KORG

KingKORG NEO
SYNTHESIZER

Parameter Guide

Contents

About the Owner's Manual

How this manual is organized and used

The documentation for this product consists of the following:
• Precautions (printed material and PDF data)
• Quick Start Guide (printed material and PDF data)
• Owner's Manual (PDF)
• Parameter Guide (PDF)
Download the PDF data from the Korg website (www.korg.com).

Precautions
Explains how to safely and correctly use this instrument. Read this material first.

Quick Start Guide
Explains how to get started using the instrument right away.

Owner's Manual
Explains how to use this instrument in detail. Refer to the Owner's Manual whenever you have questions on how to use a certain feature or operate the controls. The Owner's Manual also contains information on troubleshooting as well as the specifications.

Parameter Guide
This provides information about all of the KingKORG NEO's parameters.
Read this guide when you want to find out what specific parameters do.
The parameter guide is structured as follows.
• Parameters
• Effects
• MIDI

Conventions in this manual

Abbreviations for the manuals
QSG: Quick Start Guide
OM: Owner's Manual
PG: Parameter Guide

Symbol ⚠, TIP
These symbols respectively indicate a point of caution or a tip.

Display indications
The values of various parameters shown in the manual are only examples;
they might not match what you see on the KingKORG NEO's display.

Example of notation on the main display page
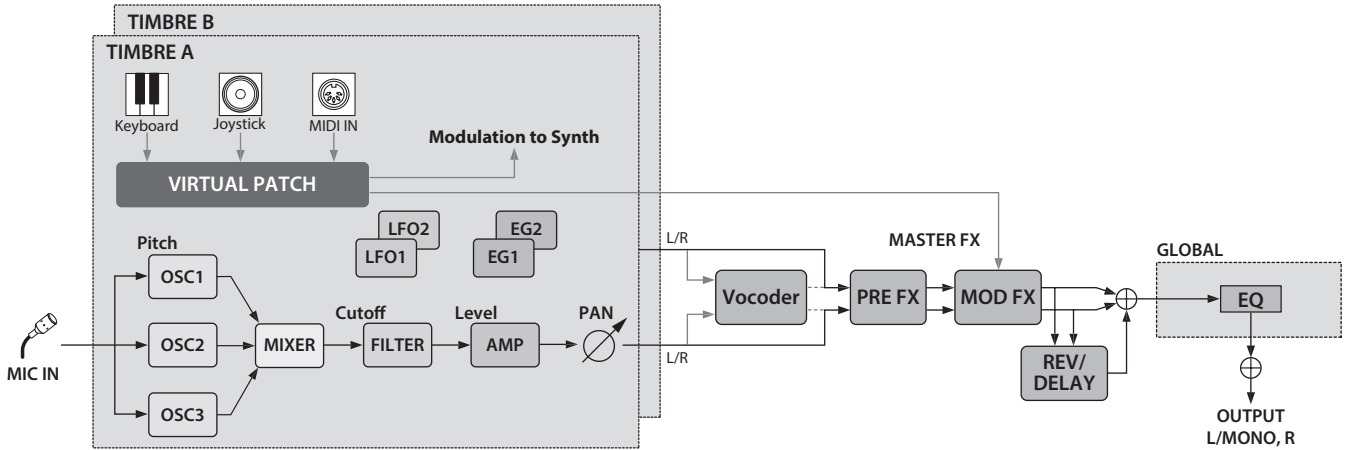**GLOBAL "g14: Power Off" page**

In Global mode, the page name will be displayed on the top of the main display.

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Parameters

Block diagram

Explanation of parameter icons	
	This indicates a parameter that can be controlled from the panel buttons of the instrument.
	This indicates a parameter that can be controlled from the panel knob of the instrument.

1. Program parameters

p01: Name

The KingKORG NEO lets you assign a name of up to 12 characters to each program.
In Program mode, the main display shows the program number and program name.

To edit the program name

1. **Press the PROGRAM (GLOBAL) button to switch to Program mode.**

2. **Use the PAGE +/– buttons to select the Name page.**

3. **Press the VALUE dial.**

4. **Use the PAGE +/– buttons to move "⌊" to the character that you want.**

5. **Turn the VALUE dial to select a character.**

6. **Repeat steps 4–5.**

7. **Press the VALUE dial to confirm the name.**

p02~06: Common

Here you can adjust settings that apply to the entire program.

Category .....[Synth, Lead, Bass, Pad/Air, Bel/Dec, Motion, SE/Voc, Misc, User]

This selects the program category.
The program will be registered in the category that you select here.
For example when you're performing, you may find it convenient to select programs by category. For more about selecting programs by category, refer to "Selecting programs by category" on page 14 of the Owner's Manual.

VoiceMode ⬭ ....[Single, Layer, Split]

This parameter determines how many timbres a program will use, and how those timbres will be allocated.
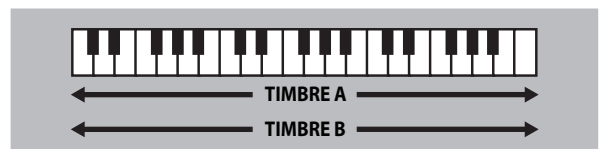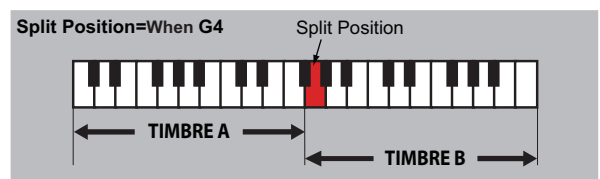
Single:
Only one timbre will be used.

Layer:
Two timbres will be used. When you play the keyboard, both timbres will sound simultaneously. You can edit each timbre individually.

Split:
Two timbres will be used. You can specify a range of notes for each timbre, and play each timbre from a different area of the keyboard. Each timbre can be edited separately.

**Timb B Ch (Timbre B MIDI channel).....................[Global, 01…16]**

When the "VOIC.MODE" is set to either Layer or Multi, this parameter can be used to set the MIDI channel for timbre 2. If you choose Global, the MIDI channel of timbre 2 will match the global MIDI channel.
The settings of this page will be available if the "p03:Common" page VoiceMode parameter is set to "Layer" or "Split".

TIP: The MIDI channel for timbre A is specified by the MIDI Basic page Global Ch parameter.

Split Key ▭ ....[C -1…G 9]

This specifies the range of notes for which each timbre will sound.
Notes below the specified note number will be sounded by timbre A, and notes above and including the specified note number will be sounded by timbre B.
You can also easily specify the Split Key by using the keyboard. Hold down the SHIFT/EXIT button and press the SPLIT (POSITION) button to access the following screen.
The settings on this page will apply if the "p03:Common" page VoiceMode parameter is set to "Split".

The previous setting ———
```
Split Position
    C 4 → ?
```
——— The value you'll be setting
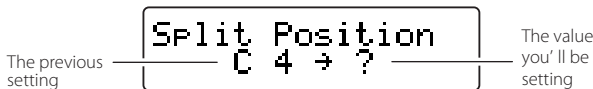
When you press a key, that key will be specified as the Split Key, and you'll automatically return to the previous screen. You can also select this setting by turning the VALUE dial instead of using the keyboard.

KeyResponse..[Norm, Shlw, Deep]

This specifies the response of the keyboard.
In addition to the conventional velocity-sensitive mode, the KingKORG NEO's keyboard provides a "switch mode" that simulates the keyboard response of a vintage synth or an actual organ. In switch mode, the response is extremely quick and velocity is not detected, providing a playing feel that's ideal for rapid synth lead passages or rapidly repeated synth brass chords.

Norm (Normal):
This is the conventional response mode that provides velocity sensitivity. Deeply-played keystrokes will be sounded with a velocity corresponding to your playing dynamics.

Shlw (Shallow):
This is a "switch mode" in which notes are turned on or off even by shallow keystrokes.
This mode is effective when you're playing a legato melody, or when playing a rapid glissando with the palm of your hand. By striking the keyboard strongly or releasing it rapidly, you can produce the distinctive bounce (double triggering when you release a key) that is typical of an organ keyboard.

Deep:
This is a "switch mode" in which notes are turned on or off by deep keystrokes.
It will feel as though the note sounds when the key reaches the bottom of its full stroke. This mode is effective when playing crisp melodies or repeated chords.

● ●

2. Timbre parameters

If the "p03:Common" page VoiceMode parameter is set to "Layer" or "Split", the parameters of pages s01–s80 will show the timbre that's selected by the TIMBRE A/B buttons.

s01~04: Voice

These settings specify whether the timbre will play monophonically or polyphonically, how retriggering will occur, and how the unison function will stack multiple copies of a voice at the same pitch.

TIP: If you simultaneously press more keys than the maximum polyphony that's specified, the key you pressed last will take priority.

Assign (Voice Assign) .... [Mono1, Mono2, Poly]

This parameter specifies how notes will be articulated from the keyboard (or MIDI source).
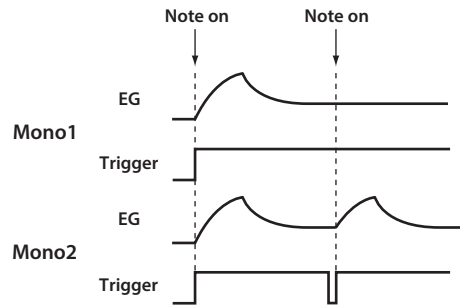
Mono1:
The timbre will play monophonically. If you continue holding down the key that you first pressed, the EG will not retrigger when you play the second and subsequent keys. Use this setting when you want to play legato.

Mono2:
The timbre will play monophonically. The EG will be retriggered each time you press a key.

Poly:
The program will play polyphonically, allowing you to play chords. The maximum polyphony is 24 voices.

Unison Voice ▭ .... [Off, 2, 3, 4]

Specifies the number of voices that will be stacked.

Off:
Unison is off.

2:
Unison is on; two voices will be stacked.

3:
Unison is on; three voices will be stacked.

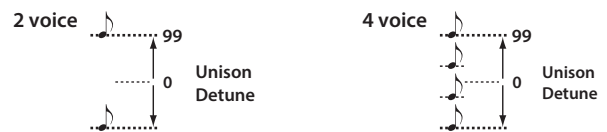**4:**
Unison is on; four voices will be stacked.

✎ Depending on other voice-related settings, the number of voices that you specify here may not actually be sounded.

✎ Turning on the Unison function will limit the available polyphony.

Detune (Unison Detune) ....[00…99]

Specifies (in units of cents) the amount of detuning that will occur between the stacked voices.
The number of voices that you specify for the Unison Voice will change the way that detuning occurs.
The setting on this page is available if unison is on (Unison Voice set to "2"–"4").

Spread (Unison Spread) ....[000…127]

Spread controls the width of the stereo spread (panning) of the stacked voices.
The stacked notes will be spread evenly, according to the number of voices specified by the Unison Voice and the value that you specify here.
The setting on this page will be available if unison is on (Unison Voice set to "2"–"4").

s05~12: Pitch

These settings affect the pitch of the timbre.
The pitch of all oscillators in the timbre you're editing will be affected simultaneously.
Set the transpose and tuning parameters to obtain the desired pitch.
This is also where you specify the amount of pitch change that will occur when you move the joystick in the horizontal direction (X-axis), and adjust settings for portamento.

Transpose..**[−48…+48]**

The Transpose function specifies the pitch produced by the oscillator, in semitone units.
The range is four octaves upward or downward.

🔧 This setting is related to the pitch of the oscillators themselves; this is not the same as the OCTAVE [UP]/[DOWN] buttons on the front panel that change the range of notes available on the keyboard.

Detune.. **[−50 cent…+50 cent]**

The Detune function adjusts the pitch of the oscillator in one-cent steps.

LFO2ModInt (LFO2 Modulation Intensity) ⊙ ....**[−63…+63]**

This specifies the depth of vibrato produced by using LFO2 to modulate the pitch of the timbre.

LFO2&JS+Y (LFO2 & Joystick+Y) .... **[−2400…+2400]**

You can use the joystick to increase or decrease the vibrato.
This specifies the depth of vibrato (in units of cents) that is produced when you move the joystick all the way forward.

TIP: The depth of the vibrato that is applied will be this setting added to the LFO2ModInt setting. When you take your hand off the joystick, the vibrato will be the depth specified by LFO2ModInt.

BendRange (Pitch Bend Range).....................................**[−12…+12]**

This specifies the amount of pitch change (in semitones) that will occur when you move the joystick in the horizontal direction (X-axis).
This value is the amount of change that will occur when the joystick is moved all the way in the horizontal direction.

Portamento ▭... **[Off, On]**

This will turn Portamento on/off (an effect that creates a smooth change in pitch from one note to the next).

Off:
Portamento will be off.

On:
Portamento will be on. Use the Porta.Time parameter to specify the portamento time.

Porta.Time (Portamento Time) ⊙ ....**[000…127]**

This specifies how portamento will occur (the time over which the pitch change will occur).
With a setting of "000", there will be no portamento effect. Increasing the value will lengthen the amount of time it takes for the portamento effect to transition from one note to the next.

Analog Tune (Analog Tuning) ....**[000…127]**

This parameter adjusts the amount of inconsistency in the pitch of each note that is played.
This adds a slight randomness to the pitch of each note to simulate the pitch instability that is typical of an analog synthesizer. Higher settings produce greater pitch variation.

s13~27: OSC1, OSC2, OSC3 (Oscillator 1, 2, 3)

Oscillators generate the basic waveform.
These settings are made individually for each of the three oscillators in each timbre.

Type ▭.. **[Off, Saw…Mic In]**

This selects the oscillator type (the basic structure of the oscillator) and its waveform (see "Oscillator type and CONTROL 1, 2"). If you select "Off," the oscillator will make no sound.

Semitone ....**[−24…+24]**

This specifies the amount of detune (pitch discrepancy) relative to other oscillators in semitone steps over a range of two octaves upward or downward.
The settings on this page are available if the waveform specified by Type is ANALOG, DWGS, or PCM.

🔧 This setting is not available if Type is set to "Mic In".

TIP: For example if you want to use oscillator 2 as the overtone structure of oscillator 1, you can set this to one octave above or a fifth above. If you're using the oscillator to create harmony, you can set this parameter to a musical third, fourth, or fifth.

Tune ⊙..**[−63…+63]**

This adjusts the amount of detune relative to the other oscillators.
Settings of "±63" correspond to two octaves upward or downward, and "±48" corresponds to one octave upward or downward. Near the "+00" setting you'll be able to make fine adjustments to the pitch.
The settings on this page are available if the waveform specified by Type is ANALOG, DWGS, or PCM.

🔧 This setting is not available if Type is set to "Mic In".

CONTROL1, CONTROL2

For each oscillator type, either one or two CONTROL parameters are provided to control the waveform or character. The last page of each oscillator shows the name and value of the CONTROL parameters for the Type setting that is selected.

🔧 Some settings may produce noise.

🔧 The parameters and available values for CONTROL1 and CONTROL2 will differ depending on the selected Type. You can also refer to the explanations below when making V.Patch (virtual patch) settings or assigning Ctrl1 (CONTROL1) or Ctrl2 (CONTROL2) to GLOBAL MIDI CC#Map.

Oscillator types and CONTROL 1, 2

Single oscillator

Waveform

OSC
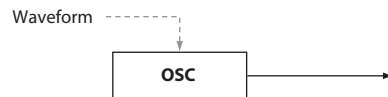
These oscillator types provide one oscillator that outputs a basic waveform. You can use the CONTROL1 Waveform parameter to modify the output waveform in real time.

🔧 When using a single oscillator, CONTROL 2 is unavailable.

001: Saw

Outputs a sawtooth wave.
This waveform is suitable for the sounds that are typical of an analog synthesizer, such as synth bass or synth brass.

CONTROL1: Waveform ⊙...**[000…127]**

A setting of "000" produces a pure sawtooth wave, and a setting of "127" produces a sawtooth wave one octave higher.

000   063   127
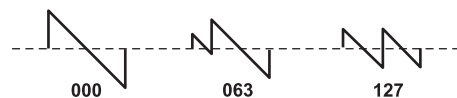
002: Pulse

Outputs a pulse wave.
This waveform is suitable for electronic sounds or wind instruments.

CONTROL1: PulseWidth ⊙..**[000…127]**

A setting of "000" produces a pure square wave, and a setting of "127" will be nearly inaudible since the pulse width will be minimal.

000   063   127

003: Triangle

Outputs a triangle wave.
This waveform has a more mild tone than a sawtooth wave or pulse wave.

CONTROL1: Waveform ○...[000...127]

A setting of "000" produces a pure triangle wave, and a setting of "127" produces a triangle wave of one octave and a fifth higher (the third harmonic).
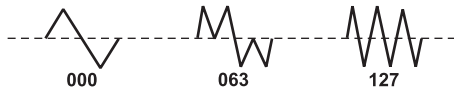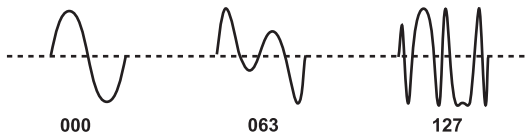
```
000          063          127
```

004: Sine

Outputs a sine wave.
Of the single oscillators, this waveform has the simplest overtone structure.

CONTROL1: Waveform ○...[000...127]

A setting of "000" produces a pure sine wave; the overtone structure will change as you increase the value.

```
000          063          127
```

Noise oscillator

These oscillator types generate a noise signal.
You can choose from four types of noise, each with their own distinctive character. Noise is used to create percussion-instrument sounds or sound effects such as ocean waves.

005: White Noise

Outputs white noise.
This contains equal energy at all frequencies from low to high. It is the basic and the most frequently-used noise waveform.

```
Decimator Fc ------        Noise Decay ------
                    |                      |
[ Noise ] --> [ Decimator ] --> [ EG ] -->
```
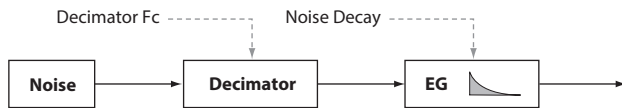
CONTROL1: Decimator Fc ○...[000...127]

Adjusts the roughness of the noise.
Low values produce conventional white noise; raising the value will produce increasingly rougher noise that is distinctive of digital technology. This is useful when creating "retro-sounding" noises such as those typical of early video games.

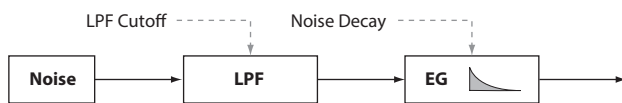**CONTROL2: Noise Decay** ○...[000...127]

Adjusts the decay speed of the noise.
Low values produce a fast decay. At a setting of "127" there will be no decay; the sound will continue at a fixed level until you release the key.

TIP: The EG2-Amp settings also affect the volume; set those parameters in conjunction with this parameter.

006: Pink Noise

Outputs pink noise.
This noise signal has an energy distribution that decreases in proportion to the frequency. Since the low-frequency range is stronger and the high-frequency range is weaker, it has a more mild character than white noise.

TIP: The name comes from the fact that light of this frequency distribution appears pink.

```
LPF Cutoff ------        Noise Decay ------
                  |                      |
[ Noise ] --> [ LPF ] --> [ EG ] -->
```

CONTROL1: LPF Cutoff ○...[000...127]

Adjusts the high-frequency portion of the noise.
As you decrease this value the high-frequency content will diminish correspondingly, producing a more mild sound.
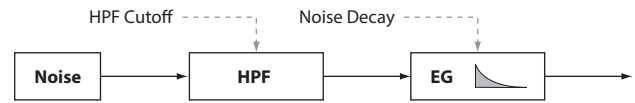
CONTROL2: Noise Decay ○...[000...127]

Adjusts the decay speed of the noise.

007: Blue Noise

Outputs blue noise.
This noise signal has an energy distribution that increases in proportion to the frequency. Since the low-frequency range is weaker and the high-frequency range is stronger, it has a harder-edged character than white noise.

TIP: The name comes from the fact that light of this frequency distribution appears light blue.

```
HPF Cutoff ------        Noise Decay ------
                   |                      |
[ Noise ] --> [ HPF ] --> [ EG ] -->
```

CONTROL1: HPF Cutoff ○...[000...127]
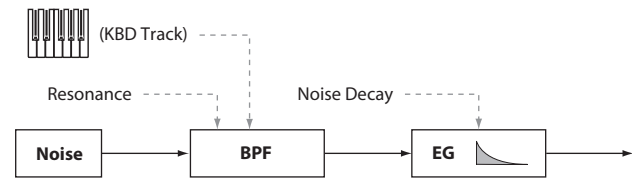
Adjusts the low-frequency content of the noise.
Increasing this value will attenuate the low-frequency range, producing a harder sound.

CONTROL2: Noise Decay ○...[000...127]

Adjusts the decay speed of the noise.

008: Res. Noise

Outputs resonance noise.
This contains narrow-band mid-frequency noise. You can use it to create noise similar to the noise that can be heard from a pocket radio. Since the frequency band will change depending on the key you press, this has a sense of pitch that is not produced by the other noise oscillators, allowing you to use it for performing.

```
      (KBD Track) ------
                        |
Resonance ------        Noise Decay ------
                |                         |
[ Noise ] --> [ BPF ] --> [ EG ] -->
```

CONTROL1: Resonance ○...[000...127]

Boosts the mid-frequency range of the noise.
Increasing this value will increase the intensity of the boost, giving the noise a more distinctive character.
By increasing the value even further, you can obtain a unique sound reminiscent of blowing strongly through a pipe.

CONTROL2: Noise Decay ○...[000...127]

Adjusts the decay speed of the noise.

Dual oscillator

```
                [ OSC A ]
                          \
Detune ------             (+) -->
                          /
                [ OSC B ]
```
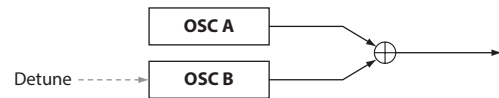
These oscillator types stack two oscillators, each outputting a basic waveform, and mix the output.
By varying the pitch of one oscillator you can easily obtain a unison effect.

If you've selected a dual oscillator, CONTROL 2 is not available.

009: Dual Saw

Outputs two sawtooth waves.

010: Dual Square

Outputs two square waves.

011: Dual Tri.

Outputs two triangle waves.

012: Dual Sine

Outputs two sine waves.

CONTROL1: Detune ○...[−63...+63]

This adjusts the pitch of oscillator B.
Settings of "±63" correspond to ±2 octaves, settings of "±48" correspond to ±1 octave, and a setting of "+00" is the same pitch as oscillator A.

Unison oscillator
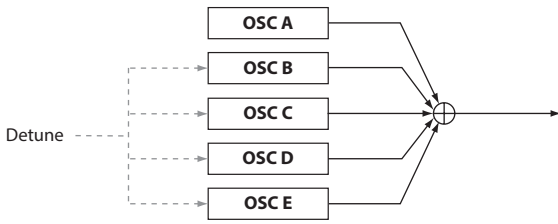
These oscillator types stack five oscillators, each outputting a basic waveform, and mix the output.
You can create thick, rich sounds by playing just a single note.

📝 If you've selected a unison oscillator, CONTROL 2 is not available.

013: Unison Saw

Outputs two sawtooth waves.

014: Unison Squ.

Outputs two square waves.
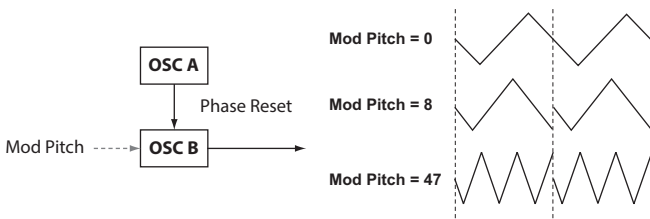
015: Unison Tri.

Outputs two triangle waves.

016: Unison Sine

Outputs sine waves.

CONTROL1: Detune 🎛 ....[000…127]

This detunes the pitch of the five oscillators.
Increasing this value will broaden the pitch difference between the oscillators, creating a thicker sound.

Sync oscillator

These oscillator types forcibly reset the phase of the oscillator B waveform (slave) at each cycle of the oscillator A (master) waveform, producing a distinctive overtone structure.

📝 If you've selected a sync oscillator, CONTROL 2 is not available.

017: Sync Saw

Outputs a modulated sawtooth wave.

018: Sync Square

Outputs a modulated square wave.
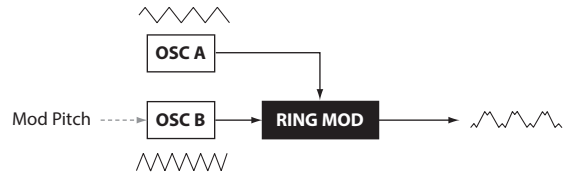
019: Sync Tri.

Outputs a modulated triangle wave.

020: Sync Sine

Outputs a modulated sine wave.

CONTROL1: Mod Pitch 🎛 ....[000…127]

This adjusts the pitch of oscillator B (slave waveform).
A setting of "32" is +1 octave, and a setting of "64" is +2 octaves.

Ring oscillator

These oscillator types multiply waveforms of differing frequencies, adding sum and difference overtones that do not exist in the original sound.
You can use these to produce bell-like or metallic sounds.

📝 If you've selected a ring oscillator, CONTROL 2 is not available.

021: Ring Saw

Multiplies a sawtooth wave by another sawtooth wave, and outputs the result.

022: Ring Square

Multiplies a square wave by another square wave, and outputs the result.

023: Ring Tri.

Multiplies a triangle wave by another triangle wave, and outputs the result.

024: Ring Sine

Multiplies a sine wave by another sine wave, and outputs the result.

CONTROL1: Mod Pitch 🎛 ....[−63…+63]

This adjusts the pitch of oscillator B (modulator).
Settings of "±48" correspond to ±1 octave; at a setting of "+00" the pitch will be the same as oscillator A.

Cross modulation oscillator
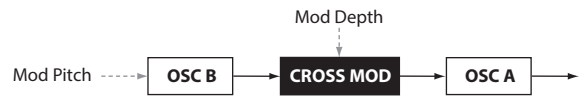
These oscillator types use the output waveform of oscillator B (modulator) to modulate the frequency of oscillator A (carrier), producing a complex overtone structure. This lets you apply modulation at a higher frequency than an LFO.

025: XMod Saw

Outputs a modulated sawtooth wave.

026: XMod Square

Outputs a modulated square wave.

027: XMod Tri.

Outputs a modulated triangle wave.

028: XMod Sine

Outputs a modulated sine wave.

CONTROL1: Mod Depth 🎛 ....[000…127]

This adjusts the depth of cross modulation.

CONTROL2: Mod Pitch 🎛 ....[−63…+63]

This adjusts the pitch of oscillator B (modulator).
Settings of "±63" correspond to ±2 octaves, settings of "±48" correspond to ±1 octave, and "+00" is the same pitch as oscillator 1.

Variable phase modulation oscillator

These oscillator types use the output waveform of oscillator B (modulator) to modulate the phase of oscillator A (carrier), producing a complex overtone structure.

This lets you apply modulation at a higher frequency than an LFO. Unlike cross modulation, OSC B will modulate the phase at precise integer multiple frequencies (Mod Harmonics) of OSC A, and therefore pulsing will not occur in the waveform.

029: VPM Saw

Outputs a modulated sawtooth wave.

030: VPM Square

Outputs a modulated square wave.

031: VPM Tri.

Outputs a modulated triangle wave.

032: VPM Sine

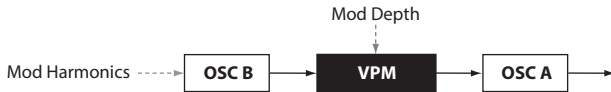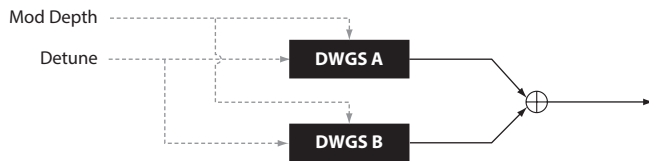Outputs a modulated sine wave.

CONTROL1: Mod Depth ☉ ....[000...127]

This adjusts the depth of the VPM (Variable Phase Modulation) effect.

CONTROL2: Mod Harm(Mod Harmonics) ☉ ....[0.5, 1...32]

This specifies the pitch of oscillator B (modulator) as a harmonic multiple of oscillator A (carrier).

DWGS oscillator

These oscillator types produce the simple DWGS (Digital Waveform Generator System) waveforms found on digital synthesizers such as the Korg DW-8000. You can generate complex overtones by using VPM (Variable Phase Modulation) to modulate the waveform.

033-072: DWGS

These are DWGS waveforms from digital synthesizers.

CONTROL1: Detune ☉ ....[000...127]

Detunes the relative pitch of the two DWGS oscillators.
Higher values will broaden the pitch difference, creating modulation that makes the sound richer.

CONTROL2: Mod Depth ☉ ....[000...127]

Adjusts the depth of the VPM effect for the DWGS waveform.
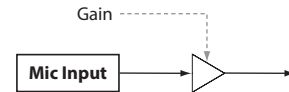
PCM oscillator

These oscillator types produce PCM waveforms of acoustic instruments or digital synthesizers.

073-137: PCM

These are PCM waveforms of acoustic instruments and digital synthesizers.

✐ If you've selected a PCM oscillator, CONTROL 1 and CONTROL 2 are not available.

MIC IN oscillator

This lets you use the signal from the front panel mic jack as the oscillator waveform.

You can apply the filter, amp, and effects to this audio signal.

✐ If you're using the audio input from the mic jack, pitch-related parameters are not available.

✐ If you've selected the MIC IN oscillator, CONTROL 2 is not available.

138: Mic In

Outputs the signal from the front panel mic jack.

CONTROL1: Gain ☉ ....[−63...+63]

This adjusts the level of the signal from the mic jack.
At a value of "+00" the input signal will be unchanged (Unity Gain).

✐ If the peak LED lights up, you should also adjust the front panel MIC LEVEL knob until the signal is no longer peaking.

Oscillator list

Oscillator types 001–032 are excellent analog modeling oscillators. When you select one of these, the ANALOG LED will light up below the OSCILLATOR sub-display.

No.	Type	Control1	Control2
001	Saw	Waveform	—
002	Pulse	PulseWidth	—
003	Triangle	Waveform	—
004	Sine	Waveform	—
005	White Noise	Decimator Fc	Noise Decay
006	Pink Noise	LPF Cutoff	Noise Decay
007	Blue Noise	HPF Cutoff	Noise Decay
008	Res. Noise	Resonance	Noise Decay
009	Dual Saw	Detune	—
010	Dual Square	Detune	—
011	Dual Tri.	Detune	—
012	Dual Sine	Detune	—
013	Unison Saw	Detune	—
014	Unison Squ.	Detune	—
015	Unison Tri.	Detune	—
016	Unison Sine	Detune	—
017	Sync Saw	Mod Pitch	—
018	Sync Square	Mod Pitch	—
019	Sync Tri.	Mod Pitch	—
020	Sync Sine	Mod Pitch	—
021	Ring Saw	Mod Pitch	—
022	Ring Square	Mod Pitch	—
023	Ring Tri.	Mod Pitch	—
024	Ring Sine	Mod Pitch	—
025	XMod Saw	Mod Depth	Mod Pitch
026	XMod Square	Mod Depth	Mod Pitch
027	XMod Tri.	Mod Depth	Mod Pitch
028	XMod Sine	Mod Depth	Mod Pitch
029	VPM Saw	Mod Depth	Mod Harm
030	VPM Square	Mod Depth	Mod Harm
031	VPM Tri.	Mod Depth	Mod Harm
032	VPM Sine	Mod Depth	Mod Harm
033–072	DWGS	Detune	Mod Depth
073–137	PCM	—	—
138	Mic In	Gain	—

s28~30: Mixer

This is where you can adjust the volume balance of oscillator 1, oscillator 2, and oscillator 3. These settings will determine the input level to the filter.

OSC1Level ⊙ ....[000…127]

Sets the output level of oscillator 1.

OSC2Level ⊙ ....[000…127]

Sets the output level of oscillator 2.

OSC3Level ⊙ ....[000…127]

Sets the output level of oscillator 3.

s31~38: Filter

The filter shapes the character of the sound by reducing or boosting specified frequency regions in the sound generated by the oscillator.
You can select a filter type and adjust the cutoff frequency to shape the sound, or dynamically modulate the filter as a performance effect.
Three types of filters are provided: low pass filters which make the tone milder by reducing the high frequencies, high pass filters which make the tone brighter by reducing the low frequencies, and band pass filters which reduce both the high and low frequency regions to leave only a specific frequency band.
You can choose from a total of 18 types, including not only standard analog modeling filters but also modeling types that reproduce the distinctive filters that can be found on classic synthesizers of the past.

Type (Filter Type) ▭ .... [LPF King 1…BPF+ King]

Selects the filter type.
The characteristics of each type are described below. To experience the differences between the filter types, try changing the resonance and cutoff while you play.

P.Model	Product Modeling:	These filters model the filters of a synthesizer of the past.
Self ᴧᵥ	Self-oscillating	These filters simulate the self-oscillation that occurred at the cutoff frequency when the resonance was raised nearly to the maximum.
Fix Gain	Fixed Gain:	Even when you vary the resonance, these filters maintain a fairly consistent volume in the frequency region that is not being cut by the filter (→ p.10).

LPF Low Pass Filter

Filter Type	Description
01 LPF King 1	A standard four-pole analog low pass filter. Compared to a two-pole filter, this attenuates the high-frequency region more steeply.
02 LPF King 2	A standard two-pole analog low pass filter. It gently cuts the high-frequency region, producing a warmer sound.
03 LPF MG P.Model Self ᴧᵥ	A low pass filter that has the characteristics of the filter from a famous monophonic analog synthesizer of the 1970s. It is ideal for lead or bass sounds.
04 LPF P5 P.Model Self ᴧᵥ	A low pass filter that has the characteristics of the filter from a famous five-note polyphonic synthesizer that appeared at the end of the 1970s and was widely used in the new wave music of the 1980s.
05 LPF OB P.Model Fix Gain	A low pass filter that has the characteristics of the filter from an analog monophonic synthesizer expander module of the second half of the 1970s.
06 LPF MS-20 P.Model Self ᴧᵥ Fix Gain	A low pass filter that models the filter from Korg's classic MS-20 analog synthesizer. This simulates the original's lo-fi sense of noise and distortion, as well as the rough self-oscillation that occurred when the resonance was increased.

Filter Type	Description
07 LPF Acid P.Model	This adds distortion to the low pass filter from a famous compact bass synthesizer that was widely used in styles such as Acid House in the second half of the 1980s. High resonance settings will cause the peaks to distort, adding distinctive overtones.

HPF High Pass Filter

Filter Type	Description
08 HPF King	A standard analog high pass filter.
09 HPF P5 P.Model Self ᴧᵥ	A high pass filter that has the pure self-oscillation of LPF P5. This is a hypothetical modeling filter that did not exist on the original unit.
10 HPF OB P.Model Fix Gain	A high pass filter that has the noise and resonance characteristics of the LPF OB.
11 HPF MS-20 P.Model Self ᴧᵥ Fix Gain	A high pass filter that models the filter from the MS-20, as with the LPF MS-20.
12 HPF Acid P.Model Fix Gain	This model connects distortion to a high pass filter with the resonance distortion characteristics of LPF Acid.

BPF Band Pass Filter

Filter Type	Description
13 BPF King	A standard analog band pass filter.
14 BPF P5 P.Model Self ᴧᵥ	A band pass filter that can produce the pure self-oscillation of LPF P5. This is a hypothetical modeling filter that did not exist on the original unit.
15 BPF OB P.Model Fix Gain	A band pass filter with the noise and resonance characteristics of the LPF OB.
16 BPF MS-20 P.Model Self ᴧᵥ Fix Gain	A band pass filter that has the lo-fi and distortion characteristics of LPF MS-20. This is a hypothetical modeling filter that did not exist on the original MS-20. An LPF MS-20 and HPF MS-20 are connected in series.
17 BPF Acid P.Model Fix Gain	This model connects distortion to a band pass filter that has the resonance distortion characteristics of LPF Acid. This is a hypothetical modeling filter that did not exist on the original unit.
18 BPF+ King	This filter mixes the original sound with the output of a standard band pass filter. It lets you obtain the distinctive tone of a band pass filter without losing the high- and low-frequency nuances of the original sound.

Cutoff ⊙ ....[000…127]
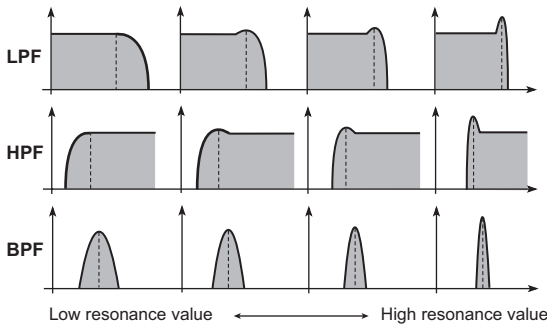
This sets the cutoff frequency.
Increasing this value will raise the cutoff frequency.
"CUTOFF" can be varied by time-variant changes produced by EG1-Filter, by keyboard playing dynamics (velocity), and by note location (keyboard tracking).
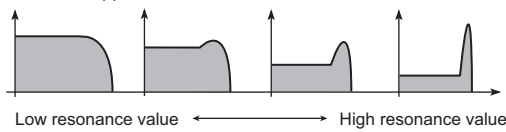
Resonance ⊙ ....[000...127]

This sets the resonance of the filter.
Boosts the volume in the region of the frequency specified by Cutoff, adding a distinctive character to the sound. Higher values will produce a greater effect.
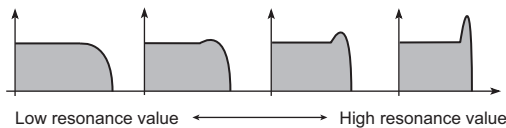

For filter types that simulate Fixed Gain, higher resonance settings will produce a louder volume compared to other types.
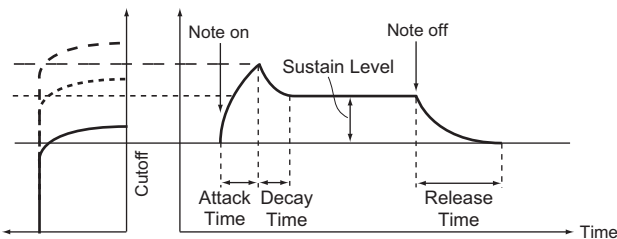

Depending on the cutoff frequency or the input audio, increasing this value may cause distortion.

EG1Int (EG1 Intensity) ⊙ ....[−63...+63]

This specifies how time-variant modulation from the EG1-Filter will be applied to the cutoff frequency.


The EG1-Filter varies the cutoff frequency over time, causing the tone to change.
For example, you can use this to create a sound that gradually begins to brighten when you press the key, and then gradually becomes darker.
"EG1-Filter INT" parameter specifies the depth (sensitivity) to which the EG1-Filter will affect the cutoff frequency. With a setting of 0, the EG1-Filter will not affect the cutoff frequency. Increasingly positive (+) settings will allow the EG1-Filter to have a correspondingly greater effect on the cutoff frequency.
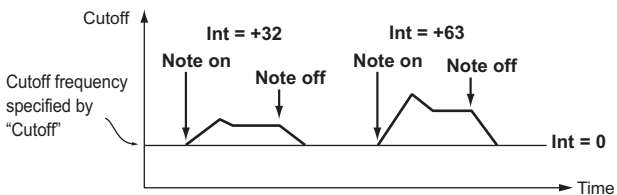
Increasingly negative (−) settings will allow a correspondingly greater effect in the opposite direction.
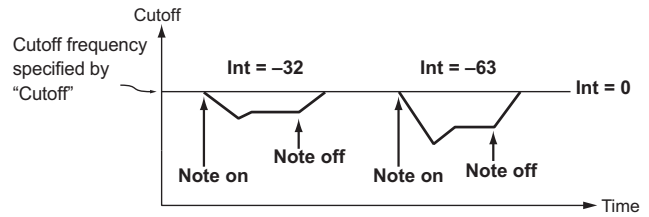
LFO1ModInt (LFO1 Modulation Intensity) ⊙ ....[−63...+63]

Specifies the depth of the wah effect produced by using LFO1 to modulate the cutoff frequency.

LFO1&JS-Y ....[−63...+63]

You can use the joystick to increase or decrease the wah effect. This parameter specifies the depth of the wah effect that will be obtained when you move the joystick all the way down.

TIP: The wah effect will be the depth specified by this parameter plus the LFO1ModInt setting. When you release your hand from the joystick, the effect will be at the depth specified by LFO1ModInt.

KeyTrack (Keyboard Tracking/ Filter) ⊙ ....[−2.00...+2.00]

Varies the cutoff frequency by keyboard tracking (the keyboard position you play).
For example if you can get the sound you want at the C4 key, but the tone becomes too mild as you play above or below that key, you can use keyboard tracking to raise the cutoff frequency to obtain the desired sound.
Positive (+) values cause the cutoff frequency to rise as you play above the C4 key, and fall as you play below the C4 key.
Negative (−) values cause the cutoff frequency to fall as you play above the C4 key, and rise as you play below the C4 key.

TIP: If this value is "+1.00" the change in cutoff frequency will be proportionate to the pitch. If this value is "+0.00" no change will be produced by keyboard tracking.

TIP: Keyboard tracking works on the pitch that is modified by pitch bend and transpose.

VeloSens (Velocity Sensitivity) ....[−63...+63]

This specifies how the cutoff frequency will be affected by velocity (keyboard playing dynamics).
Positive (+) values cause the cutoff frequency to rise as you play the keyboard more strongly.
Negative (−) values cause the cutoff frequency to fall as you play the keyboard more strongly.

s39~42: Amp (Amplifier)

Here you can adjust various settings such as the volume and panning of the timbre.
The sound that is created by passing through the oscillator and filter is amplified by the amp.

Level ⊙ ....[000...127]

This adjusts the volume of the timbre.

Pan (Panpot) .... [L63...Center...R63]

This adjusts the location of the sound in the stereo field. L63 is far left, CNT is center, and R63 is far right.

Punch Level ....[000...127]

This adjusts an effect that boosts the volume of the timbre's output signal only during the attack. Higher settings will emphasize the attack.

KeyTrack (Keyboard Tracking/Amp) ....[−63...+63]

This specifies how keyboard tracking will affect the volume.
With positive (+) settings, the volume will increase as you play above the C4 note on the keyboard, and will decrease as you play below C4. With negative (−) settings, the volume will decrease as you play above the C4 note on the keyboard, and will increase as you play below C4.

TIP: Keyboard Track functions according to the pitch that is controlled by pitch bend, and transpose. It is not affected by pitch changes produced by vibrato or Virtual Patch.
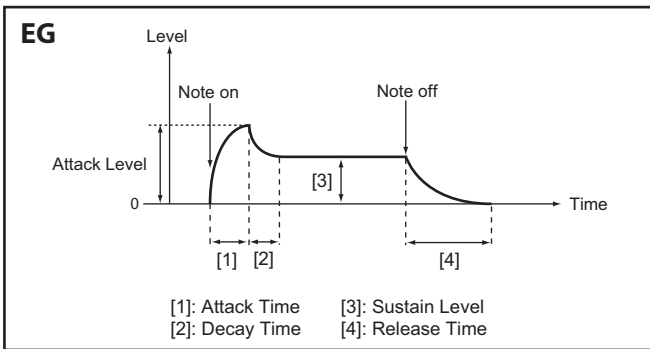
s43~47: EG1-Filter

Here you can adjust settings for the filter EG that causes the sound to vary over time.

Specify the EG settings in these pages, and use the EG1Int parameter (→ p.10) to specify how deeply the filter will be affected by the EG. Use the ADSR (Attack, Decay, Sustain, Release) parameters to create the desired curve of tonal change.
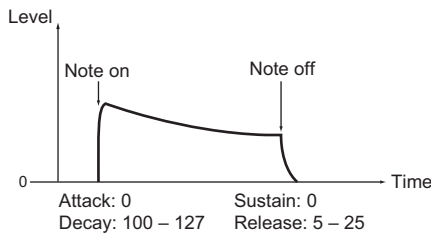
TIP: By assigning EG1-Filter as the source for a virtual patch, you can use it to modulate parameters other than the filter (→ p.12).
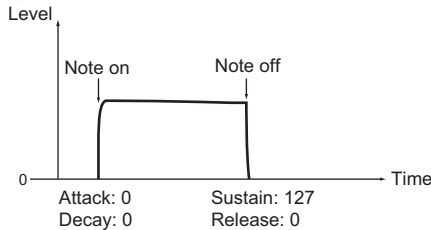
EG (Envelope Generator)

To a significant extent, each sound has its own distinctive volume curve. For example when you play a note on a piano, the note begins at the maximum volume, and gradually diminishes. When you release your finger from the key, the sound will disappear quickly with a brief decay. Volume curves such as this are an important aspect of how we identify the sound of a specific instrument. This type of change also occurs in the tone and pitch, as well as in the volume. On a synthesizer, this type of change is produced by an EG. The KingKORG NEO has dedicated EGs for the filter and for the amp. However since these EGs can be used as Virtual Patch sources, you are also free to use them to vary the pitch or numerous other aspects of the sound. Some example amp EG settings are illustrated below.
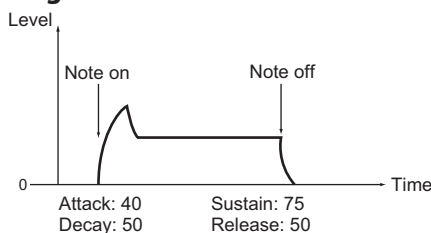

EG

[1]: Attack Time   [3]: Sustain Level
[2]: Decay Time   [4]: Release Time

Piano

Attack: 0   Sustain: 0
Decay: 100 – 127 Release: 5 – 25

Organ

Attack: 0   Sustain: 127
Decay: 0   Release: 0

Strings

Attack: 40   Sustain: 75
Decay: 50   Release: 50

Attack (Attack Time/EG1-Filter) ⌾ ....[000...127]

This specifies the time from note-on (when the key is pressed) until the attack level (maximum value of the envelope) is reached.

Decay (Decay Time/EG1-Filter) ⌾ ....[000...127]

This specifies the time from when the attack level is reached until the sustain level (SUSTAIN) is reached.

Sustain (Sustain Level/EG1-Filter) ⌾ ....[000...127]

This specifies the cutoff frequency that will be maintained after the decay time has elapsed, until you release the key.

Release (Release Time/EG1-Filter) ⌾ ....[000...127]

This specifies the time from note-off (when the key is released) until the level reaches 0.

LevelVelInt (Level Velocity Intensity/EG1-Filter) ⌾ .....[−63...+63]

This specifies how your keyboard velocity (playing strength) will affect the amplitude of EG1-Filter. Higher settings of this parameter will allow changes in your keyboard velocity to produce greater differences in EG1-Filter amplitude.

s48~52: EG2-Amp

Here you can adjust the settings for the AMP EG, which applies time variant changes to the volume. Using the AMP EG settings, you can make the volume change as time passes. Create the desired volume curve by adjusting the ADSR parameters; ATTACK, DECAY, SUSTAIN, RELEASE.

TIP: You can use EG2 as a Virtual Patch source to modulate parameters other than volume (→ p.12).

EG1 and EG2

As the EG1-Filter changes the cutoff frequency, the tone will change. However, the overall character of the sound will also depend on the volume changes that are produced by the EG2-Amp. For example, setting a long decay for the Filter EG (EG1) will produce a different sound depending on how the decay is set in the Amp EG (EG2). It's a good idea to be aware of both the EG1-Filter settings and the EG2-Amp settings as you're editing.

Attack (Attack Time/EG2-Amp) ⌾ ....[000...127]

This specifies the time from note-on (when the key is pressed) until the attack level (maximum value of the envelope) is reached.

Decay (Decay Time/EG2-Amp) ⌾ ....[000...127]

This specifies the time from when the attack level is reached until the sustain level (SUSTAIN) is reached.

Sustain (Sustain Level/EG2-Amp) ⌾ ....[000...127]

This specifies the volume that will be maintained after the decay time has elapsed, as long as you continue holding the key.

Release (Release Time/EG2-Amp) ⌾ ....[000...127]

This specifies the time from note-off (when the key is released) until the level reaches 0.

LevelVelInt (Level Velocity Intensity/EG2-Amp) ▭ ...[−63...+63]

This specifies how your keyboard velocity (playing strength) will affect the EG2-Amp. Higher settings of this parameter will allow changes in your keyboard velocity to produce greater differences in EG amplitude.

s53~62: LFO1, LFO2

Each timbre contains two LFOs. An LFO produces a cyclic change that can be used to modulate the pitch, tone, or volume of the sound.

TIP: By assigning LFO1 or LFO2 as sources for a virtual patch, you can use them to modulate a variety of parameters (→ p.12).

LFO (Low Frequency Oscillator)

The LFO (Low Frequency Oscillator) is an oscillator with a low (slow) rate.
It is typically used to apply a vibrato effect (use LFO to raise and lower the pitch), wah effect (use LFO to raise and lower the cutoff frequency), or tremolo effect (use LFO to raise and lower the volume).
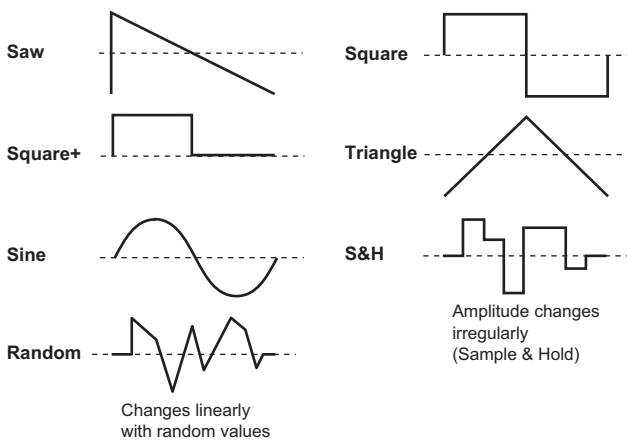You can select LFO as a Virtual Patch source, select the desired parameter as the destination, and apply modulation to produce various effects. The KingKORG NEO provides special parameters that can be modulated from an LFO.
For LFO1, these parameters are the "Filter" page parameters LFO1ModInt and LFO1&JS-Y. For LFO2, they are the "Pitch" page parameters LFO2ModInt and LFO2&JS+Y.

Wave (LFO1) .... [Saw, Square, Triangle, S&H, Random]

Wave (LFO2) ....[Saw, Square+, Sine, S&H, Random]
Selects the LFO waveform.

Saw
Square+
Sine
Random

Square
Triangle
S&H

Amplitude changes
irregularly
(Sample & Hold)

Changes linearly
with random values

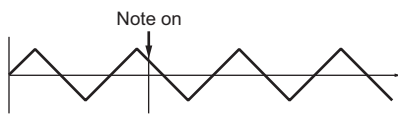**KeySync ....[Off, Timbre, Voice]**
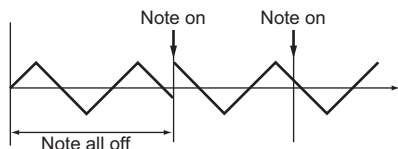This specifies how the LFO will be applied to a voice when note-on occurs.

Off:
The LFO phase will not be reset when note-on occurs.

Note on

Timbre:
The phase of the LFO will be reset by the first note-on that occurs from a condition of no keys being held; it will not be reset for subsequently played voices.

Note on   Note on

Note all off

Voice:
The LFO phase will be reset at each note-on, and modulation of differing phases will apply to each voice.

Note on

1VOICE

Note on

2VOICE
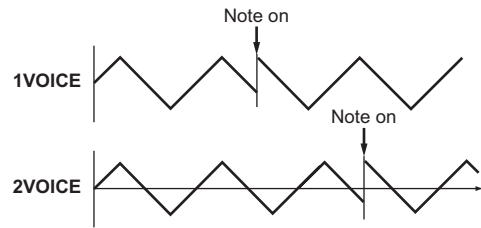
TempoSync.. [Off, On]
Specifies whether the LFO cycle will be synchronized to the internal tempo or to an external MIDI Clock.

Off:
The LFO will not be synchronized. It will function at the frequency specified by the Freq. parameter.

On:
The LFO will be synchronized to the [TEMPO] knob or to MIDI Clock messages from an external device.

If TempoSync is "On," selecting "LFO1Freq" or "LFO2Freq" as a Dest in the "V.Patch1–6" page will have no effect.

Freq. (Frequency) ⊙ .... [000.01Hz...100.00Hz]
This specifies the frequency of the LFO. Increasing this value will result in a faster frequency.
The settings in this page are available if TempoSync is "Off".

SyncNote ⊙ ....[8meas...1/64]
This specifies the LFO rate as a ratio of the Tempo setting in the "Arp" page.
The length (note value) you specify here will be one cycle of the LFO.
For example if this is set to 1/4, one cycle of the LFO will occupy one beat. If this is set to 3/4, one cycle of the LFO will occupy three beats.
The settings in this page are available if TempoSync is "On".

s63~s80: V.Patch1, V.Patch2, V.Patch3, V.Patch4, V.Patch5, V.Patch6

To let you create even more sophisticated sounds, the KingKORG NEO provides six virtual patches. Each patch consists of three parameters: the source of the modulation (Src), the destination to which that modulation will apply (Dest), and the intensity of that modulation effect (Int). You can produce a variety of changes in the sound by combining these parameters. For example by setting Src to "LFO2", "Dest" to "Cutoff", and specifying the amount of effect using Int, you can produce a cyclic change in tone (wah effect) produced by LFO2.

Virtual Patch

On modular analog synthesizers, the input or output of each module (oscillator, filter, amp, EG, LFO, and other controllers) could be connected ("patched") by a patch cord to any other module as desired, allowing you a great deal of freedom in creating the sound. The Korg MS Series (MS-20, MS-50, MS-10, etc.) went on sale in 1978 and featured this type of patching. The KingKORG NEO lets you perform this patching "virtually" (i.e., without using physical patch cords), so you can assign sources such as EG or LFO to the most important parameters (destinations).

Src (Source) ....[EG1…MIDI3]

Selects the signal (source) that will be the source of modulation.

EG1, EG2	EG1, EG2
LFO1, LFO2	LFO1, LFO2
Velocity	Keyboard velocity (playing dynamics).
PitchBend	Pitch bend (joystick: X-axis left/right)
JS+Y	Modulation (joystick: Y-axis upward)
JS-Y	Modulation (joystick: Y-axis downward)
KeyTrack	Keyboard tracking (position). Keyboard tracking works according to the pitch as controlled by pitch bend, transpose, and modulation sequencer. It does not reflect pitch changes produced by vibrato or virtual patching.
MIDI1, MIDI2, MIDI3	The function specified for the [MIDI Ctrl] page parameters "MIDI1," "MIDI2," or "MIDI3".

Dest(Destination) ....[Off…R/D Time]

This selects the parameter (destination) that will be controlled by the modulation. For example if you select Tune, modulation will be applied to the overall pitch of the timbre.

Off	—
Pitch	The pitch of the entire timbre.
Portamento	The Pitch page Porta.Time.
Osc1Tune	The Osc1 page TUNE.
Osc2Tune	The Osc2 page TUNE.
Osc3Tune	The Osc3 page TUNE.
Osc1Ctr1	The Osc1 page Control1.
Osc2Ctr1	The Osc2 page Control1.
Osc3Ctr1	The Osc3 page Control1.
Osc1Ctr2	The Osc1 page Control2
Osc2Ctr2	The Osc2 page Control2
Osc3Ctr2	The Osc3 page Control2
Osc1Level	The Mixer page Osc1Level
Osc2Level	The Mixer page Osc2Level
Osc3Level	The Mixer page Osc3Level
Cutoff	The Filter page Cutoff
Resonance	The Filter page Resonance
FcEG1Int	The Filter page EG1Int
FcKeyTrk	The Filter page KeyTrack
EG1Attack	The EG1-Filter page Attack
EG1Decay	The EG1-Filter page Decay
EG1Sustain	The EG1-Filter page Sustain
EG1Release	The EG1-Filter page Release
EG2Attack	The EG2-Amp page Attack
EG2Decay	The EG2-Amp page Decay
EG2Sustain	The EG2-Amp page Sustain
EG2Release	The EG2-Amp page Release
LFO1Freq	The LFO1 page Freq.
LFO2Freq	The LFO2 page Freq.
AmpLevel	The Amp page Level
Panpot	The Amp page Pan
Patch1Int	The V.Patch1 page Int
Patch2Int	The V.Patch2 page Int
Patch3Int	The V.Patch3 page Int
Patch4Int	The V.Patch4 page Int
Patch5Int	The V.Patch5 page Int
Patch6Int	The V.Patch6 page Int
Pre Drive	DRIVE/FREQ knob of PRE FX

Mod Depth	DEPTH knob of MOD FX
Mod Speed	SPEED knob of MOD FX
R/D Depth	DEPTH knob of REV/DELAY
R/D Time	TIME knob of REV/DELAY

Int (Intensity) ....[–63…+63]

Specifies the depth of the effect produced by the modulation source. With a setting of "+00", there will be no modulation.

Setting example for "SOURCE" and "DEST"

Src	Dest	
EG1/EG2	Pitch	The EG1 or EG2 will vary the pitch of the entire timbre over time.
EG1/EG2	Panpot	The EG1 or EG2 will vary the pan over time. By setting two patches to Patch#Int settings with the opposite (+/–) value you can create more complex panning.
LFO1/LFO2	Pitch	Vibrato will apply at the rate of LFO1 or LFO2.
LFO1/LFO2	Cutoff	Wah will be applied at the LFO1 or LFO2 frequency.
LFO1/LFO2	AmpLevel	Tremolo will be applied at the LFO1 or LFO2 frequency.
LFO1/LFO2	Panpot	Auto pan will be applied at the LFO1 or LFO2 frequency.
Velocity	AmpLevel	Velocity (keyboard playing strength) will affect the volume.
KeyTrack	Panpot	Keyboard position will gradually change the pan; lower notes at the left, and higher notes at the right.
PitchBend	Panpot	Joystick operation will move the sound left or right.

3. Vocoder parameters

We recommend that you edit the vocoder parameters while looking at the vocoder block diagram (OM: p.17).

v01: Vocoder

Vocoder SW (Vocoder Switch) .... [Off, On]

This switches the Vocoder function on/off.

Off:
The vocoder function will be off. The front panel VOCODER button will be unlit, and the program will not use the vocoder.

On:
The vocoder function will be on. The front panel VOCODER button will be lit, and the program will use the vocoder. You'll be able to select and edit the vocoder parameter pages ("v02: Voc.Carrier" – "v18: Voc.Amp").

v02~03: Voc.Carrier (Vocoder Carrier)

On these pages you'll specify the input level for the carrier, the original signal where the vocoder effect is applied.

Timb A Level (Timbre A Level) ....[000…127]

This specifies the output level of Timbre A (carrier).

Timb B Level (Timbre B Level) ....[000…127]

This specifies the output level of Timbre B.

v04~08: Voc.Modultr (Vocoder Modulator)

On this page you can adjust settings for the modulator, which applies its character to the carrier audio.
As the modulator, you can input either the signal from the mic (Input) or timbre B.

AudioSrc (Audio Source) ....[Input, TimbreB]

This selects the audio source that will be sent to the modulator.

> **Input:**
> The audio source of AUDIO IN will be sent to the modulator.

> **TimbreB:**
> The output of timbre B will be input as the modulator.

Gate Sens (Gate Sensitivity)...[000…127]

This specifies the speed at which the gate will function according to the "Threshold" setting.
Lower values for this setting will make the gate close more quickly, causing the vocoder sound to decay more quickly. Higher values for this setting will make the gate close more gradually, causing the vocoder sound to have a longer decay.

TIP: If the Threshold value is high, this effect will apply more readily. If the Threshold value is "000", there will be no effect.

Threshold ....[000…127]

This sets the level at which the input source will be cut. By setting this to an appropriate level, you can cut the noise that might be present during times where there is no input.

TIP: Increasing the value will make the input source more likely to be cut.
With excessively high settings, it's more likely that the audio input signal itself will be cut, making it difficult for you to apply the vocoder effect as intended.

HPF Level...[000…127]

This adjusts the output level from the HPF (High Pass Filter) that extracts the high-frequency components from the modulator input source; these high-frequency components are then mixed into the output of the vocoder. Increase this value if you want to emphasize the consonants of the vocal input source.

HPF Gate.. [Disable, Enable]

The KingKORG NEO's vocoder can extract the high-frequency portion from the audio source being input to the modulator, and then mix this into the output of the vocoder. You can specify whether this high-frequency portion will be mixed in only while the internal sound generator (Timbre A) is producing sound, or at all times.

> **Disable:**
> The high-frequency portion will be mixed whenever the audio source is being input to the modulator.

> **Enable:**
> The high-frequency portion of the audio source will be mixed only when the internal sound generator (Timbre A) is producing sound.

v09~14: Voc.Filter (Vocoder Filter)

Here you can adjust the settings for the carrier's sixteen band-pass filters and modulator's envelope filter. You'll be using these parameters frequently, since they play an important role in determining the character of the vocoder.

Formant Shift .... [−2…+2]

This shifts the cutoff frequencies of each of the carrier's band pass filters. This will significantly change the character of the vocoder output.
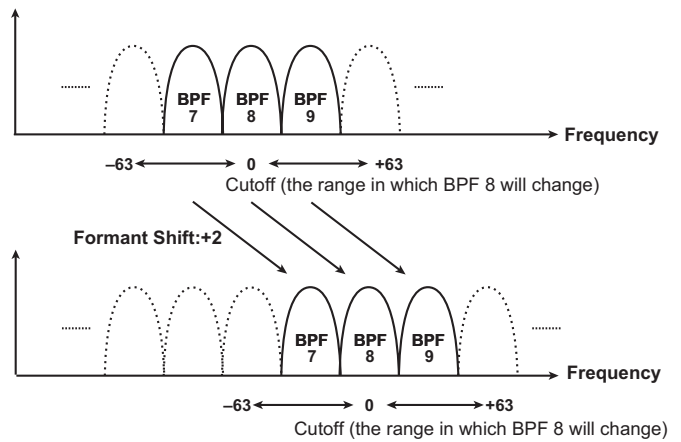
Offset (Fc Offset) ....[−63…+63]

This continuously shifts the cutoff frequency of each band-pass filter (Synthesis filter) of the carrier.

"Formant Shift" and "OFFSET"

When Formant Shift="+0", Offset="+00", the response of the carrier filters will match the cutoff frequency of the modulator filters.
The filter response is shifted upward or downward in two discrete steps by the "Formant Shift". This can be adjusted upward or downward two additional steps by using "Offset," giving you a total of four steps of adjustment upward or downward.

Cutoff (the range in which BPF 8 will change)

Formant Shift:+2

Cutoff (the range in which BPF 8 will change)

Resonance (Vocoder Resonance) ....[000…127]

This specifies the amount of resonance for each of the carrier's sixteen band-pass filters (the synthesis filter).
Higher settings will boost the sound in the region of the cutoff frequency.

ModSrc (Fc Modulation Source) ....[EG1…MIDI3]

Selects the modulation source that will be applied to the carrier band-pass filter "Offset".

TIP: The sources you can select are the same as the modulation sources for a virtual patch (→ p.12). However, EG1–3, LFO1–2, Velocity, and KeyTrack will be the sources for timbre A.

ModInt (Fc Modulation Intensity) ....[−63…+63]

This specifies the depth of the modulation that is applied to the carrier band-pass filter (Synthesis filter) "Offset".

E.F.Sens (Envelope Follower Sensitivity).............[000…126, Hold]

This specifies the sensitivity of the modulator's Envelope Followers. Lower settings of this value will allow the attacks of the input signal to be detected more rapidly.
If you set this to "Hold", the character of the signal that is being input at that moment will be held (Formant Freeze). Subsequently, the sound will retain that character regardless of whether there is any input.

> If you set this to "Hold" when there is no input signal present, there will be no output even if an audio signal is subsequently input.

TIP: If you write the program with this value set to "Hold", the program will memorize the response of the signal that was being held.

v15~18: Voc.Amp (Vocoder Amp)

Here are the parameters for modulation and vocoder output.

Direct Level ....[000…127]

This sets the volume level at which the modulatior input source will be output directly (unaffected).

Wet Level (Vocoder Wet Level)....................................[000…127]

This specifies the output level of the vocoder sound.

Wet Spread..[000…127]

This parameter adjusts the pan of all of the vocoder's bands. Higher settings will broaden the panning of the vocoder sound.

Vocoder Lvl (Vocoder Level)..[000…127]

This parameter specifies the overall volume for the mixed sounds of the source signal (Direct Level), the signal that has passed through the HPF (HPF Level), and the vocoder sound (Wet Level).

● ●

4. Arpeggio parameters

Front Panel Arpeggio Parameters

TEMPO LED

This will blink at quarter-note intervals of the tempo specified by the "Arp" page's Tempo setting.

ARP [TEMPO] button

Use this to turn the arpeggiator on/off, and to set the tempo.

✎ The tempo setting also affects the LFO speed, the delay time and other parameters if the TempoSync parameter on the "LFO1" or "LFO2" page is "On".

Using tap tempo to set the tempo

You can change the tempo by holding down the SHIFT/EXIT button and pressing the ARP (TEMPO) button at intervals of the desired tempo setting. The tempo will be changed when you hold down the SHIFT/EXIT button and press the ARP (TEMPO) button at least twice. For greater accuracy, it's a good idea to press it several times.

a01~12: Arp (Arpeggiator)

Here you can make various arpeggio-related settings.

Arp SW ▭ .... [Off, On]

This switches the arpeggiator on/off.

Off:
Turns the arpeggiator off.

On:
Turns the arpeggiator on.

Tempo ▭ ....[020...300]

This specifies the performance tempo of the arpeggiator.

Latch .... [Off, On]

This specifies how the arpeggiator will behave when you take your hand off the keyboard.

Off:
The arpeggiator will stop when you take your hand off the keyboard.

On:
The arpeggiator will continue playing even if you take your hand off the keyboard.

✎ If a damper pedal (→ p.21) is connected, and you hold down the damper pedal while the arpeggiator is playing, the result will be the same as if Latch were "On".

Key Sync .... [Off, On]

This specifies whether the arpeggiator will be synchronized to the keyboard. If this is "On", the arpeggiator will always start from the beginning of the arpeggio pattern when you play the keyboard. If you are performing together with other instruments, you can use this function to ensure that the arpeggio pattern is aligned with the beginning of the measure.

Off:
Sync off. The arpeggio pattern will not be reset when you play the keyboard.

On:
Sync on. The arpeggio pattern will be reset the moment you play the keyboard.

Assign (Arp Timbre Assign) .... [TimbreA, TimbreB, TimbreA+B]
This selects the timbre(s) that will be sounded by the arpeggiator.

TimbreA:
The arpeggiator will sound timbre A.

TimbreB:
The arpeggiator will sound timbre B.

TimbreA+B:
The arpeggiator will sound timbres A and B.

Type .... [Up, Down, Alt1, Alt2, Random, Trigger]
This selects the arpeggio type.

Up:
Notes will be played consecutively from low pitches to high.

Down:
Notes will be played consecutively from high pitches to low.

Alt1:
Up and Down will be alternated. (The highest and lowest notes will be played once.)

Alt2:
Up and Down will be alternated. (The highest and lowest notes will be played twice; on the way up, and on the way down.)

Random:
Notes will be played randomly.

Trigger:
The notes you are holding down will be played simultaneously at the tempo and "Resolution" timing. The "Oct. Range" setting will be ignored.

✎ If "Trigger" is selected, and a large number of keys are pressed simultaneously, a maximum of six notes starting from the lowest pitch will be detected and sounded. However if you're using settings that cause a single note to sound a large number of voices, limitations of the maximum polyphony might mean that not all of the notes can be sounded.

Resolution .... [1/32…1/1]

Specifies the resolution (spacing of the notes) relative to the tempo specified by [TEMPO] knob.

1/32	The arpeggio will be played as 32nd notes at the specified tempo.
1/24	The arpeggio will be played as 16th note triplets at the specified tempo.
1/16	The arpeggio will be played as 16th notes at the specified tempo.
1/12	The arpeggio will be played as 8th note triplets at the specified tempo.
1/8	The arpeggio will be played as 8th notes at the specified tempo.
1/6	The arpeggio will be played as quarter note triplets at the specified tempo.
1/4	The arpeggio will be played as quarter notes at the specified tempo.
1/2	The arpeggio will be played as half notes at the specified tempo.
1/1	The arpeggio will be played as whole notes at the specified tempo.

Gate Time ....[000%...100%]

This specifies the duration (gate time) of the arpeggiated notes, as a percentage (%). With a setting of "001%", each note will be extremely short. If set to "100%", each note will continue playing until the next step.

Swing ....[−100%...+100%]

This specifies the percentage (%) by which even-numbered notes of the arpeggio will be shifted in timing relative to the first note.

TIP: A setting of "+33%" will produce a perfect shuffle timing.

When Resolution =1/8
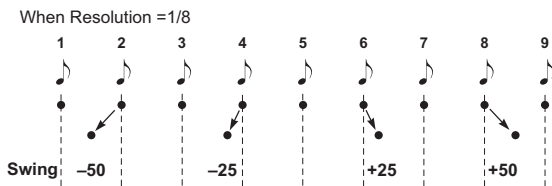
Last Step .... [1…8]

This specifies the number of valid steps (maximum number of steps) for the arpeggiator.

Oct Range (Octave Range) .... [1…4]

This specifies the range of octaves over which the arpeggio will be played.

Step...[_, o]

Here you can turn each step of the arpeggio pattern on/off. This is a way to give more variety to arpeggios that might become boring.
This is available for the steps up to the Last Step.

Editing a step

1. **Press the PROGRAM (GLOBAL) button to enter Program mode.**

2. **Use the PAGE +/– buttons to access the "a12:Arp" page.**

3. **Press the VALUE dial.**

4. **Use the PAGE+/– buttons to move the "↓" to the step that you want to edit.**

5. **Turn the VALUE dial to set the step on (o) or (_).**

6. **Repeat steps 4–5.**

7. **Press the VALUE dial to confirm the settings.**
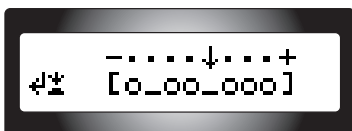
Step status
○ : The step will sound
— : The step will not sound

5. Edit utility parameters

Here are program-related utility functions.

u01~02: Utility

Init Program (Initialize Program) ....
This initializes the settings of the selected program (OM: p.20 "1. Initializing a program").

Copy Timbre...
This copies timbre settings from another program to a timbre of the currently selected program (OM: p.20 "2. Copying a timbre").

6. GLOBAL parameters

To edit the GLOBAL parameters, hold down the SHIFT/EXIT button and press the PROGRAM (GLOBAL) button. To move between pages, use the PAGE+/– buttons or the category/favorite buttons.

✎ Changes you make to Global parameter settings will be lost when you turn off the power. If you want to keep the changes you make, you must save the GLOBAL parameters (OM: p.21 "1. Saving global settings").

g01~09: Common

The settings you make from the global screen will apply to the entire KingKORG NEO, such as the overall tuning and the velocity curve.

Mst.Tune (Master Tune)...................................[430.0Hz…450.0Hz]
Adjusts the overall pitch in 0.1 Hz steps, in terms of A4 as the reference pitch. Use this when you need to tune the pitch of the KingKORG NEO to other instruments.

Transpose..[−12…+12]
Adjusts the overall pitch in steps of a semitone (100 cents) over a range of one octave up or down. Use this when you want to transpose to suit the song you are playing.

Position .... [PostKBD, PreTG]
Specifies the internal MIDI IN/OUT routing within the KingKORG NEO. This setting will affect the way that MIDI data is transmitted and received, and how the arpeggiator data is handled.

✎ If you've recalled a program whose KeyResponse (→ p.4) is set to "Shlw" or "Deep," the keyboard will always output a velocity of 64, and your keyboard playing will not be affected by the VelCurve setting.

PostKBD:
Data received from the MIDI IN connector will be sent to the timbres without being affected by the Global settings. The data that is output by the keyboard will be converted according to the Global settings, be routed through the arpeggiator, and then sent to the MIDI OUT connector.


A. With the PostKBD setting
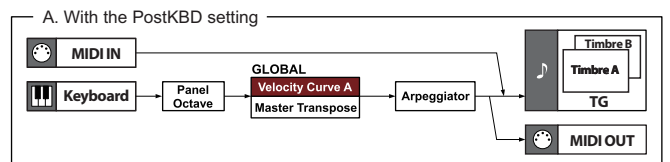
PreTG:

Data received from the MIDI IN connector will be converted according to the Global settings, be routed through the arpeggiator, and sent to the timbres. The data that is output by the keyboard will be sent to the MIDI OUT connector without being affected by the Global settings or the arpeggiator.

B. With the Pre TG setting
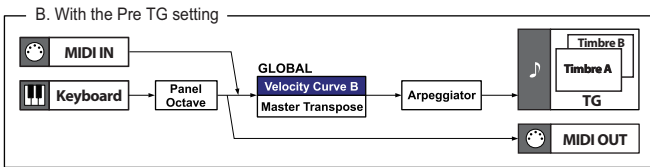
VelCurve (Velocity Curve) .... [1...8, Const64]

Different velocity curves allow you to you tailor the response of the keyboard to your own playing style. Lighter curves are best for heavy-handed players, higher curves may work better for players with a light touch.

✎ If you've recalled a program whose KeyResponse (→ p.4) is set to "Shlw" or "Deep," the keyboard will always output a velocity of 64, and your keyboard playing will not be affected by the VelCurve setting.

When A. PostKBD

Curve A

When B. PreTG
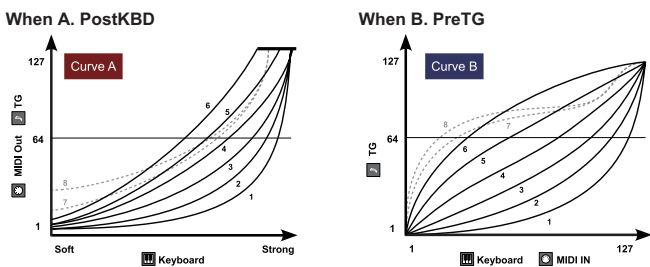
Curve B

1	Heavy	This curve requires you to play strongly in order to produce an effect.
2		This curve is closer to the normal curve than 1.
3		This curve is closer to the normal curve than 2.
4 (Norm)	Normal	This is the typical curve.
5		This curve lets you produce an effect without having to play strongly.
6		This curve lets you produce an effect without requiring you to play as strongly as 5.
7		This curve produces a fairly steady effect with little change for medium-strength playing.
8	Light	This curve is flatter than 7.
Const64	—	Velocity will always be 64.

TIP: Curves 7 and 8 produce little change for medium-strength playing. However, these curves will produce a great deal of change with softly played notes, so they may be more difficult to control. Choose the curve that is most appropriate for your playing dynamics or for the effect you want to obtain.

Scale...[Equal Temp...UsrKeyTune]

This selects the type of scale that the current program will use.
You can choose one of ten different scale types.

Equal Temp	Equal temperament, which is the most commonly used scale. Every semitone is spaced an equal pitch distance from the next.
Pure Major	Pure major scale. Major chords in the key specified by ScaleKey will be completely harmonious.
Pure Minor	Pure minor scale. Minor chords in the key specified by ScaleKey will be completely harmonious.
Arabic	Arabic scale. It includes the quarter-tone scale characteristic of Arabian music.
Pythagorea	This is the Pythagorean scale. Based on ancient Greek musical theory, it is particularly effective for playing melodies.
Werckmeist	This is the Werckmeister temperament. It is an equal tempered scale of the late Baroque period.

Kirnberger	This is the Kirnberger temperament. It was created in the 18th century, and is used mainly for tuning harpsichords.
Slendro	Slendro scale is an Indonesian gamelan scale that divides the octave into five notes. If the ScaleKey is C, use the C, D, F, G, and A keys.
Pelog	Pelog scale is an Indonesian gamelan scale that divides the octave into seven notes. If the ScaleKey is C, use the C, D, E, F, G, A, and B keys.
UsrKeyTune (User Key Tune)	The scale/tuning specified in the "UserKeyTune" page will be used (→ p.22 "g35: UserKeyTune").

ScaleKey ....[C...B]

This specifies the tonic note (key) of the scale selected by Scale.

Mic Thru.. [Off, On]

This switches the mic thru function on/off.

Off:
Mic Thru will be off.

On:
Input from the mic jack will be output without change from the OUTPUT jacks.

✎ The Mic Thru setting is not saved.

**TIP:** You can conveniently turn Mic Thru on/off by holding down the SHIFT/EXIT button and pressing the VOCODER button.

g08~09: Common>Disp

Use these parameters to configure the display settings.

Brightness (Main Display Bright) ....[01...10]

On this page, you can press the VALUE dial to individually adjust the brightness of each display. Use the PAGE+/– buttons to move the cursor "▸" to Main, Osc, or Flt, and then turn the VALUE dial to edit the setting. Press the VALUE dial once again to return to the previous page.

Main display   Filter sub-display

Oscillator sub-display
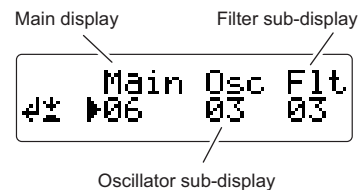
Main (Main Display Brightness) ....[01...10]
Adjusts the brightness of the main display.

Osc (Oscillator Sub Display Brightness) ....[01...10]
Adjusts the brightness of the oscillator sub-display.

Flt (Filter Sub Display Brightness) ....[01...10]
Adjusts the brightness of the filter sub-display.

Page Jump.. [Off, On]

Off:
The page jump function will be off.

On:
When you use a front panel knob in the various edit modes, you will jump to the page for that knob's parameter.

g10: Common>Knob

Mode (Knob Mode)................................ [Jump, Catch, ValueScale]

This specifies what will happen when the physical position of the front panel knob does not match the actual value of the parameter.

Jump:

When you turn a knob, the parameter value will jump to the value indicated by the knob. We recommend this setting when you're editing, since it will be easy to hear the result of your editing.

Catch:

When you turn a knob, the parameter value will not change until the knob reaches the position corresponding to the actual current value. We recommend this setting when you're performing, since it lets you avoid making abrupt changes in the sound.

ValueScale:

When you turn a knob, the parameter value will increase or decrease in a relative manner in the direction that you're turning. When you turn the knob and it reaches the full extent of its motion, the parameter will also be at its maximum or minimum value. Once the knob position matches the parameter value, the knob position and parameter value will subsequently be linked.

If the parameter value does not change

In some cases, the parameter value will not change when you turn a front panel knob.

This means that Mode is set to "Catch." In "Catch" mode, the value will not change until the knob position matches the actual value of the parameter that you're editing (the value shown in the main display).

"Catch" mode prevents the value from changing abruptly and causing an unnatural change in the sound when you use the knob. Once the knob position matches the actual value, the knob and the value will be linked.

If "Jump" mode is selected, using the knob will cause the actual value to immediately jump to the position of the knob.

Suppose that you've turned knob [1] to edit a certain parameter, and that the knob is in the position shown.

Suppose that you switch programs, and the actual value of the parameter assigned to the knob is now at the position indicated by the triangle in the illustration. (Moving a knob slightly will make the actual value appear.)
The parameter value will not change until you turn the knob to that position.

Once the knob has reached the position corresponding to the actual value, the parameter value and the knob position will be linked, and the value will change as you turn the knob.

g11: Common

Protect .... [Off, On]

This specifies whether internal memory will be protected. With the factory settings, this is "Off".

Off:

You'll be able to write to internal memory.

On:

The following Write procedures will be prohibited.

• Writing a program
• Loading the factory-set data
• Receiving a data dump
• Program category and favorite button assignments

g12~13: Power Save

This is where you can adjust power management settings.
You can dim the displays or make the displays and LEDs turn off to reduce power consumption when the unit has not been used for a time. The illumination will return to its previous state when you use or play the unit.

Mode (Power Save Mode) ....[DispLow, DispOff, Disp&LEDOff]

This specifies what will happen when power conservation mode is activated.

DispLow:

The display will dim.

DispOff:

The displays will turn off.

Disp&LEDOff:

The displays and LEDs will turn of.

Time (Power Save Time)...................... [30sec, 1min, 5min, 15min]

This page is available if Mode is set to "DispOff" or "Disp&LEDOff".
This specifies the length of time until the displays and LEDs will go dark in power save mode.

30sec, 1min, 5min, 15min:

The illumination will go dark if the unit is not used for 30 seconds, 1 minute, 5 minutes, or 15 minutes respectively.

g14: Power Off

AutoPOff...[Disable, 4hours]

The KingKORG NEO will automatically power-off if its keyboard, knobs, or buttons when there has been no user input for a period of time. With the factory settings, this is set to "4hours".

Disable:

The Auto Power Off function will be disabled. The power will not turn off automatically.

4hours:

The power will turn off automatically when four hours have elapsed without using the buttons, knobs, or keyboard.

⚠ When the power turns off, the settings that you had been editing will be lost. If you want to keep your edits, you must save them.

● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●

7. MIDI parameters

Here is where you can adjust MIDI-related settings for the KingKORG NEO.

g15~18: MIDI Basic

Global Ch (Global Channel)................................[01…16]

This specifies the MIDI channel. When you wish to transmit program changes or system exclusive messages via MIDI, set the global MIDI channel to match the MIDI channel of the connected MIDI device.

LocalControl... [Off, On]

Turns local control on or off.

Off:

The KingKORG NEO's controllers such as the keyboard and joystick will be disconnected from its internal sound generator.

When you've connected an external sequencer, this will prevent duplicate notes from being triggered by the echo-back from the sequencer (performance data sent when you play the KingKORG NEO being re-transmitted from the sequencer back to the KingKORG NEO).

On:

Select this setting when you are using the KingKORG NEO by itself.

Routing (MIDI Routing) .... [MIDI+USB, MIDI, USB]

This selects the connector(s) that will be used to transmit and receive MIDI messages.

MIDI+USB:

The MIDI connectors and USB connector will be used to transmit and receive MIDI messages. When receiving MIDI messages, the messages from both types of connectors will be mixed, and MIDI messages received later will be given priority. For transmission, the same MIDI messages will be transmitted from both connectors.
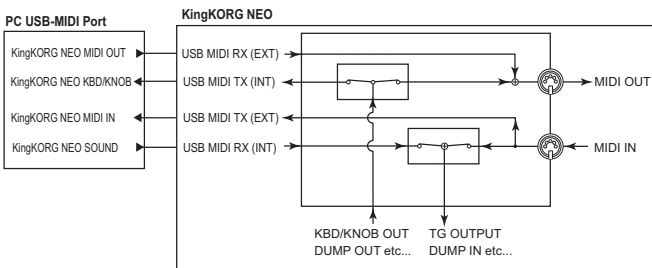
USB:

Only the USB connector will be used to transmit and receive MIDI messages.
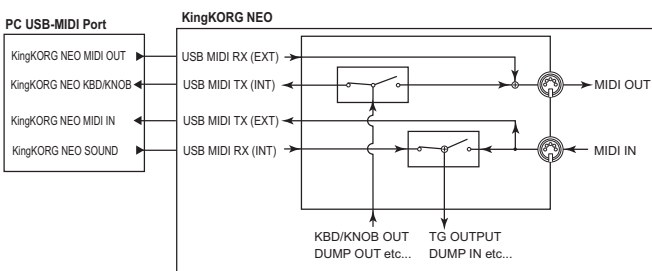
MIDI:

Only the MIDI connectors will be used to transmit and receive MIDI messages.
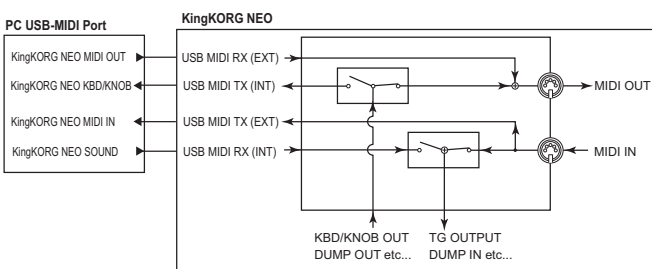
Clock .... [Auto, Int, Ext USB, Ext MIDI]

This selects the reference clock where the KingKORG NEO's tempo will synchronize.

If you specify an external device as the clock, the KingKORG NEO's arpeggiator and other functions that you've tempo-synchronized (such as LFO or delay) can synchronize to the external device.

Auto:

If MIDI clock from an external MIDI device that's connected to the MIDI IN connector is being received, the KingKORG NEO will automatically function as with the "Ext MIDI" or "Ext USB" setting. If no MIDI clock is being input, the KingKORG NEO will function as with the "Int" setting.

Int (Internal):

The KingKORG NEO's internal clock will be used as the reference. You'll be able to specify the tempo in the "a02:Arp" page. Choose this setting if you're using the KingKORG NEO by itself, or if you're using the KingKORG NEO as the master device where external MIDI devices will be synchronized.

Ext USB (External USB):

The KingKORG NEO will synchronize to MIDI clock data from a computer that's connected to the USB connector. You won't be able to set the tempo on the KingKORG NEO.

Ext MIDI (External MIDI):

The KingKORG NEO's arpeggiator will synchronize to the MIDI clock messages received from an external MIDI device that's connected to the MIDI IN connector.

TIP: When sync'ing to an external MIDI device, refer to that device's owner's manual.

g19~21: MIDI Ctrl

The KingKORG NEO's virtual patch function lets you use MIDI messages to directly modulate the sound. The MIDI messages used for this purpose are called "MIDI control sources".

On these pages you can select the MIDI messages that will be assigned as MIDI control sources MIDI1, MIDI2, and MIDI3.

MIDI1 (MIDI Control Source 1)............[P.Bend…CC#119, CC#16±, CC#17±, CC#19±, CC#20±, CC#21±]

MIDI2 (MIDI Control Source 2)............[P.Bend…CC#119, CC#16±, CC#17±, CC#19±, CC#20±, CC#21±]

MIDI3 (MIDI Control Source 3)............[P.Bend…CC#119, CC#16±, CC#17±, CC#19±, CC#20±, CC#21±]

Select the MIDI messages that will be assigned to MIDI1, MIDI2, and MIDI3. With the factory settings, these are assigned as "CC#16," "CC#02," and "A.Touch" (aftertouch).

Operation when assigned to CC#16±, CC#17±, CC#19±, CC#20±, or CC#21±
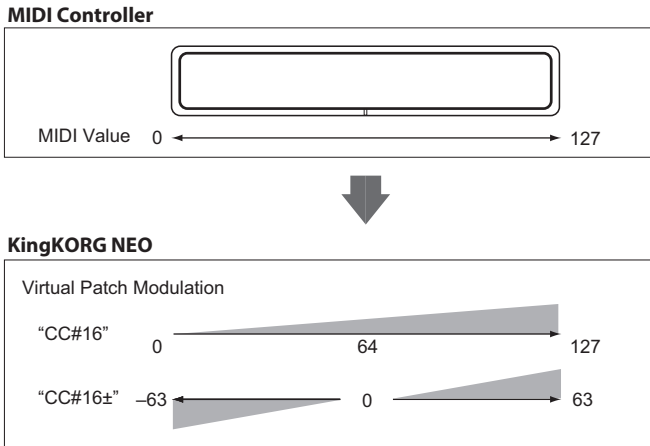
When you use a typical external MIDI controller, it will transmit a MIDI control change message with a value in the range of "0–127". If you're using a control change to modulate a virtual patch, a value of "0" will produce no effect, and the modulation effect will increase as the value rises.

However in some cases, you might want to increase or decrease an effect relative to the center position of the controller, as when using the joystick in its X-axis.

For this reason, the KingKORG NEO can automatically convert a value range of "0–127" to a range of "–63–0–63" when using a control change message with a virtual patch.

TIP: If the specified value is also used by another parameter, an asterisk "*" is shown to the right of "Value".

Example: Ribbon controller

MIDI Controller

MIDI Value   0 ←————————————————→ 127

KingKORG NEO

Virtual Patch Modulation

"CC#16"   0 ————— 64 ————— 127

"CC#16±"   −63 ————— 0 ————— 63

If you assign "CC#16±," "CC#17±," "CC#19±," "CC#20±," or "CC#21±" for MIDI1–3, the value received via CC#16, 17, 19, 20, or 21 will automatically be converted before being used for modulation.

g22~26: MIDI Filter

Here is where you can adjust MIDI filter settings. For each type of MIDI message you can enable or disable reception on the KingKORG NEO.

ProgChg (Program Change)................................. [Disable, Enable]

This selects whether program changes will be transmitted and received.

Disable:
Program changes will not be transmitted or received.

Enable:
Program changes will be transmitted and received.

BankChg (Bank Change) .... [Disable, Enable]

This selects whether bank select messages will be transmitted and received.

Disable:
Program changes will not be transmitted or received.

Enable:
Program changes will be transmitted and received.

CtrlChg (Control Change)................................... [Disable, Enable]

This selects whether control change messages will be transmitted and received.

Disable:
Program changes will not be transmitted or received.

Enable:
Program changes will be transmitted and received.

P.Bend (Pitch Bend).. [Disable, Enable]

This selects whether pitch bend messages will be transmitted and received.

Disable:
Program changes will not be transmitted or received.

Enable:
Program changes will be transmitted and received.

SysEx (System Exclusive) .... [Disable, Enable]

This selects whether MIDI system exclusive messages will be transmitted and received.

Disable:
Program changes will not be transmitted or received.

Enable:
Program changes will be transmitted and received.

g27: MIDI CC#Map (MIDI Control Change Map)

Here is where you can assign control change messages to the principal parameters.
Parameters that are assigned to an incoming control change will change together. When you use a knob or button that corresponds to a parameter, the control change that's assigned here will be transmitted. For some parameters that have no corresponding knob or button, only reception is supported (→ p.31 "MIDI messages").

* Parameter .... [Porta.Time…VcE.F.Sens]

This selects the parameter that will be assigned (→ p.34).

* Value ....[Off…#119]

This specifies the MIDI control change number (CC#) for the parameter selected in Parameter.

Editing the CC#Map

1. **Hold down the SHIFT/EXIT button and press the PROGRAM (GLOBAL) button to switch to Global mode.**

2. **Use the PAGE+/– buttons to access the "g27:MIDI CC#Map" page.**
    TIP: At this time you can turn the VALUE dial to step through the parameters and view their status.

3. **Press the VALUE dial.**

4. **Use the PAGE+/– buttons to select a parameter, and turn the VALUE dial to specify the value .**
    TIP: If the specified value is also used by another parameter, an asterisk "*" is shown at the right of the value (Value).

5. **Press the VALUE dial to return to the previous page.**

TIP: The MIDI channel for vocoder parameters will be the same MIDI channel as for timbre A.

● ●

8.   Foot parameters

Here is where you can adjust settings for a foot pedal and foot switch that's connected to the rear panel. When connecting a foot pedal for the first time, use the GLOBAL "g34: Foot Pedal" page to perform the calibration (→ p.21 "Calibration").

g28: Foot Damper

Polarity (Damper Polarity).. [+, −/KORG]

This specifies the polarity of a damper pedal that's connected to the DAMPER jack.
With the factory settings, this is set to "−/KORG". Use this setting if you're connecting a damper pedal or pedal switch made by Korg.

TIP: Use the "−/KORG" setting if a damper pedal switch is not connected.

g29: Foot Assign

Type (Assignable Type)..[Pedal, Switch]

This specifies the option that's connected to the ASSIGNABLE SW jack.

Pedal:
Choose this setting if a volume pedal or foot controller is connected.

Switch:
Choose this setting if a pedal switch is connected.

g30, 34: Foot Pedal

The settings on these pages will be available if the "g29:Foot Assign" page Type parameter is set to "Pedal".

Func (Assignable Pedal Function)...............[Volume…Foot Pedal]

Selects the function of the foot pedal that's connected to the ASSIGNABLE SW jack.
The foot pedal will transmit the MIDI message corresponding to each function, allowing you to control the internal sound generator or an external MIDI device.

Volume (CC#07):
The foot pedal will control the parameter that's assigned to "007(CC#07)" in the GLOBAL "g27: MIDI CC#Map" page.
With the factory settings, this will be "Amp Level"; the Amp output level of timbres A/B will be controlled together.

Exp.Pedal (Expression Pedal) (CC#11):
The foot pedal will control the volume of the entire program.
Even if you've set timbres A/B to different amp levels in order to adjust the volume of the signals output by the two timbres, this allows you to control the overall volume while maintaining the balance.

Panpot (CC#10):
The foot pedal will control the pan of the timbres used by the program.
This will control the parameter that's assigned to "010 (CC#10)" in the GLOBAL "g27: MIDI CC#Map" page. With the factory settings, this will be "Pan," and will control the pan (stereo position) of timbres A/B together.

AfterTouch:
The foot pedal will control aftertouch for the timbres that are used by the program.

JS +Y (Joystick +Y) (CC#01):
The foot pedal will control the effect of the joystick's +Y axis.

JS –Y (Joystick –Y) (CC#02):
The foot pedal will control the effect of the joystick's –Y axis.

Foot Pedal (CC#04):
The foot pedal will control the parameter that's assigned to "004 (CC#04)" in the GLOBAL "g27: MIDI CC#Map" page.

Calibration

This specifies the effective operating range of the pedal that's connected to the KingKORG NEO.
Connect the pedal, and then press the VALUE dial to perform the calibration.

Move the pedal from the fully up position to the fully advanced position to check the operating range, and then press the VALUE dial to store it.

✎ If the detected range is not appropriate, the display will indicate "Calibration Err." In this case, perform the calibration again.

g31~33: Foot Switch

The settings of these pages will be available if the "g29:Foot Assign" page Type parameter is set to "Switch".

Func (Assignable Switch Function)............[Prog. Up…JS Lock XY]

This selects the function of the pedal switch that's connected to the ASSIGNABLE SW jack.

Prog. Up/Prog. Down:
The pedal switch will step through programs or favorites one by one.

Octave Up/Octave Down:
The pedal switch will change the octave. If the pedal switch is on, the pitch will be shifted +1 or –1 octave respectively.

Porta. SW:
The pedal switch will turn portamento (CC#65) on/off.

TIP: Portamento can be turned on/off if the GLOBAL "g27: MIDI CC#Map" page Porta. SW parameter is set to "065(CC#65)".

Arp SW:
The pedal switch will turn the arpeggiator on/off.

Arp Stop:
The pedal switch will reset the arpeggiator that's currently playing.

Foot SW:
The pedal switch will function as a general-purpose MIDI foot switch. It will control CC#82 (Foot Switch/General Purpose Controller#7).

JS Lock X:
The foot switch will lock the effect of the joystick's X-axis (left/right). The effect will be maintained even if you release your hand from the joystick.

JS Lock Y:
The foot switch will lock the effect of the joystick's Y-axis (up/down). The effect will be maintained even if you release your hand from the joystick.

JS Lock XY:
The foot switch will lock all of the joystick's effects.
The effects will be maintained even if you release your hand from the joystick.

Polarity (Assignable Switch Polarity)...........................[+, –/KORG]

This specifies the polarity of the foot pedal that's connected to the ASSIGNABLE SW jack.
With the factory settings, this is set to "–/KORG". Use this setting if you've connected an optional PS-1/PS-3 pedal switch.

TIP: If a pedal switch is not connected, leave this set to "–/KORG".

Mode (Assignable Switch Mode)....................[Momentary, Latch]

This specifies how the pedal switch will function.

Momentary:
The pedal switch will be on only while you hold it down, and will turn off when you release it.

Latch:
The pedal switch will alternately turn on and off each time you press it.

● ●

9. UserKeyTune parameters

g35: UserKeyTune

Here you can specify a user key tuning.
The pitch of each note (C–B) in the octave can be specified in a range of –99–+99 cents.
The settings in this page are available if the "g05:Common" page Scale parameter is set to "UsrKeyTune".

Key C…B ....[–99…+99]
This specifies the tuning for each Key C...B in cents, relative to the equal-tempered value (0).
A value of "+99" is approximately one semitone higher than standard pitch.
A value of "–99" is approximately one semitone lower than standard pitch.

Changing the Key C...B

1. **Hold down the SHIFT/EXIT button and press the PROGRAM (GLOBAL) button to enter Global mode.**

2. **Use the PAGE +/– buttons to select the "g35:UserKeyTune" page.**

> **TIP:** At this time you can turn the VALUE dial to step through the parameters and view their status.

3. **Press the VALUE dial.**

4. **Use the PAGE +/– buttons to select Key, and turn the VALUE dial to set Tune.**

5. **Press the VALUE dial to return to the previous page.**

● ●

10. EQ parameters

Here you can specify the frequencies of the front panel equalizer.
These are shelving-type equalizers.

g36: EQ Low

This is where you can adjust the settings for the low equalizer.

Freq. (Low EQ Frequency) ⊙ ....[20Hz...1000Hz]
This specifies the cutoff frequency of the low equalizer.

> **TIP:** You can adjust the low cutoff frequency by holding down the SHIFT/EXIT button and turning the LOW knob of the EQ controls.

g37: EQ High

This is where you can adjust the settings for the high equalizer.

Freq. (High EQ Frequency) ⊙ .... [1.00kHz...20.00kHz]
This specifies the cutoff frequency of the high equalizer.

> **TIP:** You can adjust the high cutoff frequency by holding down the SHIFT/EXIT button and turning the HIGH knob of the EQ controls.

● ●

11. Global utility

These are utility functions for managing the KingKORG NEO's data.

u01~02: Utility

Load Preload ....[1Program, All Program, Global, All Data]
This returns the KingKORG NEO's programs and global data settings to their factory-set state (OM: p.21 "3. Restoring the factory settings").

> **1Program:**
> Returns the currently selected program to the factory settings.

> **All Program:**
> Programs 1–200 will be returned to their factory settings.
> Programs that did not contain preset data when shipped from the factory (programs 201–300) will not be affected. The currently-saved data will remain.

> **Global:**
> Global settings will be returned to their factory settings.

> **All Data:**
> All of the KingKORG NEO's program data and global data will be transmitted. However, programs that did not contain preset data when shipped from the factory (programs 201–300) will not be affected. The currently-saved programs will remain.

MIDI Dump ....[1Program, All Program, Global, All Data]
This transmits the KingKORG NEO's program data and global settings to an external MIDI device.
Use this when you want to transmit the data to the computer for storage, or when you want to copy programs or settings to another connected KingKORG NEO unit.

> **1Program:**
> The data of the currently selected program will be transmitted.

> **All Program:**
> The data of programs 1–300 will be transmitted.

> **Global:**
> The global data will be transmitted.

> **All Data:**
> All of the KingKORG NEO's program data and global data will be transmitted.

✎ Do not touch the KingKORG NEO's buttons, knobs, or keyboard while data is being transmitted or received. Never turn off the power during this time.

✎ When you execute a MIDI dump, MIDI system exclusive messages will be transmitted. Depending on the MIDI interface device you're using, some system exclusive messages might not be received or transmitted correctly.
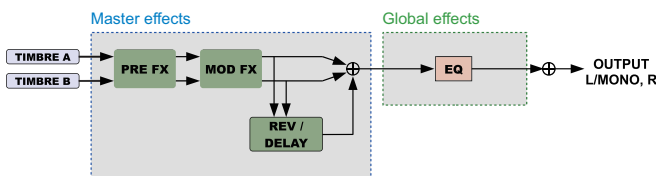
Effects

1. What are effects

Effects are processes that modify the sound produced by the synthesizer or vocoder in some way, such as by applying modulation, reverberation, or echo to the sound.

Some effects can transform the sound by giving it a completely different character, while other effects can give the sound a spacious sense of stereo depth of field.

2. Effects provided by the KingKORG NEO

The KingKORG NEO's effects can be broadly divided into two types: master effects and global effects.

a. Master effects

These are effects that can be edited and saved for each individual program. There are three effect sections, PRE FX, MOD FX, and REV/DELAY, and each section provides a choice of six types of effect. Use the FX type select dial to select a type, and use the FX control knobs for each section to adjust the effect.

You can also select the timbre where the effect will be applied. Each time you press the FX type select dial, the timbre where the effect will be applied will change.
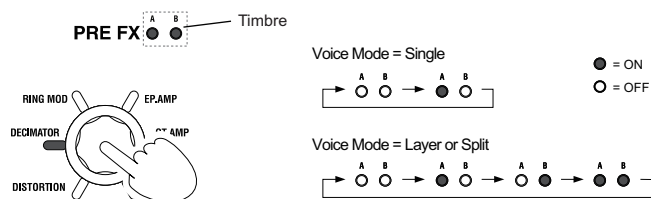
b. Global effects

These effects can be applied to the overall audio output of the KingKORG NEO.

You can use the EQ global effect to adjust the high and low frequency ranges, to match the acoustics of where you're playing.

The global effects will not change when you switch programs.

TIP: The EQ frequencies can also be saved as a global setting. (OM: p.21, "1. Saving global settings")

3. Controlling the effects

a. Using the front panel
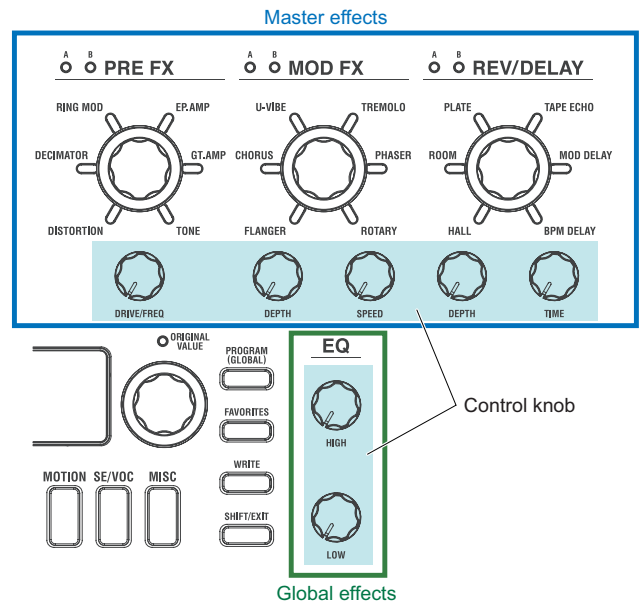
You can control the effects intuitively by turning the control knobs and pressing the buttons for each section.

b. Using virtual patches

Virtual patches let you control the effects from the EG or LFO within the sequencer, or from the joystick or an external foot controller (master effects only).

In Program edit mode you can use the virtual patch functions (→ p.12) to specify the control signals, their control destination, and the amount of control.

c. Using MIDI via CC#Map

You can use MIDI control change messages to control the effects.
The CC#Map function lets you control the knobs and buttons of each effect directly via MIDI.

● ●
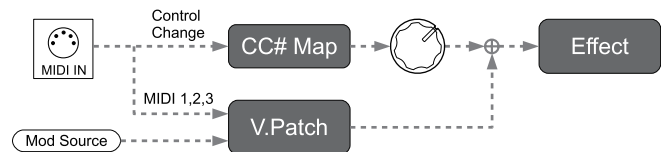
4. Master effects

Each of the master effect sections provide the following effect types.

PRE FX	MOD FX	REV/DELAY
1. DISTORTION	1. FLANGER	1. HALL
2. DECIMATOR	2. CHORUS	2. ROOM
3. RING MOD	3. U-VIBE	3. PLATE
4. EP.AMP	4. TREMOLO	4. TAPE ECHO
5. GT.AMP	5. PHASER	5. MOD DELAY
6. TONE	6. ROTARY	6. BPM DELAY

The features of each effect type and the functions assigned to the control knobs are explained below.

PRE FX

a. DISTORTION

Effect

This effect boosts the loudness or distorts the sound.

Drive ....[000…127]

Adjusts the loudness or distortion.
You can produce intense distortion by turning the DRIVE/FREQ knob toward the right. Turning the knob all the way to the left will produce a nearly clean high-gain sound.

Block diagram
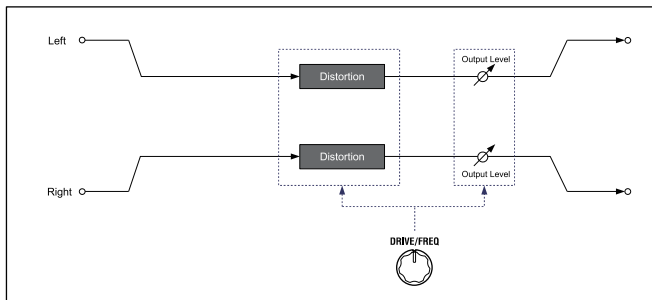
b. DECIMATOR

Effect

This effect decreases the sampling frequency to deliberately create a rough sound that is reminiscent of an inexpensive sampler or vintage video game. It can also simulate the noise that is distinctive of a sampler.

Freq..[000…127]

This adjusts the amount of roughness.
Turning the DRIVE/FREQ knob toward the right will lower the internal sampling frequency, creating more noise at pitches not included in the original sound, and making the sound more rough and distorted.

Block diagram
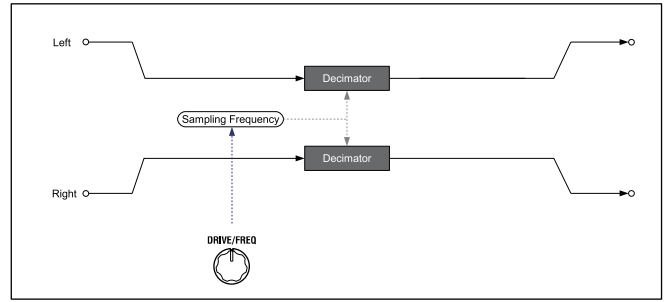
c. RING MOD (Ring Modulator)

Effect

This effect creates a metallic tonal character by multiplying the input signal with an oscillator.

Freq..[000…127]

This adjusts the amount of roughness. Turning the DRIVE/FREQ knob toward the right will make the sound more rough and distorted.
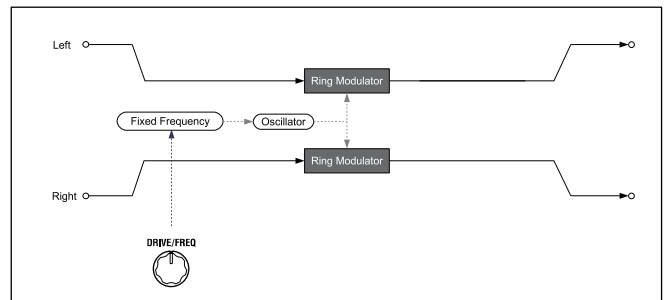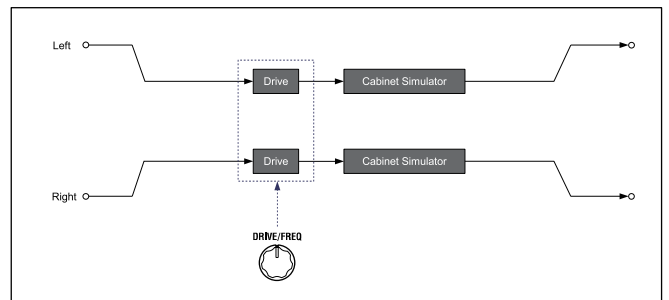
Block diagram

d. EP.AMP

Effect

This effect simulates the built-in speakers of a vintage electric piano. The mid-range has a distinctive character that lets you obtain a retro sound.

Drive ....[000…127]

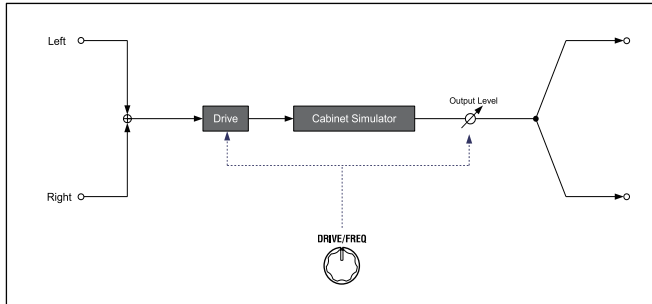This adjusts the gain of the amp.

Block diagram

e. GT.AMP

Effect

This effect simulates a guitar amp and its cabinet.
The response and distortion of the speakers are also simulated. This is
effective when used on organ or synth lead sounds.

Drive ....[000…127]

This adjusts the gain of the amp.

Block diagram

f. TONE

Effect

This effect lets you easily adjust the volume of the low and high range simply
by turning a single knob.

Drive ....[L63…Flat…H63]

This adjusts the range and amount of the boost.
Turning the knob toward the left will drive the Low EQ to emphasize the
low-frequency range; turning the knob toward the right will drive the High EQ
to emphasize the high-frequency range.

Block diagram
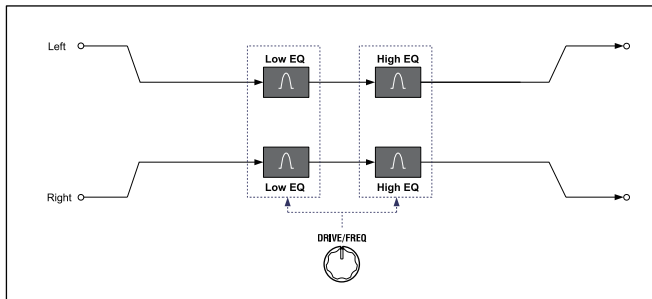
MOD FX

a. FLANGER

Effect

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.

Depth..[000…127]

This adjusts the strength of the effect. Turning the knob toward the right will
produce a deeper effect.

Speed..[000…127]

This adjusts the modulation speed. Turning the knob toward the right will make
the modulation faster.

Block diagram
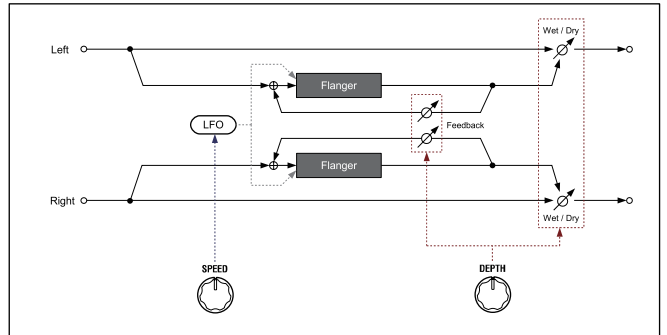
b. CHORUS

Effect

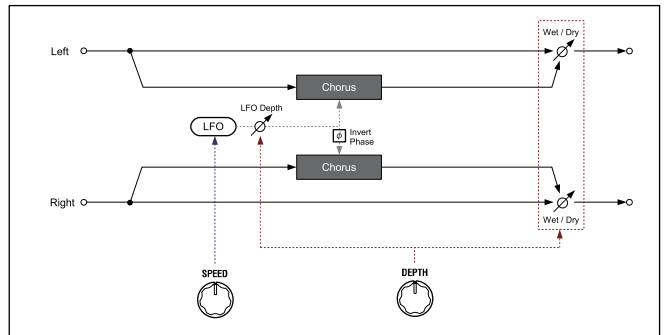This is a stereo effect that adds spaciousness, depth, and warmth to the
sound.

Depth..[000…127]

This adjusts the strength and spaciousness of the effect. Turning the knob
toward the right will produce a deeper and more spacious effect.

Speed..[000…127]

This adjusts the modulation speed. Turning the knob toward the right will make
the modulation faster.

Block diagram

c. U-VIBE

Effect

This effect models a famous pedal phaser/vibrato unit.
This effect simulates a rotary speaker, generating a very beguiling and
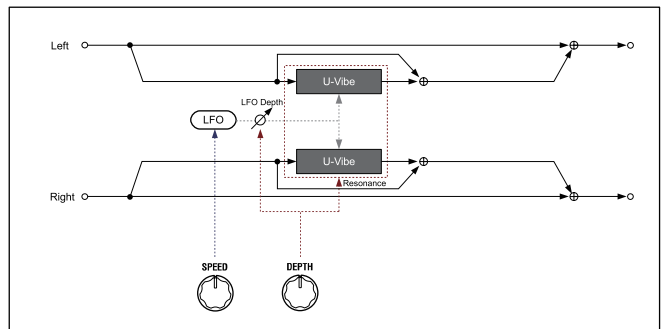emotional tone.

Depth..[000…127]

This adjusts the strength of the effect. Turning the knob toward the right will
produce a deeper effect.

Speed..[000…127]

This adjusts the modulation speed. Turning the knob toward the right will make
the modulation faster.

Block diagram

d. TREMOLO

Effect

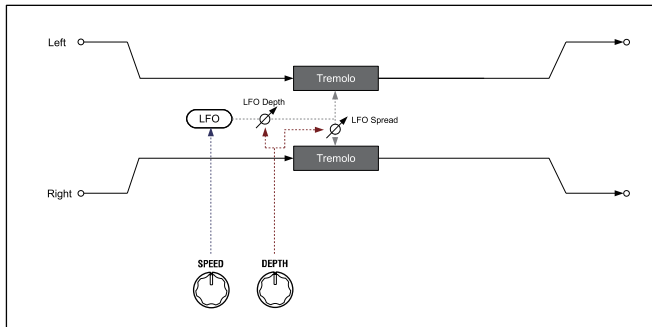This stereo effect produces tremolo by modulating the volume of the input signal.

Depth..**[000…127]**

This adjusts the strength of the effect. Turning the knob toward the right will produce a deeper effect. In the range from the center to the right, it also produces an auto pan effect that modulates not only the volume but also the left/right panning.

Speed..**[000…127]**

This adjusts the modulation speed. Turning the knob toward the right will make the modulation faster.

Block diagram

e. PHASER

Effect

This effect creates a swell by shifting the phase.
This models a classic phaser that appeared in New York during the 1970s. It has a rich and warm tone, and was used by numerous electric piano players.

Depth..**[000…127]**

This adjusts the strength of the effect. Turning the knob toward the right will produce a deeper effect.

Speed..**[000…127]**

This adjusts the modulation speed. Turning the knob toward the right will make the modulation faster.

Block diagram
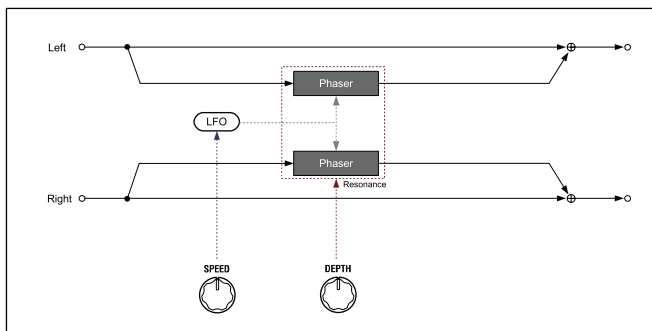
f. ROTARY (Rotary speaker)

Effect

This effect simulates a rotary speaker.
The low-frequency rotor and high-frequency horn are simulated separately, creating a realistic rotary sound. The microphone setup is also simulated in stereo.
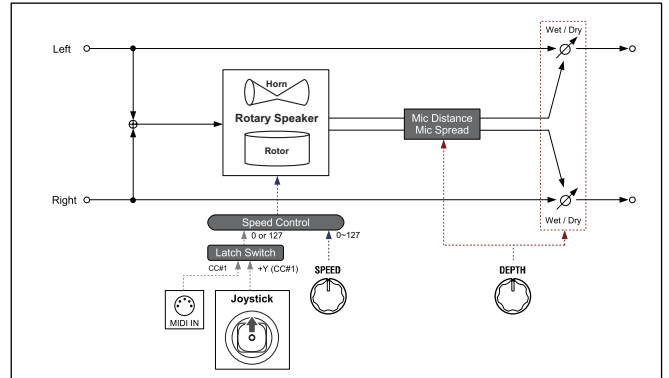
Depth..**[000…127]**

Turn the DEPTH knob to adjust the depth of the effect.
This controls the spaciousness of the sound and the depth of the effect.

Speed..**[000…127]**

This continuously adjusts the rotational speed of the speaker.
Turning the knob all the way to the left selects Slow, and turning it all the way to the right selects Fast.
When this effect is selected, a special method of operation lets you easily switch between Slow and Fast (Speed 000/127) while you play. Each time you move the joystick in the +Y direction (forward), the speed will switch between Slow and Fast.

Block diagram

REV/DELAY

a. HALL

Effect

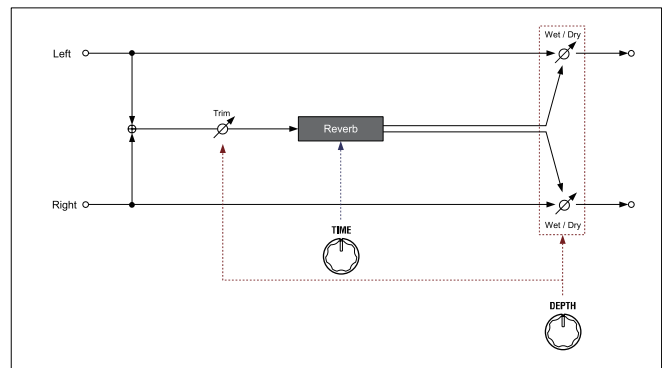This is a hall reverb that produces the reverberation of a mid-sized concert hall or ensemble hall.

Depth..**[000…127]**

This adjusts the depth of reverberation. Turning the knob toward the right produces deeper reverberation.

Time..**[000…127]**

This adjusts the duration of reverb. Turning the knob toward the right will lengthen the reverb.

Block diagram

b. ROOM

Effect

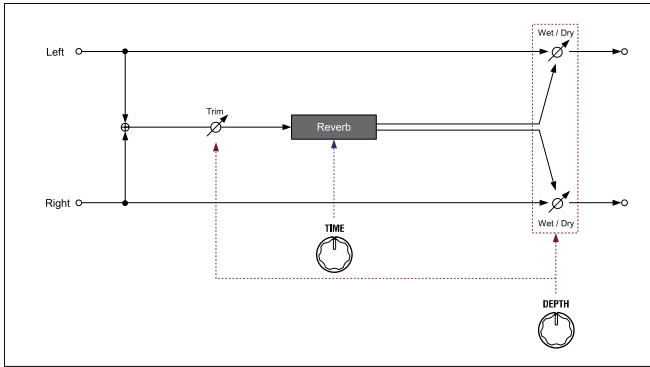This is a room reverb that produces tight reverberation where the early reflections are emphasized.

Depth..**[000…127]**

This adjusts the depth of reverberation. Turning the knob toward the right produces deeper reverberation.

Time..**[000…127]**

This adjusts the duration of reverb. Turning the knob toward the right will lengthen the reverb.

Block diagram

c. PLATE

Effect

This effect simulates a plate reverb unit that creates reverberation by vibrating a metal plate. It produces a dense and warm reverberation.
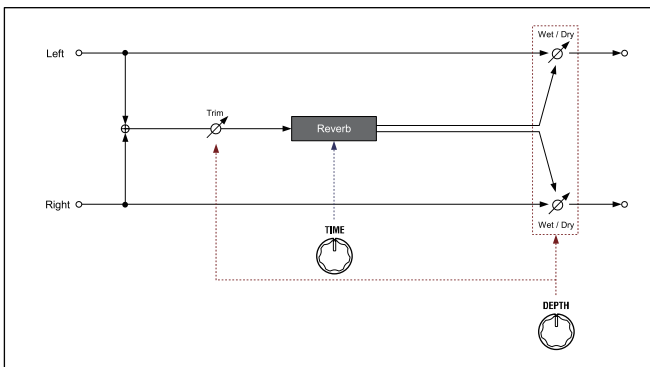
Depth..[000…127]

This adjusts the depth of reverberation. Turning the knob toward the right produces deeper reverberation.

Time..[000…127]

This adjusts the duration of reverb. Turning the knob toward the right will lengthen the reverb.

Block diagram

d. TAPE ECHO

Effect

This effect simulates a tape echo unit of 1970s.
In addition to the unique effect that magnetic tape had on the audio quality of the sound and the way it would feed back, this effect also simulates the smooth pitch change that occurred when the tape speed was adjusted.

**Depth**..[000…127]

This adjusts the depth of reverberation. Turning the knob toward the right produces deeper reverberation.

TIP: Setting the DEPTH knob to the maximum will cause the echo sound to gradually increase and then feed back, so that the sound will continue even if you stop playing. To stop the sound, turn the DEPTH knob toward the left.

Time..[000…127]

This adjusts the duration of reverberation. Turning the knob toward the right will lengthen the reverberation.
Unlike a digital delay, the actual time will change slowly and smoothly even if you turn the TIME knob rapidly.

Block diagram
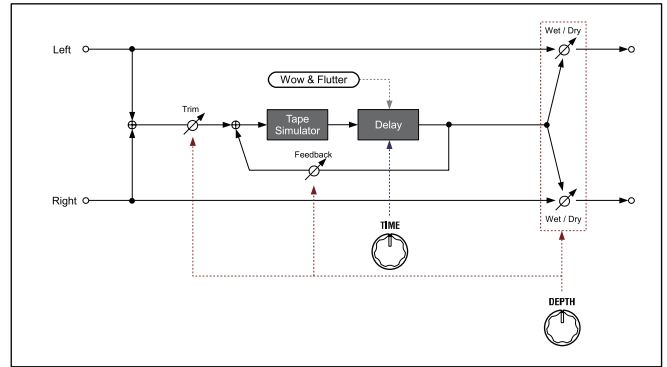
e. MOD DELAY ♩ BPM

Effect

This is a stereo effect that produces a deep and spacious delay sound by cyclically modulating the delay time.
The spacing of the left and right delay sounds are synchronized with the KingKORG NEO's tempo or with MIDI tempo, producing a pleasant stereo delay effect.

Depth..[000…127]

This adjusts the amount and modulation depth of the delay sound. Turning the knob toward the right will deepen the effect.

Time...................................[1/32, 1/16, 1/8, 1/6, 3/16, 1/4, 3/8, 1/2]

This specifies the spacing of the delay repeats in terms of a note length relative to the tempo.
Turning the knob toward the right will lengthen the spacing. The left channel of the delay circuit will have the delay time that is displayed; the right channel will be 3/4 of that time.
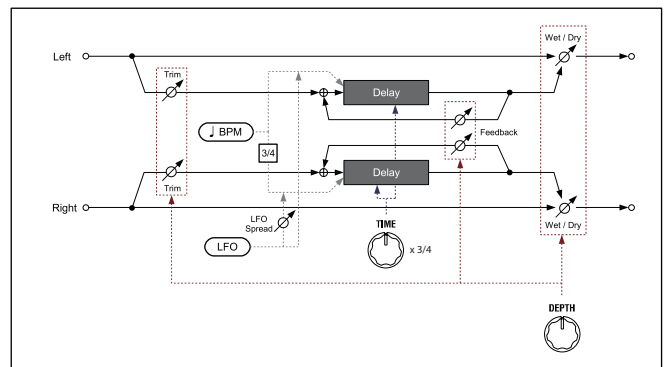
Time setting list

Time	1/32	1/16	1/8	1/6	3/16	1/4	3/8	1/2
Note	♬	♪	♪	3 ♪♪♪	♪.	♩	♩.	♩
CC#114 Value	0~9	10~27	28~45	46~63	64~81	82~99	100~117	118~127
Min BPM				20.6	23.2	31.0	46.4	61.9

TIP: There is a limit to the BPM that this effect can follow. If the limit is exceeded, the popup screen that appears when you turn the TIME knob will indicate "Over!", and the actual delay time will automatically be converted to a half or a quarter of the length specified by the knob.

TIP: If you use the virtual patch function to modulate the time, the "Over!" indication might not appear correctly.

Block diagram

f. BPM DELAY   ♩ BPM

Effect

This effect produces delay sounds that are synchronized with the KingKORG NEO's tempo or the MIDI tempo.

Depth ....[000...127]

This adjusts the amount of delay sound. Turning the knob toward the right will produce a deeper effect.

Time .... [1/32, 1/16, 1/8, 1/6, 3/16, 1/4, 3/8, 1/2]

This specifies the spacing of the delay repeats in terms of a note length relative to the tempo.
Turning the knob toward the right will lengthen the spacing. For example at 1/4, the delay repeats will be spaced at quarter note intervals. At 1/8 they will be spaced at eighth note intervals.

Time setting list

Time	1/32	1/16	1/8	1/6	3/16	1/4	3/8	1/2
Note	♬	♬	♪	3 ♪♪♪	♪.	♩	♩.	♩
CC#114 Value	0~9	10~27	28~45	46~63	64~81	82~99	100~117	118~127
Min BPM				20.6	23.2	31.0	46.4	61.9

TIP: There is a limit to the BPM that this effect can follow. If the limit is exceeded, the popup screen that appears when you turn the TIME knob will indicate "Over!", and the actual delay time will automatically be converted to a half or a quarter of the length specified by the knob.

TIP: If you use the virtual patch function to modulate the time, the "Over!" indication might not appear correctly.
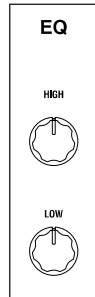
Block diagram

5. Global effects

The global effect is placed just before the OUTPUT in the effect chain.

Global effect settings cannot be saved for each program.

EQ

EQ is an effect that lets you adjust the volume of the high- and low-frequency ranges.
You can use it to improve the balance of the sound, or to adjust the final output appropriately for the acoustics of your performance space or the response of your audio system.
This is a shelving-type two-band parametric equalizer that allows you to change the cutoff frequency.

HIGH .... [−15dB...0dB...+15dB]

LOW .... [−15dB...0dB...+15dB]

Adjusts the gain of each band.
Using the knob will change the volume in the region of the center frequency. Turning the knob toward the right of center will boost that region, and turning it toward the left will attenuate that region.

EQ High (High EQ Freq.) ....[1.00kHz...20.00kHz]

EQ Low (Low EQ Freq.). .... [20...1000Hz]

Adjust the cutoff frequency of each band.

TIP: You can adjust each cutoff frequency by holding down the SHIFT/EXIT button and turning the HIGH knob or LOW knob.

TIP: The HIGH and LOW cutoff frequencies can be set in Global mode. They can also be saved as global settings. →Writing the global settings (OM: p.21 "1. Saving global settings").

TIP: These settings cannot be saved for each program.
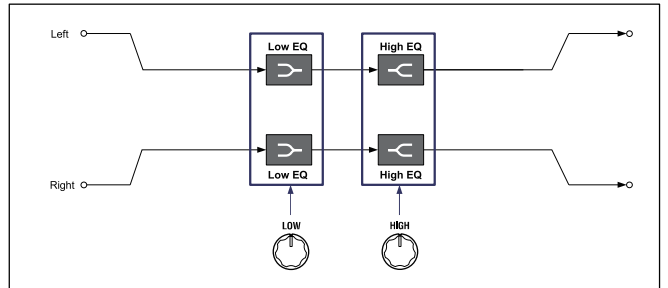
MIDI

1. Using the KingKORG NEO with other MIDI devices (MIDI)

Here you can adjust MIDI-related settings for the KingKORG NEO.
MIDI stands for Musical Instrument Digital Interface, and is a world-wide standard for exchanging various types of musical data between electronic musical instruments and computers.
The KingKORG NEO can be connected to your computer via a USB cable. You can assign control change numbers to the important sound-shaping parameters, and control those parameters from an external MIDI sequencer while playing the KingKORG NEO's sound generator. You can also use the front panel knobs and buttons to transmit the corresponding control change messages and control an external MIDI device.
In addition, the KingKORG NEO's arpeggiator, LFO rate, and effect delay time can be synchronized to the MIDI clock from an external MIDI sequencer or other device, so that these functions will follow the tempo of the performance.

Connecting MIDI devices/computers

Controlling an external MIDI tone generator from the KingKORG NEO

When you want to use the KingKORG NEO's keyboard, controllers, and arpeggiator etc. to play an external MIDI tone generator, use a MIDI cable to connect the KingKORG NEO's MIDI OUT connector to the MIDI IN connector of the external MIDI tone generator.

MIDI IN

MIDI OUT

MIDI tone generator
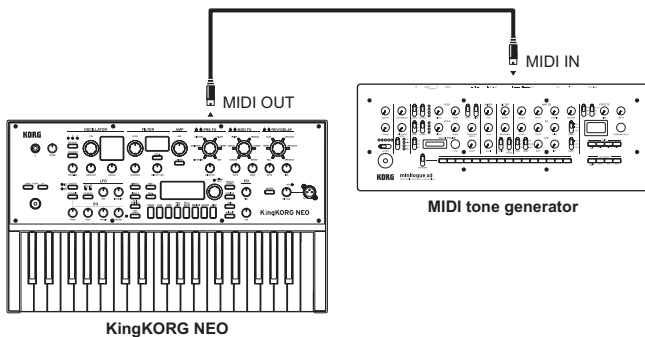
KingKORG NEO

Controlling the KingKORG NEO's tone generator from an external MIDI device

When you want to play or control the KingKORG NEO's tone generator from an external MIDI keyboard or sequencer etc., use a MIDI cable to connect the MIDI OUT connector of the external MIDI device to the MIDI IN connector of the KingKORG NEO.


MIDI OUT

MIDI IN

MIDI keyboard
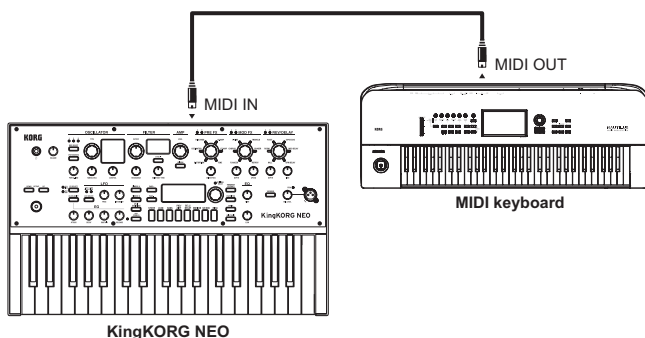
KingKORG NEO

Connecting an external MIDI sequencer or computer etc.

If you want to record your performance on the KingKORG NEO's keyboard into your external MIDI sequencer/computer (via a MIDI interface), or use the KingKORG NEO as a combination of controller keyboard and MIDI sound module, or use the Editor/Librarian software included with the KingKORG NEO, then you'll need to connect the KingKORG NEO's MIDI OUT and MIDI IN connectors to the MIDI IN and MIDI OUT connectors respectively of your external MIDI sequencer or computer.

✎ MIDI interface devices may be unable to transmit or receive the KingKORG NEO's MIDI exclusive messages.

TIP: It's convenient to use the USB connector when connecting the KingKORG NEO to your computer.

MIDI IN

MIDI interface MIDI OUT

MIDI IN MIDI OUT

Computer
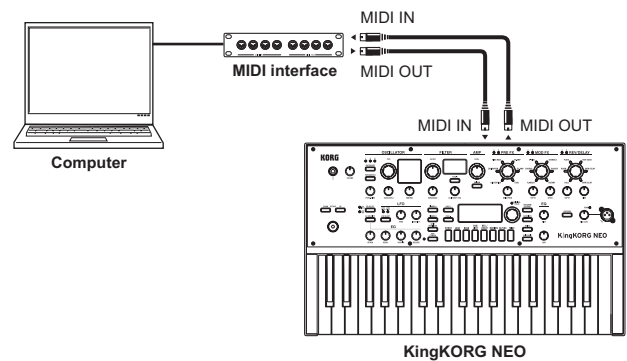
KingKORG NEO

Connecting the KingKORG NEO to your computer via USB

Since a USB cable allows faster data transfer than a MIDI cable, we recommend a USB cable if you're using librarian software.

TIP: You may need to install the Korg USB-MIDI driver on your computer, depending on the operating system. See the Korg website for the latest information on OS support. www.korg.com/support/os/

✎ If either the MIDI connection or the USB connection does not work correctly, check the GLOBAL "g17: MIDI Basic" page Routing setting .

MIDI-related settings

MIDI channel setting

In order to exchange data with a connected external MIDI device, you must set the KingKORG NEO's MIDI channel to match the MIDI channel of the external MIDI device.

Setting the KingKORG NEO's MIDI channel

1. **Hold down the SHIFT/EXIT button and press the PROGRAM (GLOBAL) button.**
   You'll be in Global mode, and the PROGRAM (GLOBAL) button will blink.

2. **Use the PAGE+/– buttons to access the GLOBAL "g15: MIDI Basic" page.**

3. **Turn the VALUE dial to set the Global Ch (MIDI channel).**

4. **Set the MIDI channel of the connected external MIDI device.**
   TIP: For details on how to set the MIDI channel of the external MIDI device, refer to the owner's manual of the connected device.

Using the KingKORG NEO as a multi-timbral sound module

You can specify a different MIDI channel for each of the KingKORG NEO's two timbres and use it as a multi-timbral sound module from a connected external MIDI sequencer.

1. **Press the PROGRAM (GLOBAL) button to make the PROGRAM (GLOBAL) button light up.**

2. **Use the PAGE+/– buttons to access the PROGRAM "p03: Common" page.**

3. **Turn the VALUE dial to set VoiceMode to "Layer" or "Split".**

   TIP: If you choose "Layer" or "Split," you'll be able to use the KingKORG NEO as a multi-timbral sound module, and the settings of the "p04: Common" page will be available.

4. **Use the PAGE+/– buttons to access the "p04: Common" page.**

5. **Turn the VALUE dial to set the MIDI channel of timbre B.**
   The MIDI channel of timbre A is specified by the GLOBAL "g15: MIDI Basic" page Global Ch parameter (→ p.19).

6. **Set the MIDI channel of the connected external MIDI device.**

MIDI "LOCAL" setting when connecting an external MIDI sequencer or computer

If notes are sounding twice when the KingKORG NEO is connected to an external MIDI sequencer or computer, turn the Local setting off (MIDI page "LOCAL" OFF). If the KingKORG NEO is connected to an external MIDI sequencer or computer, and the Echo Back setting of the external MIDI sequencer or computer is turned on while the KingKORG NEO's Local Control setting is also on, the performance data that's generated when you play the KingKORG NEO's keyboard will be sent to the external MIDI sequencer, and will also be echoed-back to sound the KingKORG NEO's tone generator a second time. To prevent each note from being sounded twice, once directly from the keyboard and once from the echoed-back note, you must turn the KingKORG NEO's Local Control setting off. To make this setting, go to the GLOBAL "g16: MIDI Basic" page and turn LocalControl (→ p.19) "Off".

GLOBAL Position setting

The GLOBAL Position setting (→ p.16) determines how GLOBAL Transpose, Velocity Curve, and the arpeggiator will be applied to MIDI IN and MIDI OUT.
• If you want to control an external MIDI sound module from the KingKORG NEO, set Position to "PostKBD" so that these settings will be applied to MIDI OUT. The MIDI IN data will always be treated as "Transpose": 0 and "Vel.Curve": 4, regardless of the settings.
• If you want to control the KingKORG NEO's sound generator and arpeggiator from an external MIDI device, set Position to "PreTG" so that these settings will be applied to MIDI IN. The MIDI OUT data will always be treated as "Transpose": 0 and "Vel. Curve": 4 regardless of the settings.

"MIDI FILTER" settings

The MIDI FLT page setting specifies whether program change, pitch bend, control change, and system exclusive messages will be transmitted or received.
Make these settings in the GLOBAL "g22–26: MIDI Filter" pages (→ p.20).

Virtual patch modulation source settings

You can assign three different MIDI control messages (MIDI 1, 2, 3) as virtual patch modulation sources.
You can create assignments on the GLOBAL "g19–21: MIDI Ctrl" pages (→ p.19), and choose MIDI1 or MIDI2 as the source of a virtual patch (V.Patch1–6) so that you can control modulation via MIDI.

"CONTROL CHANGE" settings

You can assign control change numbers to the principal sound-shaping parameters and control those parameters from an external MIDI device instead of using the KingKORG NEO's knobs and buttons. Conversely, you can use the KingKORG NEO's knobs and buttons to control an external MIDI device.
These settings can be adjusted on the GLOBAL "g27: MIDI CC#Map" pages (→ p.20).

Recording the MIDI output from the KingKORG NEO's arpeggiator onto an external MIDI sequencer or computer

Connections and setting

Connect the KingKORG NEO's MIDI OUT connector to the MIDI IN connector of your external MIDI sequencer / computer, and connect the KingKORG NEO's MIDI IN connector to the MIDI OUT connector of your external MIDI sequencer / computer.
Then turn the KingKORG NEO's local control off (GLOBAL "g16: MIDI Basic" page LocalControl (→ p.19) turned "Off"), and turn on the echo back function of your external MIDI sequencer or computer.

Recording the note data from the arpeggiator onto an external MIDI sequencer / computer

Set the KingKORG NEO's GLOBAL "g03: Common" page Position setting (→ p.16) to "PostKBD". Turn the KingKORG NEO's arpeggiator on (ARP (TEMPO) button lit), and play the keyboard to record your performance into your external MIDI sequencer or computer.
For playback, turn the KingKORG NEO's arpeggiator off (ARP (TEMPO) button unlit).

Synchronizing the arpeggiator

To set the KingKORG NEO's arpeggiator as master (the device that controls) or as slave (the device that is controlled), change the GLOBAL "g18: MIDI Basic" page Clock parameter (→ p.19).

TIP: For information on synchronization-related settings of your external MIDI device, refer to the manual of your device.

Using the KingKORG NEO as master and the external MIDI device as slave

Connect the KingKORG NEO's MIDI OUT connector to your external MIDI device's MIDI IN connector.
In the GLOBAL "g18: MIDI Basic" page, turn the VALUE dial to set Clock (→ p.19) to "Int (Internal)" so that the KingKORG NEO will be the master and will transmit MIDI timing clock data.
Set your external MIDI device to receive incoming MIDI clock messages. The external MIDI device (sequencer or rhythm machine) will function according to the tempo that's specified by the PROGRAM "a02: Arp" page Tempo setting (→ p.15).

Using the external MIDI device as master and the KingKORG NEO as slave

Connect the KingKORG NEO's MIDI IN connector to your external MIDI device's MIDI OUT connector.
In the GLOBAL "g18: MIDI Basic" page, turn the VALUE dial to change the Clock setting (→ p.19) to "Ext MIDI (External MIDI)" so that the KingKORG NEO will be the slave and will receive MIDI timing clock data.
Set your external MIDI device to transmit MIDI clock messages (as the master device). The KingKORG NEO's arpeggiator will function at the tempo of the external device (e.g., sequencer or rhythm machine).

TIP: If the GLOBAL "g18: MIDI Basic" page Clock parameter (→ p.19) is set to "Auto," the KingKORG NEO will automatically function as with the "Ext MIDI (External MIDI)" setting if MIDI clock data from an external MIDI device connected to the KingKORG NEO's MIDI IN connector is being received. At other times, the KingKORG NEO will function with the "Int Internal" setting.

TIP: If the KingKORG NEO receives a MIDI Start message [FA] when it is synchronized to the MIDI clock of an external MIDI device, the arpeggiator will be reset. Also, the phase of the LFO will be reset if KeySync is "OFF".

2. Channels and messages

MIDI channels

MIDI has sixteen channels, 1–16.
If the MIDI channels of the transmitting and receiving device match, MIDI messages can be sent and received between those devices. The KingKORG NEO uses two types of MIDI channels, which you can specify as follows.

Global MIDI channel

This is the basic MIDI channel used by the KingKORG NEO to transmit and receive data.
Your performance and user input on the KingKORG NEO will be transmitted on this channel. The KingKORG NEO will also respond to messages sent from an external MIDI device on this channel. To set the global MIDI channel, change the GLOBAL "g15: MIDI Basic" page Global Ch setting (→ p.19) to the desired channel.

Timbre B MIDI channel

Of the KingKORG NEO's two timbres, timbre B can be set to receive a channel that's different than the global MIDI channel.
For example, this lets you adjust settings so that you can use an external MIDI keyboard to play only timbre B. To set the timbre B MIDI channel, change the PROGRAM "p04: Common" page Timb B Ch (→ p.4) to the desired channel for each program.

✎ You can't adjust this setting if timbre B is unavailable. To enable timbre B, set the program's "p03:Common" page VoiceMode parameter (→ p.3) to "Layer" or "Split".

✎ The KingKORG NEO's timbre B MIDI channel is only for receiving data. Playing the KingKORG NEO's keyboard will not transmit on this channel.

MIDI messages

Various types of MIDI messages are sent and received to indicate the beginning or end of notes, the selection of a program, and control of the sound. The following section explains the main types of MIDI message used by the KingKORG NEO.

Note-on/Note-off

A note-on message indicates the beginning of a note, and a note-off message indicates the end of a note.
The KingKORG NEO transmits a note-on when you press a key, and a note-off when you release the key. When the KingKORG NEO receives a note-on message, its internal sound generator will produce sound corresponding to the note number and velocity of that note-on. When it receives a note-off message, that sound will turn off.

> **Note-on [9n, kk, vv]**
> **Note-off [8n, kk, vv]**
> (n: channel, kk: note number, vv: velocity)

✎ The KingKORG NEO does not support note-off velocity. All note-off messages it transmits are sent with a fixed velocity value of 64, and any note-off velocity value it receives will be ignored.

TIP: You can transmit the notes that are generated by the arpeggiator. If the GLOBAL "g03: Common" page Position parameter (→ p.16) is set to "PostKBD," note-on/off messages generated by the arpeggiator will be transmitted.

Switching programs and timbres

To switch programs (sounds), you'll use bank select and program change messages to specify the bank and program numbers.
In addition to switching programs, the KingKORG NEO also uses these messages to switch timbres.

> **Bank select MSB (CC#00) [Bn, 00, mm]**
> **Bank select LSB (CC#32) [Bn, 20, bb]**
> (n: channel, mm: upper byte of the bank number, bb: lower byte of the bank number)

> **Program change [Cn, pp]**
> (n: channel, pp: program number)

✎ Transmitting a bank select message by itself has no effect.

✎ After transmitting a bank select message, you must follow it with a program change message.

Switching programs

When you switch programs on the KingKORG NEO, bank select and program change messages are transmitted. When the KingKORG NEO receives these messages, it will switch to the correspondingly numbered program.
If only a program change message is received, the KingKORG NEO will switch to the correspondingly numbered program in the most recently selected bank. For example if program 183 is currently selected and program change number 15 is then received, the KingKORG NEO will switch to program number 115 which is the corresponding number within the currently selected bank of 101–200.

Bank MSB (CC#00)	Bank LSB (CC#32)	Program Change	Corresponding numbers
00	00		001–100
00	01	001–100	101–200
00	02		201–300

✎ If you want to use separate MIDI channels to control timbre A and timbre B in the program newly selected by a program change, you must save that program beforehand with the appropriate MIDI channel specified for timbre B.

TIP: You can adjust settings so that bank select messages will not be transmitted or received. To do this, set the GLOBAL "g23:MIDI Filter" page BankChg parameter (→ p.20) to "Disable".

TIP: You can adjust settings so that program change messages will not be transmitted or received. To do this, set the GLOBAL "g22:MIDI Filter" page ProgChg parameter (→ p.20) to "Disable".

Switching timbres

The KingKORG NEO lets you switch a timbre in the currently selected program to the timbre settings of a different program.
When the following bank select and program change messages are received, the timbre of the corresponding program will be loaded into the current timbre.

Bank MSB (CC#00)	Bank LSB (CC#32)	Program Change	Corresponding numbers
32	32		001–100 / Timbre A
32	33		101–200 / Timbre A
32	34		201–300 / Timbre A
32	35	001–100	001–100 / Timbre B
32	36		101–200 / Timbre B
32	37		201–300 / Timbre B

✎ When you switch the timbre, the settings of the s01–s80 page parameters will be loaded into that timbre; the effect, arpeggiator, and vocoder settings will not be loaded.

TIP: The timbre settings will be loaded into the timbre of the matching channel. If the Timbre B Ch is enabled and is different than the global MIDI channel, this lets you load the settings into either timbre A or timbre B.

Controlling the sound

Dynamically changing the pitch

When you move the joystick to the left or right, the KingKORG NEO will transmit pitch bend messages.
When pitch bend messages are received, the pitch will change dynamically according to the bend range setting specified by the PROGRAM "s09: Pitch" page BendRange parameter (→ p.5).

> **Pitch bend change [En, bb, mm]**
> (n: channel, bb: lower digits of value, mm: upper digits of value)

Upper byte value	Lower byte value	Pitch bend value	Actual pitch (BendRange=+2)	Control source value
127	127	8191	+2	+127
64	00	0	0	0
00	00	−8192	−2	−127

TIP: You can use pitch bend as a control source in a virtual patch (→ p.12) or in the vocoder (→ p.13).

TIP: The KingKORG NEO also lets you control the pitch using the control change messages described in the following section.

Control with other than pitch bend messages

You can use control change messages to control aspects of the sound such as volume and tone. When you move the joystick upward or downward, use a pedal or foot switch, or use the front panel knobs or buttons to edit a parameter, the KingKORG NEO will transmit control change messages. When the KingKORG NEO receives control change messages, it will apply the effects that are assigned to those control change numbers.

Control changes [Bn, cc, vv]
(n: channel, cc: control change no., vv: value)

TIP: You can adjust settings so that control change messages are not transmitted or received. To do this, set the GLOBAL "g24: MIDI Filter" page CtrlChg parameter (→ p.20) to "Disable".

Using control changes on the KingKORG NEO

There are 128 control changes: CC#0–CC#127. The effect or function of each control change number is defined by the MIDI specification.

Controlling the sound	CC#0–95 and CC#102–119
Editing a value or function	CC#96–101
Controlling or initializing the sound generator	CC#120–127

The KingKORG NEO provides two ways for you to use control change messages (CC#0–95 and CC#102–119) to modify the sound.

Assign a message to a knob or button

You can assign a control change to a front panel knob or button (or parameter), or assign a control change to a built-in controller or optional controller.
This is a convenient way to control the KingKORG NEO's knobs and buttons from an external device, or to control a desired parameter from an external device.

TIP: To create these assignments, use the CC#Map (→ p.34).

Assign a message to a virtual patch

If you want incoming control change messages to control multiple parameters simultaneously, use the program's virtual patch function (→ p.12).
Since there are six routes by which a signal can control a parameter, you can assign a MIDI message as an input signal so that one control change will control up to six parameters simultaneously.

TIP: Use the GLOBAL "g19–21: MIDI Ctrl" page MIDI1, MIDI2, and MIDI3 settings (→ p.19) to specify beforehand the type of MIDI message that you want to use as the input for the virtual patch.

Frequently used control changes

Of the control change messages that are supported by the KingKORG NEO, here are some of the most frequently used.

✎ The functions described here are the factory settings.

Adjusting the volume

CC#07: Volume [Bn, 07, vv]
(Default: AMP LEVEL knob)

This controls the amp level.
This is assigned to the front panel Amp Level knob. It will be transmitted when you use the Amp Level knob. When this message is received, the PROGRAM "s39: Amp" page Level parameter (→ p.10) for timbres A and B will change simultaneously according to the value of the incoming message.

CC#11: Expression [Bn, 0B, vv]
(Default: Foot pedal)

This adjusts the volume of the timbre.
This allows you to adjust the volume while continuing to sustain the sound. If you want to expressively vary the volume while you perform, assign this expression message to a foot pedal or similar controller.

Controlling modulation

CC#01: Pitch modulation depth [Bn, 01, vv]
(Default: Joystick +Y)

This controls the amount of pitch modulation.
This message is transmitted when you move the joystick upward. A value of "0" is transmitted when you release your hand from the joystick.
When this message is received, the depth of vibrato produced by LFO2 will change according to the setting of the PROGRAM "s08: Pitch" page LFO2&JS+Y parameter (→ p.5).
If this message is received with a value of "0" there will be no vibrato effect.

CC#02: Filter modulation depth [Bn, 02, vv]
(Default: Joystick –Y)

This controls the amount of filter cutoff modulation.
This message is transmitted when you move the joystick downward. A value of "0" is transmitted when you release your hand from the joystick.
When this message is received, the depth of filter cutoff modulation that's produced by LFO1 will change according to the setting of the PROGRAM "s36: Filter" page LFO1&JS-Y parameter (→ p.10).
If this message is received with a value of "0" the effect will disappear.

Controlling pan (stereo position)

CC#10: Panpot [Bn, 0A, vv]
(Default: Unassigned)

This controls the stereo position of the sound.
When this message is received, the pan position will change in the range of left-center-right according to the received value of "0" – "64" – "127".

Controlling time-varying change

CC#64: Damper pedal [Bn, 40, vv]
(Default: Damper pedal)

This message controls the damper effect (hold), which allows a note to continue sounding even after you release your hand from the keyboard.
A value of "on" (127) or "off" (0) is transmitted when you press or release the damper pedal. When this is received, the damper will turn on or off.

CC#65: Portamento switch [Bn, 41, vv]
(Default: PORTAMENTO button)
CC#05: Portamento time [Bn, 05, vv]
(Default: PORTA.TIME knob)

These messages control the portamento effect which causes the pitch to change smoothly when you play legato. The portamento switch message turns the effect on/off, and the portamento time message controls the speed of the change.
On the KingKORG NEO, using the front panel PORTAMENTO button will transmit a portamento switch message with a value of "on" (127) or "off" (0). Operating the PORTA. TIME knob will transmit a portamento time message (0–127).

Controlling or initializing the sound generator

Special control messages are provided for initializing the sound generator. These messages are for reception only; they cannot be transmitted.

CC#123: All note off [Bn, 7B, 00]
(Default: Unassigned)
CC#120: All sound off [Bn, 78, 00]
(Default: Unassigned)

When the all note off message is received, all notes currently sounding on that channel will turn off.
Since the notes are turned off in the same way as when you release your hand from the keyboard, the decay portion of the notes will still be heard.
When the all sound off message is received, all sound being produced on that channel will turn off. Unlike the all note off message, this forcibly stops all sounds that are being produced, so the decay portion of the notes will not be heard. These silencing messages are for use in emergencies. They are not for use during a performance.

CC#121: Reset all controllers [Bn, 79, 00]
(Default: Unassigned)

When this message is received, the various effects that have been modified by control changes on that channel and the matching timbres will be reset. However, parameters that were modified via a virtual patch might not be reset by this message.

3. Parameters transmitted and received via NRPN

Front panel knobs and buttons other than the controls listed above are assigned NRPN (Non Registered Parameter No.). NRPN messages can be used freely by any musical instrument manufacturer or model.
NRPN editing is performed using the following procedure.

1. **Use NRPN MSB (CC#99) [Bn, 63, mm] and NRPN LSB (CC#98) [Bn, 62, rr] (n: channel, mm, rr: parameter no. upper and lower bytes) to select the parameter.**

2. **Use data entry MSB (CC#6) [Bn, 06, mm] (n: channel, mm: parameter value) to specify the value.**

   TIP: On the KingKORG NEO, only data entry MSB is used.

Controlling the arpeggiator

When arpeggiator settings are modified by the front panel buttons or knobs, the following NRPN messages are transmitted. When these NRPN messages are received, the corresponding arpeggiator settings will change accordingly. These messages are transmitted and received on the Global MIDI channel. For the correspondence between the values of the message and the values of the KingKORG NEO parameter, refer to the table.

Arp SW

Arp SW: [Bn, 63, 00, Bn, 62, 02, Bn, 06, mm]
   (n: channel, mm: parameter value)

	MSB (Hex)	LSB (Hex)	Value (transmitted)	Value (received)
Arp SW	00 (00)	02 (02)	0: OFF 127: ON	0…63: OFF 64…127: ON

Controlling the vocoder parameters

These messages are transmitted and received on the Global MIDI channel.

Vocoder SW

Vocoder SW: [Bn, 63, 05, Bn, 62, 04, Bn, 06, mm]
   (n: channel, mm: parameter value)

	MSB (Hex)	LSB (Hex)	Value (transmitted)	Value (received)
Vocoder SW	05 (05)	04 (04)	0: Off 127: On	0…63: OFF 64…127: ON

Other controls

These messages are transmitted and received on the Global MIDI channel.

VoiceMode (Common page "VoiceMode")

VoiceMode: [Bn, 63, 05, Bn, 62, 00, Bn, 06, mm]
   (n: channel, mm: parameter value)

	MSB (Hex)	LSB (Hex)	Value (transmitted)	Value (received)
VoiceMode	05 (05)	00 (00)	0: SINGLE 43: LAYER 85: SPLIT	0…42: Single 43…84: Layer 85…127: Split

4. System exclusive messages

KingKORG NEO format

F0	exclusive status
42	Korg ID
3n	[n=0–F] MIDI channel
00 01 18	KingKORG NEO model ID
ff	function ID (type of message)
—	
F7	end of exclusive

Universal system exclusive

System exclusive messages include a special category of messages whose purpose is officially defined. These are called universal system exclusive messages. Of these universal system exclusive messages, the KingKORG NEO supports Master Volume and Master Fine Tuning.

Master volume [F0, 7F, nn, 04, 01, vv, mm, F7]
   (vv: lower byte of value, mm: upper byte of value, [mm, vv=7F, 7F] is Max, [mm, vv=00, 00] is 0)
   When a Master Volume message is received, the KingKORG NEO will adjust its overall volume.

Master fine tuning [F0, 7F, nn, 04, 03, vv, mm, F7]
   (A value of 8192 [mm, vv=40, 00] is center (0 cent, A4=440.0Hz), 4096 [mm, vv=20, 00] is -50 cents, and 12288 [mm, vv=60, 00] is +50 cents). When a master fine tune message is received, the KingKORG NEO's GLOBAL "g01: Common" page Mst. Tune setting will be ignored, and the overall pitch will be specified by the received data.

5. Realtime Messages

Controlling the arpeggiator and LFOs

When the KingKORG NEO's tempo is synchronized to MIDI clock data from an external device, you can use system realtime messages to control the functionality of the arpeggiator and LFOs (→ p.19 "Clock").

Start [FA]

When the start message [FA] is received, the arpeggio will be reset to the beginning of the pattern. Additionally, if the LFO's Key Sync is turned off, the phase of the LFO will be reset.

Stop [FC]

When a Stop [FC] message is received, the arpeggiator will stop. (It will not be turned off; the arpeggiator will start again when additional notes are played).

● ●

6. Default control change assignments and transmission/reception (CC#Map)

The table below shows the default assignments of the control changes that can be assigned by the CC#Map function, and lists the values that are transmitted and received for each parameter.

TIP: You can make CC#Map assignments in the GLOBAL "g27: MIDI CC#Map (→ p.20).

TIP: These messages are transmitted and received on the global channel.

TIP: If you assign a control change to a parameter whose assign setting is "OFF", the value shown in the Value column is received or transmitted.

If you are using two KingKORG NEO units to transmit and receive these parameters, you must set the transmitting and receiving programs to the same settings.

Transmission

Using the KingKORG NEO's knobs or buttons will transmit the control change messages that are assigned to those parameters.

Control changes will not be transmitted when you use the knobs and buttons while editing a program.

Reception

When a control change message is received, the value of the assigned parameter will change.
If you're using timbre B, timbres A and B will be changed simultaneously.

If the MIDI channel of timbre B (→ p.4) is different than the global channel, the parameter of timbre B will not be changed.

Section	Parameter	Assign	Value (transmitted)	Value (received)
Pitch	Porta.Time	CC#005	0…127	0…127
	Portamento	CC#065	0:Off, 127:On	0…63:Off, 64…127:On
Voice	Unison Voice	CC#003	0: Off, 32:2, 64:3, 96:4	0…31: Off, 32…63: 2, 64…95: 3, 96…127: 4
Osc1	Type	CC#008	0:Off, 1…32:ANALOG, 33…72:DWGS, 73…127:PCM	0:Off, 1…32:ANALOG, 33…72:DWGS, 73…127:PCM
	CONTROL 1	CC#015	0…127	0…127 (when using the dual, ring, or mic-in oscillators, 0/1: –63, 2: –62…63: –01, 64: +00, 65: +01…127: +63)
	CONTROL 2	CC#017	0…127	(when using the cross modulation oscillator, 0/1: –63, 2: –62...63: –01, 64: +00, 65: +01...127: +63) (→ p.36 "Mod Harm values for VPM oscillators OSC1, 2, and 3")
Osc2	Type	CC#018	0:Off, 1…32:ANALOG, 33…72:DWGS, 73…127:PCM	0:Off, 1…32:ANALOG, 33…72:DWGS, 73…127:PCM
	CONTROL 1	CC#019	0…127	0...127 (when using the dual, ring, or mic-in oscillators, 0/1: –63, 2: –62…63: –01, 64: +00, 65: +01…127: +63)
	CONTROL 2	CC#020	0…127	0...127 (when using the cross modulation oscillator, 0/1: –63,2: –62…63: –01, 64: +00, 65: +01…127: +63) (→ p.36 "Mod Harm values for VPM oscillators OSC1, 2, and 3")
Osc3	Type	OFF	0:Off, 1…32:ANALOG, 33…72:DWGS, 73…127:PCM	0:Off, 1…32:ANALOG, 33…72:DWGS, 73…127:PCM
	CONTROL 1	OFF	0…127	0…127(when using the dual, ring, or mic-in oscillators, 0/1: –63, 2: –62…63: –01, 64: +00, 65: +01…127: +63)
	CONTROL 2	OFF	0…127	0...127 (when using the cross modulation oscillator, 0/1: –63,2: –62…63: –01, 64: +00, 65: +01...127: +63) (→ p.36 "Mod Harm values for VPM oscillators OSC1, 2, and 3")
Mixer	OSC1Level	CC#023	0…127	0…127
	OSC2Level	CC#024	0…127	0…127
	OSC3Level	CC#025	0…127	0…127
Filter	Cutoff	CC#074	0…127	0…127
	Resonance	CC#071	0…127	0…127
	EG1 Int	CC#079	0/1: –63, 2: –62…63: –01, 64: +00, 65:+01…127: +63	0/1: –63, 2: –62…63: –01, 64: +00, 65: +01…127: +63
	KeyTrack	CC#028	0/1: –2.00 2: -1.93…63: –0.02, 64: +0.00, 65: +0.02…127: +2.00	0/1: –2.00 2: –1.93…63: –0.02, 64: +0.00, 65: +0.02…127: +2.00
Amp	Level	CC#007	0…127	0…127
	Pan	CC#010	Not transmitted	0/1: L63, 2: L62…63: L01, 64: Center, 65: R01…127: R63
EG1-Filter	Attack	CC#085	0…127	0…127
	Decay	CC#086	0…127	0…127
	Sustain	CC#087	0…127	0…127
	Release	CC#088	0…127	0…127
EG2-Amp	Attack	CC#073	0…127	0…127
	Decay	CC#075	0…127	0…127
	Sustain	CC#070	0…127	0…127
	Release	CC#072	0…127	0…127
Filter	LFO1ModInt	CC#089	0/1: –63, 2: –62…63: –01, 64:+00, 65:+01…127:+63	0/1: –63, 2: –62…63: –01, 64: +00, 65: +01…127: +63
LFO1	Freq.	CC#090	0…127, TempoSync=On: (→ p.12)	0…127, TempoSync=On: (→ p.12)
Pitch	LFO2ModInt	CC#077	0/1: –63, 2: –62…63: –01, 64: +00, 65: +01…127: +63	0/1: –63, 2: –62…63: –01, 64: +00, 65: +01…127: +63

Section	Parameter	Assign	Value (transmitted)	Value (received)
LFO2	Freq.	CC#076	0…127, TempoSync=On: (→ p.12)	0…127, TempoSync=On: (→ p.12)
V.Patch1	Int	CC#103	Not transmitted	0/1: −63, 2: −62…63: −01, 64: +00, 65: +01…127: +63
V.Patch2	Int	CC#104	Not transmitted	0/1: −63, 2: −62…63: −01, 64: +00, 65: +01…127: +63
V.Patch3	Int	CC#105	Not transmitted	0/1: −63, 2: −62…63: −01, 64: +00, 65: +01…127: +63
V.Patch4	Int	CC#106	Not transmitted	0/1: −63, 2: −62…63: −01, 64: +00, 65: +01…127: +63
V.Patch5	Int	CC#107	Not transmitted	0/1: −63, 2: −62…63: −01, 64: +00, 65: +01…127: +63
V.Patch6	Int	CC#108	Not transmitted	0/1: −63, 2: −62…63: −01, 64: +00, 65: +01…127: +63
Effect	EQ Hi Gain	CC#109	EQ Gain value (→ p.28)	EQ Gain value (→ p.28)
	EQ Lo Gain	CC#110	EQ Gain value (→ p.28)	EQ Gain value (→ p.28)
	PreFXDrive/ Freq.	CC#012	0…127	0…127 (for Tone, 0/1: L63, 2: L62...63: L01, 64: Flat, 65: H01...127: H63)
	ModFXDepth	CC#091	0…127	0…127
	ModFXSpeed	CC#113	0…127	0…127
	RevDlyTime	CC#114	0…127	0…127
	PreFX SW	CC#115	0: Off, 32: Timbre A, 64: Timbre B, 96: Timbre A+B	0…31: Off, 32…63: Timbre A, 64…95: Timbre B, 96…127: Timbre A+B
	ModFX SW	CC#094	0: Off, 32: Timbre A, 64: Timbre B, 96: Timbre A+B	0…31: Off, 32…63: Timbre A, 64…95: Timbre B, 96…127: Timbre A+B
	RevDly Depth	CC#093	0…127	0…127
	RevDly SW	CC#095	0: Off, 32: Timbre A, 64: Timbre B, 96: Timbre A+B	0…31: Off, 32…63: Timbre A, 64…95: Timbre B, 96…127: Timbre A+B
Voc.Modultr	Threshold	OFF	Not transmitted	0…127
	HPF Level	OFF	Not transmitted	0…127
	HPF Gate	OFF	Not transmitted	0…63: Disable, 64…127: Enable
Voc.Amp	Direct Level	OFF	Not transmitted	0…127
Voc.Carrier	Timb A Level	OFF	Not transmitted	0…127
	Timb B Level	OFF	Not transmitted	0…127
Voc.Amp	Vocoder Lvl	OFF	Not transmitted	0…127
Voc.Filter	Formant Shift	OFF	Not transmitted	0…25: −2, 26…50: −1, 51…76: +0, 77…101: +1, 102…127: +2
	Offset	OFF	Not transmitted	0/1: −63, 2: −62…63: −01, 64: +00, 65: +01…127: +63
	Resonance	OFF	Not transmitted	0…127
	ModInt	OFF	Not transmitted	0/1: −63, 2: −62…63: 01, 64: +00, 65: +01…127: +63
	E.F.Sens	OFF	Not transmitted	0…126, 127: Hold

Mod Harm values for VPM oscillators OSC1, 2, and 3

The following table shows the control change values that are transmitted and received when you edit the "Mod Harm" parameter of the variable phase modulation oscillator, and how the control change value corresponds to the parameter value.

Value (transmitted, received)	Mod Harm
0…3	0.5
4…7	1
8…11	2
12…15	3
16…18	4
19…22	5
23…26	6
27…30	7
31…34	8
35…38	9
39…42	10
43…46	11
47…49	12
50…53	13
54…57	14
58…61	15
62…65	16
66…69	17
70…73	18
74…77	19
78…80	20
81…84	21
85…88	22
89…92	23
93…96	24
97…100	25
101…104	26
105…108	27
109…111	28
112…115	29
116…119	30
120…123	31
124…127	32

SyncNote values when LFO 1/2 TempoSync is "On"

The LFO 1/2 Freq. parameter will change to "SyncNote" if TempoSync is on. The following table shows the control change values that are transmitted or received in this case, and how they correspond to the parameter value.

Value (transmitted, received)	LFO Sync Note
0…7	8meas
8…14	4meas
15…22	2meas
23…29	1/1
30…37	3/4
38…44	1/2
45…52	3/8
53…59	1/3
60…67	1/4
68…74	3/16
75…82	1/6
83…89	1/8
90…97	1/12
98…104	1/16
105…112	1/24
113…119	1/32
120…127	1/64

Delay Time values for MOD DELAY and BPM DELAY

Value (transmitted, received)	LFO Sync Note
0…9	1/32
10…27	1/16
28…45	1/8
46…63	1/6
64…81	3/16
82…99	1/4
100…117	3/8
118…127	1/2

EQ Gain values

The following table shows the correspondence between the parameter values edited by the EQ HIGH knob and EQ LOW knob and the control change values that are transmitted or received.

Value (transmitted, received)	EQ Gain (dB)	Value (transmitted, received)	EQ Gain (dB)
0…2	−15.0	66, 67	0.5
3, 4	−14.5	68, 69	1
5, 6	−14.0	70, 71	1.5
7, 8	−13.5	72, 73	2
9, 10	−13.0	74, 75	2.5
11, 12	−12.5	76, 77	3
13, 14	−12.0	78, 79	3.5
15, 16	−11.5	80, 81	4
17, 18	−11.0	82, 83	4.5
19, 20	−10.5	84…86	5
21…23	−10.0	87, 88	5.5
24, 25	−9.5	89, 90	6
26, 27	−9.0	91, 92	6.5
28, 29	−8.5	93, 94	7
30, 31	−8.0	95, 96	7.5
32, 33	−7.5	97, 98	8
34, 35	−7.0	99, 100	8.5
36, 37	−6.5	101, 102	9
38, 39	−6.0	103, 104	9.5
40, 41	−5.5	105…107	10
42…44	−5.0	108, 109	10.5
45, 46	−4.5	110, 111	11
47, 48	−4.0	112, 113	11.5
49, 50	−3.5	114, 115	12
51, 52	−3.0	116, 117	12.5
53, 54	−2.5	118, 119	13
55, 56	−2.0	120, 121	13.5
57, 58	−1.5	122, 123	14
59, 60	−1.0	124, 125	14.5
61, 62	−0.5	126, 127	15
63…65	0		