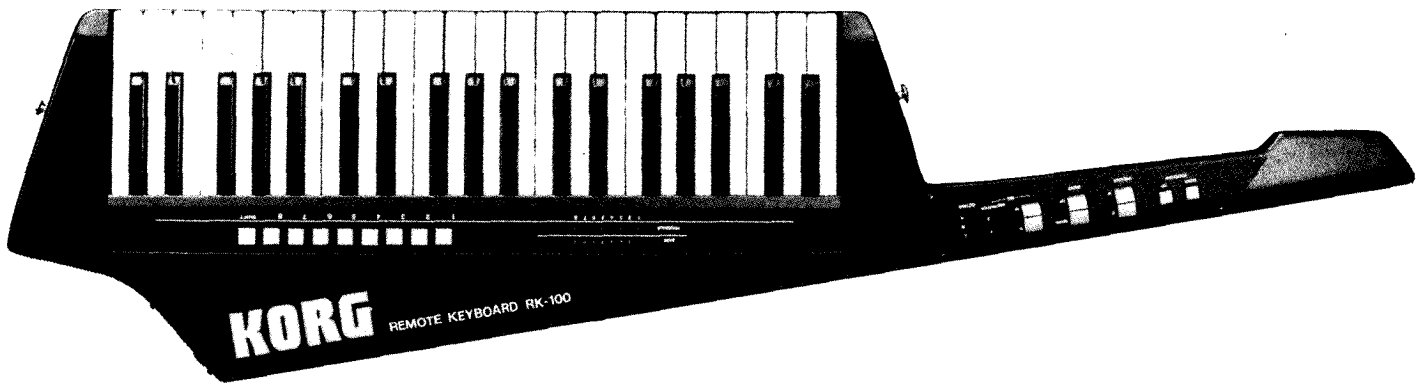


RK-100

REMOTE OWNER'S MANUAL KEYBOARD



KORG®

Congratulations and thank you for purchasing the KORG RK-100. This "guitar-shaped" keyboard was designed for "mobile" control of any MIDI equipped synthesizer. Connecting the RK-100's "MIDI OUT" to the "MIDI IN" of any MIDI equipped synthesizer enables you to control key data, program change, pitch bends, DCO/VCO modulation ("vibrato"), and more. Please read this manual carefully to obtain optimum performance and assure long-term reliability.

FEATURES

- 1 Designed for optimum "mobile" playability.
- 2 MIDI output enables remote control of any MIDI equipped synthesizer with KEY DATA, PROGRAM SELECT, PITCH BEND, DCO MODULATION, VCF MODULATION, and VOLUME.
- 3 Powered by six size AA batteries or AC adaptor. Includes built-in battery check function.
- 4 Locking "MIDI OUT" jack to prevent accidental unplugging of MIDI cable.

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IMPORTANT SAFETY PRECAUTIONS

Please read and observe the following precautions of assure safe operation and reliability.

■ LOCATION

To avoid malfunction, do not use this unit in the following locations for long periods of time:

- In direct sunlight
- Exposed to extremes of temperature or humidity
- In sandy or dusty places

■ HANDLE GENTLY

Knobs and switches are designed to provide positive operation with a light touch. Excessive force may cause damage.

■ MAINTENANCE

Wipe the exterior with a soft, dry cloth. Never use paint thinner, benzene or other solvents.

■ ELECTRICAL INTERFERENCE

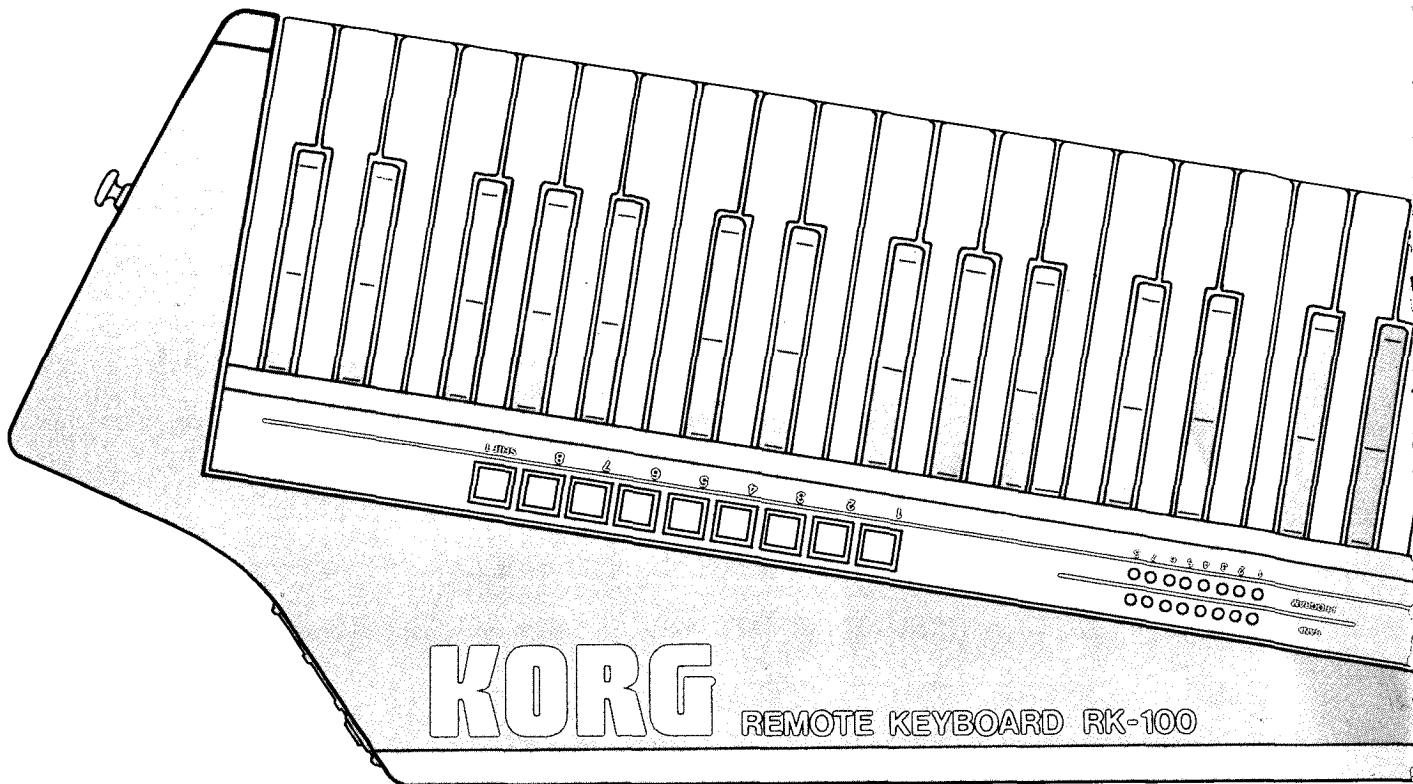
The RK-100 is subject to interference from other electrical devices and fluorescent lamps. Avoid use near other appliances. Should interference occur, try placing further away from the source of trouble. Since the RK-100 employs digital signals, interference may result in erratic performance in the RK-100 and the MIDI synth to which it is connected. In this case, turn off the power on the receiving synth, wait a few seconds, then turn the power back on.

■ WARRANTY

For fullest guarantee protection, return your properly filled in warranty card.

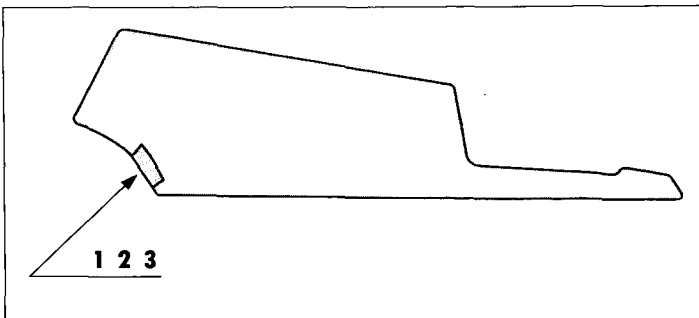
■ KEEP THIS MANUAL

Store this manual in a safe place for future reference.

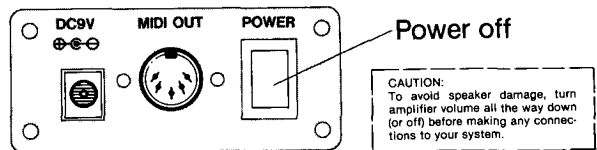


CONNECTING THE RK-100

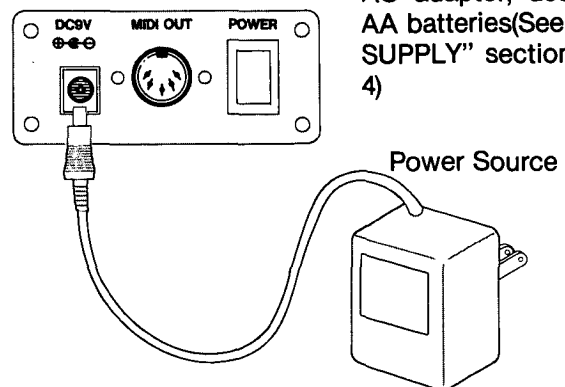
To setup the RK-100 to control any MIDI equipped synthesizer, follow the steps outlined below:

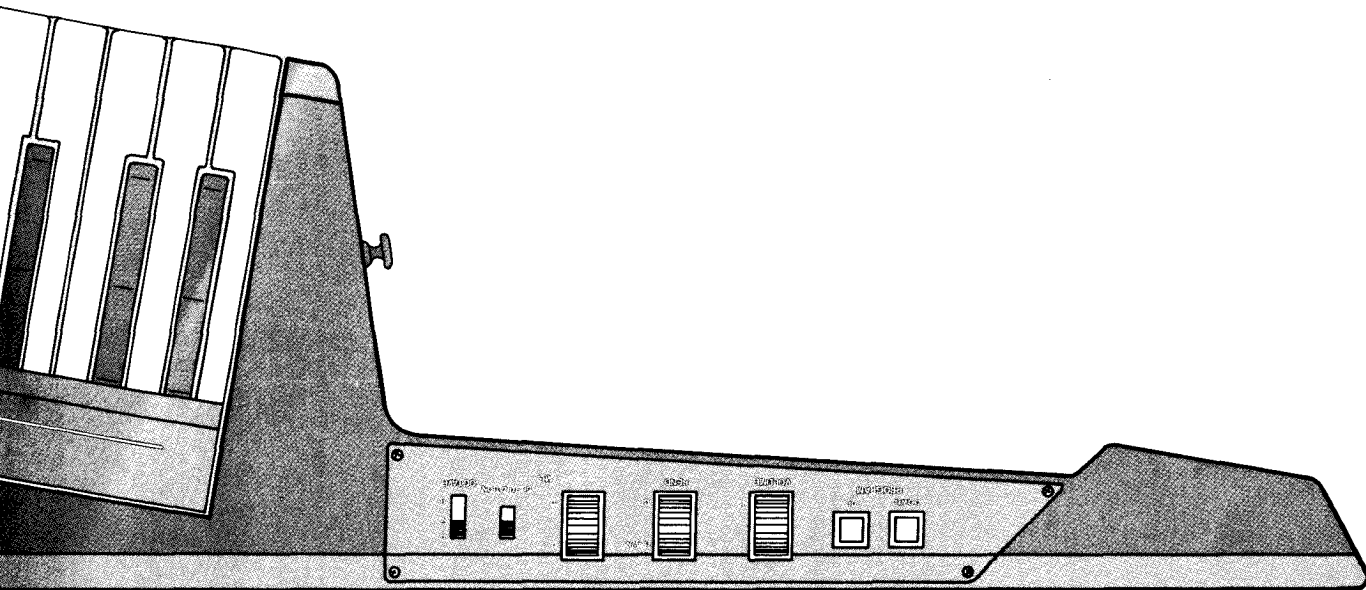


- 1 Be sure power of RK-100 remote keyboard, receiving synthesizer and any other equipment connected to this system is OFF.



- 2 Connect AC adaptor (if not using batteries). Remember to use only the specified AC adaptor. Any other adaptor may cause damage to the RK-100 due to wrong polarity or improper power rating. If not using AC adaptor, use six size AA batteries (See "POWER SUPPLY" section on page 4)

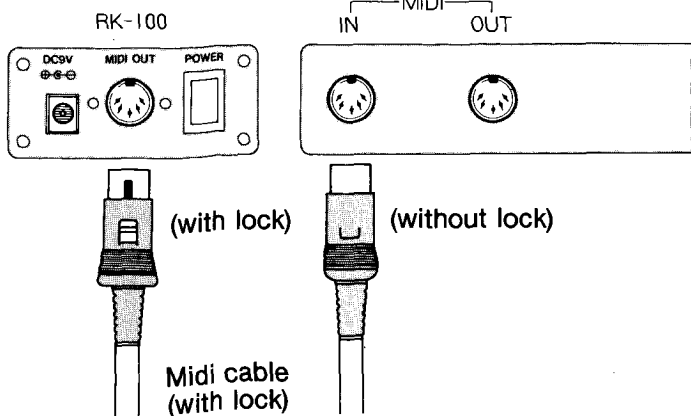




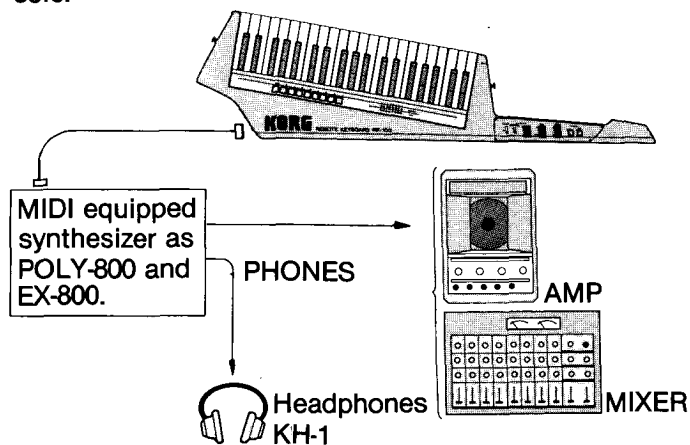
- ③ Connect "MIDI OUT" jack to receiving synthesizer's "MIDI IN" jack. (Use supplied DIN cable)

NOTE: Do not use MIDI cable longer than 15 meters (50 feet)!
 When using the supplied MIDI cable, connect the locking end to the RK-100 and the non-locking end to the receiving synthesizer. This will prevent the MIDI cable from disconnecting during a "mobile" performance.

Other synthesizer as EX-800



- ④ Connect synthesizer output to amplifier or mixing console.



- ⑤ Be sure to check that all connections are correct.
 ⑥ Turn RK-100 power on.
 ⑦ Turn MIDI equipped receiving synthesizer power on.
 ⑧ Turn amplifier volume up.

POWER SUPPLY

The RK-100 can be powered by six size AA ("penlite") 1.5 volt batteries (preferably Alkaline) or the supplied AC adaptor. When replacing batteries, be sure to use all the same type. Do not mix different types of batteries.

■ Using batteries

With six size AA batteries, the RK-100 can operate continuously for about seven hours. If the AC adaptor is being used, no power will be drawn from the batteries. If you will not be using the RK-100 for an extended period of time, be sure to remove all batteries to avoid possible battery leakage.

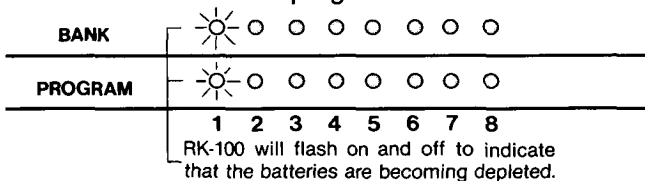
■ Using the AC adaptor

Use only the specified AC adaptor. Any adaptor other than RK-100 supplied adaptor may cause damage due to wrong polarity or improper power rating.

■ Battery check

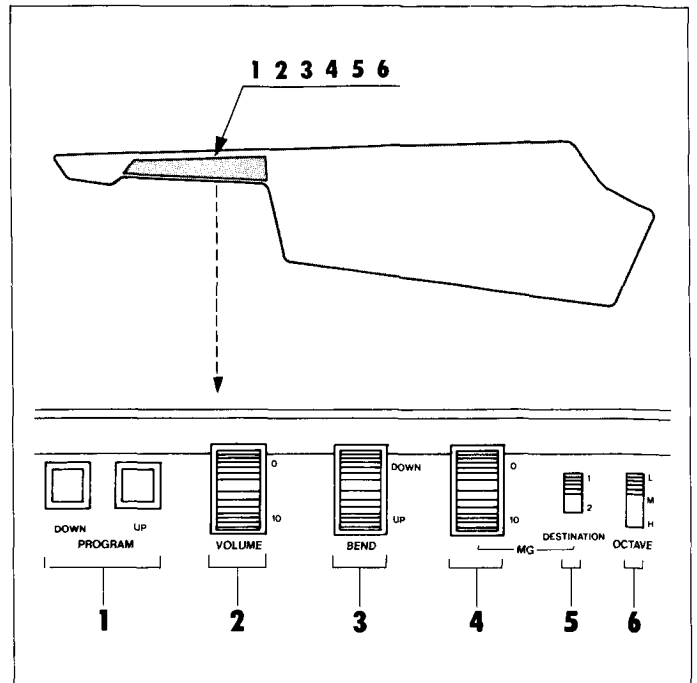
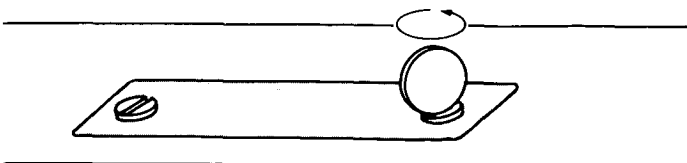
When being powered by batteries, the selected PROGRAM and BANK LEDs on the RK-100 will flash on and off to indicate that the batteries are becoming depleted. Replace with new batteries if these LEDs start to flash.

EXAMPLE: Show the program number 1-1.



■ Replacing the batteries

The battery compartment is on the underside of the RK-100. Use a coin or flat head screwdriver to loosen the screws. Take off the cover and replace all old batteries with all new batteries of exactly the same type. Be careful to follow the polarization (plus and minus) markings when inserting batteries. Put cover back on and tighten screws.



1 PROGRAM UP/DOWN Switches

These buttons enable you to sequentially move to the next higher (UP) program or to the next lower (DOWN) program. After pressing the button once, you must release it in order to use that function again. You cannot select program numbers higher than 8-8 (MIDI program number "63"), or lower than 1-1 (MIDI program number "0").

NOTE: PROGRAM UP will cause program 8-8 to "wrap around" to program number 1-1. Likewise, PROGRAM DOWN will cause program 1-1 to "wrap around" to program number 8-8.

2 VOLUME Wheel

Provided that the receiving synthesizer recognizes external volume control via MIDI, this function controls the volume of the receiving synthesizer. The VOLUME control will NOT have any effect unless the receiving synthesizer is capable of responding to MIDI volume data.

This function is only effective for the synthesizer equipped with the volume control function (0-127 AT MIDI).

3 BEND Wheel

This control is used for upward and downward pitch bending. The range of the pitch bend must be set on the receiving synthesizer. Since the wheel is spring loaded, it will return to the "0" (zero) pitch bend position when not being used.

4 MG Wheel

This control is used to apply modulation intensity to the receiving synthesizer. Modulation speed and depth must be set on receiving synthesizer. Since the wheel is spring loaded, it will return to the "0" (zero) modulation position when not being used.

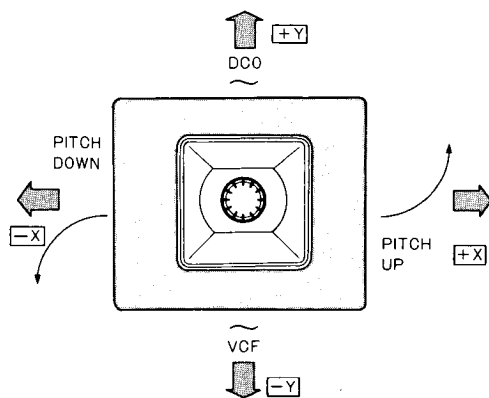
FEATURES AND FUNCTIONS

MODULATION: Used to create vibrato (DCO modulation), wah-wah (VCF modulation) and related effects.

5 DESTINATION Switch

Most synthesizers control pitch bend or modulation intensity with wheels, joysticks, ribbon controllers, etc.. Usually, you cannot have more than one parameter assigned to a controller. The DESTINATION switch enables the MG Wheel to be assigned for DCO modulation (vibrato) when in position 1, and VCF modulation (wah-wah) when in position 2.

For connection to other synthesizer brands, DESTINATION 1 is the first setting to try.



6 OCTAVE Selector

This function enables you to select the pitch range of the RK-100 keyboard.

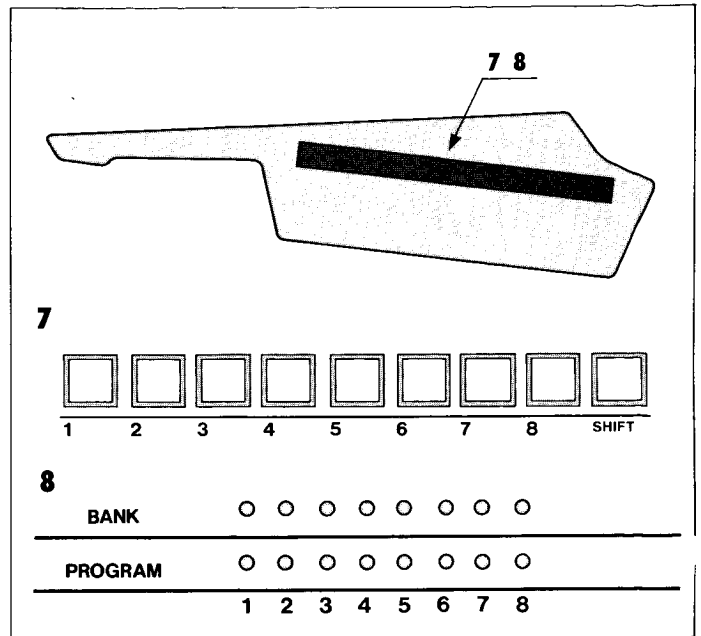
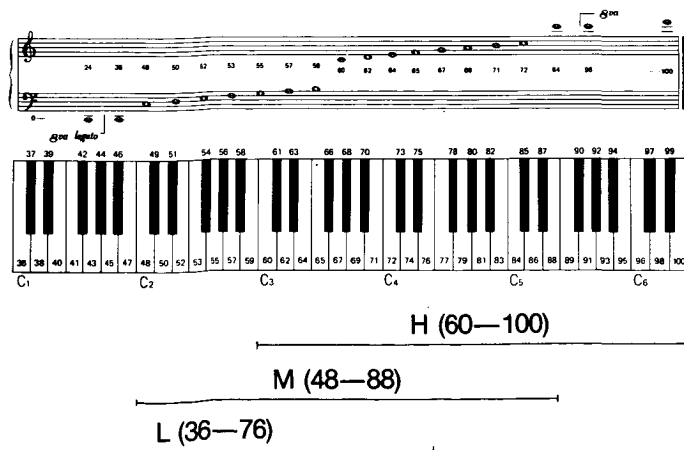
Low: 36 - 76 range

Normal: 48 - 88 range

High: 60 - 100 range

These numbers are the equivalent to octave transpositions through MIDI.

This selector must be set for the pitch range to be used.



7 PROGRAM SELECT

These buttons allow the user to select up to 64 sound programmed sounds (MIDI program numbers 0-63). The controls are arranged in eight banks with eight numbers per bank.

BANK	PROGRAM	MIDI
1	1 ~ 8	0 ~ 7
2	1 ~ 8	8 ~ 15
3	1 ~ 8	16 ~ 23
4	1 ~ 8	24 ~ 31
5	1 ~ 8	32 ~ 39
6	1 ~ 8	40 ~ 47
7	1 ~ 8	48 ~ 55
8	1 ~ 8	56 ~ 63

8 PROGRAM INDICATION LEDs.

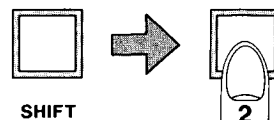
These show which program number has been selected by the number buttons or up/down buttons. A total of 64 program numbers, 1-1 to 8-8, can be selected and indicated.

Direct selection of program numbers

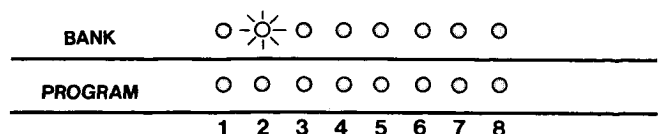
To select a bank number, hold down the shift key and press one of the number keys. To select a number within a bank, simply press one of the number keys without holding down the shift key.

EXAMPLE:

To select program number 2-4.

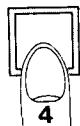


[1] Press button number 2 while depressing the SHIFT key. The BANK "2" LED will light up.

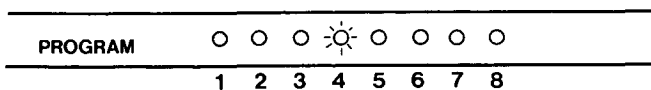


FEATURES AND FUNCTIONS

[2] Press button number 4.



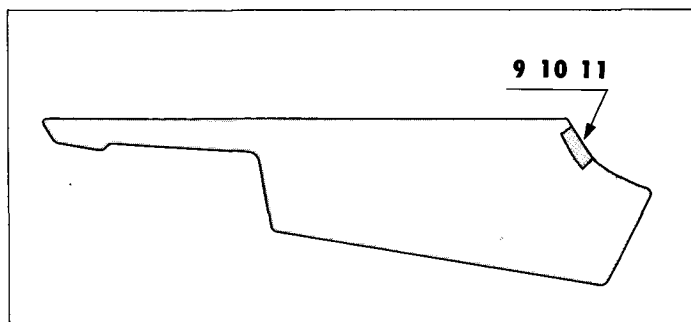
The PROGRAM "4" LED will light up.



The corresponding program number on the synthesizer has now been selected.

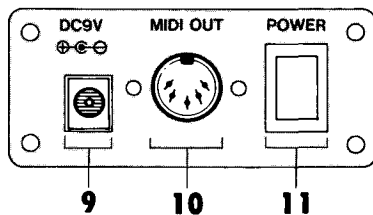
CAUTION:

After pressing a number button you must release it before pressing another, otherwise there will be no change. Also, the number buttons and shift button will have no effect if they are pressed while the PROGRAM UP or DOWN button is depressed.



9 DC 9V jack.

Input jack for AC adaptor. Use only specified AC adaptor.



10 MIDI OUT jack.

Use a standard MIDI cable (5-pin DIN) to connect this data output to any MIDI equipped synthesizer "MIDI IN" jack. The RK-100 "MIDI OUT" sends the following data:

1. Key data
2. Volume data
3. Pitch bend data
4. Modulation data
5. Program select
6. Active sensing

Note that the connected synthesizer must be able to respond to a data type in order for it to have any effect. For example, you can not control pitch bends from the RK-100 if the connected synthesizer does not have a MIDI controllable pitch bend function. Read synthesizer instruction manual for details.

POWER

Turns RK-100 power on and off.

When power is first turned on, program number 1-1 (0 on MIDI) is selected by default. The RK-100 begins outputting all MIDI data (program number, pitch bend data, modulation data, and volume data) immediately. However, some synthesizers will give a MIDI DATA ERROR indication right after power is turned on. This indication will go out and operation will normalize after a few seconds. This sort of power up reception instability will depend on the synthesizer itself. It does not reflect a problem with the RK-100.

Strap Pins

Attach shoulder strap to these pins. Make sure strap is firmly connected before playing.

Active Sensing

The RK-100 sends standard MIDI "ACTIVE SENSING" data every 200 milliseconds. If the synth stops receiving this data then it automatically turns off its audio output, thereby preventing a continuous sound if the MIDI cable to the RK-100 is accidentally unplugged.

The KORG EX-800 and many other synths will respond to active sensing. For details, read your synthesizer's owner's manual. Lack of active sensing reception capability will not affect normal operation in any way.

SPECIFICATIONS

Keyboard: 41 Keys (C—E)
Octave: H (60—100 at MIDI)
M (48—88 at MIDI)
L (36—76 at MIDI)
Matched Model: MIDI equipped synthesizer
Program Select: Program number 0—63 at MIDI
Program Number Display: LED
Bank → 8 (Green)
Program → 7 (Red)
Control: Pitch bend wheel (Up, Down)
Modulation wheel (0—10)
Volume wheel (0—10)
Program up switch
Program down switch
Octave switch (H/M/L)
Modulation destination
1 (Modulation wheel/Joy
stick + Y direction)
2 (Joystick - Y direction)
Program select (1-1—8-8,
0—63 at MIDI)
Input Jack: DC-IN
Output Jack: MIDI out (DIN socket)
Strap Pins: 2
Power Supply: UM-3 × 6/AC adaptor (9V,
100mA minimum)
Dimensions: 1,110(W) × 293(D) × 69(H)
mm
Weight: 4.4kg (with battery)
Accessories: Batteries (UM-3 × 6)
MIDI cable (5m)

OPTIONS

MIDI Cable Soft Case
Strap AC Adaptor
Hard Case

MIDI IMPLEMENTATION

Transmitted data

Status byte	2nd byte	3d byte	Description
1 0 0 1 0 0 0 0	0 k k k k k k k	0 0 0 0 0 0 0 0	Note Off event
1 0 0 1 0 0 0 0	0 k k k k k k k	0 1 0 0 0 0 0 0	Note On event
1 0 1 1 0 0 0 0	0 0 0 0 0 0 0 1	0 v v v v v v v	Modulation 1
1 0 1 1 0 0 0 0	0 0 0 0 0 0 1 0	0 v v v v v v v	Modulation 2
1 0 1 1 0 0 0 0	0 0 0 0 0 1 1 1	0 v v v v v v v	Output Volume
1 1 0 0 0 0 0 0	0 0 p p p p p p	_____	Program change
1 1 1 0 0 0 0 0	0 0 0 0 0 0 0 0	0 b b b b b b b	Pitch bend
1 1 1 1 1 1 1 0	_____	_____	Active Sensing

Note:

- When power is turned on, the RK-100 sends program change (0 on MIDI), modulation, volume, and pitch bend control change data according to positions of controls on RK-100.
- Note number (kkkkkkk) can be changed by the octave selector.
L = 36-76: M = 48-88: H = 60-100.
- Destination switch position has the following effect.
At "1": MG wheel controls joystick +Y direction or modulation wheel on a 2-wheel equipped synth.
At "2": MG wheel controls joystick -Y direction only.
- Program number (pppppp) covers the range of 0-63 MIDI.
- Output volume (vvvvv) range is 0-127 MIDI.
- Active sensing is sent every 200msec.

N O T I C E

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

KORG[®]

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