14
Carillon	121	2	14
Dulcimer GM	121	0	15
GM/Organ			
Drawbar Org GM	121	0	16
Det. Drawbar Org	121	1	16
It. 60's Organ	121	2	16
Drawbar Org. 2	121	3	16
Perc.Organ GM	121	0	17
Det. Perc. Organ	121	1	17
Perc. Organ 2	121	2	17
Rock Organ GM	121	0	18
Church Organ GM	121	0	19
Church Oct. Mix	121	1	19
Detuned Church	121	2	19
Reed Organ GM	121	0	20
Puff Organ	121	1	20
Accordion GM	121	0	21
Accordion 2	121	1	21
Harmonica GM	121	0	22
Tango Accord.GM	121	0	23
GM/Guitar			
Nylon Guitar GM	121	0	24
Ukulele	121	1	24
Nylon Key Off	121	2	24

Sound	CC32	CC00	PC
Nylon Guitar 2	121	3	24
Steel Guitar GM	121	0	25
12 Strings Gtr	121	1	25
Mandolin	121	2	25
Steel Gtr & Body	121	3	25
Jazz Guitar GM	121	0	26
Pedal Steel Gtr	121	1	26
Clean Guitar GM	121	0	27
Det.Clean El.Gtr	121	1	27
Mid Tone Gtr	121	2	27
Muted Guitar GM	121	0	28
Funky Cut El.Gtr	121	1	28
Mute Vel. El.Gtr	121	2	28
Jazz Man	121	3	28
Overdrive Gtr GM	121	0	29
Guitar Pinch	121	1	29
Distortion GtrGM	121	0	30
Feedback DistGtr	121	1	30
Dist. Rhythm Gtr	121	2	30
Gtr Harmonic GM	121	0	31
Guitar Feedback	121	1	31
GM/Bass			
Acoustic Bass GM	121	0	32
Finger Bass GM	121	0	33
Finger Slap Bass	121	1	33
Picked E.Bass GM	121	0	34
Fretless Bass GM	121	0	35
Slap Bass 1 GM	121	0	36
Slap Bass 2 GM	121	0	37
Synth Bass 1 GM	121	0	38
Synth Bass Warm	121	1	38
Synth Bass Reso	121	2	38
Clavi Bass	121	3	38
Hammer	121	4	38
Synth Bass 2 GM	121	0	39

Sound	CC32	CC00	PC
SynthBass Attack	121	1	39
SynthBass Rubber	121	2	39
Attack Pulse	121	3	39
GM/Strings			
Violin GM	121	0	40
Slow Att. Violin	121	1	40
Viola GM	121	0	41
Cello GM	121	0	42
Contrabass GM	121	0	43
Tremolo Str. GM	121	0	44
Pizzicato Str.GM	121	0	45
Harp GM	121	0	46
Yang Chin	121	1	46
Timpani GM	121	0	47
GM/Ensemble			
Strings Ens.1 GM	121	0	48
Strings & Brass	121	1	48
60's Strings	121	2	48
Strings Ens.2 GM	121	0	49
Synth Strings1GM	121	0	50
Synth Strings 3	121	1	50
Synth Strings2GM	121	0	51
Choir Aahs GM	121	0	52
Choir Aahs 2	121	1	52
Voice Oohs GM	121	0	53
Humming	121	1	53
Synth Voice GM	121	0	54
Analog Voice	121	1	54
Orchestra Hit GM	121	0	55
Bass Hit Plus	121	1	55
6th Hit	121	2	55
Euro Hit	121	3	55
GM/Brass			
Trumpet GM	121	0	56
Dark Trumpet	121	1	56

Sound	CC32	CC00	PC
Trombone GM	121	0	57
Trombone 2	121	1	57
Bright Trombone	121	2	57
Tuba GM	121	0	58
Muted Trumpet GM	121	0	59
Muted Trumpet 2	121	1	59
French Horn GM	121	0	60
FrenchHorn Warm	121	1	60
Brass Section GM	121	0	61
Brass Section 2	121	1	61
Synth Brass 1 GM	121	0	62
Synth Brass 3	121	1	62
Analog Brass 1	121	2	62
Jump Brass	121	3	62
Synth Brass 2 GM	121	0	63
Synth Brass 4	121	1	63
Analog Brass 2	121	2	63
GM/Reed			
Soprano Sax GM	121	0	64
Alto Sax GM	121	0	65
Tenor Sax GM	121	0	66
Baritone Sax GM	121	0	67
Oboe GM	121	0	68
English Horn GM	121	0	69
Bassoon GM	121	0	70
Clarinet GM	121	0	71
GM/Pipe			
Piccolo GM	121	0	72
Flute GM	121	0	73
Recorder GM	121	0	74
Pan Flute GM	121	0	75
Blown Bottle GM	121	0	76
Shakuhachi GM	121	0	77
Whistle GM	121	0	78
Ocarina GM	121	0	79

Sound	CC32	CC00	PC
GM/Syn Lead Syn Pad			
Lead Square GM	121	0	80
Lead Square 2	121	1	80
Lead Sine	121	2	80
Lead Saw GM	121	0	81
Lead Saw 2	121	1	81
Lead Saw & Pulse	121	2	81
Lead Double Saw	121	3	81
Lead Seq. Analog	121	4	81
Calliope GM	121	0	82
Chiff GM	121	0	83
Charang GM	121	0	84
Wire Lead	121	1	84
Voice Lead GM	121	0	85
Fifths Lead GM	121	0	86
Bass & Lead GM	121	0	87
Lead Soft Wrl	121	1	87
New Age Pad GM	121	0	88
Warm Pad GM	121	0	89
Sine Pad	121	1	89
Polysynth GM	121	0	90
Choir Pad GM	121	0	91
Itopia Pad	121	1	91
Bowed Glass GM	121	0	92
Metallic Pad GM	121	0	93
Halo Pad GM	121	0	94
Sweep Pad GM	121	0	95
GM/Synth SFX			
Ice Rain GM	121	0	96
Soundtrack GM	121	0	97
Crystal GM	121	0	98
Synth Mallet	121	1	98
Atmosphere GM	121	0	99
Brightness GM	121	0	100
Goblins GM	121	0	101

Sound	CC32	CC00	PC	Sound	CC32	CC00	PC
Echo Drops GM	121	0	102	Seashore GM	121	0	122
Echo Bell	121	1	102	Rain	121	1	122
Echo Pan	121	2	102	Thunder	121	2	122
Star Theme GM	121	0	103	Wind	121	3	122
GM/Ethnic				Stream	121	4	122
Sitar GM	121	0	104	Bubble	121	5	122
Sitar 2	121	1	104	Bird Tweet GM	121	0	123
Banjo GM	121	0	105	Dog	121	1	123
Shamisen GM	121	0	106	Horse Gallop	121	2	123
Koto GM	121	0	107	Bird Tweet 2	121	3	123
Taisho Koto	121	1	107	Telephone GM	121	0	124
Kalimba GM	121	0	108	Telephone 2	121	1	124
Bag Pipes GM	121	0	109	Door Creaking	121	2	124
Fiddle GM	121	0	110	Door	121	3	124
Shanai GM	121	0	111	Scratch	121	4	124
GM/Percussive				Wind Chime	121	5	124
Tinkle Bell GM	121	0	112	Helicopter GM	121	0	125
Agogo GM	121	0	113	Car Engine	121	1	125
Steel Drums GM	121	0	114	Car Stop	121	2	125
Woodblock GM	121	0	115	Car Pass	121	3	125
Castanets	121	1	115	Car Crash	121	4	125
Taiko Drum GM	121	0	116	Siren	121	5	125
Concert BassDrum	121	1	116	Train	121	6	125
Melodic Tom GM	121	0	117	Jetplane	121	7	125
Melodic Tom 2	121	1	117	Starship	121	8	125
Synth Drum GM	121	0	118	Burst Noise	121	9	125
Rhythm Box Tom	121	1	118	Applause GM	121	0	126
Electric Drum	121	2	118	Laughing	121	1	126
ReverseCymbalGM	121	0	119	Screaming	121	2	126
GM/SFX				Punch	121	3	126
Gtr FretNoise GM	121	0	120	Heart Beat	121	4	126
Guitar Cut Noise	121	1	120	Footsteps	121	5	126
Ac. Bass String	121	2	120	Gun Shot GM	121	0	127
Breath Noise GM	121	0	121	Machine Gun	121	1	127
Flute Key Click	121	1	121	Laser Gun	121	2	127

Sound	CC32	CC00	PC
Explosion	121	3	127
GM/Drum			
Standard Kit GM	120	0	0
Room Kit GM	120	0	8
Power Kit GM	120	0	16
Electro Kit GM	120	0	24
Analog Kit GM	120	0	25
Jazz Kit GM	120	0	32
Brush Kit GM	120	0	40
Orchestra Kit GM	120	0	48
SFX Kit GM	120	0	56
Standard Kit1 XG	127	0	0
Standard Kit2 XG	127	0	1
Room Kit XG	127	0	8

Sound	CC32	CC00	PC
Rock Kit XG	127	0	16
Electro Kit XG	127	0	24
Analog Kit XG	127	0	25
Jazz Kit 1 XG	127	0	32
Jazz Kit 2 XG	127	0	33
Brush Kit XG	127	0	40
Classic Kit XG	127	0	48
User 1			
…	121	64	0-127
User 2			
…	121	65	0-127
User DK			
…	120	64	0-127

Sounds (Program Change order)

The following table lists all the Factory Sounds in the Bank Select / Program Change order. The table also includes MIDI data used to remotely select the Sounds. **CC00:** Control Change 0, or Bank Select MSB. **CC32:** Control Change 32, or Bank Select LSB. **PC:** Program Change.

Sound	CC00	CC32	PC
Acoustic Piano GM	121	0	0
Ac. Piano Wide	121	1	0
Ac. Piano Dark	121	2	0
Grand Piano	121	3	0
Classic Piano	121	4	0
Jazz Piano	121	5	0
Piano & Vibes	121	6	0
Piano & Strings	121	7	0
Rock Piano	121	8	0
Grand&MovingPad	121	9	0
Grand Piano RX 1	121	10	0
Grand RX DEMO	121	11	0
Grand Piano RX 2	121	12	0
Grand Piano RX 3	121	13	0
Upright Piano RX	121	14	0
Upright Piano	121	15	0
Bright Piano GM	121	0	1
Bright PianoWide	121	1	1
Piano Pad 1	121	2	1
Piano Pad 2	121	3	1
Piano & Pad	121	4	1
Bright Piano RX	121	5	1
E.Grand Piano GM	121	0	2
E. Grand Wide	121	1	2
M1 Piano	121	2	2
90's Piano	121	3	2
2000's Piano	121	4	2
Chorus Piano	121	5	2
Piano Layers	121	6	2

Sound	CC00	CC32	PC
Grand & FM Stack	121	7	2
G.Piano Stack 1	121	8	2
G.Piano Stack 2	121	9	2
E. Grand Phaser	121	10	2
Road Piano	121	11	2
Honky-Tonk GM	121	0	3
Honky Wide	121	1	3
Honky-Tonk RX	121	2	3
Honky-Tonk	121	4	3
E. Piano 1 GM	121	0	4
Detuned EP 1	121	1	4
EP 1 Veloc. Mix	121	2	4
60's E. Piano	121	3	4
Vintage EP	121	4	4
Pro Dyno EP	121	5	4
Pro Stage EP	121	6	4
Studio EP	121	7	4
R&B E. Piano	121	8	4
Thin E. Piano	121	9	4
Dyno Tine EP 1	121	10	4
Club E. Piano	121	11	4
Classic Wurly 2	121	12	4
Soft Wurly	121	13	4
Hard Wurly	121	14	4
Velo Wurly	121	15	4
Tremolo Wurly	121	16	4
Classic Wurly 1	121	17	4
Tine E.Piano RX	121	18	4
Tine E. Piano	121	19	4

Sound	CC00	CC32	PC
Suit E.Piano 1	121	20	4
Suit E.Piano 2	121	21	4
Dyno Tine EP 2	121	22	4
Bell E. Piano 1	121	23	4
Bell E. Piano 2	121	24	4
EP+Damper 1 RX	121	25	4
EP+Damper 2 RX	121	26	4
Tine EP Phaser	121	27	4
Tine EP Dyno	121	28	4
Tine EP Amp/Phas	121	29	4
Dist. Tine EP	121	30	4
Wet Tine EP	121	31	4
Bell Tine EP	121	32	4
Suit Case88 EP1	121	33	4
Suit Case88 EP2	121	34	4
E.Piano RX Noise	121	35	4
Wurly Logic	121	36	4
Reed EP Clean	121	37	4
Wurly Amp	121	38	4
Wurly Clean 1	121	39	4
Wurly Amp/Comp	121	40	4
Wurly Clean 2	121	41	4
Wurly RX Noise	121	42	4
Natural EP	121	43	4
Natural Wurly	121	44	4
E. Piano 2 GM	121	0	5
Detuned EP 2	121	1	5
EP 2 Veloc. Mix	121	2	5
EP Legend	121	3	5
EP Phase	121	4	5
Syn Piano X	121	5	5
Stereo Dig. EP	121	6	5
Classic Dig. EP	121	7	5
Hybrid EP	121	8	5
Classic Tines	121	9	5

Sound	CC00	CC32	PC
Phantom Tine	121	10	5
DW8000 EP	121	11	5
Sweeping EP	121	12	5
White Pad EP	121	13	5
Digi E. Piano	121	14	5
FM Pad EP	121	15	5
FM Stack EP	121	16	5
VPM E. Piano	121	17	5
Harpsichord GM	121	0	6
Harpsi OctaveMix	121	1	6
Harpsi Wide	121	2	6
Harpsi Key Off	121	3	6
Harpsi Korg	121	4	6
Harpsi 16' RX	121	5	6
Harpsichord	121	7	6
Harpsichord 8+4'	121	8	6
Clav GM	121	0	7
Pulse Clav	121	1	7
Clav Wah RX	121	2	7
Clav Snap	121	3	7
Sticky Clav	121	4	7
Clav RX	121	5	7
Synth Clav RX	121	6	7
Classic Clav	121	7	7
Celesta GM	121	0	8
Celesta	121	1	8
Glockenspiel GM	121	0	9
Sistro	121	1	9
Glockenspiel	121	2	9
Music Box GM	121	0	10
Orgel	121	1	10
Music Box	121	2	10
Vibraphone GM	121	0	11
Vibraphone Wide	121	1	11
Vibraphone 1	121	2	11

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
Vibraphone 2	121	3	11	Organ Hi V.	121	17	16
Marimba GM	121	0	12	Drawbars Fast V.	121	18	16
Marimba Wide	121	1	12	Drawbars Slow V.	121	19	16
Marimba Key Off	121	2	12	BX3 Jazz V.	121	20	16
Monkey Skuls	121	3	12	BX3 Gospel V.	121	21	16
Log Drum	121	4	12	Theatre Organ 1	121	22	16
Mallet Clock	121	5	12	Theatre Organ 2	121	23	16
Balaphon	121	6	12	Theatre Organ 3	121	24	16
Marimba	121	7	12	Theatre Organ 4	121	25	16
Xylophone GM	121	0	13	Tibia	121	26	16
Xylophone	121	1	13	Tibia 16+8+4'	121	27	16
Tubular Bell GM	121	0	14	Tibia & Vox	121	28	16
Church Bell	121	1	14	Post Horn Trem.	121	29	16
Carillon	121	2	14	Big Theatre Org.	121	30	16
Bells	121	3	14	Tibia & Kinura	121	31	16
Tubular Bell	121	4	14	Tibia Vox Glock	121	32	16
Dulcimer GM	121	0	15	Perc.Organ GM	121	0	17
Santur	121	1	15	Det. Perc. Organ	121	1	17
Drawbar Org GM	121	0	16	Perc. Organ 2	121	2	17
Det. Drawbar Org	121	1	16	Old Wheels	121	3	17
It. 60's Organ	121	2	16	Organ LowPc V.	121	4	17
Drawbar Org. 2	121	3	16	M1 Organ	121	5	17
Organ Low 1 V.	121	4	16	Techno Org.Bass	121	6	17
Dark Organ 2	121	5	16	BX3 Short Decay	121	7	17
BX3 Full V.	121	6	16	Rotary Organ	121	8	17
Dark Organ 1	121	7	16	Perc. Organ 2V.	121	9	17
Jazz Organ	121	8	16	Perc. Organ 1	121	10	17
Gospel Organ	121	9	16	Perc. Organ 3V.	121	11	17
BX3 Rock 1 V.	121	10	16	Rock Organ GM	121	0	18
VOX Legend	121	11	16	BX3 Rock 2 V.	121	1	18
Arabian Organ	121	12	16	Killer B	121	2	18
Gospel Organ V.	121	13	16	Dirty B	121	3	18
Drawbars Organ	121	14	16	Classic Click	121	4	18
Organ Low 2 V.	121	15	16	BX3 Rock 3 V.	121	5	18
Organ Mid V.	121	16	16	Super BX Perc.	121	6	18

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
Dirty JazzOrgan	121	7	18	Sweet Musette	121	11	21
Perc.Short Decay	121	8	18	Cassotto 16'	121	12	21
BX3 Jazz Pc. V.	121	9	18	Cassotto Or.Tune	121	13	21
Jimmy Organ V.	121	10	18	Cassotto NorTune	121	14	21
Rock Organ 2	121	11	18	Detune Accordion	121	15	21
BX3 Rock 4 V.	121	12	18	2 Voices Musette	121	16	21
Jimmy Organ	121	13	18	3 Voices Musette	121	17	21
Church Organ GM	121	0	19	French Musette	121	18	21
Church Oct. Mix	121	1	19	Acc.Clarinet OT	121	19	21
Detuned Church	121	2	19	Acc. Clarinet NT	121	20	21
Pipe Mixture	121	3	19	Acc. Piccolo OT	121	21	21
Church Pipes	121	4	19	Acc. Piccolo NT	121	22	21
Full Pipes	121	5	19	Master Accordion	121	23	21
Pipe Tutti 1	121	6	19	Accordion	121	24	21
Positive Organ	121	7	19	Steirisch.Akk.1	121	25	21
Pipe Tutti 2	121	8	19	Steirisch.Akk.2	121	26	21
Pipe Tutti 3	121	9	19	Steirisch.Akk.3	121	27	21
Pipe Tutti 4	121	10	19	Steirisch.Akk.4	121	28	21
Reed Organ GM	121	0	20	Harmonica GM	121	0	22
Puff Organ	121	1	20	Sweet Harmonica	121	1	22
Small Pipe	121	2	20	Harmonica 3	121	2	22
Flauto Pipes	121	3	20	Harmonica 1	121	3	22
Pipe Flute 1	121	4	20	Harmonica 2	121	4	22
Pipe Flute 2	121	5	20	Harmonica RX	121	5	22
Accordion GM	121	0	21	Tango Accord.GM	121	0	23
Accordion 2	121	1	21	Fisa Tango!	121	1	23
Akordeon	121	2	21	Accordion 16,8'	121	2	23
Musette 1	121	3	21	Accordion16,8,4'	121	3	23
Musette 2	121	4	21	Acc.16,8' & Bass	121	4	23
Musette Clar.	121	5	21	Accordion Bass	121	5	23
Fisa 16,8'	121	6	21	Acc.Voice Change	121	6	23
Fisa 16,4'	121	7	21	Accordion 16,4'	121	7	23
Fisa Master	121	8	21	Acc.16,8,4' Plus	121	8	23
Cassotto	121	9	21	Acc. & Acc. Bass	121	9	23
Arabic Accordion	121	10	21	Tango Accordion	121	10	23

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
Nylon Guitar GM	121	0	24	Steel Slide Pro2	121	14	25
Ukulele	121	1	24	Steel Guitar RX1	121	15	25
Nylon Key Off	121	2	24	Steel Guitar RX2	121	16	25
Nylon Guitar 2	121	3	24	12 Strings Pro	121	17	25
Nylon Bossa	121	4	24	12 Strings RX	121	18	25
Ac.Guitar KeyOff	121	5	24	Steel Guitar Pro	121	19	25
Spanish Guitar	121	6	24	Steel Guitar 2	121	20	25
Guitar Strings	121	7	24	Pop Steel Gtr 1	121	21	25
Nylon Gtr Pro1	121	8	24	Pop Steel Gtr 2	121	22	25
Brazilian Guitar	121	9	24	Pop Steel Slide	121	23	25
Nylon Vel. Harm.	121	10	24	Pop SteelGtr RX1	121	24	25
Nylon Gtr Pro2	121	11	24	Pop SteelGtr RX2	121	25	25
Nylon Gtr RX1	121	12	24	Mandolin Ens. 1	121	26	25
Nylon Gtr RX2	121	13	24	Mandolin Ens. 2	121	27	25
Nylon Slide Pro	121	14	24	RealSteel Gtr ST	121	28	25
Nylon Guitar	121	15	24	RealFolk Gtr ST1	121	29	25
RealNylon Gtr ST	121	16	24	RealFolk Gtr ST2	121	30	25
Real Nylon Gtr	121	17	24	Real Steel Gtr	121	31	25
Nylon Guitar RX	121	18	24	Real Folk Gtr	121	32	25
Natural Nylon	121	19	24	Real 12 Strings	121	33	25
Ukulele Gtr	121	26	24	RealFolk Gtr RX	121	34	25
Steel Guitar GM	121	0	25	Steel Gtr RX	121	35	25
12 Strings Gtr	121	1	25	Jazz Guitar GM	121	0	26
Mandolin	121	2	25	Pedal Steel Gtr	121	1	26
Steel Gtr & Body	121	3	25	Club Jazz Gtr 1	121	2	26
Steel Guitar 1	121	4	25	Club Jazz Gtr 2	121	3	26
Steel 12 Strings	121	5	25	Pedal Steel	121	4	26
Hackbrett	121	6	25	Soft Jazz Guitar	121	5	26
Finger Key Off	121	7	25	JazzGtr SlidePro	121	6	26
Finger Tips	121	8	25	Jazz Gtr RX	121	7	26
Steel Folk Gtr	121	9	25	Clean Guitar GM	121	0	27
Mandolin Key Off	121	10	25	Det.Clean El.Gtr	121	1	27
Mandolin Trem.	121	11	25	Mid Tone Gtr	121	2	27
Reso Guitar	121	12	25	Chorus Guitar	121	3	27
Steel Slide Pro1	121	13	25	Vintage S. 2	121	4	27

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
Processed E.Gtr	121	5	27	Clean Funk	121	8	28
Single Coil	121	6	27	Disto Mute	121	9	28
New Stra.Guitar	121	7	27	Clean Funk RX1	121	10	28
Guitarish	121	8	27	Clean Funk RX2	121	11	28
L&R E.Guitar 1	121	9	27	Funk Stein RX1	121	12	28
L&R E.Guitar 2	121	10	27	Funk Stein RX2	121	13	28
Country Nu	121	11	27	Clean Guitar RX1	121	14	28
Funky Wah RX	121	12	27	Clean Guitar RX2	121	15	28
Clean Gtr Pro 1	121	13	27	Clean Guitar RX3	121	16	28
Single Coil Pro	121	14	27	Clean Guitar RX4	121	17	28
Clean Gtr Pro 2	121	15	27	Clean Guitar RX5	121	18	28
Stra. Vel. Pro	121	16	27	Muted Guitar	121	19	28
Stra. Gtr Slide	121	17	27	Clean Guitar RX6	121	20	28
Chorus Gtr Pro	121	18	27	5th Mute Gtr	121	21	28
Vintage S. 1	121	19	27	Overdrive Gtr GM	121	0	29
Clean Guitar 1	121	20	27	Guitar Pinch	121	1	29
Solid Guitar	121	21	27	Soft Overdrive	121	2	29
Clean Jazz 1	121	22	27	Crunch Gtr RX	121	3	29
Clean Jazz 2	121	23	27	Distortion GtrGM	121	0	30
'54 E. Guitar	121	24	27	Feedback DistGtr	121	1	30
Clean Guitar 2	121	25	27	Dist. Rhythm Gtr	121	2	30
Tel. Midddle	121	26	27	Joystick Gtr Y-	121	3	30
Tel. Bridge	121	27	27	Power Chords	121	4	30
Real El. Gtr ST1	121	28	27	Mute Monster	121	5	30
Real El. Gtr ST2	121	29	27	Wet Dist. Guitar	121	6	30
Real El. Guitar1	121	30	27	Solo Dist.Guitar	121	7	30
Real El. Guitar2	121	31	27	Stereo Dist.Gtr	121	8	30
Muted Guitar GM	121	0	28	Dist. Guitar RX1	121	9	30
Funky Cut El.Gtr	121	1	28	Dist. Guitar RX2	121	10	30
Mute Vel. El.Gtr	121	2	28	Dist. Clean Gtr	121	11	30
Jazz Man	121	3	28	Dist. Steel Gtr	121	12	30
R&R Guitar	121	4	28	Gtr Harmonic GM	121	0	31
Stra. Chime	121	5	28	Guitar Feedback	121	1	31
Clean Mute Gtr	121	6	28	E.Gtr Harmonics	121	2	31
Rhythm E.Guitar	121	7	28	Acoustic Bass GM	121	0	32

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
Ac. Bass Buzz	121	1	32	Bass&Gtr Double	121	6	34
Bass & Ride 2	121	2	32	Pick Bass 1	121	7	34
Acous. Bass Pro1	121	3	32	Pick Bass 2	121	8	34
Acous. Bass Pro2	121	4	32	Ticktacing Bass	121	9	34
DarkWoody A.Bass	121	5	32	Picked Bass RX	121	10	34
Bass & Ride 1	121	6	32	Picked E.Bass 3	121	11	34
Acous. Bass RX	121	7	32	Fretless Bass GM	121	0	35
Acoustic Bass 1	121	8	32	Fretless Bass 1	121	1	35
Jazz Bass	121	9	32	Fretless Bass 2	121	2	35
Organ Pedal 1	121	10	32	Sweet Fretless	121	3	35
Organ Pedal 2	121	11	32	Dark R&B Bass1	121	4	35
Acoustic Bass 2	121	14	32	Dark R&B Bass2	121	5	35
Finger Bass GM	121	0	33	Woofer Pusher	121	6	35
Finger Slap Bass	121	1	33	Fretless Bass 3	121	7	35
Finger E.Bass 1	121	2	33	Slap Bass 1 GM	121	0	36
Finger E.Bass 2	121	3	33	Super Bass 1	121	1	36
Finger E.Bass 3	121	4	33	Super Bass 2	121	2	36
Stick Bass	121	5	33	FunkSlap Bass RX	121	3	36
Finger Bass 1	121	6	33	SlapFing Bass RX	121	4	36
Finger Bass 2	121	7	33	SlapPick Bass RX	121	5	36
Chorus Fing.Bass	121	8	33	Slap Bass 1	121	6	36
Bright Finger B.	121	9	33	Slap Bass 2 GM	121	0	37
Finger Bass 3	121	10	33	Thumb Bass	121	1	37
More Mid! Bass	121	11	33	Dyna Bass	121	2	37
Finger Slap	121	12	33	Dyna Slap Bass	121	3	37
Finger Bass RX2	121	13	33	Chorus Slap Bass	121	4	37
FingerB.& Guitar	121	14	33	The Other Slap	121	5	37
Finger Bass 4	121	15	33	Slap Bass 2	121	6	37
Finger Bass RX1	121	16	33	Slap Bass 3	121	7	37
Picked E.Bass GM	121	0	34	Synth Bass 1 GM	121	0	38
Picked E.Bass 1	121	1	34	Synth Bass Warm	121	1	38
Picked E.Bass 2	121	2	34	Synth Bass Reso	121	2	38
Stein Bass	121	3	34	Clavi Bass	121	3	38
Bass & Guitar	121	4	34	Hammer	121	4	38
Bass Mute	121	5	34	30303 Bass	121	5	38

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
30303 Square	121	6	38	Viola Expr.	121	1	41
Bass Square	121	7	38	Violin & Viola	121	2	41
Syn Bass Res	121	8	38	Cello GM	121	0	42
Digi Bass 1	121	9	38	Cello	121	1	42
Digi Bass 2	121	10	38	Contrabass GM	121	0	43
Digi Bass 3	121	11	38	Class.Contrabass	121	1	43
Blind As A Bat	121	12	38	Tremolo Str. GM	121	0	44
Jungle Bass	121	13	38	Tremolo Strings	121	1	44
Auto Pilot 1	121	14	38	Pizzicato Str.GM	121	0	45
Hybrid Bass	121	15	38	Pizz. Ensemble	121	1	45
Dr. Octave	121	16	38	Pizz. Section	121	2	45
Drive Bass	121	17	38	Double Strings	121	3	45
Synth Bass 1	121	18	38	Harp GM	121	0	46
Synth Bass 2 GM	121	0	39	Yang Chin	121	1	46
SynthBass Attack	121	1	39	Classic Harp	121	2	46
SynthBass Rubber	121	2	39	Timpani GM	121	0	47
Attack Pulse	121	3	39	Timpani	121	1	47
Euro Bass	121	4	39	Strings Ens.1 GM	121	0	48
Jungle Rez	121	5	39	Strings & Brass	121	1	48
Nasty Bass	121	6	39	60's Strings	121	2	48
Phat Bass	121	7	39	Stereo Strings	121	3	48
Poinker Bass	121	8	39	Legato Strings	121	4	48
Synth Bass 80ish	121	9	39	i3 Strings	121	5	48
Autofilter Bass	121	10	39	N Strings	121	6	48
Monofilter Bass	121	11	39	Arco Strings	121	7	48
Reso Bass	121	12	39	Octave Strings	121	8	48
Auto Pilot 2	121	13	39	Strings Quartet	121	9	48
Bass4 Da Phunk	121	14	39	Symphonic Bows	121	10	48
Synth Bass 2	121	15	39	Ensemble & Solo	121	11	48
Violin GM	121	0	40	Chamber Strings	121	12	48
Slow Att. Violin	121	1	40	Arabic Strings	121	13	48
Violin Expr. 1	121	2	40	Orchestra Tutti1	121	14	48
Slow Violin	121	3	40	Strings & Horns	121	15	48
Violin Expr. 2	121	4	40	Orch. & Oboe 1	121	16	48
Viola GM	121	0	41	Orch. & Oboe 2	121	17	48

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
Strings & Glock.	121	18	48	Grand Choir	121	11	52
Orchestra Tutti2	121	19	48	Choir Light	121	12	52
Orchestra&Flute	121	20	48	Strings Choir	121	13	52
Strings Ens. 1	121	21	48	Femal&Male Scat	121	14	52
Strings Ens. RX	121	22	48	Femal Scat	121	15	52
Concert Str.RX	121	23	48	Male Scat	121	16	52
Strings Ens.2 GM	121	0	49	Scat V.& Bass1	121	17	52
Sweeper Strings	121	1	49	Scat V.& Bass2	121	18	52
Full Strings	121	2	49	Scat Voices RX2	121	19	52
Strings Ens. 2	121	3	49	Scat Voices RX1	121	20	52
Spiccato Strings	121	4	49	Voice Oohs GM	121	0	53
Movie Strings 1	121	5	49	Humming	121	1	53
Movie Strings 2	121	6	49	Doolally	121	2	53
Movie Str.1 RX	121	7	49	Airways	121	3	53
Movie Str.2 RX	121	8	49	Synth Voice GM	121	0	54
Synth Strings1GM	121	0	50	Analog Voice	121	1	54
Synth Strings 3	121	1	50	Vocalesque	121	2	54
Analog Strings 2	121	2	50	Vocalscape	121	3	54
Analog Velve	121	3	50	Classic Vox	121	4	54
Odissey	121	4	50	Dream Voice	121	5	54
Analog Strings 1	121	5	50	Synth Voices	121	6	54
Synth Strings 1	121	6	50	Orchestra Hit GM	121	0	55
Synth Strings2GM	121	0	51	Bass Hit Plus	121	1	55
Synth Strings 2	121	1	51	6th Hit	121	2	55
Choir Aahs GM	121	0	52	Euro Hit	121	3	55
Choir Aahs 2	121	1	52	Brass Impact	121	4	55
Ooh Voices	121	2	52	Hit in India	121	5	55
Ooh Slow Voice	121	3	52	Wild Arp	121	6	55
Take Voices 1	121	4	52	Flip Blip	121	7	55
Take Voices 2	121	5	52	Netherland Hit	121	8	55
Ooh Choir	121	6	52	Trumpet GM	121	0	56
Aah Choir	121	7	52	Dark Trumpet	121	1	56
Wuuh Choir	121	8	52	Trumpet Overb.	121	2	56
Oh-Ah Voices	121	9	52	Mono Trumpet	121	3	56
Slow Choir	121	10	52	Trumpet Expr.2	121	4	56

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
Trumpet Pitch	121	5	56	Tuba GM	121	0	58
Dual Trumpets	121	6	56	Oberkr. Tuba	121	1	58
Flugel Horn	121	7	56	Tuba Gold	121	2	58
Warm Flugel	121	8	56	Dynabone	121	3	58
BeBop Cornet	121	9	56	Ob.Tuba&E.Bass 1	121	4	58
Trumpet Pro 1	121	10	56	Ob.Tuba&E.Bass 2	121	5	58
Trumpet Pro 2	121	11	56	Muted Trumpet GM	121	0	59
Sweet FlugelHorn	121	12	56	Muted Trumpet 2	121	1	59
Flugel Horn Pro	121	13	56	Wah Trumpet	121	2	59
Trumpet	121	14	56	Mute Ensemble 1	121	3	59
Trumpet Expr.1	121	15	56	Mute Ensemble 2	121	4	59
Trumpet Pro 3	121	16	56	Mute Trumpet	121	5	59
Alp Trumpet	121	17	56	French Horn GM	121	0	60
Trumpet Shake Y+	121	18	56	FrenchHorn Warm	121	1	60
Concert Trumpet	121	19	56	French Section	121	2	60
Concert Trp. Pro	121	20	56	Classic Horns	121	3	60
Cornet Expr.	121	21	56	Horns & Ensemble	121	4	60
Cornet Pro 1	121	22	56	Brass Section GM	121	0	61
Cornet Pro 2	121	23	56	Brass Section 2	121	1	61
Jazz Trumpet RX	121	24	56	Tight Brass 3	121	2	61
Jazz Cornet RX	121	25	56	Glenn & Friends	121	3	61
Trombone GM	121	0	57	Big Band Brass 2	121	4	61
Trombone 2	121	1	57	Sax & Brass	121	5	61
Bright Trombone	121	2	57	Glenn & Boys	121	6	61
Hard Trombone	121	3	57	Trpts & Brass	121	7	61
Soft Trombone	121	4	57	Attack Brass	121	8	61
Pitch Trombone	121	5	57	Trumpet Ens.	121	9	61
Trombone Expr. 1	121	6	57	Trombone Ens.	121	10	61
Trombone Expr. 2	121	7	57	Trombones	121	11	61
Trombone Vel. 1	121	8	57	Tight Brass 4	121	12	61
Trombone Vel. 2	121	9	57	Fat Brass	121	13	61
Trombone Vel. 3	121	10	57	Dyna Brass 1	121	14	61
Trombone Pro Vel	121	11	57	Brass Expr.	121	15	61
Trombone	121	12	57	Brass & Sax	121	16	61
Trombone RX	121	13	57	Film Brass	121	17	61

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
Brass Slow	121	18	61	Sweet Soprano 2	121	4	64
Fanfare	121	19	61	Alto Sax GM	121	0	65
Movie Brass	121	20	61	Alto Breath	121	1	65
Power Brass	121	21	61	Sax Ensemble	121	2	65
Dyna Brass 2	121	22	61	Breathy Alto Sax	121	3	65
Sforzato Brass	121	23	61	Alto Sax Growl	121	4	65
Double Brass	121	24	61	Sweet Alto Sax1	121	5	65
Brass Hit	121	25	61	Sweet Alto Sax 2	121	6	65
Brass Fall	121	26	61	Soft Alto Sax	121	7	65
Tight Brass 1	121	27	61	Alto Sax Pro	121	8	65
Tight Brass Pro	121	28	61	Alto Sax Expr.	121	9	65
Tight Brass 2	121	29	61	Alto Sax RX2	121	10	65
Brass of Power	121	30	61	Cool Sax Ens.	121	11	65
Brass Section	121	31	61	Alto Sax RX1	121	12	65
Big Band Brass 1	121	32	61	Tenor Sax GM	121	0	66
Big BandShake Y+	121	33	61	Tenor SaxNoise1	121	1	66
Trpts &Trombs	121	34	61	Soft Tenor	121	2	66
Trumpet Ens1 Y+	121	35	61	Tenor Breath	121	3	66
Trumpet Ens2 Y+	121	36	61	Tenor Growl	121	4	66
Synth Brass 1 GM	121	0	62	Folk Sax	121	5	66
Synth Brass 3	121	1	62	Tenor Sax Noise2	121	6	66
Analog Brass 1	121	2	62	Tenor Sax Expr.1	121	7	66
Jump Brass	121	3	62	Tenor Sax Expr.2	121	8	66
Electrik Brass	121	4	62	Jazz Tenor RX	121	9	66
Synth Brass 1	121	5	62	Jazz Tenor	121	10	66
Synth Brass 2 GM	121	0	63	Reed of Power	121	11	66
Synth Brass 4	121	1	63	Tenor Sax RX	121	12	66
Analog Brass 2	121	2	63	Baritone Sax GM	121	0	67
Brass Pad	121	3	63	Baritone Growl	121	1	67
Big Panner	121	4	63	Breathy Baritone	121	2	67
Synth Brass 2	121	5	63	Baritone Sax Pro	121	3	67
Soprano Sax GM	121	0	64	Baritone Sax	121	4	67
Sweet Soprano 3	121	1	64	Oboe GM	121	0	68
Soprano Pro	121	2	64	Double Reed	121	1	68
Sweet Soprano 1	121	3	64	Oboe RX	121	4	68

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
English Horn GM	121	0	69	Recorder 1	121	1	74
English Horn	121	1	69	Recorder 2	121	2	74
Bassoon GM	121	0	70	Pan Flute GM	121	0	75
Bassoon	121	1	70	Kawala	121	1	75
Clarinet GM	121	0	71	Pan Flute Y-	121	4	75
Jazz Clarinet	121	1	71	Blown Bottle GM	121	0	76
Clarinet G	121	2	71	Blown Bottle	121	1	76
Section Winds 1	121	3	71	Shakuhachi GM	121	0	77
Section Winds 2	121	4	71	Old Shakuhachi	121	1	77
Clarinet Ens.	121	5	71	Shakuhachi	121	2	77
Woodwinds	121	6	71	Whistle GM	121	0	78
Folk Clarinet	121	7	71	Whistle	121	1	78
Clarinet Pro 1	121	8	71	Whistle Breathe	121	2	78
Clarinet Pro 2	121	9	71	Whistle RX2	121	3	78
Reeds & Saxes	121	10	71	Whistle RX3	121	4	78
Klarnet 1	121	11	71	Whistle RX1	121	5	78
Klarnet 2	121	12	71	Ocarina GM	121	0	79
Clarinet RX	121	13	71	Ocarina	121	1	79
Piccolo GM	121	0	72	Lead Square GM	121	0	80
Small Orchestra	121	1	72	Lead Square 2	121	1	80
Nay	121	2	72	Lead Sine	121	2	80
Piccolo	121	3	72	Old Portamento	121	3	80
Flute GM	121	0	73	Dance Lead	121	4	80
Jazz Flute Expr.	121	1	73	Wave Lead	121	5	80
Flute Switch	121	2	73	Sine Wave	121	6	80
Flute Dyn. 5th	121	3	73	Analog Lead	121	7	80
Flute Frullato	121	4	73	Old & Analog	121	8	80
Orchestra Flute	121	5	73	Gliding Square	121	9	80
Flute Muted	121	6	73	Sine Switch	121	10	80
Wooden Flute	121	7	73	Square Rez	121	11	80
Bambu Flute	121	8	73	Port Whine	121	12	80
Flute	121	9	73	2VCO Planet Lead	121	13	80
Jazz Flute RX	121	10	73	Lead Saw GM	121	0	81
Flute RX	121	11	73	Lead Saw 2	121	1	81
Recorder GM	121	0	74	Lead Saw & Pulse	121	2	81

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
Lead Double Saw	121	3	81	OB Lead	121	10	87
Lead Seq. Analog	121	4	81	A Leadload	121	11	87
Power Saw	121	5	81	Bass Phat Saw	121	12	87
Octo Lead	121	6	81	New Age Pad GM	121	0	88
Seq Lead	121	7	81	Virtual Traveler	121	1	88
Phat Saw Lead	121	8	81	Arp Angeles	121	2	88
Glide Lead	121	9	81	Warm Pad GM	121	0	89
Fire Wave	121	10	81	Sine Pad	121	1	89
Rezbo	121	11	81	Master Pad	121	2	89
Synth Pianoid	121	12	81	Power Synth	121	3	89
Calliope GM	121	0	82	The Pad	121	4	89
Chiff GM	121	0	83	Money Pad	121	5	89
Charang GM	121	0	84	Dark Pad	121	6	89
Wire Lead	121	1	84	Freedom Pad	121	7	89
Synchro City	121	2	84	Analog Pad 1	121	8	89
Sync Kron	121	3	84	Analog Pad 2	121	9	89
Metallic Rez	121	4	84	Analog Pad 3	121	10	89
Brian Sync	121	5	84	Vintage Pad	121	11	89
Arp Twins	121	6	84	OB Pad	121	12	89
LoFi Ethnic	121	7	84	Dark Anna	121	13	89
Voice Lead GM	121	0	85	Symphonic Ens.	121	14	89
Ether Voices	121	1	85	Warm Pad	121	15	89
Cyber Choir	121	2	85	Polysynth GM	121	0	90
Fifths Lead GM	121	0	86	Reso Sweep	121	1	90
Crimson 5ths	121	1	86	Sky Watcher	121	2	90
Bass & Lead GM	121	0	87	Synth Sweeper	121	3	90
Lead Soft Wrl	121	1	87	Super Sweep	121	4	90
Electro Lead	121	2	87	Wave Sweep	121	5	90
Rich Lead	121	3	87	Cross Sweep	121	6	90
Thin Analog Lead	121	4	87	Digital PolySix	121	7	90
Express. Lead	121	5	87	Noisy Stabb	121	8	90
HipHop Lead	121	6	87	Mega Synth	121	9	90
Square Bass	121	7	87	Tecno Phonic	121	10	90
Big & Raw	121	8	87	Farluce	121	11	90
Cat Lead	121	9	87	Big Sweep Stab	121	12	90

Sound	CC00	CC32	PC
Korgmatose	121	13	90
Choir Pad GM	121	0	91
Itopia Pad	121	1	91
Fresh Air 1	121	2	91
Heaven	121	3	91
Pop Synth Pad 1	121	4	91
Future Pad	121	5	91
Tsunami Wave	121	6	91
Fresh Breath	121	7	91
Ravelian Pad	121	8	91
Full Vox Pad	121	9	91
Dance ReMix	121	10	91
Fresh Air 2	121	11	91
Pop Synth Pad 2	121	12	91
Bowed Glass GM	121	0	92
Metallic Pad GM	121	0	93
Cosmic	121	1	93
80's Pop Synth	121	2	93
Halo Pad GM	121	0	94
Sweep Pad GM	121	0	95
Astral Dream	121	1	95
Meditate	121	2	95
Dark Element	121	3	95
Mellow Pad	121	4	95
Cinema Pad	121	5	95
Reoccuring Astra	121	6	95
Vintage Sweep	121	7	95
You Decide	121	8	95
Ice Rain GM	121	0	96
Motion Ocean	121	1	96
Caribbean	121	2	96
Wave Cycle	121	3	96
Soundtrack GM	121	0	97
Air Clouds	121	1	97
Reso Down	121	2	97

Sound	CC00	CC32	PC
Tinklin Pad	121	3	97
Pods In Pad	121	4	97
Noble Pad	121	5	97
Rave	121	6	97
Elastick Pad	121	7	97
Crystal GM	121	0	98
Synth Mallet	121	1	98
Vs Bell Boy	121	2	98
Krystal Bell	121	3	98
Digi Bell	121	4	98
Moving Bell	121	5	98
Bell Pad	121	6	98
Bell Choir	121	7	98
Atmosphere GM	121	0	99
Brightness GM	121	0	100
Lonely Spin	121	1	100
Synth Ghostly	121	2	100
Goblins GM	121	0	101
Motion Raver	121	1	101
Digi Ice Pad	121	2	101
VCF Modulation	121	3	101
Echo Drops GM	121	0	102
Echo Bell	121	1	102
Echo Pan	121	2	102
Band Passed	121	3	102
Pan Reso	121	4	102
Moon Cycles	121	5	102
Star Theme GM	121	0	103
Sitar GM	121	0	104
Sitar 2	121	1	104
Sitar Tambou	121	2	104
Indian Stars	121	3	104
Indian Frets	121	4	104
Bouzouki	121	5	104
Tambra	121	6	104

Sound	CC00	CC32	PC	Sound	CC00	CC32	PC
Sitar Sitar	121	7	104	Garbage Mall	121	3	112
Sitar	121	8	104	Agogo GM	121	0	113
Banjo GM	121	0	105	Steel Drums GM	121	0	114
Banjo Key Off	121	1	105	Warm Steel	121	1	114
Oud 2	121	2	105	Woodblock GM	121	0	115
Jaw Harp	121	3	105	Castanets	121	1	115
Banjo RX	121	4	105	Castanets Plus	121	2	115
Oud 1	121	5	105	Woodblock	121	3	115
Shamisen GM	121	0	106	Taiko Drum GM	121	0	116
Koto GM	121	0	107	Concert BassDrum	121	1	116
Taisho Koto	121	1	107	Melodic Tom GM	121	0	117
Kanoun 2	121	2	107	Melodic Tom 2	121	1	117
Kanoun Trem. 2	121	3	107	Reverse Tom	121	2	117
Kanoun Mix	121	4	107	Synth Drum GM	121	0	118
Kanoun 1	121	5	107	Rhythm Box Tom	121	1	118
Kanoun Trem. 1	121	6	107	Electric Drum	121	2	118
Ac. Baglama 1	121	7	107	Reverse Snare	121	3	118
Ac. Baglama 2	121	8	107	ReverseCymbalGM	121	0	119
Ac. Baglama Grp.	121	9	107	Dragon Gong	121	1	119
Kalimba GM	121	0	108	Reverse Cymbal	121	2	119
Kalimba 2	121	1	108	Gtr FretNoise GM	121	0	120
Kalimba 1	121	2	108	Guitar Cut Noise	121	1	120
Bag Pipes GM	121	0	109	Ac. Bass String	121	2	120
War Pipes	121	1	109	Vox Wah Chick RX	121	3	120
Uillean BagPipes	121	2	109	Breath Noise GM	121	0	121
HighlandBagPipes	121	3	109	Flute Key Click	121	1	121
Fiddle GM	121	0	110	Seashore GM	121	0	122
Fiddle	121	1	110	Rain	121	1	122
Shanai GM	121	0	111	Thunder	121	2	122
Zurna 2	121	1	111	Wind	121	3	122
Hichiriki	121	2	111	Stream	121	4	122
Zurna 1	121	3	111	Bubble	121	5	122
Tinkle Bell GM	121	0	112	Bird Tweet GM	121	0	123
Gamelan	121	1	112	Dog	121	1	123
Bali Gamelan	121	2	112	Horse Gallop	121	2	123

Sound	CC00	CC32	PC
Bird Tweet 2	121	3	123
Telephone GM	121	0	124
Telephone 2	121	1	124
Door Creaking	121	2	124
Door	121	3	124
Scratch	121	4	124
Wind Chime	121	5	124
Helicopter GM	121	0	125
Car Engine	121	1	125
Car Stop	121	2	125
Car Pass	121	3	125
Car Crash	121	4	125
Siren	121	5	125
Train	121	6	125
Jetplane	121	7	125

Sound	CC00	CC32	PC
Starship	121	8	125
Burst Noise	121	9	125
Applause GM	121	0	126
Laughing	121	1	126
Screaming	121	2	126
Punch	121	3	126
Heart Beat	121	4	126
Footsteps	121	5	126
Stadium	121	6	126
Footstep Walk	121	7	126
Gun Shot GM	121	0	127
Machine Gun	121	1	127
Laser Gun	121	2	127
Explosion	121	3	127
Deep Noise	121	4	127

Drum Kits

The following table lists all the Factory Drum Kits in the Bank Select / Program Change order. The table also includes MIDI data used to remotely select the Drum Kits. **CC00:** Control Change 0, or Bank Select MSB. **CC32:** Control Change 32, or Bank Select LSB. **PC:** Program Change.

Drum Kit	CC00	CC32	PC
Standard Kit GM	120	0	0
Standard Kit1 XG	127	0	0
Standard Kit RX2	120	0	1
Standard Kit2 XG	127	0	1
Standard Kit RX3	120	0	2
Ambient Kit RX	120	0	3
Pop Std. Kit RX	120	0	4
Standard Kit RX1	120	0	5
Standard Kit RX4	120	0	6
Standard Kit	120	0	7
Room Kit GM	120	0	8
Room Kit XG	127	0	8
HipHop Kit 1	120	0	9
Jungle Kit	120	0	10
Techno Kit 1	120	0	11
Room Kit 2	120	0	12
HipHop Kit 2	120	0	13
Techno Kit 2	120	0	14
Techno Kit 3	120	0	15
Power Kit GM	120	0	16
Rock Kit XG	127	0	16
Power Kit 2	120	0	17
Power Kit RX1	120	0	18
Power Kit RX2	120	0	19
Electro Kit GM	120	0	24
Electro Kit XG	127	0	24
Analog Kit GM	120	0	25
Analog Kit XG	127	0	25

Drum Kit	CC00	CC32	PC
House Kit 1	120	0	26
House Kit 2	120	0	27
House Kit 3	120	0	28
House Kit RX1	120	0	30
House Kit RX2	120	0	31
Jazz Kit GM	120	0	32
Jazz Kit 1 XG	127	0	32
Jazz Kit RX1	120	0	33
Jazz Kit 2 XG	127	0	33
Jazz Kit RX2	120	0	34
Jazz Kit RX3	120	0	35
Brush Kit GM	120	0	40
Brush Kit XG	127	0	40
Brush Kit 2	120	0	41
Brush Kit RX1	120	0	42
Brush Kit RX2	120	0	43
Brush Kit RX3	120	0	44
Orchestra Kit GM	120	0	48
Classic Kit XG	127	0	48
Orchestra Kit	120	0	49
Bdrum&Sdrum Kit	120	0	50
Arabian Kit 1	120	0	51
SFX Kit GM	120	0	56
SFX Kit 2	120	0	57
Synth Kit	120	0	58
SFX Kit 1	120	0	60
Percussion Kit	120	0	64
Latin Perc.Kit 1	120	0	65

Drum Kit	CC00	CC32	PC
Trinity Perc.Kit	120	0	66
i30 Perc. Kit	120	0	67
Latin Perc.Kit 2	120	0	68
Standard PercKit	120	0	69
HipHop Kit RX	120	0	72
Techno Kit RX	120	0	73
Dance Kit RX	120	0	74
Electro Kit RX1	120	0	75
Electro Kit RX2	120	0	76
Pop Std. Kit 1	120	0	89
Pop Std. Kit 2	120	0	90

Drum Kit	CC00	CC32	PC
Elektro Kit 1	120	0	96
Elektro Kit 2	120	0	97
Arabian Kit 2	120	0	117
Turkish Kit	120	0	118
Oriental PercKit	120	0	119
Room Kit 1	120	0	120
Power Kit 1	120	0	121
Electro Kit	120	0	122
Analog Kit	120	0	123
Brush Kit 1	120	0	125

Multisamples

The following table contains all the Factory Multisamples.

* OrigTune: Original Tune, that is, the samples use the natural tuning of the original instrument, instead of the equal tuning. Beating may occur at the extreme pitches, when the sound is used in conjunction with other sounds.

#	Multisample	#	Multisample	#	Multisample
0	Grand Piano mf L	28	E.Piano PO mp	56	E.Piano Rx KON R
1	Grand Piano mf R	29	E.Piano PO mf	57	E.Piano Rx KOF L
2	Grand Piano mf OT L	30	E.Piano PO f	58	E.Piano Rx KOF R
3	Grand Piano mf OT R	31	E.Piano PO f+	59	E.Piano FM 1
4	Grand Piano f L	32	E.Piano PO ff	60	E.Piano FM 1LP
5	Grand Piano f R	33	E.Piano PO ff+	61	E.Piano FM 2
6	Grand Piano f OT L	34	E.Piano PO fff	62	E.Piano Pad 1
7	Grand Piano f OT R	35	E.Piano PO Kof p	63	E.Piano Pad 1LP
8	Resonance L	36	E.Piano PO Kof f	64	E.Piano Pad 2
9	Resonance R	37	E.Piano Suit Bright mp	65	Clavi 1
10	Resonance OT L	38	E.Piano Suit Bright mf	66	Clavi 2
11	Resonance OT R	39	E.Piano Suit Bright f	67	Clavi 3
12	Leakage GrandPiano L	40	E.Piano Dyno mf	68	Clavi 4
13	Leakage GrandPiano R	41	E.Piano Dyno f	69	Clavinet GM
14	Piano FX Pedal On L	42	E.Piano Dyno ff	70	Harpsichord 1
15	Piano FX Pedal On R	43	E.Piano Dyno Soft	71	Harpsichord 1 Key Off
16	Piano FX Pedal Off L	44	E.Piano Dyno SoftLP	72	Harpsichord 2
17	Piano FX Pedal Off R	45	E.Piano Stage Hard	73	Harpsichord 2 Key Off
18	Piano FX Key Off L	46	E.Piano Stage HardLP	74	Harpsichord Release
19	Piano FX Key Off R	47	E.Piano Vintage pp	75	Harpsichord Bump On
20	AcousticPiano L	48	E.Piano Vintage p	76	Harpsichord Bump Off
21	AcousticPiano R	49	E.Piano Vintage mf	77	Gospel Organ Slow L
22	Piano M1	50	E.Piano Vintage f	78	Gospel Organ Slow R
23	Upright Piano mf L	51	E.Piano Vintage ff	79	Gospel Organ Fast L
24	Upright Piano mf R	52	E.Piano Vintage fff	80	Gospel Organ Fast R
25	Upright Piano f L	53	E.Piano Wurly Soft	81	16' 8' LF L
26	Upright Piano f R	54	E.Piano Wurly Hard	82	16' 8' LF R
27	E.GrandPiano	55	E.Piano Rx KON L	83	16' 8' LS L

#	Multisample	#	Multisample	#	Multisample
84	16' 8' LS R	119	E.Organ Dist	154	Flute
85	16' 8' 51/3 LF L	120	Rotary Organ 1	155	Flute Frull
86	16' 8' 51/3 LF R	121	Rotary Organ 2	156	Flute Voice
87	16' 8' 51/3 LS L	122	Super BX3	157	Flute Jazz
88	16' 8' 51/3 LS R	123	Rotor Noise LF L	158	Flute Vibrato
89	4' 22/3' 2' LF L	124	Rotor Noise LF R	159	Flute Attack p
90	4' 22/3' 2' LF R	125	Rotor Noise LS L	160	Flute Attack f
91	4' 22/3' 2' LS L	126	Rotor Noise LS R	161	Piccolo
92	4' 22/3' 2' LS R	127	H Organ Click Kon	162	Pan Flute
93	11/3' 13/5' 1'LF L	128	H Organ Click Koff	163	Pan Flute Attack
94	11/3' 13/5' 1'LF R	129	Pipe Flute L	164	Tin Whistle Voice
95	11/3' 13/5' 1'LS L	130	Pipe Flute R	165	Whistle Gliss
96	11/3' 13/5' 1'LS R	131	Pipe Positive	166	Whistle No Vibr
97	16' 8' 51/3' Perc LF L	132	Pipe Mixture	167	Whistle Sfz Vibr
98	16' 8' 51/3' Perc LF R	133	Pipe Full 1 L	168	Whistle Sfz No Vibr
99	16' 8' 51/3' Perc LS L	134	Pipe Full 1 R	169	Whistle Slow Atk Vibr
100	16' 8' 51/3' Perc LS R	135	Pipe Full 2	170	Whistle Breath
101	Theater Organ 1	136	Music Box	171	Shakuhachi
102	Theater Organ 2	137	Kalimba	172	Shakuhachi Atk
103	50s E.Organ Bright	138	Kalimba GM	173	Bottle
104	50s E.Organ Dark	139	Marimba	174	Shanai GM
105	E.Organ CX 3	140	Xylophone	175	Recorder
106	E.Organ Perc. 1	141	Balaphone	176	Ocarina
107	E.Organ Perc. 2	142	Vibraphone1	177	Clarinet 1
108	E.Organ Perc. 3	143	Vibraphone2	178	Clarinet 2
109	E.Organ Perc. 4	144	Celesta	179	DoubleReed M1
110	Organ 1 M1	145	Celesta GM	180	Oboe
111	Organ 2 M1	146	Glockenspiel	181	English Horn
112	Organ 1	147	GlockenspielLP	182	Bassoon
113	Organ 2	148	Tubular Bell	183	Baritone Sax mf
114	Organ 2LP	149	Log Drum	184	Baritone Sax f
115	Organ 3 Jazz	150	Steel Drum Hard	185	Baritone Sax GM
116	BX3 & Perc. 3rd	151	Steel Drum GM	186	Tenor Sax Vibrato
117	E.Organ Vox	152	Gamelan	187	Tenor Sax Expressive
118	E.Organ Full	153	FM Bell	188	Tenor Sax mp

#	Multisample	#	Multisample	#	Multisample
189	Tenor Sax Straight	224	Harmonica Fall	259	Trumpet Slow mp
190	Tenor Sax M1	225	Harmonica	260	Trumpet Slow f
191	Tenor Sax GM	226	Harmonica Wah	261	Trumpet GM
192	Alto Sax Vibrato1	227	Highland Bag Pipes	262	Trumpet Tonguing mp
193	Alto Sax Vibrato2	228	Highland Drones	263	Trumpet Tonguing f
194	Alto Sax Vibrato2 Drive	229	Uilleann Pipes	264	Trumpet Medium
195	Alto Sax p	230	Bag Pipes	265	Trumpet Overblown
196	Alto Sax mf	231	Bag Pipes GM	266	Trumpet Muted
197	Alto Sax GM	232	French Horn T1	267	Trumpet Muted GM
198	Alto Sax Growl	233	French Horn Ensemble	268	Trumpet Wah wah
199	Soprano Sax Vibrato	234	French Horns GM	269	Trumpet Doit
200	Soprano Sax Straight	235	Tenor Horn	270	Trumpet Fall
201	Soprano Sax GM	236	Flugel Horn Vibrato	271	2 Trumpets mpL
202	Sax Family Vibrato	237	Flugel Horn M1	272	2 Trumpets mpR
203	Sax key on	238	Tuba f	273	2 Trumpets fL
204	Sax key off	239	Tuba ff	274	2 Trumpets fR
205	Musette 1	240	Tuba GM	275	Brass Ensemble Stereo L
206	Musette 2	241	Tuba Bariton Attack	276	Brass Ensemble Stereo R
207	Musette 2LP	242	Trombone 1 Vibrato	277	Brass Ensemble 1
208	Accordion 16'	243	Trombone 2 mf	278	Brass Ensemble 2
209	Accordion 16' OrigTune	244	Trombone 2 f	279	Brass Ensemble GM
210	Accordion 8'	245	Trombone 3 Soft	280	Voice Female Wuh
211	Accordion 8' OrigTune	246	Trombone 3 Bright	281	Voice Female Woh
212	Accordion 4'	247	Trombone Slur Up	282	Voice Female Wah
213	Accordion 4' OrigTune	248	Trombone Fall	283	Voice Female Dah
214	Accordion preset 1	249	Trombone GM	284	Voice Male Wuh
215	Accordion preset 2	250	2 Trombones mfL	285	Voice Male Woh
216	Accordion Bassoon	251	2 Trombones mfR	286	Voice Male Wah
217	Accordion Clarinet	252	2 Trombones fL	287	Voice Male Dah
218	Accordion Bandoneon	253	2 Trombones fR	288	Voice Choir
219	Accordion Volkst.	254	Classic Trumpet p	289	Voice Hoo
220	Accordion Bass	255	Classic Trumpet mf	290	Voice Pop Ooh
221	Accordion Noise KeyOn	256	Pop Trumpet mf	291	Voice Pop Ah
222	Accordion Noise KeyOff	257	Pop Trumpet f	292	Voice Doo
223	Accordion Change Voice	258	Trumpet Expr.	293	Voice DooLP

#	Multisample	#	Multisample	#	Multisample
294	Violin Solo Vibrato	329	Steel Gtr Noise	364	El. Guitar Le Ghost1
295	Violin Straight	330	Guitar Fret Noise Off	365	El. Guitar Le Ghost2
296	Violin GM	331	Guitar Body	366	El. Guitar Harmonics
297	Fiddle GM	332	Nylon Guitar p	367	El. Guitar Gliss Down
298	Viola Expressive mf	333	Nylon Guitar mf	368	El. Guitar Gliss Up
299	Viola Expressive f	334	Nylon Guitar f	369	El. Guitar Noise
300	Viola GM	335	Nylon Guitar Atk	370	El. Guitar Fret Noise
301	Cello & Contrabass	336	Nylon Guitar GM	371	Jazz Guitar1
302	Cello GM	337	El. Guitar Stra 54 p	372	Jazz Guitar2
303	Violin & Cello	338	El. Guitar Stra 54 mf	373	Jazz Gib mellow p
304	Strings Quartet Vibrato1	339	El. Guitar Stra 54 f	374	Jazz Gib mellow mf
305	Strings Quartet Vibrato2	340	El. Guitar Stra 54 Slide	375	Jazz Gib mellow f
306	Pizzicato	341	El. Guitar Tel Mid p	376	Pedal Steel Guitar
307	Strings Ensemble St L	342	El. Guitar Tel Mid mf	377	Resonator Guitar
308	Strings Ensemble St R	343	El. Guitar Tel Mid f	378	Vox Wah Guitar
309	Strings Ensemble GM L	344	El. Guitar Tel Bridge p	379	Overdrive GM
310	Strings Ensemble GM R	345	El. Guitar Tel Bridge mf	380	Dist. Guitar
311	Strings Ensemble Mono	346	El. Guitar Tel Bridge f	381	Dist. Guitar GM
312	Strings Ensemble Tremolo	347	El. Guitar Tel Mt 5th p	382	Dist. Guitar1 Harmo.
313	Pizzicato Ensemble	348	El. Guitar Tel Mt 5th mf	383	Gtr Harmonic GM
314	Harp	349	El. Guitar Tel Mt 5th f	384	Dist. Guitar2 Harmo P1
315	Harp Atk	350	El. Guitar Tel Mt 5th ff	385	Dist. Guitar2 Harmo P2
316	Steel Gtr 1 Pick p	351	El. Guitar Clean Str p	386	Dist. Guitar2 Mute1
317	Steel Gtr 1 Pick mf	352	El. Guitar Clean Str f	387	Dist. Guitar2 Mute2
318	Steel Gtr 1 Pick f	353	El. Guitar Clean Mute	388	El. Guitar DistMuted p
319	Steel Gtr 1 Mute	354	El. Guitar Clean Dead	389	El. Guitar DistMuted mp
320	Steel Gtr 1 Slide	355	El. Guitar Clean Slap	390	El. Guitar PowerChord1
321	Steel Gtr 2 p	356	El. Guitar Clean Slide	391	El. Guitar PowerChord2
322	Steel Gtr 2 mf	357	El. Guitar Clean GM	392	Acoustic Bass1
323	Steel Gtr 2 f	358	El. Guitar Fret Noise GM	393	Acoustic Bass2 mf
324	Steel Gtr 2 Slap	359	El. Guitar Cut Noise GM	394	Acoustic Bass2 f
325	Steel Gtr 2 Slide	360	El. Guitar Le Neck	395	Acoustic Bass3 mf VAR
326	Steel Gtr 12 Strings	361	El. Guitar Le Bridge	396	Acoustic Bass3 f VAR
327	Steel Gtr Harmonics 1	362	El. Guitar Le Mute p	397	Acoustic Bass GM
328	Steel Gtr Harmonics 2	363	El. Guitar Le Mute mf	398	Acoustic Bass RX Noises

#	Multisample	#	Multisample	#	Multisample
399	E.Bass1 Finger	434	Sitar & Tambura	469	R&B Square Bass
400	E.Bass2 P.B.1	435	Santur	470	Chrom Res
401	E.Bass2 P.B.2	436	Tambura	471	Detuned Super
402	E.Bass2 LH Stop	437	Bouzouki	472	Detuned PWM
403	E.Bass2 RH Stop	438	BouzoukiLP	473	Pop Synth
404	E.Bass2 Harmo.	439	Mandolin	474	An.Strings1
405	E.Bass3 p	440	Mandolin Tremolo	475	An.Strings2
406	E.Bass3 mf	441	Mandolin Ensemble	476	Analog Vintage
407	E.Bass3 f Slap	442	Banjo	477	White Pad
408	E.Bass4 Pick	443	Banjo GM	478	N1 Air Vox
409	E.Bass4 Harmo.	444	Ukulele	479	SynthBell
410	E.Bass4 Slap	445	Shamisen	480	Ether Bell
411	E.Bass4 SlapHar	446	Shamisen GM	481	Ether BellLP
412	E.Bass4 LH Mute	447	Koto	482	Lore
413	E.Bass4 RH Mute	448	Koto GM	483	Space Lore
414	E.Bass5 Finger	449	M.E. Oud	484	Wave Sweep1
415	E.Bass6 Finger	450	M.E. Oud Tek	485	Wave Sweep2
416	E.Bass7 Finger	451	M.E. Kanoun1	486	Syn Ghostly
417	E.Bass8 Pick	452	M.E. Kanoun2	487	Ghost
418	E.Bass9 Pick	453	M.E. Kanoun Tremolo	488	Syn Air Pad
419	E.Bass9 PickLP	454	M.E. Baglama1	489	Dream Str
420	E.Bass10 Thumb	455	M.E. Baglama2	490	Syn AirVortex
421	E.Bass11 SlapThumb	456	M.E. Zurna	491	Syn Palawan
422	E.Bass Gliss	457	M.E. Klarnet Tek	492	Syn Clicker
423	E.Bass Noise1	458	M.E. Klarnet	493	Noise1
424	E.Bass Noise2	459	M.E. Nay	494	Noise2
425	E.Bass Harmonics	460	Mouth Harp1	495	Noise Pad
426	E.Bass Fretless	461	Mouth Harp2	496	Swish Terra
427	Finger Bass GM	462	Mouth Harp3	497	Saw1
428	Picked Bass GM	463	Syn Bass Reso	498	Saw2
429	Slap Bass1 GM	464	Syn Bass FM1	499	Saw3
430	Slap Bass2 GM	465	Syn Bass FM2	500	Pulse 02%
431	Fretless Bass GM	466	Syn Bass FM2LP	501	Pulse 05%
432	Sitar	467	Syn Bass TB	502	Pulse 08%
433	Sitar GM	468	R&B Saw Bass	503	Pulse 16%

#	Multisample	#	Multisample	#	Multisample
504	Pulse 33%	536	Church Bell	568	Ride Edge2
505	Pulse 40%	537	Thunder	569	88 HiHat Open
506	Square	538	Stream	570	88 Cowbell
507	Square MG	539	Bubble	571	88 Tom
508	Square JP	540	Dog	572	88 Crash
509	Triangle MG	541	Gallop	573	Tom
510	Ramp	542	Laughing	574	Tom Brush
511	Ramp MG	543	Telephone Ring	575	Tom Process
512	Sine	544	Scream	576	Electric Tom
513	DWGS Syn Sine1	545	Punch	577	Melodic Tom GM
514	DWGS Syn Sine2	546	Heart Beat	578	Agogo Bell
515	DWGS Bell1	547	Footstep	579	Marc Tree
516	DWGS Bell2	548	Door Creak	580	Castanet
517	DWGS Bell3	549	Door Slam	581	Temple Blocks
518	DWGS Bell4	550	Car Engine	582	Orchestra BD
519	DWGS Clav.	551	Car EngineLP	583	Timpani
520	DWGS Digi1	552	Car Stop	584	Taiko
521	DWGS Digi2	553	Car Pass	585	Djembe Mute
522	DWGS Wire1	554	Car Crash	586	FX SD Large Hall1 L
523	DWGS Wire2	555	Train	587	FX SD Large Hall1 R
524	DWGS Sync1	556	Helicopter	588	FX SD Large Hall2 L
525	DWGS Sync2	557	Gun Shot	589	FX SD Large Hall2 R
526	Orchestra Hit GM L	558	Machine Gun	590	FX Rim Large Hall1 L
527	Orchestra Hit GM R	559	Laser Gun	591	FX Rim Large Hall1 R
528	Band Hit	560	Explosion	592	FX Rim Large Hall2 L
529	Impact Hit	561	Wind	593	FX Rim Large Hall2 R
530	Brass Fall	562	Chinese Gong	594	Click
531	Stadium	563	Crash Reverse	595	Metronome W bell
532	Applause	564	Crash Reverse GM	596	Metronome W
533	Birds1	565	Orchestra Crash	597	Empty
534	Birds2	566	Ride Jazz		
535	Crickets	567	Ride Edge1		

Drum Samples

The following table contains all the Factory Drum Samples.

#	Drum Sample	Family	#	Drum Sample	Family
0	BD 24x14	Bass Drum	32	BD Soul1	Bass Drum
1	BD 24x14 GM	Bass Drum	33	BD Soul2	Bass Drum
2	BD 26 inch Open	Bass Drum	34	BD Soul3 dist	Bass Drum
3	BD 26 inch Open GM	Bass Drum	35	BD Soul4 noise	Bass Drum
4	BD Pop1	Bass Drum	36	BD Soul5 Long	Bass Drum
5	BD Pop2	Bass Drum	37	BD Soul6	Bass Drum
6	BD Acoustic1 p	Bass Drum	38	BD Dance1	Bass Drum
7	BD Acoustic1 mf	Bass Drum	39	BD Dance2	Bass Drum
8	BD Acoustic1 f	Bass Drum	40	BD Dance3	Bass Drum
9	BD Acoustic2 mf	Bass Drum	41	BD House1	Bass Drum
10	BD Acoustic2 mf GM	Bass Drum	42	BD House2	Bass Drum
11	BD Acoustic2 f	Bass Drum	43	BD House3	Bass Drum
12	BD Acoustic2 f GM	Bass Drum	44	BD House4	Bass Drum
13	BD open p	Bass Drum	45	BD House5	Bass Drum
14	BD open mf	Bass Drum	46	BD Liquid	Bass Drum
15	BD open f	Bass Drum	47	BD Techno1	Bass Drum
16	BD Peak	Bass Drum	48	BD Techno2	Bass Drum
17	BD Dry1	Bass Drum	49	BD Hip1	Bass Drum
18	BD Dry2	Bass Drum	50	BD Hip2	Bass Drum
19	BD Dry3	Bass Drum	51	BD Hip3	Bass Drum
20	BD Normal	Bass Drum	52	BD Hip4	Bass Drum
21	BD SoftRoom	Bass Drum	53	BD Kick1	Bass Drum
22	BD Jazz	Bass Drum	54	BD Kick2	Bass Drum
23	BD Jazz GM	Bass Drum	55	Electro Kick	Bass Drum
24	BD Pillow	Bass Drum	56	BD Ambient	Bass Drum
25	BD Woofer	Bass Drum	57	BD Ambient Crackle	Bass Drum
26	BD MondoKill	Bass Drum	58	BD Ambient Rocker	Bass Drum
27	BD Terminator	Bass Drum	59	BD Pop	Bass Drum
28	BD Tubby	Bass Drum	60	BD Deep	Bass Drum
29	BD Gated	Bass Drum	61	BD Deep GM	Bass Drum
30	BD Tight	Bass Drum	62	BD Klanger	Bass Drum
31	BD Squash	Bass Drum	63	BD Electribe01	Bass Drum

#	Drum Sample	Family	#	Drum Sample	Family
64	BD Electribe02	Bass Drum	99	SD Wood1 p	Snare Drum
65	BD Electribe03	Bass Drum	100	SD Wood1 mf	Snare Drum
66	BD Electribe04	Bass Drum	101	SD Wood1 f	Snare Drum
67	BD Electribe05	Bass Drum	102	SD Wood2 pp	Snare Drum
68	BD Electribe06	Bass Drum	103	SD Wood2 p	Snare Drum
69	BD Electribe07	Bass Drum	104	SD Wood2 mf	Snare Drum
70	BD Electribe08	Bass Drum	105	SD Wood2 f	Snare Drum
71	BD Electribe09	Bass Drum	106	SD Piccolo1 pp	Snare Drum
72	BD Electribe10	Bass Drum	107	SD Piccolo1 p	Snare Drum
73	BD Electribe11	Bass Drum	108	SD Piccolo1 mf	Snare Drum
74	BD Electribe12	Bass Drum	109	SD Piccolo1 f	Snare Drum
75	BD Electribe13	Bass Drum	110	SD Piccolo2 pp	Snare Drum
76	BD Electribe14	Bass Drum	111	SD Piccolo2 p	Snare Drum
77	BD Electribe15	Bass Drum	112	SD Piccolo2 mf	Snare Drum
78	BD Electribe16	Bass Drum	113	SD Piccolo2 f	Snare Drum
79	BD Electribe17	Bass Drum	114	SD Solid1 p	Snare Drum
80	Syn. BD1	Bass Drum	115	SD Solid1 mf	Snare Drum
81	Syn. BD2	Bass Drum	116	SD Solid1 f	Snare Drum
82	Syn. BD3	Bass Drum	117	SD Solid2 p	Snare Drum
83	Syn. BD4	Bass Drum	118	SD Solid2 mf	Snare Drum
84	Syn. BD Buzz	Bass Drum	119	SD Solid2 f	Snare Drum
85	BD Orchestra	Bass Drum	120	SD Maple1 pp	Snare Drum
86	BD Orchestra GM	Bass Drum	121	SD Maple1 p	Snare Drum
87	Timpani	Bass Drum	122	SD Maple1 mp	Snare Drum
88	SD LdwVintage S+Rim p	Snare Drum	123	SD Maple1 mf	Snare Drum
89	SD LdwVintage S+Rim mf	Snare Drum	124	SD Maple1 f	Snare Drum
90	SD LdwVintage S+Rim f	Snare Drum	125	SD Maple1 ff	Snare Drum
91	SD Pop1 p GM	Snare Drum	126	SD Maple2 pp	Snare Drum
92	SD Pop1 mf GM	Snare Drum	127	SD Maple2 p	Snare Drum
93	SD Pop1 f GM	Snare Drum	128	SD Maple2 mp	Snare Drum
94	SD Pop1 +Rim mf GM	Snare Drum	129	SD Maple2 mf	Snare Drum
95	SD Pop1 +Rim f GM	Snare Drum	130	SD Maple2 f	Snare Drum
96	SD Black	Snare Drum	131	SD Maple2 ff	Snare Drum
97	SD S Gate1 GM	Snare Drum	132	SD Brass1 p	Snare Drum
98	SD S Gate2	Snare Drum	133	SD Brass1 mf	Snare Drum

#	Drum Sample	Family	#	Drum Sample	Family
134	SD Brass1 f	Snare Drum	169	SD Stereo Gate	Snare Drum
135	SD Brass2 p	Snare Drum	170	SD Stereo Gate GM	Snare Drum
136	SD Brass2 mf	Snare Drum	171	SD Processed	Snare Drum
137	SD Brass2 f	Snare Drum	172	SD Processed GM	Snare Drum
138	SD Roll	Snare Drum	173	SD Cracker Room	Snare Drum
139	SD Ghost Roll	Snare Drum	174	SD El. Funk1	Snare Drum
140	SD Ghost p	Snare Drum	175	SD El. Funk2	Snare Drum
141	SD Ghost f	Snare Drum	176	SD El. Funk3	Snare Drum
142	SD Snr Ghost1 a	Snare Drum	177	SD Dance01	Snare Drum
143	SD Snr Ghost1 b	Snare Drum	178	SD Dance02	Snare Drum
144	SD Snr Ghost2 a	Snare Drum	179	SD Dance03	Snare Drum
145	SD Snr Ghost2 b	Snare Drum	180	SD Dance04	Snare Drum
146	SD Snr Ghost2 c	Snare Drum	181	SD Dance05	Snare Drum
147	SD Snr Signature p	Snare Drum	182	SD Dance06	Snare Drum
148	SD Snr Signature mf	Snare Drum	183	SD Dance07	Snare Drum
149	SD Snr Signature f	Snare Drum	184	SD Dance08	Snare Drum
150	SD Snr Signature Rim mf	Snare Drum	185	SD Dance09	Snare Drum
151	SD Snr Signature Rim f	Snare Drum	186	SD Dance10	Snare Drum
152	SD Snr Signature Rim1	Snare Drum	187	SD Dance11	Snare Drum
153	SD Snr Signature Rim2	Snare Drum	188	SD Dance12	Snare Drum
154	SD J Std+Rim p	Snare Drum	189	SD Dance13	Snare Drum
155	SD J Std+Rim mf	Snare Drum	190	SD Dance14	Snare Drum
156	SD J Std+Rim f	Snare Drum	191	SD Dance15	Snare Drum
157	SD Dry1	Snare Drum	192	SD Dance16	Snare Drum
158	SD Dry2	Snare Drum	193	SD Dance17	Snare Drum
159	SD Dry3	Snare Drum	194	SD Dance18	Snare Drum
160	SD Full Room	Snare Drum	195	SD Dance19	Snare Drum
161	SD Off Center	Snare Drum	196	SD Dance20	Snare Drum
162	SD Jazz Ring	Snare Drum	197	SD Dance21	Snare Drum
163	SD Amb.Piccolo	Snare Drum	198	SD Dance22	Snare Drum
164	SD Paper	Snare Drum	199	SD Dance23	Snare Drum
165	SD Big Rock	Snare Drum	200	SD Dance23 GM	Snare Drum
166	SD Yowie	Snare Drum	201	SD Dance24	Snare Drum
167	SD Trinity1	Snare Drum	202	SD House1	Snare Drum
168	SD Trinity2	Snare Drum	203	SD House2	Snare Drum

#	Drum Sample	Family	#	Drum Sample	Family
204	SD House3	Snare Drum	239	SD Brush1 (swirl2)	Snare Drum
205	SD House4	Snare Drum	240	SD Brush1 (swirl3)	Snare Drum
206	SD BeatBox	Snare Drum	241	SD Brush1 (swirl4)	Snare Drum
207	SD Small	Snare Drum	242	SD Brush1	Snare Drum
208	SD Rap	Snare Drum	243	SD Brush2 (ghost1)	Snare Drum
209	SD Noise	Snare Drum	244	SD Brush2 (ghost2)	Snare Drum
210	SD Reverse	Snare Drum	245	SD Brush2 (ghost3)	Snare Drum
211	SD Hip1	Snare Drum	246	SD Brush2	Snare Drum
212	SD Hip2	Snare Drum	247	SD Brush2 (fill) 4 shots	Snare Drum
213	SD Hip3	Snare Drum	248	SD Brush2 (fill) 3 shots	Snare Drum
214	SD Hip4	Snare Drum	249	SD Brush2 (fill) 2 shots	Snare Drum
215	SD Hip5	Snare Drum	250	SD Brush3 Hit	Snare Drum
216	SD Hip6	Snare Drum	251	SD Brush3 Tap1	Snare Drum
217	SD Ringy	Snare Drum	252	SD Brush3 Tap2	Snare Drum
218	SD Tiny	Snare Drum	253	SD Brush3 Swirl	Snare Drum
219	SD Vintage1	Snare Drum	254	SD FX Large Hall1	Snare Drum
220	SD Vintage2	Snare Drum	255	SD FX Large Hall2	Snare Drum
221	SD Vintage3	Snare Drum	256	Rim Signature Hi	Snare Drum
222	SD Vintage4	Snare Drum	257	Rim Signature Mid	Snare Drum
223	SD Vintage5	Snare Drum	258	Rim Signature Low	Snare Drum
224	SD Vintage6	Snare Drum	259	Rim Shot p	Snare Drum
225	SD AmbiHop	Snare Drum	260	Rim Shot f	Snare Drum
226	SD Brasser	Snare Drum	261	Rim House1	Snare Drum
227	SD Chili	Snare Drum	262	Rim House2	Snare Drum
228	SD Whopper	Snare Drum	263	Rim Synth	Snare Drum
229	SD Syn.1	Snare Drum	264	Rim Synth Click	Snare Drum
230	SD Syn.2	Snare Drum	265	Rim Synth Tamb	Snare Drum
231	SD Syn.3	Snare Drum	266	Rim FX Large Hall1	Snare Drum
232	SD Syn.4	Snare Drum	267	Rim FX Large Hall2	Snare Drum
233	SD Electro	Snare Drum	268	SideStick mf	Snare Drum
234	SD Orchestra	Snare Drum	269	SideStick f	Snare Drum
235	SD Orch. Roll	Snare Drum	270	SideStick Dance	Snare Drum
236	SD JazzBrush1	Snare Drum	271	SideStick Dry	Snare Drum
237	SD JazzBrush2	Snare Drum	272	SideStick Amb	Snare Drum
238	SD Brush1 (swirl1)	Snare Drum	273	DrumStick Hit	Snare Drum

#	Drum Sample	Family	#	Drum Sample	Family
274	DrumStick Hit GM	Snare Drum	309	Tom3 Floor	Tom
275	Tom R Vintage Hi	Tom	310	Tom4 Hi	Tom
276	Tom R Vintage Mid	Tom	311	Tom4 Low	Tom
277	Tom R Vintage Floor	Tom	312	Tom4 Floor	Tom
278	Tom Vintage Room Hi	Tom	313	Tom5 Hi	Tom
279	Tom Vintage Room Mid	Tom	314	Tom5 Low	Tom
280	Tom Vintage Room Low	Tom	315	Tom6 Vintage Hi p	Tom
281	Tom Jazz Hi center	Tom	316	Tom6 Vintage Hi mf	Tom
282	Tom Jazz Hi center GM	Tom	317	Tom6 Vintage Hi f	Tom
283	Tom Jazz Low center GM	Tom	318	Tom6 Vintage Mid p	Tom
284	Tom1 Open Hi p	Tom	319	Tom6 Vintage Mid mf	Tom
285	Tom1 Open Hi p flam	Tom	320	Tom6 Vintage Mid f	Tom
286	Tom1 Open Hi f	Tom	321	Tom6 Vintage Low p	Tom
287	Tom1 Open Hi f flam	Tom	322	Tom6 Vintage Low mf	Tom
288	Tom1 Open Mid p	Tom	323	Tom6 Vintage Low f	Tom
289	Tom1 Open Mid p flam	Tom	324	Tom Processed	Tom
290	Tom1 Open Mid f	Tom	325	Tom Jazz Hi	Tom
291	Tom1 Open Mid f flam	Tom	326	Tom Jazz Floor	Tom
292	Tom1 Open Low p	Tom	327	Tom Brush1 (sd open)	Tom
293	Tom1 Open Low p flam	Tom	328	Tom Brush1 (sd close)	Tom
294	Tom1 Open Low f	Tom	329	Tom Brush2 (sd open)	Tom
295	Tom1 Open Low f flam	Tom	330	Tom Brush2 (sd close)	Tom
296	Tom1 Open Floor p	Tom	331	Tom Brush3 Hi mf	Tom
297	Tom1 Open Floor p flam	Tom	332	Tom Brush3 Hi f	Tom
298	Tom1 Open Floor f	Tom	333	Tom Brush3 Hi f GM	Tom
299	Tom1 Open Floor f flam	Tom	334	Tom Brush3 Midmf	Tom
300	Tom2 Hi p	Tom	335	Tom Brush3 Mid f	Tom
301	Tom2 Hi f	Tom	336	Tom Brush3 Mid f GM	Tom
302	Tom2 Mid p	Tom	337	Tom Brush3 Low mf	Tom
303	Tom2 Mid f	Tom	338	Tom Brush3 Low f	Tom
304	Tom2 Low p	Tom	339	Tom Brush3 Low f GM	Tom
305	Tom2 Low f	Tom	340	Tom Brush4	Tom
306	Tom2 Floor p	Tom	341	E.Tom FM	Tom
307	Tom2 Floor f	Tom	342	E.Tom Real	Tom
308	Tom3 Hi	Tom	343	HH1 Closed pp	Hi Hat

#	Drum Sample	Family	#	Drum Sample	Family
344	HH1 Closed p	Hi Hat	379	HH Hip	Hi Hat
345	HH1 Closed mf	Hi Hat	380	HH Alpo Close	Hi Hat
346	HH1 Closed f	Hi Hat	381	HH Dance1	Hi Hat
347	HH1 Foot mp	Hi Hat	382	HH Dance2	Hi Hat
348	HH1 Foot mf	Hi Hat	383	HH Syn. Closed	Hi Hat
349	HH1 Open mp	Hi Hat	384	HH Syn. Open	Hi Hat
350	HH1 Open mf	Hi Hat	385	Ride 20' mp1	Cymbal
351	HH2 Closed pp	Hi Hat	386	Ride 20' mp2	Cymbal
352	HH2 Closed p	Hi Hat	387	Ride 20' mf1	Cymbal
353	HH2 Closed mp	Hi Hat	388	Ride 20' mf2	Cymbal
354	HH2 Closed mf	Hi Hat	389	Ride Edge1	Cymbal
355	HH2 Closed f	Hi Hat	390	Ride Edge2	Cymbal
356	HH2 Closed ff	Hi Hat	391	Ride Cup	Cymbal
357	HH2 Foot p	Hi Hat	392	Ride Jazz	Cymbal
358	HH2 Foot f	Hi Hat	393	Ride Brush1	Cymbal
359	HH2 Open p	Hi Hat	394	Ride Brush2	Cymbal
360	HH2 Open f	Hi Hat	395	Ride Brush3	Cymbal
361	HH3 Closed1	Hi Hat	396	Ride Rivet	Cymbal
362	HH3 Closed2	Hi Hat	397	Crash 15'edge1	Cymbal
363	HH3 Foot	Hi Hat	398	Crash 15'edge2	Cymbal
364	HH3 Open1	Hi Hat	399	Crash 17'edge1	Cymbal
365	HH3 Open2	Hi Hat	400	Crash 17'edge2	Cymbal
366	HH3 Sizzle	Hi Hat	401	Crash 19'open1	Cymbal
367	HH4 Closed1	Hi Hat	402	Crash 19'open2	Cymbal
368	HH4 Closed2	Hi Hat	403	Crash 1	Cymbal
369	HH4 Foot	Hi Hat	404	Crash 2	Cymbal
370	HH4 Foot Open	Hi Hat	405	Crash Reverse	Cymbal
371	HH4 Open	Hi Hat	406	Crash Dance 99	Cymbal
372	HH Old Close1	Hi Hat	407	Crash DDD-1	Cymbal
373	HH Old Open1	Hi Hat	408	Splash 8'edge1	Cymbal
374	HH Old TiteClose	Hi Hat	409	Splash 8'edge2	Cymbal
375	HH Old Close2	Hi Hat	410	Splash	Cymbal
376	HH Old Open2	Hi Hat	411	China	Cymbal
377	HH House Open1	Hi Hat	412	Orchestra Cymbal	Cymbal
378	HH House Open2	Hi Hat	413	Finger Snaps	Latin Perc.

#	Drum Sample	Family	#	Drum Sample	Family
414	Claps1	Latin Perc.	449	DJ Vinyl Sliced 08	SFX
415	Claps2	Latin Perc.	450	DJ Vinyl Sliced 09	SFX
416	Claps3	Latin Perc.	451	DJ Vinyl Sliced 10	SFX
417	Claps4	Latin Perc.	452	DJ Vinyl Sliced 11	SFX
418	Dance Claps1	Latin Perc.	453	DJ Vinyl Sliced 12	SFX
419	Dance Claps2	Latin Perc.	454	DJ Vinyl Sliced 13	SFX
420	Dance Claps3	Latin Perc.	455	DJ Vinyl Sliced 14	SFX
421	Dance Claps4	Latin Perc.	456	DJ Vinyl Sliced 15	SFX
422	Dance Claps5	Latin Perc.	457	DJ Vinyl Sliced 16	SFX
423	Dance Claps6	Latin Perc.	458	DJ Vinyl Sliced 17	SFX
424	Dance Conga Lo-Open	Latin Perc.	459	DJ Vinyl Sliced 18	SFX
425	Dance Conga Hi-Open	Latin Perc.	460	DJ Vinyl Sliced 19	SFX
426	Dance Tambourine	Ethnic Perc.	461	DJ Vinyl Sliced 20	SFX
427	Syn. Bongo1	Latin Perc.	462	DJ Vinyl Sliced 21	SFX
428	Syn. Bongo2	Latin Perc.	463	DJ Vinyl Sliced 22	SFX
429	Syn. Castanet	Latin Perc.	464	DJ Vinyl Sliced 23	SFX
430	Syn. Shaker	Ethnic Perc.	465	DJ Vinyl Sliced 24	SFX
431	Syn. Noise	SFX	466	DJ Scratch 01	SFX
432	Syn. FX1	SFX	467	DJ Scratch 02	SFX
433	Syn. FX2	SFX	468	DJ Scratch 03	SFX
434	Syn. FX3	SFX	469	DJ Scratch 04	SFX
435	Syn. FX4	SFX	470	DJ Scratch 05	SFX
436	Syn. FX5	SFX	471	DJ Scratch 06	SFX
437	Syn. Perc. Ahh	SFX	472	DJ Hit Rub	SFX
438	Boom	SFX	473	DJ Vocal Rub1	SFX
439	Zap1	SFX	474	DJ Vocal Rub2	SFX
440	Zap2	SFX	475	DJ BD Rub	SFX
441	Vinyl Hit	SFX	476	DJ SD Rub	SFX
442	DJ Vinyl Sliced 01	SFX	477	Guiro Long	Latin Perc.
443	DJ Vinyl Sliced 02	SFX	478	Guiro Short	Latin Perc.
444	DJ Vinyl Sliced 03	SFX	479	Vibraslap	Ethnic Perc.
445	DJ Vinyl Sliced 04	SFX	480	Samba Whistle	Ethnic Perc.
446	DJ Vinyl Sliced 05	SFX	481	Samba Whistle Lp	Ethnic Perc.
447	DJ Vinyl Sliced 06	SFX	482	Cuica Hi	Latin Perc.
448	DJ Vinyl Sliced 07	SFX	483	Cuica Lo	Latin Perc.

#	Drum Sample	Family	#	Drum Sample	Family
484	Surdo Open GM	Latin Perc.	519	Conga2 Hi Mt Slap	Latin Perc.
485	Surdo Mute GM	Latin Perc.	520	Conga2 Hi Slap1	Latin Perc.
486	Tumba Open1 mf	Latin Perc.	521	Conga2 Hi Slap2	Latin Perc.
487	Tumba Open1 f	Latin Perc.	522	Conga2 Heel	Latin Perc.
488	Tumba Open2 mf	Latin Perc.	523	Conga2 Toe	Latin Perc.
489	Tumba Open2 f	Latin Perc.	524	Quinto1 Open	Latin Perc.
490	Tumba Open Flam	Latin Perc.	525	Quinto1 Closed	Latin Perc.
491	Tumba Glissando	Latin Perc.	526	Quinto1 Closed Slap	Latin Perc.
492	Tumba Basstone	Latin Perc.	527	Quinto1 Toe	Latin Perc.
493	Tumba O.Slap Flam mf	Latin Perc.	528	Quinto2 Basstone	Latin Perc.
494	Tumba O.Slap Flam f	Latin Perc.	529	Quinto2 Open mp	Latin Perc.
495	Tumba Muffled	Latin Perc.	530	Quinto2 Open Flam	Latin Perc.
496	Conga1 Lo Basstone	Latin Perc.	531	Quinto2 Open Slap	Latin Perc.
497	Conga1 Lo Open mf	Latin Perc.	532	Quinto2 Muffled	Latin Perc.
498	Conga1 Lo Open Slap	Latin Perc.	533	Quinto2 C.Slap Flam p	Latin Perc.
499	Conga1 Lo Glissando	Latin Perc.	534	Quinto2 C.Slap Flam f	Latin Perc.
500	Conga1 Lo Muffled	Latin Perc.	535	Quinto2 Heel	Latin Perc.
501	Conga1 Lo Closed	Latin Perc.	536	Bongo1 Lo Muffled mp	Latin Perc.
502	Conga1 Lo Closed Slap	Latin Perc.	537	Bongo1 Lo Muffled f	Latin Perc.
503	Conga1 Lo Heel	Latin Perc.	538	Bongo1 Lo Closed	Latin Perc.
504	Conga1 Lo Toe	Latin Perc.	539	Bongo1 Lo Flam	Latin Perc.
505	Conga1 Hi Basstone mf	Latin Perc.	540	Bongo1 Lo MuffledFlam	Latin Perc.
506	Conga1 Hi Basstonef	Latin Perc.	541	Bongo1 Lo Stick	Latin Perc.
507	Conga1 Hi Open mf	Latin Perc.	542	Bongo1 Lo StickEdge mf	Latin Perc.
508	Conga1 Hi Open Slap	Latin Perc.	543	Bongo1 Lo StickEdgef	Latin Perc.
509	Conga1 Hi Muffled	Latin Perc.	544	Bongo1 Lo StickBounce	Latin Perc.
510	Conga1 Hi Closed	Latin Perc.	545	Bongo1 Lo Fingernail	Latin Perc.
511	Conga1 Hi Closed Slap	Latin Perc.	546	Bongo1 Lo Cuptone	Latin Perc.
512	Conga1 Hi Heel	Latin Perc.	547	Bongo1 Lo Slap	Latin Perc.
513	Conga1 Hi Toe	Latin Perc.	548	Bongo1 Hi Open mf	Latin Perc.
514	Conga2 Lo Open	Latin Perc.	549	Bongo1 Hi Open f	Latin Perc.
515	Conga2 Lo Mt Slap	Latin Perc.	550	Bongo1 Hi Pops	Latin Perc.
516	Conga2 Lo Slap	Latin Perc.	551	Bongo1 Hi Hightone	Latin Perc.
517	Conga2 Hi Open	Latin Perc.	552	Bongo1 Hi OpenFlam	Latin Perc.
518	Conga2 Hi Mute	Latin Perc.	553	Bongo1 Hi Fingernail	Latin Perc.

#	Drum Sample	Family	#	Drum Sample	Family
554	Bongo1 Hi Stick	Latin Perc.	589	Baya KaToe a	Latin Perc.
555	Bongo1 Hi StickEdge mf	Latin Perc.	590	Baya KaToe b	Latin Perc.
556	Bongo1 Hi StickEdgef	Latin Perc.	591	Baya Nail a	Latin Perc.
557	Bongo1 Hi StickBounce	Latin Perc.	592	Baya Nail b	Latin Perc.
558	Bongo1 Hi Cuptone	Latin Perc.	593	Baya Nail c	Latin Perc.
559	Bongo1 Hi Slap	Latin Perc.	594	Baya Ge	Latin Perc.
560	Bongo2 Lo Open a	Latin Perc.	595	Baya Up	Latin Perc.
561	Bongo2 Lo Open b	Latin Perc.	596	Baya UpDown a	Latin Perc.
562	Bongo2 Lo Mute	Latin Perc.	597	Baya UpDown b	Latin Perc.
563	Bongo2 Hi Open a	Latin Perc.	598	Baya Mute1	Latin Perc.
564	Bongo2 Hi Open b	Latin Perc.	599	Baya Mute2	Latin Perc.
565	Bongo2 Hi Muffled	Latin Perc.	600	Baya Mute3	Latin Perc.
566	Bongo2 Hi Slap	Latin Perc.	601	Tabla1 Na	Latin Perc.
567	Bongo2 Lo Heel	Latin Perc.	602	Tabla1 Open	Latin Perc.
568	Bongo2 Lo Muffled	Latin Perc.	603	Tabla1 Tin	Latin Perc.
569	Bongo3 Lo Open	Latin Perc.	604	Tabla1 Mute1	Latin Perc.
570	Bongo3 Lo Slap	Latin Perc.	605	Tabla1 Mute2	Latin Perc.
571	Bongo3 Lo Stick	Latin Perc.	606	Tabla1 Mute3	Latin Perc.
572	Bongo3 Hi Open	Latin Perc.	607	Tabla2 Tin a	Latin Perc.
573	Bongo3 Hi Slap	Latin Perc.	608	Tabla2 Tin b	Latin Perc.
574	Bongo3 Hi Stick1	Latin Perc.	609	Tabla2 Na a	Latin Perc.
575	Bongo3 Hi Stick2	Latin Perc.	610	Tabla2 Na b	Latin Perc.
576	Okonkolo Boca Op mp	Latin Perc.	611	Tabla2 Na c	Latin Perc.
577	Okonkolo Chacha Open mp	Latin Perc.	612	Tabla2 Tun a	Latin Perc.
578	Okonkolo Chacha Open mf	Latin Perc.	613	Tabla2 Tun b	Latin Perc.
579	Okonkolo Chacha Open f	Latin Perc.	614	Tabla2 Tele a	Latin Perc.
580	Okonkolo Chacha Open ff	Latin Perc.	615	Tabla2 Tele b	Latin Perc.
581	Okonkolo Chacha Slap mp	Latin Perc.	616	Tabla2 Tele c	Latin Perc.
582	Okonkolo Chacha Slap mf	Latin Perc.	617	Tabla2 Ti a	Latin Perc.
583	Okonkolo Chacha Slap f	Latin Perc.	618	Tabla2 Ti b	Latin Perc.
584	Baya Open	Latin Perc.	619	Tabla2 Ti c	Latin Perc.
585	Baya Ghe	Latin Perc.	620	Tabla2 Tera	Latin Perc.
586	Baya GheUp a	Latin Perc.	621	Tsuzumi	Latin Perc.
587	Baya GheUp b	Latin Perc.	622	Taiko Open	Latin Perc.
588	Baya KaPalm	Latin Perc.	623	Taiko Rim	Latin Perc.

#	Drum Sample	Family	#	Drum Sample	Family
624	Timbales1 Lo Open mp	Latin Perc.	659	Cowbell5 Open a	Ethnic Perc.
625	Timbales1 Lo Open mf	Latin Perc.	660	Cowbell5 Open b	Ethnic Perc.
626	Timbales1 Lo Open mf GM	Latin Perc.	661	Cowbell5 Mute	Ethnic Perc.
627	Timbales1 Lo Edge mf	Latin Perc.	662	Cowbell6	Ethnic Perc.
628	Timbales1 Lo Edge f	Latin Perc.	663	Agogo Bell	Ethnic Perc.
629	Timbales1 Lo RimShot	Latin Perc.	664	Chacha Bell	Ethnic Perc.
630	Timbales1 Lo Abanico	Latin Perc.	665	Mambo Bell	Ethnic Perc.
631	Timbales1 Lo Roll	Latin Perc.	666	Recoreco short1	Ethnic Perc.
632	Timbales1 Lo Mute mf	Latin Perc.	667	Recoreco short2	Ethnic Perc.
633	Timbales1 Lo Mute f	Latin Perc.	668	Recoreco long	Ethnic Perc.
634	Timbales1 Lo Paila mf	Ethnic Perc.	669	Triangle1 Open	Ethnic Perc.
635	Timbales1 Lo Paila f	Ethnic Perc.	670	Triangle1 Mute	Ethnic Perc.
636	Timbales1 Hi Open	Latin Perc.	671	Triangle2 Open Lp	Ethnic Perc.
637	Timbales1 Hi Edge	Latin Perc.	672	Triangle2 Closed	Ethnic Perc.
638	Timbales1 Hi Edge GM	Latin Perc.	673	Sleigh Bell	Ethnic Perc.
639	Timbales1 Hi RimShot mf	Latin Perc.	674	Rap Sleigh Bell	Ethnic Perc.
640	Timbales1 Hi RimShot f	Latin Perc.	675	Jingle Bell	Ethnic Perc.
641	Timbales1 Hi RimShot ff	Latin Perc.	676	Bells Open	Ethnic Perc.
642	Timbales1 Hi Abanico1	Latin Perc.	677	Finger Cymbal	Ethnic Perc.
643	Timbales1 Hi Abanico2	Latin Perc.	678	Marc Tree	Ethnic Perc.
644	Timbales1 Hi Mute	Latin Perc.	679	Marc Tree GM	Ethnic Perc.
645	Timbales1 Hi Paila mf	Ethnic Perc.	680	Marc Tree Lp	Ethnic Perc.
646	Timbales1 Hi Paila f	Ethnic Perc.	681	Rainstick	SFX
647	Timbales2 Lo Open	Latin Perc.	682	Flexatone	Ethnic Perc.
648	Timbales2 Lo Mute	Latin Perc.	683	Chinese Gong	Cymbal
649	Timbales2 Lo Rim	Latin Perc.	684	Claves1 Lo a	Latin Perc.
650	Timbales2 Hi Edge	Latin Perc.	685	Claves1 Lo b	Latin Perc.
651	Timbales2 Hi Rim1	Latin Perc.	686	Claves1 Hi a	Latin Perc.
652	Timbales2 Hi Rim2	Latin Perc.	687	Claves1 Hi b	Latin Perc.
653	Timbales2 Paila	Ethnic Perc.	688	Claves2	Latin Perc.
654	Cowbell1	Ethnic Perc.	689	Wood Block 1 a	Latin Perc.
655	Cowbell2	Ethnic Perc.	690	Wood Block 1 b	Latin Perc.
656	Cowbell3	Ethnic Perc.	691	Wood Block 2 a	Latin Perc.
657	Cowbell4 Open	Ethnic Perc.	692	Wood Block 2 b	Latin Perc.
658	Cowbell4 Mute	Ethnic Perc.	693	Wood Block 3 a	Latin Perc.

#	Drum Sample	Family	#	Drum Sample	Family
694	Wood Block 3 b	Latin Perc.	729	Caxixi1 b	Ethnic Perc.
695	Wood Block 4 a	Latin Perc.	730	Caxixi1 c	Ethnic Perc.
696	Wood Block 4 b	Latin Perc.	731	Caxixi2 a	Ethnic Perc.
697	Wood Block 5 a	Latin Perc.	732	Caxixi2 b	Ethnic Perc.
698	Wood Block 5 b	Latin Perc.	733	Caxixi2 c	Ethnic Perc.
699	Wood Block 6 a	Latin Perc.	734	Caxixi3 Hard	Ethnic Perc.
700	Wood Block 6 b	Latin Perc.	735	Caxixi3 Soft	Ethnic Perc.
701	Wood Block 7	Latin Perc.	736	Shaker1 Push a	Ethnic Perc.
702	Wood Block 8	Latin Perc.	737	Shaker1 Push b	Ethnic Perc.
703	Castanet 1 a	Latin Perc.	738	Shaker1 Pull a	Ethnic Perc.
704	Castanet 1 b	Latin Perc.	739	Shaker1 Pull b	Ethnic Perc.
705	Castanet 1 c	Latin Perc.	740	Shaker1 Accent a	Ethnic Perc.
706	Castanet 2	Latin Perc.	741	Shaker1 Accent b	Ethnic Perc.
707	Castanet Single	Latin Perc.	742	Shaker1 Slow a	Ethnic Perc.
708	Castanet Single GM	Latin Perc.	743	Shaker1 Slow b	Ethnic Perc.
709	Castanet Double	Latin Perc.	744	Shaker1 Slow c	Ethnic Perc.
710	Cabasa 1 L a Down	Ethnic Perc.	745	Shaker1 Roll a	Ethnic Perc.
711	Cabasa 1 L a Up	Ethnic Perc.	746	Shaker1 Roll b	Ethnic Perc.
712	Cabasa 1 L b Down	Ethnic Perc.	747	Shaker1 Roll c	Ethnic Perc.
713	Cabasa 1 L b Up	Ethnic Perc.	748	Shaker2	Ethnic Perc.
714	Cabasa 1 S a Down	Ethnic Perc.	749	Shaker3	Ethnic Perc.
715	Cabasa 1 S a Up	Ethnic Perc.	750	Maracas Push	Ethnic Perc.
716	Cabasa 1 S b Down	Ethnic Perc.	751	Maracas Pull	Ethnic Perc.
717	Cabasa 1 S b Up	Ethnic Perc.	752	Dumbek a	Latin Perc.
718	Cabasa 2 L Stack b	Ethnic Perc.	753	Dumbek b	Latin Perc.
719	Cabasa 2 L Stack a	Ethnic Perc.	754	Dumbek c	Latin Perc.
720	Cabasa 2 L Roll	Ethnic Perc.	755	Dumbek d	Latin Perc.
721	Cabasa 2 S Stack a	Ethnic Perc.	756	Dumbek e	Latin Perc.
722	Cabasa 2 S Stack b	Ethnic Perc.	757	Dumbek f	Latin Perc.
723	Cabasa 2 S Roll	Ethnic Perc.	758	Dumbek g	Latin Perc.
724	Cabasa 3 WS	Ethnic Perc.	759	Dumbek h	Latin Perc.
725	Cabasa 3 Up	Ethnic Perc.	760	Dumbek i	Latin Perc.
726	Cabasa 3 Down	Ethnic Perc.	761	Dumbek j	Latin Perc.
727	Cabasa 3 Tap	Ethnic Perc.	762	Dumbek k	Latin Perc.
728	Caxixi1 a	Ethnic Perc.	763	Djembe L Basstone a	Latin Perc.

#	Drum Sample	Family	#	Drum Sample	Family
764	Djembe L Basstone b	Latin Perc.	799	WD Ethno SD5	Snare Drum
765	Djembe L Basstone c	Latin Perc.	800	WD Ethno SD6	Snare Drum
766	Djembe L Open	Latin Perc.	801	WD Kangaroo1	Snare Drum
767	Djembe L Open Slap	Latin Perc.	802	WD Kangaroo2	SFX
768	Djembe L Closed Slap	Latin Perc.	803	WD Kangaroo3	SFX
769	Djembe S Basstone a	Latin Perc.	804	WD Kangaroo4	SFX
770	Djembe S Basstone b	Latin Perc.	805	WD Kangaroo5	SFX
771	Djembe S Basstone c	Latin Perc.	806	WD Kangaroo6	SFX
772	Djembe Open	Latin Perc.	807	WD Kangaroo7	SFX
773	Djembe Mute	Latin Perc.	808	WD Kangaroo8	SFX
774	Djembe Slap	Latin Perc.	809	Tambourine Push	Ethnic Perc.
775	Djembe S Open	Latin Perc.	810	Tambourine Pull	Ethnic Perc.
776	Djembe S Open Slap a	Latin Perc.	811	Tambourine Acc1 a	Ethnic Perc.
777	Djembe S Open Slap b	Latin Perc.	812	Tambourine Acc1 b	Ethnic Perc.
778	Djembe S Closed Slap a	Latin Perc.	813	Tambourine Acc2	Ethnic Perc.
779	Djembe S Closed Slap b	Latin Perc.	814	Tambourine Mute1	Latin Perc.
780	Djembe S Closed Slap c	Latin Perc.	815	Tambourine Mute2	Latin Perc.
781	Djembe Bass	Latin Perc.	816	Tambourine Open	Latin Perc.
782	Udu Open a	Latin Perc.	817	M.E.1 Douf Rim Ak	Latin Perc.
783	Udu Open b	Latin Perc.	818	M.E.1 Douf Tek Ak1	Latin Perc.
784	Udu Open c	Latin Perc.	819	M.E.1 Douf Tek Ak2	Latin Perc.
785	Udu Open d	Latin Perc.	820	M.E.1 Pand Open	Latin Perc.
786	Udu Slide a	Ethnic Perc.	821	M.E.1 Pand Pattern1	Latin Perc.
787	Udu Slide b	Ethnic Perc.	822	M.E.1 Pand Pattern2	Latin Perc.
788	Udu Half Open a	Latin Perc.	823	M.E.1 Pand Pattern3	Latin Perc.
789	Udu Half Open b	Latin Perc.	824	M.E.1 Pand Pattern4	Latin Perc.
790	Udu Half Open c	Latin Perc.	825	M.E.1 Rek Dom Ak	Ethnic Perc.
791	Udu Bell a	Latin Perc.	826	M.E.1 Rek Jingle	Ethnic Perc.
792	Udu Bell b	Latin Perc.	827	M.E.1 Rik1	Latin Perc.
793	WD Brazillia1	Snare Drum	828	M.E.1 Rik2	Latin Perc.
794	WD Brazillia2	Snare Drum	829	M.E.1 Rik3	Latin Perc.
795	WD Ethno SD1	Snare Drum	830	M.E.1 Sagat Half Open	Ethnic Perc.
796	WD Ethno SD2	Snare Drum	831	M.E.1 Sagat Close	Ethnic Perc.
797	WD Ethno SD3	Snare Drum	832	M.E.1 Surdo L Open	Latin Perc.
798	WD Ethno SD4	Snare Drum	833	M.E.1 Surdo L Mute	Latin Perc.

#	Drum Sample	Family	#	Drum Sample	Family
834	M.E.1 Tabla Medium	Latin Perc.	869	M.E.1 Tef3	Ethnic Perc.
835	M.E.1 Tabla Dom	Latin Perc.	870	M.E.2 BD Kick	Bass Drum
836	M.E.1 Tabla Flam	Latin Perc.	871	M.E.2 SD	Snare Drum
837	M.E.1 Tabla Rim	Latin Perc.	872	M.E.2 Asagum	Latin Perc.
838	M.E.1 Tabla Tak	Latin Perc.	873	M.E.2 Asmatek	Latin Perc.
839	M.E.1 Timbales	Ethnic Perc.	874	M.E.2 Bendirgum	Latin Perc.
840	M.E.1 Udu f Open	Latin Perc.	875	M.E.2 Bendirtek1	Latin Perc.
841	M.E.1 Alkis	Latin Perc.	876	M.E.2 Bendirtek2	Latin Perc.
842	M.E.1 Bandir Open	Latin Perc.	877	M.E.2 Dm1	Latin Perc.
843	M.E.1 Bandir Closed	Latin Perc.	878	M.E.2 Findik	Latin Perc.
844	M.E.1 Bongo Roll	Latin Perc.	879	M.E.2 Gum	Latin Perc.
845	M.E.1 Darbuka1 Tek1	Latin Perc.	880	M.E.2 Hollotokat	Latin Perc.
846	M.E.1 Darbuka1 Tek2	Latin Perc.	881	M.E.2 Islik1	SFX
847	M.E.1 Darbuka1 Open	Latin Perc.	882	M.E.2 Islik2	SFX
848	M.E.1 Darbuka1 Closed	Latin Perc.	883	M.E.2 Kapalit	Latin Perc.
849	M.E.1 Darbuka2	Latin Perc.	884	M.E.2 Kasik1	Latin Perc.
850	M.E.1 Darbuka3	Latin Perc.	885	M.E.2 Kasik2	Latin Perc.
851	M.E.1 Darbuka4	Latin Perc.	886	M.E.2 Kasik3	Latin Perc.
852	M.E.1 Darbuka5 D1	Latin Perc.	887	M.E.2 Kasik4	Latin Perc.
853	M.E.1 Darbuka5 D2	Latin Perc.	888	M.E.2 Kemik	Latin Perc.
854	M.E.1 Darbuka5 D3	Latin Perc.	889	M.E.2 Kenar	Latin Perc.
855	M.E.1 Darbuka6 Mute	Latin Perc.	890	M.E.2 Kenartek	Latin Perc.
856	M.E.1 Darbuka6 Open	Latin Perc.	891	M.E.2 Ramazangum	Latin Perc.
857	M.E.1 Darbuka6 Rim	Latin Perc.	892	M.E.2 Ramazantek	Latin Perc.
858	M.E.1 Darbuka6 Dom Ak	Latin Perc.	893	M.E.2 Renk	Latin Perc.
859	M.E.1 Davul	Ethnic Perc.	894	M.E.2 Renkbir	Latin Perc.
860	M.E.1 Hollo1	Latin Perc.	895	M.E.2 Renkiki	Latin Perc.
861	M.E.1 Hollo2	Latin Perc.	896	M.E.2 Tefacik	Latin Perc.
862	M.E.1 Kup1	Latin Perc.	897	M.E.2 Tefgum	Latin Perc.
863	M.E.1 Kup2	Latin Perc.	898	M.E.2 Teftek	Latin Perc.
864	M.E.1 Ramazan Davul1	Latin Perc.	899	M.E.2 Teftokat	Latin Perc.
865	M.E.1 Ramazan Davul2	Latin Perc.	900	M.E.2 Teftrill	Latin Perc.
866	M.E.1 Ramazan Davul3	Latin Perc.	901	M.E.2 Tefzil	Latin Perc.
867	M.E.1 Tef1	Ethnic Perc.	902	M.E.2 Tek1	Latin Perc.
868	M.E.1 Tef2	Ethnic Perc.	903	M.E.2 Tek2	Latin Perc.

#	Drum Sample	Family	#	Drum Sample	Family
904	M.E.2 Tekbir	Latin Perc.	939	Heart Beat GM	SFX
905	M.E.2 Tokat	Latin Perc.	940	Punch	SFX
906	M.E.2 Toprgum	Latin Perc.	941	Tribe	SFX
907	M.E.2 Toprtek1	Latin Perc.	942	Door Creak	SFX
908	M.E.2 Toprtek2	Latin Perc.	943	Door Slam	SFX
909	M.E.2 Toprtokat	Latin Perc.	944	Car Engine	SFX
910	M.E.2 Trill	Latin Perc.	945	Car Stop	SFX
911	M.E.2 Zil1	Ethnic Perc.	946	Car Pass	SFX
912	M.E.2 Zil2	Ethnic Perc.	947	Car Crash	SFX
913	M.E.2 Zil3	Ethnic Perc.	948	Train	SFX
914	M.E.2 Zilgit	SFX	949	Helicopter	SFX
915	Orchestra Hit	SFX	950	Gun Shot1	SFX
916	Band Hit	SFX	951	Gun Shot2	SFX
917	Impact Hit	SFX	952	Machine Gun	SFX
918	Metal Hit	SFX	953	Laser Gun	SFX
919	Yeah!	SFX	954	Explosion	SFX
920	Yeah! Solo	SFX	955	Thunder	SFX
921	Uhh	SFX	956	Wind	SFX
922	Hit It	SFX	957	Stream	SFX
923	Uhhhh Solo	SFX	958	Bubble	SFX
924	Comp Voice Noise	SFX	959	Bubble GM	SFX
925	Stadium	SFX	960	Church Bell	SFX
926	Applause	SFX	961	Telephone Ring	SFX
927	Scream	SFX	962	Xylophone Spectr	SFX
928	Laughing	SFX	963	Cricket Spectrum	SFX
929	Footsteps1	SFX	964	Air Vortex	SFX
930	Footsteps2	SFX	965	Noise White	SFX
931	Bird1	SFX	966	Noise FM Mod	SFX
932	Bird2	SFX	967	Tubular	Ethnic Perc.
933	Dog	SFX	968	Gamelan	Ethnic Perc.
934	Gallop	SFX	969	Tambura	Ethnic Perc.
935	Crickets	SFX	970	Gtr Cut Noise1	SFX
936	Cat	SFX	971	Gtr Cut Noise2	SFX
937	Growl	SFX	972	Power Chord	SFX
938	Heart Beat	SFX	973	Fret Noise	SFX

| #	Drum Sample	Family	#	Drum Sample	Family
974	Dist. Slide1	SFX	995	88 HH Open1	Hi Hat
975	Dist. Slide2	SFX	996	88 HH Open1 GM	Hi Hat
976	E.Gtr Pick1	SFX	997	88 Tom1	Tom
977	E.Gtr Pick2	SFX	998	88 Tom2	Tom
978	Gtr Scratch1	SFX	999	88 Crash	Cymbal
979	Gtr Scratch2	SFX	1000	88 Crash GM	Cymbal
980	Ac.Bs-String Slap	SFX	1001	88 Congas	Latin Perc.
981	Amp Noise	SFX	1002	88 Claps	Latin Perc.
982	Space Lore	SFX	1003	88 Claves	Latin Perc.
983	Swish Terra	SFX	1004	88 Cowbell	Ethnic Perc.
984	Hand Drill	SFX	1005	88 Maracas	Ethnic Perc.
985	Mouth Harp	SFX	1006	99 SD	Snare Drum
986	66 BD	Bass Drum	1007	99 HH Close	Hi Hat
987	88 BD	Bass Drum	1008	99 HH Open	Hi Hat
988	88 SD1 GM	Snare Drum	1009	Click	SFX
989	88 SD2	Snare Drum	1010	Click GM	SFX
990	88 SD2 GM	Snare Drum	1011	Seq Click	SFX
991	88 Rim Shot GM	Snare Drum	1012	Metronome W Bell	SFX
992	88 HH Close1 GM	Hi Hat	1013	Metronome W	SFX
993	88 HH Close2	Hi Hat	1014	Empty	(none)
994	88 HH Close2 GM	Hi Hat			

48   Recognized chords

The following pages show the main recognized chords, when the selected Chord Recognition mode is Fingered 3-Notes.
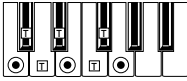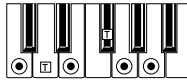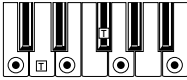
Major
3-note   2-note
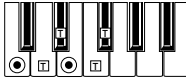
Major 6th
4-note   2-note

Major 7th
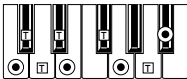4-note   3-note   2-note

Sus 4
3-note   2-note

Sus 2
3-note

Dominant 7th
4-note   3-note   2-note
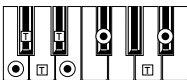
Dominant 7th Sus 4
4-note   3-note

Flat 5th
3-note

Dominant 7th ♭5
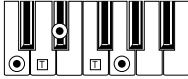4-note

Major 7th ♭5
4-note

Major 7th Sus 4
4-note

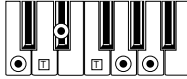⬤ = constituent notes of the chord   T = can be used as tension

Minor

3-note

2-note

Minor 6th

4-note

Minor 7th

4-note
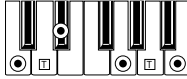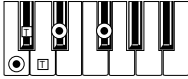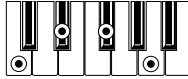

3-note

Minor-Major 7th

4-note

3-note

Diminished
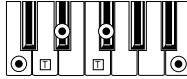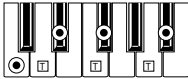
3-note

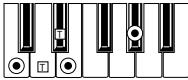## Diminished 7th

4-note

Diminished Major 7th
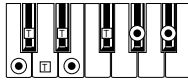
4-note

Minor 7th ♭5

4-note

Augmented

3-note

Augmented 7th

4-note

Augmented Major 7th

4-note
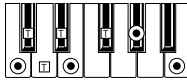
No 3rd

2-note

No 3rd, no 5th

1-note

◉ = constituent notes of the chord   T = can be used as tension

49 Shortcuts

Shift functions

You can keep the SHIFT button pressed, and press another button on the control panel to directly jump to an edit page or dialog box.

Shift +	Functions
Any modes	
Dial	Tempo Change
Scroll Arrows	When a list is shown: Goes to Next/Previous alphabetical section of the currently selected column
Global	Selects the Global > MIDI > General Controls page. This is a quick way to jump to MIDI editing pages.
Media	Selects the Global > Mode Preferences > Media page
Start/Stop	Panic
Synchro	Selects the Clock Source parameter in the Global > MIDI > General Controls page
Tempo Lock	Selects the Global > General Controls > Lock page
SongBook	Selects the SongBook > Custom List page
Upper Octave (either)	Selects the Mixer/Tuning > Tuning page
Transpose (either)	Selects the Global > Tuning > Transpose Controls page
Style Play mode	
Style Play	Selects the Global > Mode Preferences > Style page
Accompaniment	
Memory	
Variation	Selects the corresponding Variation in the Style Play > Controls > Drum/Fill page
Ensemble	Selects the Ensemble Type parameter in the Style Play > Keyboard/Ensemble > Ensemble page
Metro	Tap Tempo
Record	Opens the MP3 Record dialog box
Style Record mode	
Tempo+/-	When the Sound/Expression page is shown: Adjusts the Expression level

Shift +	Functions
Song Play mode	
Song Play	Selects the Global > Mode Preferences > Song & Seq page
Record	Opens the MP3 Record dialog box
JukeBox	
>>	Play the next Song in the JukeBox list
<<	Play the previous Song in the JukeBox list
Lyrics	
Display	Load a TXT file
Sequencer mode	
Sequencer	Selects the Global > Mode Preferences > Song & Seq page

Long keypress

You can keep a button pressed for about one second to directly jump to an edit page or dialog box.

Long keypress	Functions
Any operating modes	
Split	Opens the Split Point dialog box. Play a note to set the new Split Point.
Style Play mode	
Style	Opens the 'Write Current Style Settings' window
Performance	Opens the 'Write Performance' window
SongBook	Create a 'New SongBook' Entry and open the 'Write Song' window (only if pressed outside the SongBook)
STS	Opens the 'Write STS' window
Song Play mode	
Performance	Opens the 'Write Performance' window.
SongBook	Create a 'New SongBook' Entry and open the 'Write Song' window (only if pressed outside the SongBook)
Global mode	
Global	Touch Panel Calibration

Special functions

Other available shortcuts are the following ones.

Style Play mode	
Tempo +/– (together)	Original Tempo
Transpose #/b (together)	Set the Master Transpose to 0
Upper Octave +/- (togheter)	Set the Upper Octave to the original setting
Record	While recording MP3 Song, with MP3 Record Dialog Box closed, it stops the MP3 record and open the 'Write Song Dialog)

50 Troubleshooting

In case of problems, please check the following list to find a solution.

Problem	Solution
General problems	
Power does not turn on	Make sure that (1) the power cable is plugged into the out-let, (2) the cable is plugged into the connector on the back of the instrument, (3) and is not damaged, (4) there are no problems with the mains.
	Is the POWER LED turned on?
	If the power still does not turn on, contact your dealer or the nearest KORG Service Center.
Power does not turn off	Press the POWER button again and keep it pressed for a few seconds. At the end, the button's LED will turn off, and the instrument will be set to standby.
No sound	Is the VOLUME knob of the HAVIAN 30 set to a position other than '0'?
	Is a jack inserted into the PHONES/AUDIO OUT connector? Unplug it.
	Check the connections to your amp or mixer.
	Make sure that all the components of the amplifying system are turned on.
	Is the Local parameter set to off? Turn it on.
	Is the Attack parameter value too high? Set it to a lower value, to let the sound start faster. Is the Volume parameter too low? Set it to a higher value.
Lowest note are not played	When the SPLIT LED is turned on, the keyboard is divided into a Lower part (lower notes, below the split point) and an Upper part (higher notes, above the split point). Is the Lower track muted? Unmute it.
Wrong sounds	Do the USER banks contain modified data? Load the appropriate data for the Song or the Style you wish to playback.
	Has one of the USER Drum Kits been replaced? Load the appropriate Drum Kits.
	Have the Styles or Performances been replaced? Load the appropriate data (Styles or Performances).
Sound does not stop	Make sure that the Damper pedal calibration is correctly set.

Problem	Solution
The selected Style or Song cannot start	Make sure that the Clock parameter is set to Internal. If you are using the MIDI Clock of another device (like a sequencer), you must set the MIDI Clock parameter to USB, and make sure that the external device transmits MIDI Clock data.
Does not respond to MIDI messages	Make sure that the USB cable is connected correctly.
	Make sure that the external device is transmitting through MIDI channels enabled to receive in HAVIAN 30.
	Make sure that the MIDI IN Filters of HAVIAN 30 do not prevent the reception of messages.
Percussive instruments are not played correctly	Make sure that the Drum track is set to Drum Mode and the external device has not transposition applied.
Some 'clicks' can be heard when playing a percussive instrument	This is part of the sound, and not a problem.
A background noise can be heard after selecting a Performance, Style or STS	The selected Performance, Style or STS recalled the effect '17 St. Analog Record', simulating the noise of a old vinyl recording.
Media related problems	
Cannot format a device	Is the USB cable correctly connected?
	Is the USB device correctly powered?
	Is the device inserted correctly?
	Is the write protect tab of the disk or card in the protect position? Unprotect it.
Cannot save data to a device	Is the device formatted?
	Is the device inserted correctly?
	Is the write protect tab of the disk or card in the protect position? Unprotect it.
Cannot load data from a device	Is the device inserted correctly?
	Does the device contain data compatible with HAVIAN 30?
The message 'Over Current Condition Detected on USB port: please remove the USB media' appears in the display	The USB device is probably defective, due to a short circuit, and cannot be used. While this will not damage HAVIAN 30, it is advisable to remove the device.

51   Specs

KORG HAVIAN 30	Features
Keyboard	88 Weighted Hammer keys, Velocity sensitive
Sounds	Factory: More than 950 including Stereo Gran Coda (with resonance), Stereo Upright (with resonance) and GM2 Sounds; 64 Drum Kits
	User: 256 Sounds, 128 Drum Kits
	User Sample memory: 32 MB
	Full editing of Sounds and Drum Kits
Tone Generator	128 voices, filters with resonance, RX (Real EXperience)
Effects & EQ	4 stereo Master FX, 125 effect types
	3-band EQ on each track
	Final FX: Limiter, 4-band Parametric EQ
Controllers	Mini-joystick
Styles	Factory: 420 preloaded Styles, freely reconfigurable
	User: Up to 1,040 available Style locations, including Favorite/User banks
Style Structure	Eight Style tracks, 4 STS (Single Touch Settings), one Style Settings per Style
Style Controls	3 Intros, 4 Variations, 4 Fills, Break, 3 Endings, Autofill, Synchro Start/Stop, Tap Tempo, Manual Bass, Bass Inversion, Memory, Accompaniment Mute, Kick & Snare Designation
Chord Sequencer	Records and plays chord sequences for automatically playing Styles
Other	Guitar Mode 2, Parallel and Fixed NTT, Style Record with Step Record, Track and Event Edit functions
Performances	240 Performance (Sound sets) locations, special Grand Piano Performance
STSs	Sound sets recalled by Styles
	Up to 4 x Styles, up to 4 x SongBook Entries
Keyboard	Four Keyboard Sounds (Upper 1, 2, 3, Lower)
Song Play	Player with Select, Start/Stop, Home, Rewind and Fast Forward controls; Jukebox function
	Compatible with MIDI Songs (SMF formats 0 and 1) and MP3 Songs
	Lyrics (compatible with CDG files), Score, Markers

KORG HAVIAN 30	Features
MP3 Player/ Recorder	MP3 Transpose (-5/+6 semitones), MP3 Tempo Change (±30%)
	Records all audio, including Styles, MIDI Songs, Keyboard Sounds and Effects
Sequencer	Quick Record (Backing Sequence), Multitrack and Step Record functions
	Full featured sequencer, 16 tracks, up to 100,000 events, SMF format
SongBook	Fully programmable music database, recalling Styles, MIDI Songs, Karaoke Songs, MP3 Songs, with automatic selection of Style Play and Song Play modes
	User-definable Custom Lists, filtering options
Search	Style, Song, Performance, SongBook, Sound and Lyrics TXT
Compatibility	Pa-Series: Style, Performance, Sound, PCM Sample, Multisample, Song, SongBook
	i-Series: Style
General Controls	Master Volume, Keyboard-Acc/Seq Balance, Ensemble, Octave Transpose, Master Transpose, Tempo Lock, Quarter Tone/Arabic Scale, User Scale (memorized in Performance/STS), Search, Lyrics, Score, Marker, Dial, Tempo, Metronome, Split
Display	TouchView™ 5" TFT color graphical display
Connections	Control: Assignable Pedal/Footswitch (Damper: supports half-pedaling with the included DS2H pedal)
	Headphones/Audio Out: Unbalanced Stereo Jack
	MIDI: USB to MIDI using the USB Device port; 8 user-definable MIDI Presets
USB	2.0 Hi Speed connections; USB to MIDI Interface
	1 x Device (Rear), 1 x Host (Rear)
Mass Storage/Disk	USB
Amp/Speakers	Amplification: 2 x 25W
	Speakers: 2 x 100 mm double-cone speakers in bass reflex box
Power	Power supply: AC 100-240 V
	Power consumption: 26 Watt
Dimensions (W x D x H)	1,312 mm (51.65") x 389 mm (15.32") x 146 mm (5.74") (without music rest)
Weight	15.1 kg (33.29 lbs)
Accessories	Owner's manual, Music stand, Accessory DVD (including the Video manual and Piano Solo Collection book), External power supply adapter and power cable, DS2H damper pedal

KORG HAVIAN 30	Features
Options	Piano stand with damper pedal support (ST-H30-BK)
	DS1H damper pedal (supports half-pedaling)
	EXP2, XVP10 expression pedal
	PS1, PS3 footswitch pedal

Specifications and appearance are subject to change without notice for improvement.

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	1–16	1–16	Memorized
	Changed	1–16	1–16	
Mode	Default		3	
	Messages	X	X	
	Altered	*****************		
Note Number:		0–127	0–127	
	True Voice	*****************		
Velocity	Note On	O 9n, V=1–127	O 9n, V=1–127	
	Note Off	O 8n, V=0–127	O 8n, V=0–127	
Aftertouch	Poly (Key)	O	O	Player data only *1
	Mono (Channel)	O	O	*1
Pitch Bend		O	O	
Control Change	0, 32	O	O	Bank Select (MSB, LSB) *1
	1, 2	O	O	Modulations *1
	6	O	O	Data Entry MSB *1
	38	O	O	Data Entry LSB *1
	7, 11	O	O	Volume, Expression *1
	10, 91, 93	O	O	Panpot, A/B Master FX Send *1
	64, 66, 67	O	O	Damper, Sostenuto, Soft *1
	65, 5	O	O	Portamento On/Off, Portamento Time *1
	71, 72, 73	O	O	Harmonic Content, EG time (Release, Attack) *1
	74, 75	O	O	Brightness, Decay Time *1
	76, 77, 78	O	O	Vibrato Rate, Depth, Delay *1

Function		Transmitted	Recognized	Remarks
	80, 81	O	O	Sound Controller (1, 2) *1
	98, 99	O	O	NRPN (LSB, MSB) *1, 2
	100, 101	O	O	RPN (LSB, MSB) *1, 3
	120, 121	X	O	All sounds off, Reset all controllers *1
Program Change		O 0–127	O 0–127	*1
	True #	*****************	0–127	
System Exclusive		O	O	*4
System Common	Song Position	X	X	
	Song Select	X	X	
	Tune	X	X	
System Real Time	Clock	O	O	*5
	Commands	O	O	*5
Aux Messages	Local On/Off	X	X	
	All Notes Off	X	O (123-124)	
	Active Sense	O	O	
	Reset	X	X	
Notes				

*1: Sent and received when MIDI Filters In and Out are set to Off in Global mode.
*2: Sound parameters, Selection of SongBook Entries, Drum Kit Family settings.
*3: LSB, MSB = 00,00: Pitch Bend range, =01,00: Fine Tune, =02,00: Coarse Tune.
*4: Includes Inquiry and Master Volume messages, FX settings, Quarter Tone settings. GM Mode On.
*5: Transmitted only when the Clock Send parameter (Global mode) is set to on.

Mode 1: OMNI ON, POLY   Mode 2: OMNI ON, MONO   O: Yes
Mode 3:OMNI OFF, POLY   Mode 4:OMNI OFF, MONO   X: No

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