

Introduction

VariOS-8 is a trial application that transforms your VariOS into a completely different sound module. When the VariOS-8 program is installed, you can use the VariOS as an analog modeling synthesizer. You can use a rich array of parameters to produce realistic analog synthesizer sounds.

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About this program

File structure

- VariOS-8 main program
If this program is installed in the VariOS's internal flash ROM, the VariOS can function as an analog modeling synthesizer.
- VariOS-8 controller software (Windows/Macintosh)
This is editor software that lets you control the functions of the VariOS-8 from your computer.

Features

Once you have installed the program into the internal flash ROM of the VariOS, you can use a simple button operation to start up the VariOS as the VariOS-8. Since the previous program will still remain, the normal power-on operation will start up the VariOS with its conventional functionality.

Specifications/System requirements

Specifications

VariOS-8

Sound Generator:

Analog Modeling

Sound Generator Configuration:

Oscillator x 2

Modulator x 1

HPF x 1

TVF x 1

TVA x 1

Parts:

1

Maximum Polyphony:

24 voices (Varies depending on the load placed on the sound generator.)

Patches:

128

Modulator:

4 types + MIX

Effects:

MXF (Multi-effects), Chorus, Reverb

Arpeggiator:

Up, Down, Up&Down, Random

Sampling Frequency:

44.1 kHz

System requirements (Windows)

Operating system:

Microsoft® Windows® XP Home/XP Professional/
2000 Professional/Me/98SE

CPU:

Pentium®/Celeron™ or compatible processor,
400 MHz or better

Pentium® III 500 MHz or better is recommended

RAM:

128 MB or more (256 MB or more is recommended)

Free space required on hard disk:

30 MB or more

Display resolution/Color depth:

800 x 600 pixels, 65,536 colors (16-bit High Color) or
better

System requirements (Macintosh)

Operating System:

Mac OS 9.0.4 or later

Mac OS X v10.2 or later

CPU:

OS 9: PowerPC G3, 233 MHz or better

OS X: PowerPC G3, 500 MHz or better

RAM:

192 MB or more (256 MB or more is recommended)

Free space required on hard disk:

30 MB or more

Display resolution/color depth:

800 x 600 pixels, 32,000 colors or better

Other:

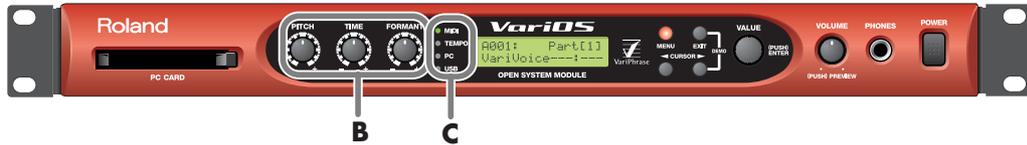
OMS support (Mac OS 9 only)

* Although Roland has tested numerous configurations, and has determined that on average, a computer system similar to that described above will permit normal operation of the VariOS-8 Controller, Roland cannot guarantee that a given computer can be used satisfactorily with the VariOS-8 Controller based solely on the fact that it meets the above requirements. This is because there are too many other variables that may influence the processing environment, including differences in motherboard design and the particular combination of other devices involved.

Names of Things and What They Do

Refer to "Names of Things and What They Do" in the "VariOS User Guide." **The following points will be different when you use VariOS-8.**

Front Panel



B. PITCH/TIME/FORMANT Knobs

PITCH (C1) Knob	Adjusts the HPF cutoff frequency.
TIME (C2) Knob	Adjusts the TVF cutoff frequency.
FORMANT (C3) Knob	Adjusts the resonance.

C. Indicators

TEMPO	This does not function for VariOS-8.
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Rear Panel



Q. INPUT

AUDIO IN Jacks	This does not function for VariOS-8.
LEVEL Knob	This does not function for VariOS-8.
GAIN switch	This does not function for VariOS-8.

R. OUTPUT

DIRECT OUT Jacks	This does not function for VariOS-8.
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Installation

Before you begin installation

Before you begin, you must install the driver as described in the "Installation" chapter of the "VariOS User Guide."

If you are using Mac OS 9, install OMS and make settings.



You cannot install the VariOS-8 main program if the driver has not been installed.

Installing the VariOS-8 main program

1. Hold down the three buttons [MENU], [<CURSOR], and [VOLUME] of the VariOS, and turn on the power of it.



2. Connect your computer and the VariOS via a USB cable. The internal flash ROM of the VariOS will be detected by your computer as a drive, and will be mounted under the drive name shown in the following table.

Windows XP	VARIOSFLASH
Other Windows versions	Removable Disk
Mac OS	VARIOSFLASH

3. From the **VariOS Program** folder, copy the following files to the VariOS drive that was mounted in step 2.
 - VPD-01 for VariOS
 - VA.prj
4. Unmount the VariOS drive that is mounted on your computer.
 - **Windows:**
In the task tray, double-click the **eject** icon. Then click the item that indicates the VariOS drive (this will differ depending on your version of Windows; see below) to unmount the drive.



Windows XP, 2000	USB high-capacity storage device
Windows Me	USB disk

- **Macintosh:**
Drag the **VARIOSFLASH** on the desktop into the "Trash".
5. Turn off the power of the VariOS.

Installing VariOS-8 Controller

Windows

In the **Controller Program** folder, double-click **Setup** to start up the installer. Proceed with the installation according to the on-screen directions.

Macintosh

In the **Controller Program** folder, double-click **VariOS-8 Installer_E** to start up the installer. Proceed with the installation according to the on-screen directions.

Startup and settings

Starting up VariOS-8

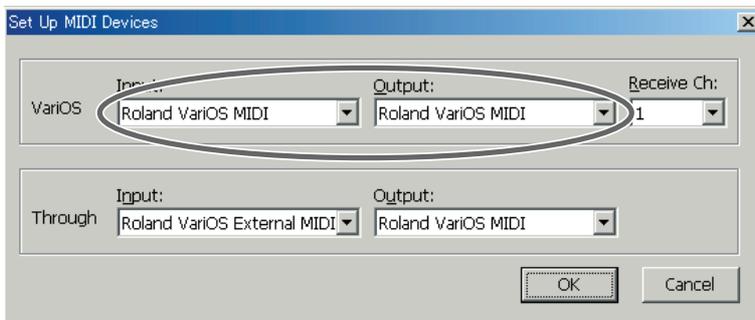


1. Hold down the **[Menu]** and **[<CURSOR]** buttons of the VariOS, and turn on the power.
2. Use the VariOS's **[VALUE]** knob to select "VPD-01."
3. Press **[ENTER]** (**[VALUE]** knob).

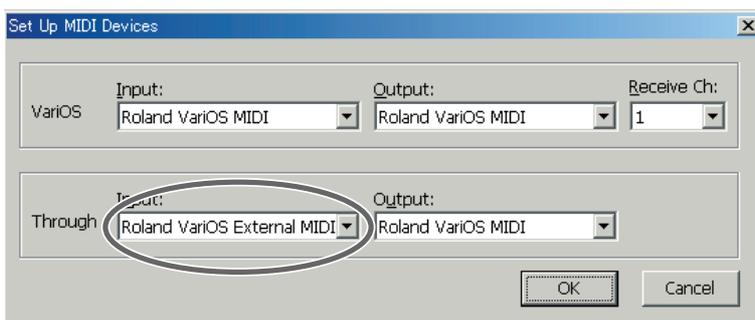
Starting up VariOS-8 Controller and making settings

Before you start up VariOS-8 Controller, you must connect the VariOS to your computer via a USB cable and start up VariOS-8. If you first start up VariOS-8 Controller and then start up VariOS-8 or connect the USB cable, or if you have turned off the power of the VariOS or disconnected the USB cable while VariOS-8 Controller is running, you must close VariOS-8 Controller and then restart it.

1. Start up VariOS-8 Controller.
2. In the **Setup** menu, click **Setup MIDI Devices**.
3. In the **VariOS Input/Output** field, specify the MIDI port to which the VariOS is connected. Normally, you will select "Roland VariOS MIDI," as shown in the diagram.

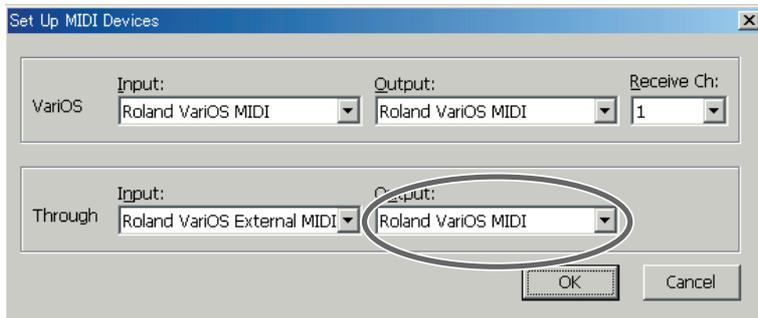


4. If you are using a MIDI keyboard, set the **Through Input** field to the MIDI input port to which your MIDI keyboard is connected. If your MIDI keyboard is connected to the VariOS, select "Roland VariOS External MIDI" as shown in the diagram.

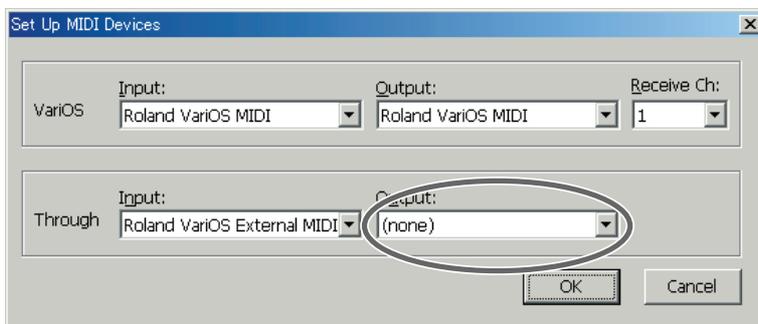


Startup and settings

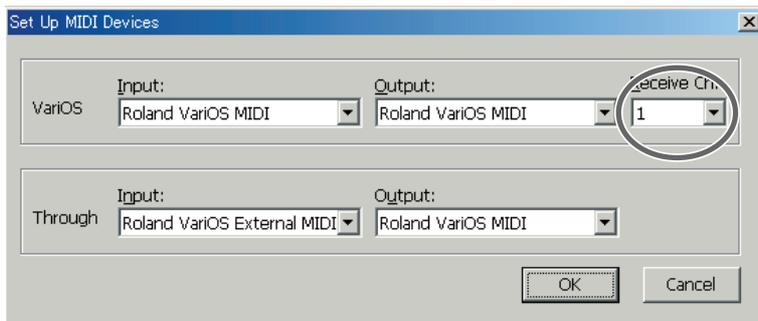
5. If you're using VariOS-8 by itself, set the **Through Output** field to "Roland VariOS MIDI."



If you are using VariOS-8 with other sequencer software, set the **Through Output** field to "none" to prevent VariOS-8 from sounding notes in duplicate.



6. The **Receive Ch** field specifies VariOS-8's MIDI receive channel. VariOS-8 will receive note-on and control change messages on the channel you specify here. If you've connected a MIDI keyboard, set this channel to match the channel your MIDI keyboard is using for transmission.



* The setting of the **Receive Ch** field is linked with the **[Menu2 Receive Channel]** setting of the VariOS hardware module. Refer to "Setting the MIDI Receive Channel" on p. 8.

Basic operation

Basic operation for VariOS-8 (main unit)

Selecting patches

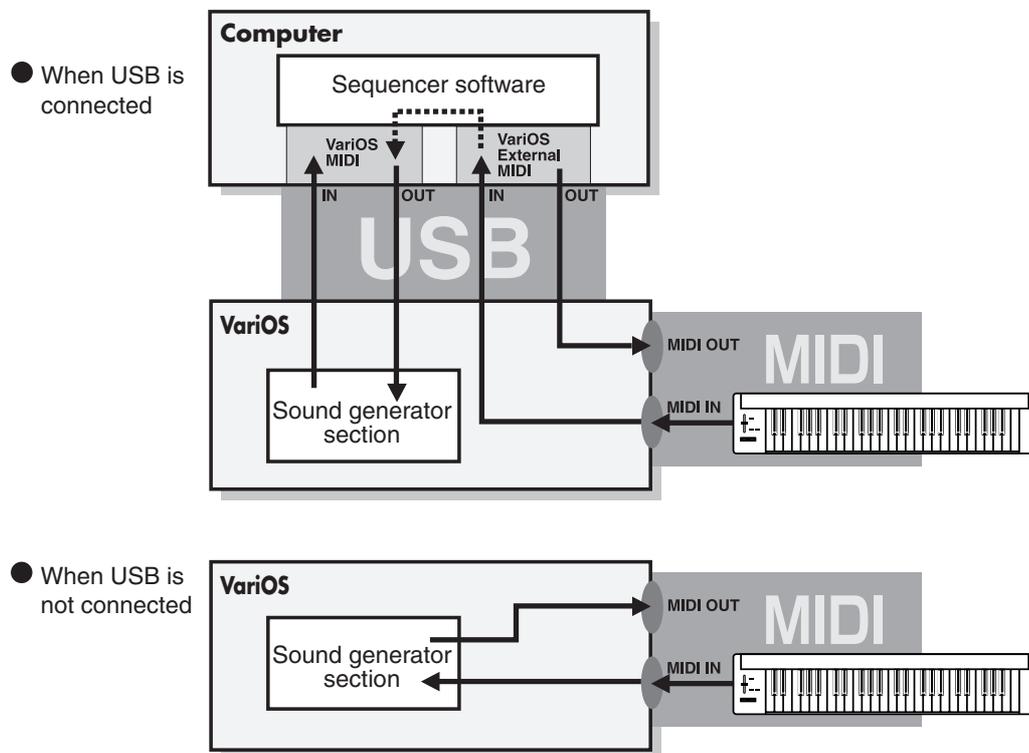
Turn the [VALUE] knob to select patches.

Playing from a connected keyboard (MIDI Mode)

You can connect your MIDI keyboard to the VariOS. In this case, you can change the MIDI routing (PC mode, Internal mode) in the following ways.

PC mode

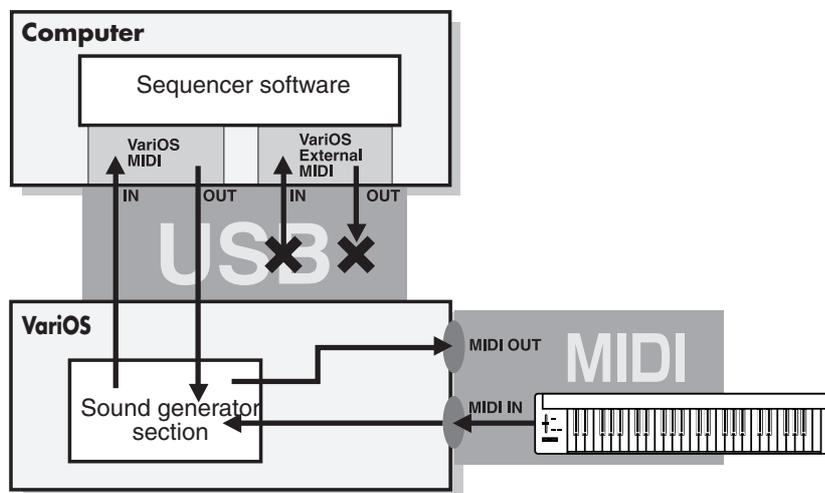
When using a USB connection, the MIDI connectors on the rear panel of the VariOS will function as a USB MIDI interface (Roland VariOS External MIDI). When USB is not connected or when your computer is not powered up, the MIDI connectors on the rear panel of the VariOS are connected directly to the sound generator section.



Basic operation

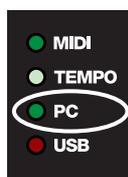
Internal mode

The MIDI connectors of the rear panel of the VariOS are connected directly to the sound generator section.



Procedure:

1. Press the **[MENU]** button so it is lit.
2. Turn the **[VALUE]** knob to select “Menu1 MIDI Mode,” and press the **[VALUE]** knob.
3. Turn the **[VALUE]** knob to switch the setting between “Internal” or “PC.”



The “PC indicator” on the front panel of the VariOS shows the current MIDI Mode status. When this is lit, “PC” mode is selected. When dark, “Internal” mode is selected.

4. Press the **[MENU]** button so it is not lit.

Setting the MIDI Receive Channel

Here’s how to set the MIDI receive channel of the VariOS hardware module.

The VariOS will receive note-on and control change messages on the channel you specify here. If you’ve connected a MIDI keyboard, set this channel to match the transmit channel of your MIDI keyboard.

Procedure:

1. Press the **[MENU]** button so it is lighted.
2. Turn the **[VALUE]** knob to select **[Menu2 Receive Channel]**, and then press the **[VALUE]** knob.
3. Turn the **[VALUE]** knob to specify the receive channel (1–16).
4. Press the **[MENU]** button to turn off its illumination.

Basic operation for VariOS-8 Controller

Changing Skins

You can change the appearance of VariOS-8 by choosing **[Skin]** from the **[Setup]** menu.



Selecting a patch

To select a patch from a list, click the **[LIST]** button.



Editing a value

You can edit values by clicking (and dragging) buttons, sliders, or knobs. If you feel that the panel sliders or knobs are too small for you to make detailed adjustments comfortably, try clicking (and holding) a knob and dragging the mouse farther away. You can set the value from any position as long as you continue holding down the mouse button. When doing so, the value can be adjusted with correspondingly greater precision as the mouse cursor is moved further away from the center of the knob.

If the value is displayed, you can also edit it by pressing your computer's cursor keys (up/down).

Basic operation

Initializing a value

You can reset a parameter to its initial value by holding down the Ctrl (control) key of your computer and clicking the slider or knob.

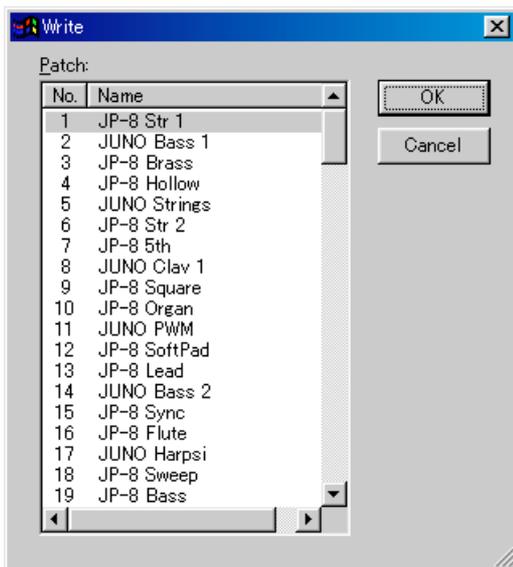
Renaming a patch

To rename a patch, click the [NAME] button.



Writing a patch

Click the [WRITE] button to open the **Write** dialog box. Select the write-destination patch number, and click the OK button.



MEMO

Patches will be saved in the VariOS itself.

Screen reference

Main screen



TUNE (MASTER TUNE)

Click **TUNE** to display the **Tune** dialog box.



Value	Description
415.3–466.2 Hz	Adjusts the overall tuning. The display of 440 Hz shows the frequency of the A4 note (center A).

READ

Loads settings from the VariOS-8 into VariOS-8 controller so that the Controller screen matches the settings of the unit itself.

ARPEGGIO

Parameter	Value	Description
ON/OFF	OFF, ON	Switches the Arpeggiator on/off.
TEMPO	20–250	Specify the tempo of an arpeggio. When SYNC parameter is set to “INT,” this setting value is effective.
SYNC	INT, MIDI	Determines the clock to which the arpeggiator tempo is to be synchronized. INT: Synchronize to the patch tempo. MIDI: Synchronize to the clock of the external sequencer.
OCTAVE RANGE	-3–+3	Sets the key range in octaves over which arpeggio will take place. If you want the arpeggio to sound using only the notes that you actually play, set this parameter to “0.” To have the arpeggio sound using the notes you play and notes 1 octave higher, set this parameter to “+1.” A setting of “-1” will make the arpeggio sound using the notes you play and notes 1 octave lower.
MODE	UP, DOWN, UP&DOWN, RANDOM	Sets the order in which notes of the chord will sound. UP: Notes you press will be sounded, beginning from low to high. DOWN: Notes you press will be sounded, from high to low. UP&DOWN: Notes you press will be sounded, from low to high, and then back down from high to low. RANDOM: Notes you press will be sounded, in random order.

Screen reference



KBD (Keyboard)

Parameter	Value	Description
VELO SENS	-63+63	Set this when you want the amount of the envelope to change depending on the force with which you press the keys. Set this to a positive (+) value to have the changes in envelope amount increase the more forcefully the keys are played; to make the envelope play more softly as you play harder, set this to a negative (-) value.

OSC1/2 (Oscillator)

Parameter	Value	Description																														
DETAIL	—	When you click the Detail button, the OSC1 or OSC2 dialog box will open. Here you can make more detailed settings. -> p. 17																														
WAVEFORM	SAW, SQR, TRI, SINE, RAMP, JUNO, HQ-SAW, HQ-SQR, NOISE	Selects the wave upon which the sound is to be based when using an analog oscillator. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Waveform</th> <th>PW</th> <th>SUB OSC</th> </tr> </thead> <tbody> <tr> <td>SAW: Sawtooth wave</td> <td style="text-align: center;">O</td> <td style="text-align: center;">O</td> </tr> <tr> <td>SQR: Square wave</td> <td style="text-align: center;">O</td> <td style="text-align: center;">O</td> </tr> <tr> <td>TRI: Triangle wave</td> <td style="text-align: center;">O</td> <td style="text-align: center;">O</td> </tr> <tr> <td>SINE: Sine wave</td> <td style="text-align: center;">O</td> <td style="text-align: center;">O</td> </tr> <tr> <td>RAMP: Ramp wave</td> <td style="text-align: center;">O</td> <td style="text-align: center;">O</td> </tr> <tr> <td>JUNO: Modulated sawtooth wave</td> <td style="text-align: center;">O</td> <td style="text-align: center;">O</td> </tr> <tr> <td>HQ-SAW: High quality sawtooth wave</td> <td style="text-align: center;">X</td> <td style="text-align: center;">X</td> </tr> <tr> <td>HQ-SQR: High quality square wave</td> <td style="text-align: center;">O</td> <td style="text-align: center;">X</td> </tr> <tr> <td>NOISE: Noise wave</td> <td style="text-align: center;">O</td> <td style="text-align: center;">X</td> </tr> </tbody> </table> <p style="text-align: right; margin-right: 50px;">O: effective X: ineffective</p>	Waveform	PW	SUB OSC	SAW: Sawtooth wave	O	O	SQR: Square wave	O	O	TRI: Triangle wave	O	O	SINE: Sine wave	O	O	RAMP: Ramp wave	O	O	JUNO: Modulated sawtooth wave	O	O	HQ-SAW: High quality sawtooth wave	X	X	HQ-SQR: High quality square wave	O	X	NOISE: Noise wave	O	X
Waveform	PW	SUB OSC																														
SAW: Sawtooth wave	O	O																														
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RAMP: Ramp wave	O	O																														
JUNO: Modulated sawtooth wave	O	O																														
HQ-SAW: High quality sawtooth wave	X	X																														
HQ-SQR: High quality square wave	O	X																														
NOISE: Noise wave	O	X																														
LEVEL	0-127	Specifies the volume of the oscillator.																														
IMPACT	0.0-4.0	Specifies the sharpness of the attack of the analog oscillator. Higher settings will produce a sharper attack.																														
COARSE TUNE	-48+48	Adjusts the pitch of the oscillator up or down in semitone steps (+/-4 octaves).																														
FINE TUNE	-50+50	Adjusts the pitch of the oscillator up or down in 1-cent steps (+/-50 cents). * One cent is 1/100th of a semitone.																														
PW	-63+63	Specifies the amount by which the wave shape will be modified.																														
SUB OSC	0-127	Emphasizes the low-frequency region of the sound.																														



MOD (Modulator)

Selects the type of modulator.

Value	Description
MIX	Add OSC1 and OSC2.
RING	Use OSC2 to apply ring modulation to OSC1.
FM	Use OSC2 to apply FM (frequency modulation) to OSC1.
ENV RING	Use the envelope of OSC2 to control the volume of OSC1.
OSC SYNC	Synchronize the output waveform of OSC1 to the output waveform of OSC2.

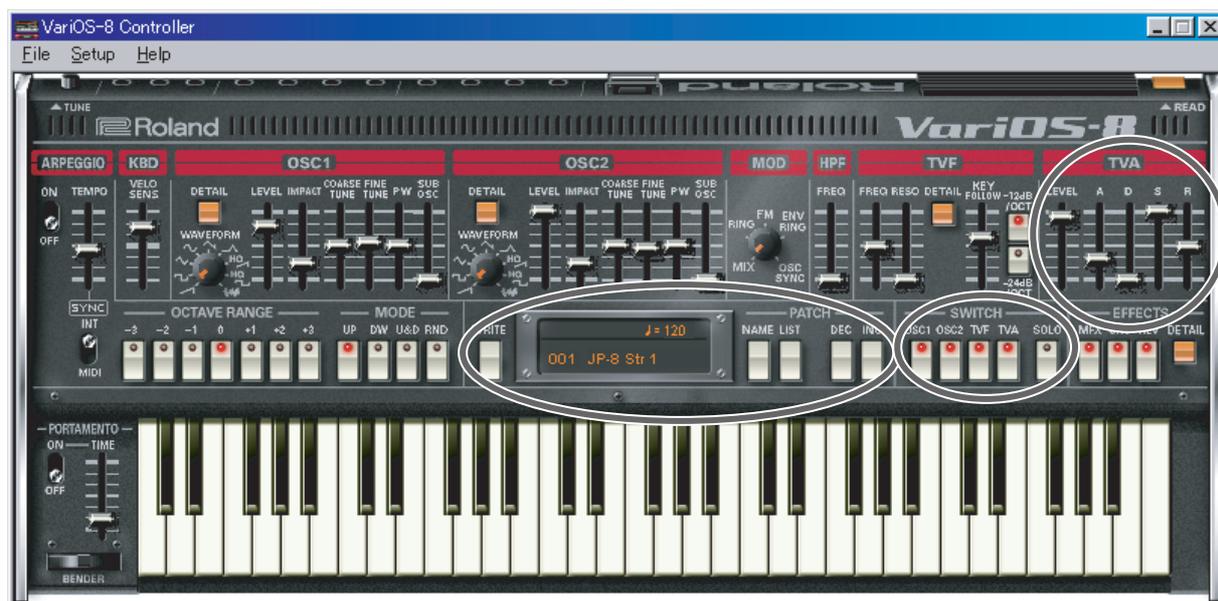
HPF (High Pass Filter)

Parameter	Value	Description
FREQ	0–127	Adjusts the cutoff frequency of the filter.

TVF

Parameter	Value	Description
FREQ	0–127	Adjusts the cutoff frequency of the filter.
RESO	0–127	Adjusts the resonance.
DETAIL	—	When you click the Detail button, the TVF dialog box will open. Here you can make more detailed settings. -> p. 18
KEY FOLLOW	-200–+200	Key follow setting for filter cutoff frequency
-12dB/OCT	-12 dB/oct	Amount of attenuation per octave
-24dB/OCT	-24 dB/oct	Amount of attenuation per octave

Screen reference



TVA

Parameter	Value	Description
LEVEL	0–127	Specifies the volume of the patch.
A	0–127	Specifies the attack time of the envelope (the time from when you press a key until the envelope level reaches the maximum value).
D	0–127	Specifies the decay time of the envelope (the time from when the envelope level reaches the maximum value until it falls to a constant value).
S	0–127	Specifies the sustain level of the envelope (the level at which the envelope remains constant).
R	0–127	Specifies the release time of the envelope (the time from when you release a key until the envelope level reaches 0).

PATCH

Parameter	Description
WRITE	Refer to p. 10.
NAME	Refer to p. 10.
LIST	Refer to p. 9.
DEC	Decrement the patch number by one.
INC	Increment the patch number by one.

SWITCH

Parameter	Description
OSC1	Switch OSC1 (p. 12) on/off.
OSC2	Switch OSC2 (p. 12) on/off.
TVF	Switch TVF (p. 13) on/off.
TVA	Switch TVA (p. 14) on/off.
SOLO	If this is on, the synthesizer will be monophonic.



EFFECTS

Parameter	Description
MFX	Switch multi-effects on/off.
CHO	Switch chorus on/off.
REV	Switch reverb on/off.
DETAIL	When you click the Detail button, the Effects dialog box will open. Here you can make more detailed settings. -> p. 19

PORTAMENTO

Parameter	Value	Description
ON/OFF	OFF, ON	Specifies whether the portamento effect will be applied (ON) or not (OFF).
TIME	0-127	When portamento is used, this specifies the time over which the pitch will change. Higher settings will cause the pitch change to the next note to take more time.

Portamento

Portamento is an effect which smoothly changes the pitch from the first-played key to the next-played key. By applying portamento when the SOLO parameter is monophonic, you can simulate slide performance techniques on a violin or similar instrument.

Screen reference



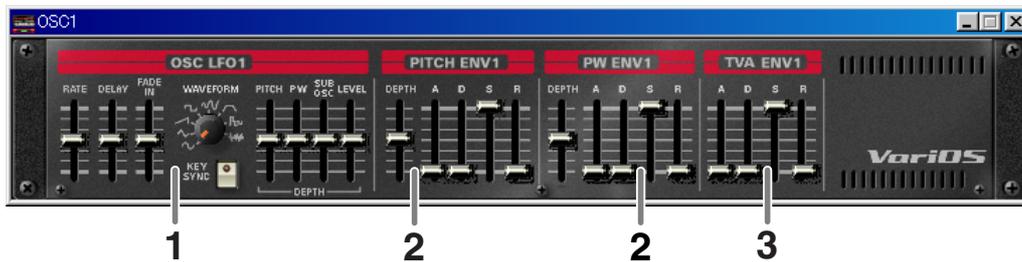
BENDER

Click **BENDER** to display the **Bender** dialog box.



Parameter	Value	Description
BEND RANGE DOWN	0–48	Specifies the degree of pitch change in semitones when the Pitch Bend lever is all the way left. For example if this is set to “48” and you move the pitch bend lever all the way to the left, the pitch will fall 4 octaves.
BEND RANGE UP	0–48	Specifies the degree of pitch change in semitones when the Pitch Bend lever is all the way right. For example, if this parameter is set to “12,” the pitch will rise one octave when the pitch bend lever is moved to the right-most position.
PITCH LFO DEPTH	0–127	Adjusts the pitch LFO depth for OSC1/2.

OSC1/2 screen



1. OSC LFO1/2

Parameter	Value	Description
RATE	0–127	Adjusts the modulation rate, or speed, of the LFO.
DELAY	0–127	Delay Time (LFO Delay Time) specifies the time elapsed before the LFO effect is applied (the effect continues) after the key is pressed (or released).
FADE IN	0–127	Specifies the time over which the LFO amplitude will reach the maximum.
WAVEFORM	SINE, TRI, SAW, SQR, RND, TAP, S&H, CHAOS	Selects the waveform of the LFO. SINE: Sine wave TRI: Triangle wave SAW: Sawtooth wave SQR: Square wave RND: Random wave TAP: Trapezoidal wave S&H: Sample & Hold wave (one time per cycle, LFO value is changed) CHAOS: Chaos wave
KEY SYNC	OFF, ON	This specifies whether the LFO cycle will be synchronized to begin when the key is pressed (ON) or not (OFF).
PITCH DEPTH	-63–+63	Adjusts the pitch LFO depth for OSC1/2.
PW DEPTH	-63–+63	Specifies how deeply the LFO will affect pulse width.
SUB OSC DEPTH	-63–+63	Specifies how deeply the LFO will affect SUB OSC.
LEVEL DEPTH	-63–+63	Specifies how deeply the LFO will affect the volume of the oscillator.

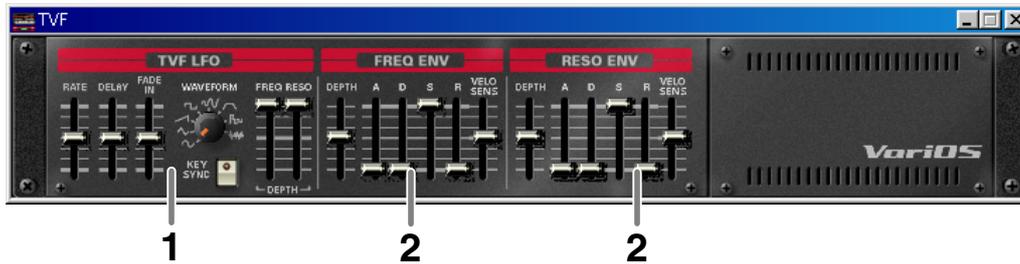
2. PITCH ENV1/2, PW ENV1/2

Parameter	Value	Description
DEPTH	-63–+63	Specifies the depth of the envelope. Higher settings will cause the envelope to produce greater change. Negative (-) settings will invert the shape of the envelope.
A	0–127	Specifies the attack time of the envelope (the time from when you press a key until the envelope level reaches the maximum value).
D	0–127	Specifies the decay time of the envelope (the time from when the envelope level reaches the maximum value until it falls to a constant value).
S	0–127	Specifies the sustain level of the envelope (the level at which the envelope remains constant).
R	0–127	Specifies the release time of the envelope (the time from when you release a key until the envelope level reaches 0).

3. TVA ENV1/2

Parameter	Value	Description
A	0–127	Specifies the attack time of the envelope (the time from when you press a key until the envelope level reaches the maximum value).
D	0–127	Specifies the decay time of the envelope (the time from when the envelope level reaches the maximum value until it falls to a constant value).
S	0–127	Specifies the sustain level of the envelope (the level at which the envelope remains constant).
R	0–127	Specifies the release time of the envelope (the time from when you release a key until the envelope level reaches 0).

TVF screen



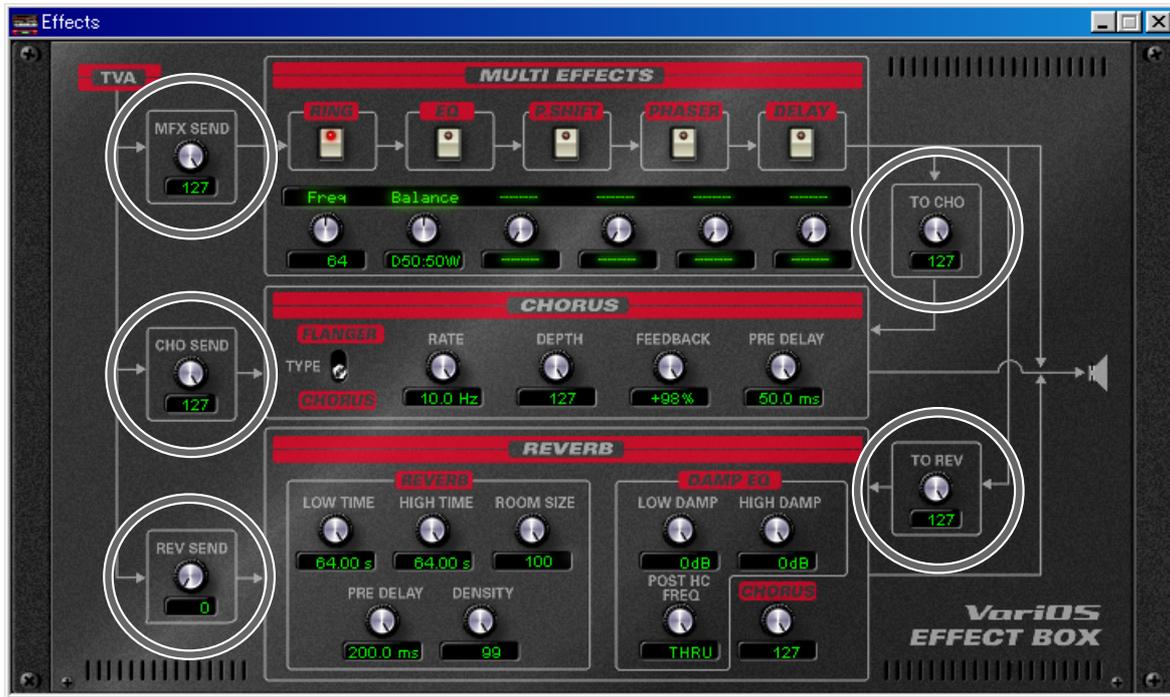
1. TVF LFO

Parameter	Value	Description
RATE	0–127	Adjusts the modulation rate, or speed, of the LFO.
DELAY	0–127	Delay Time (LFO Delay Time) specifies the time elapsed before the LFO effect is applied (the effect continues) after the key is pressed (or released).
FADE IN	0–127	Specifies the time over which the LFO amplitude will reach the maximum.
WAVEFORM	SINE, TRI, SAW, SQR, RND, TAP, S&H, CHAOS	Selects the waveform of the LFO. SINE: Sine wave TRI: Triangle wave SAW: Sawtooth wave SQR: Square wave RND: Random wave TAP: Trapezoidal wave S&H: Sample & Hold wave (one time per cycle, LFO value is changed) CHAOS: Chaos wave
KEY SYNC	OFF, ON	This specifies whether the LFO cycle will be synchronized to begin when the key is pressed (ON) or not (OFF).
FREQ DEPTH	-63–+63	Amount of LFO applied to filter cutoff frequency
RESO DEPTH	-63–+63	Amount of LFO applied to resonance

2. FREQ ENV, RESO ENV

Parameter	Value	Description
DEPTH	-63–+63	Specifies the depth of the envelope. Higher settings will cause the envelope to produce greater change. Negative (-) settings will invert the shape of the envelope.
A	0–127	Specifies the attack time of the envelope (the time from when you press a key until the envelope level reaches the maximum value).
D	0–127	Specifies the decay time of the envelope (the time from when the envelope level reaches the maximum value until it falls to a constant value).
S	0–127	Specifies the sustain level of the envelope (the level at which the envelope remains constant).
R	0–127	Specifies the release time of the envelope (the time from when you release a key until the envelope level reaches 0).
VELO SENS	-63–+63	Set this when you want the amount of the envelope to change depending on the force with which you press the keys. Set this to a positive (+) value to have the changes in envelope amount increase the more forcefully the keys are played; to make the envelope play more softly as you play harder, set this to a negative (-) value.

Effects screen

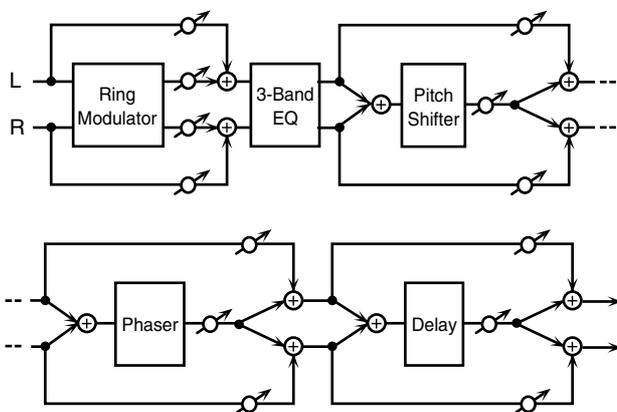


Parameter	Value	Description
MFX SEND	0-127	Sets the level of the signal sent to MFX.
CHO SEND	0-127	Sets the level of the signal sent to chorus.
REV SEND	0-127	Sets the level of the signal sent to reverb.
TO CHO	0-127	Adjusts the amount of chorus for the sound that passes through MFX. If you don't want to add the Chorus effect, set it to "0."
TO REV	0-127	Adjusts the amount of reverb for the sound that passes through MFX. If you don't want to add the Reverb effect, set it to "0."

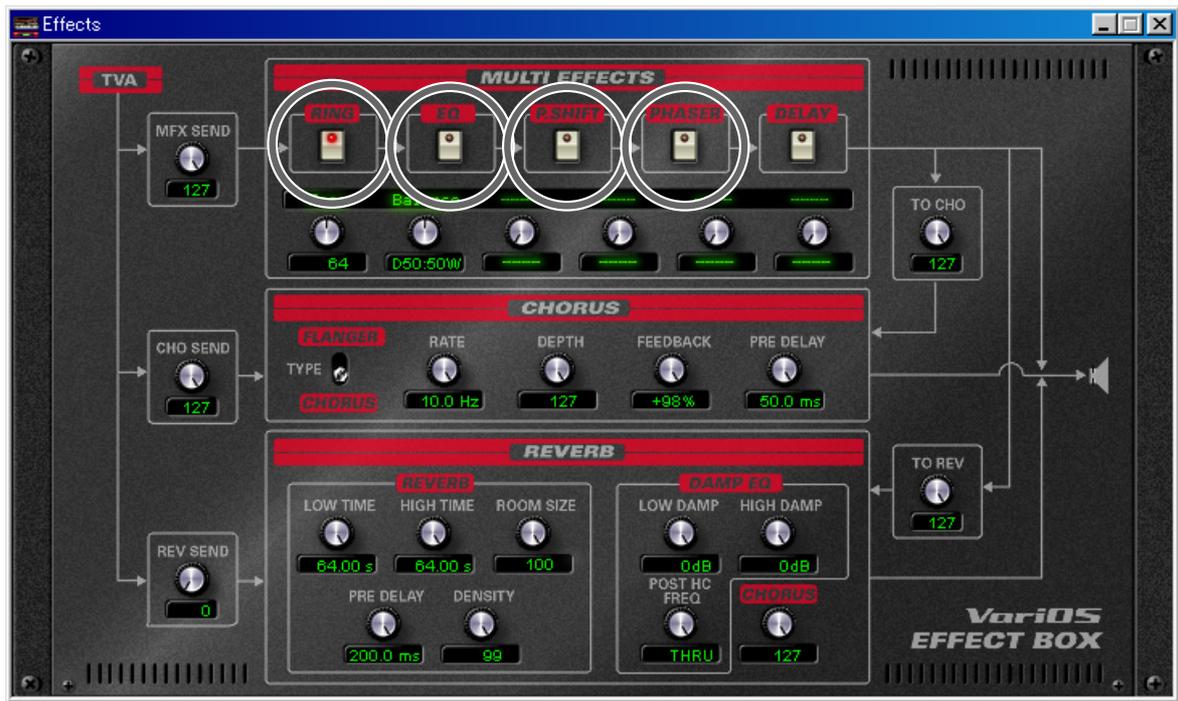
MULTI EFFECTS

A ring modulator, 3-band equalizer, pitch shifter, phaser, and delay are connected in series.

Ring Modulator is an effect which applies ring modulation using an internal oscillator to the input signal, producing bell-like sounds.



Screen reference



RING

Parameter	Value	Description
Freq	0–127	Frequency at which modulation will be applied
Balance	DRY100:0WET–DRY0:100WET	Volume balance between the direct sound (DRY) and the ring modulated sound (WET)

EQ

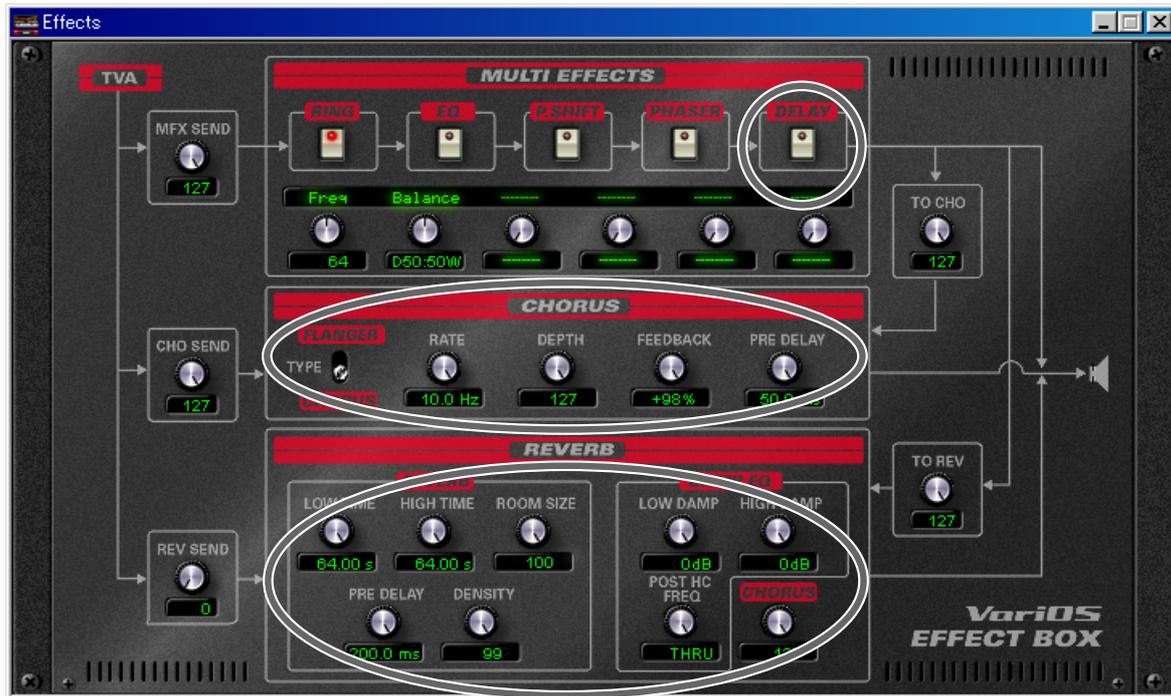
Parameter	Value	Description
Low Freq	50–4000 Hz	Frequency of the low range
Low Gain	-15– +15 dB	Gain of the low range
Mid Freq	50–20000 Hz	Frequency of the middle range
Mid Gain	-15– +15 dB	Gain of the middle range
Hi Freq	2000–20000 Hz	Frequency of the high range
Hi Gain	-15– +15 dB	Gain of the high range

P.SHIFT

Parameter	Value	Description
Grade	1–5	Sets the grade of the effect sound. The higher the value is set, the more natural-sounding can be obtained; however, this increases the delay from the source sound as well.
Coarse	-12– +12 semitone	Specifies the pitch shift amount in semitone steps.
Fine	-100– +100 cent	Adjusts the pitch shift amount in 2-cent steps (1 cent = 1/100 of a semitone).
Balance	DRY100:0WET–DRY0:100WET	Volume balance between the direct sound (DRY) and the effect sound (WET)

PHASER

Parameter	Value	Description
Manual	0–127	Specifies the center frequency at which the sound is modulated.
Rate	0.05–10.0 Hz	Specifies the frequency of modulation.
Depth	0–127	Specifies the depth of modulation.
Reso	0–127	Specifies the amount of feedback for the phaser. Higher settings will give the sound a stronger character.
MixLevel	0–127	Specifies the volume of the phase-shifted sound, relative to the direct sound.



DELAY

Parameter	Value	Description
DelayTime	0–1300 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
Feedbk	-98– +98 %	Adjusts the proportion of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.
DelayLevel	0–127	Volume of the delay sound.
Low Damp	-36–0 dB	Degree of Low Damp
Hi Damp	-36–0 dB	Degree of High Damp

CHORUS

Parameter	Value	Description
TYPE	CHORUS, FLANGER	Selects either chorus or flanger.
RATE	0.05–10.0 Hz	Sets the cycle for the chorus or flanger sound undulations.
DEPTH	0–127	Adjusts the depth of modulation for the chorus or flanger.
FEEDBACK	-98– +98 %	Adjusts the proportion of the effect sound that is fed back into the effect. Negative (-) settings will invert the phase.
PRE DELY	0–50.0 ms	Adjusts the delay time from the direct sound until the chorus sound is heard.

REVERB

Parameter	Value	Description
LOW TIME	0.06–64.0 sec	Duration (time) of the reverb for the low frequency band.
HIGH TIME	0.06–64.0 sec	Duration (time) of the reverb for the high frequency band
ROOM SIZE	0–50	Size of the room which is simulated
PRE DELAY	0–200.0 ms	Adjusts the delay time from the direct sound until the delay sound is heard.
DENSITY	0–99	Density of the reverb
LOW DAMP	-36–0 dB	Degree of Low Damp
HIGH DAMP	-36–0 dB	Degree of High Damp
POST HC FREQ	160–15000 Hz, THRU	Frequency at which the high cut filter will begin to take effect (THRU: no filter is used)
CHORUS	0–127	Depth of modulation for the reverb

Cautions when using VariOS-8 with another sequencer

Synchronizing the arpeggiator to the tempo of your MIDI sequencer

If you are using VariOS-8 with your MIDI sequencer, you can set VariOS-8 Controller's **[SYNC]** switch to **MIDI** so that the VariOS-8 arpeggiator will be synchronized to the tempo of your MIDI sequencer.

1. Set VariOS-8 Controller's **ARPEGGIO/[SYNC]** switch to **MIDI**. (Refer to p. 11)
2. Start up your MIDI sequencer.
3. Send the MIDI clock of your MIDI sequencer to “**Roland VariOS MIDI**” (the port of the VariOS sound generator section).
4. Specify **Roland VariOS MIDI** (the port of the VariOS sound generator section) as the output port for the tracks of your sequencer, so that it will control the VariOS.

About MIDI channels

When playing VariOS-8 from a sequencer, choose **Roland VariOS MIDI** as the output port for the corresponding track in your sequencer, and set the MIDI output channel to match the MIDI Receive Channel of the VariOS. You can use either of the following two methods to set the VariOS's MIDI Receive Channel.

- **From VariOS-8 Controller**
Refer to step **6** of “**Starting up VariOS-8 Controller and making settings**” on p. 6.
- **From the menu of the VariOS hardware module**
Refer to “**Setting the MIDI Receive Channel**” on p. 8.

Starting up VariOS-8 from a PC card

The VariOS trial applications "VariOS-8" and "VariOS 303" can be copied to a PC card, so that the programs can be started up from a PC card inserted in the VariOS.

This is very convenient, since you can start up a VariOS trial application simply by inserting the PC card into the card slot of the VariOS and turning the power on. (If you have copied more than one trial application onto the PC card, you can use the [VALUE] knob at start-up to switch applications.)

NOTE

You will need a PC card (sold separately) in order to do this.

NOTE

If you use a PC card, be sure that it meets the requirements given in "Using PC Cards" (p. 5) of the "VariOS User Guide."

NOTE

When using a PC card, you must format it on the VariOS itself using the procedure described in the "VariOS User Guide" section "VariOS Menu Reference" -> "8-5 Format."

Installation

If your computer does not have a PC card reader

MEMO

First use the "Installation" (p. 4) procedure described in this manual to copy **VA.prj** to the internal flash ROM of the VariOS.

1. Make sure that a PC card is not inserted in the PC card slot of the VariOS. Then use a USB cable to connect the VariOS to your computer, and start up the computer.
2. Hold down the [MENU], [<CURSOR], and [ENTER] ([VALUE] knob) buttons of the VariOS, and turn on the power of it.
3. Insert the PC card into the PC card slot of the VariOS.
4. The PC card inserted in the VariOS will be recognized by your computer as a drive, and will be mounted as the drive name shown in the following table.

Windows 98SE, Me, 2000	Removable Disk
Windows XP, Macintosh	PC CARD

5. From the **VariOS Program** folder, drag **VPD-01 for VariOS.BIN** to copy it into the PC card drive.
6. Rename the copied file **VPD-01 for VariOS.BIN** as follows. (Change the third character from "D" to "I" (the uppercase letter "I"; not the numeral "one").

VPD-01 for VariOS.BIN

↓

VPI-01 for VariOS.BIN

Starting up VariOS-8 from a PC card

7. Unmount the PC card drive that is mounted on your computer.

- **Windows:**

In the task tray, double-click the **eject** icon. Then click the item that indicates the PC card drive (this will differ depending on your version of Windows; see below) to unmount the drive.



Windows XP, 2000	USB high-capacity storage device
Windows Me	USB disk

- **Macintosh:**

Drag the **PC CARD** on the desktop into the "Trash".

* The **PC CARD** you dragged into the Recycle Bin will be mounted again, but this is not a problem.

8. Turn off the power of the VariOS.

This completes the installation. Refer to "Usage," below.

If your computer has a PC card reader

MEMO

First use the "Installation" (p. 4) procedure described in this manual to copy **VA.prj** to the internal flash ROM of the VariOS.

1. Start up your computer, and insert the PC card into the PC card reader.
2. From the **VariOS Program** folder, drag **VPD-01 for VariOS.BIN** to copy it into the PC card drive.
3. Rename the copied file **VPD-01 for VariOS.BIN** as follows. (Change the third character from "D" to "I" (the uppercase letter "I"; not the numeral "one").

VPD-01 for VariOS.BIN



VPI-01 for VariOS.BIN

4. Unmount the PC card drive that is mounted on your computer.

This completes the installation. Refer to "Usage," below.

Usage

1. When you insert the PC card into the VariOS and power-on the VariOS, the VariOS trial application that was written to the PC card will start up.

MEMO

If you want to start up the internal program of the VariOS, remove the PC card and power-on the VariOS.

2. If you have copied more than one trial application to the PC card, the display will indicate "**Select Program**" when the VariOS starts up. Turn the **[VALUE]** knob to select the desired application, and press **[ENTER]** to start up.

NOTE

If the patch name does not appear (i.e., displayed as "001: "), the VariOS's internal flash ROM does not contain patch data. Copy **VA.prj** into the VariOS's internal flash ROM as described in "Installation" (p. 4).

MIDI Implementation

System Exclusive Message

●Data Transmission

This instrument can use exclusive messages to exchange many varieties of internal settings with other devices.

The model ID of the exclusive messages used by this instrument is 00H 6DH.

○Data Request 1RQ1 (11H)

This message requests the other device to transmit data. The address and size indicate the type and amount of data that is requested.

When a Data Request message is received, if the device is in a state in which it is able to transmit data, and if the address and size are appropriate, the requested data is transmitted as a Data Set 1 (DT1) message. If the conditions are not met, nothing is transmitted.

Status	data byte	status
F0H	41H, dev, 00H, 53H, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, vvH, sum	F7H

Byte	Remarks
F0H	Exclusive status
41H	ID number (Roland)
10H	device ID
00H	model ID #1 (VarioS-8)
6DH	model ID #2 (VarioS-8)
11H	command ID (RQ1)
aaH	address MSB
bbH	address
ccH	address
ddH	address LSB
ssH	size MSB
ttH	size
uuH	size
vvH	size LSB
sum	checksum
F7H	EOX (End Of Exclusive)

* The size of data that can be transmitted at one time is fixed for each type of data. And data requests must be made with a fixed starting address and size. Refer to the address and size given in "Parameter Address Map."

○Data Set 1 DT1 (12H)

Status	Data byte	Status
F0H	41H, dev, 00H, 53H, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive status
41H	ID number (Roland)
10H	Device ID
00H	Model ID #1 (VarioS-8)
6DH	Model ID #2 (VarioS-8)
12H	Command ID (DT1)
aaH	Address MSB: upper byte of the starting address of the data to be sent
bbH	Address: upper middle byte of the starting address of the data to be sent
ccH	Address: lower middle byte of the starting address of the data to be sent
sent	
ddH	Address LSB: lower byte of the starting address of the data to be sent.
eeH	Data: the actual data to be sent. Multiple bytes of data are transmitted in order starting from the address.
:	:
ffH	Data
sum	Checksum
F7H	EOX (End Of Exclusive)

* The amount of data that can be transmitted at one time depends on the type of data, and data will be transmitted from the specified starting address and size. Refer to the address and size given in "Parameter Address Map."

* Data larger than 256 bytes will be divided into packets of 256 bytes or less, and each packet will be sent at an interval of about 20 ms.

Parameter Address Map

* Transmission of "#" marked address is divided to some packets. For example, ABH in hexadecimal notation will be divided to 0AH and 0BH, and is sent/received in this order.

■VarioS-8 (ModelID = 00H 6DH)

Start Address	Description
01 00 00 00	Setup
10 00 00 00	Temporary Patch
20 00 00 00	User Patch (001)
20 01 00 00	User Patch (002)
20 7F 00 00	User Patch (128)

○Patch

Offset Address	Description
00 00 00	Patch Common
00 01 00	Patch Effect
00 02 00	Patch Tone

○Setup

Offset Address	Description	
00 00	0aaa aaaa	Part 1 Bank Select MSB (CC# 0) (0 - 127)
00 01	0aaa aaaa	Part 1 Bank Select LSB (CC# 32) (0 - 127)
00 02	0aaa aaaa	Part 1 Program Number (PC) (0 - 127)
# 00 03	0000 aaaa	
	0000 bbbb	
	0000 cccc	
	0000 dddd	Master Tune (24 - 2024)
00 07	0000 000a	Clock Source -100.0 - +100.0 [cent] (0 - 1)
00 08	0000 aaaa	Receive Channel MIDI, INT (0 - 15)
		1 - 16
00 00 00 09	Total Size	

○Patch Common

Offset Address	Description	
00 00	0aaa aaaa	Patch Name 1 (32 - 127)
00 01	0aaa aaaa	Patch Name 2 (32 - 127) [ASCII]
00 02	0aaa aaaa	Patch Name 3 (32 - 127) [ASCII]
00 03	0aaa aaaa	Patch Name 4 (32 - 127) [ASCII]
00 04	0aaa aaaa	Patch Name 5 (32 - 127) [ASCII]
00 05	0aaa aaaa	Patch Name 6 (32 - 127) [ASCII]
00 06	0aaa aaaa	Patch Name 7 (32 - 127) [ASCII]
00 07	0aaa aaaa	Patch Name 8 (32 - 127) [ASCII]
00 08	0aaa aaaa	Patch Name 9 (32 - 127) [ASCII]
00 09	0aaa aaaa	Patch Name 10 (32 - 127) [ASCII]
00 0A	0aaa aaaa	Patch Name 11 (32 - 127) [ASCII]
00 0B	0aaa aaaa	Patch Name 12 (32 - 127) [ASCII]
00 0C	0aaa aaaa	(reserved) (0 - 127)
00 0D	0000 000a	Solo Switch (0 - 1) OFF, ON
00 0E	0000 000a	Portamento Switch (0 - 1) OFF, ON
00 0F	0aaa aaaa	Portamento Time (0 - 127)
# 00 10	0000 aaaa	
	0000 bbbb	Patch Tempo (20 - 250) 20 - 250
00 12	0aaa aaaa	Kbd Velocity Sens (1 - 127) -63 - +63
00 13	00aa aaaa	Pitch Bend Range Up (0 - 48)
00 14	00aa aaaa	Pitch Bend Range Down (0 - 48)
00 15	0aaa aaaa	Pitch LFO Depth (0 - 127)
00 16	0aaa aaaa	MPX Send Level (0 - 127)
00 17	0aaa aaaa	Chorus Send Level (0 - 127)
00 18	0aaa aaaa	Reverb Send Level (0 - 127)
00 19	0000 000a	OSC1 Switch (0 - 1) OFF, ON
00 1A	0000 000a	OSC2 Switch (0 - 1) OFF, ON
00 1B	0000 000a	TVF Switch (0 - 1) OFF, ON
00 1C	0000 000a	TVA Switch (0 - 1) OFF, ON
00 1D	0000 000a	MPX Switch (0 - 1) OFF, ON
00 1E	0000 000a	Chorus Switch (0 - 1) OFF, ON
00 1F	0000 000a	Reverb Switch (0 - 1) OFF, ON
00 20	0000 000a	Arpeggio Switch (0 - 1) OFF, ON
00 21	0000 0aaa	Arpeggio Mode (0 - 3) UP, DOWN, UP&DOWN, RANDOM
00 22	0aaa aaaa	Arpeggio Octave Range (61 - 67) -3 - +3
00 23	0aaa aaaa	(reserved) (0 - 127)
00 24	0aaa aaaa	(reserved) (0 - 127)
00 00 00 25	Total Size	

MIDI Implementation

○Patch Effect

Offset	Address	Description	
00 01	0aaa aaaa	MFx Chorus Send Level	(0 - 127)
00 02	0aaa aaaa	MFx Reverb Send Level	(0 - 127)
00 03	0aaa aaaa	(reserved)	(0 - 127)
00 04	0aaa aaaa	(reserved)	(0 - 127)
00 05	0aaa aaaa	(reserved)	(0 - 127)
00 06	0aaa aaaa	(reserved)	(0 - 127)
00 07	0aaa aaaa	(reserved)	(0 - 127)
00 08	0aaa aaaa	(reserved)	(0 - 127)
00 09	0aaa aaaa	(reserved)	(0 - 127)
00 0A	0aaa aaaa	(reserved)	(0 - 127)
00 0B	0aaa aaaa	(reserved)	(0 - 127)
00 0C	0aaa aaaa	(reserved)	(0 - 127)
00 0D	0aaa aaaa	(reserved)	(0 - 127)
00 0E	0aaa aaaa	(reserved)	(0 - 127)
00 0F	0aaa aaaa	(reserved)	(0 - 127)
00 10	0aaa aaaa	MFx Ring Freq	(0 - 127)
00 11	0aaa aaaa	MFx Ring Balance	(0 - 100)
00 12	0aaa aaaa	MFx Pitch Shifter Grade	(0 - 4)
00 13	0aaa aaaa	MFx Pitch Shifter Coarse	(0 - 24)
00 14	0aaa aaaa	MFx Pitch Shifter Fine	(0 - 100)
00 15	0aaa aaaa	MFx Pitch Shifter Balance	(0 - 100)
00 16	0aaa aaaa	MFx Phaser Manual	(0 - 127)
00 17	0aaa aaaa	MFx Phaser Rate	(0 - 111)
00 18	0aaa aaaa	MFx Phaser Depth	(0 - 127)
00 19	0aaa aaaa	MFx Phaser Resonance	(0 - 127)
00 1A	0aaa aaaa	MFx Phaser Mix Level	(0 - 127)
00 1B	0aaa aaaa	MFx Delay Time	(0 - 105)
00 1C	0aaa aaaa	MFx Delay Feedback	(0 - 98)
00 1D	0aaa aaaa	MFx Delay Level	(0 - 127)
00 1E	0aaa aaaa	MFx Delay Low Damp Gain	(0 - 36)
00 1F	0aaa aaaa	MFx Delay Hi Damp Gain	(0 - 36)
00 20	0aaa aaaa	MFx EQ Low Freq	(0 - 19)
00 21	0aaa aaaa	MFx EQ Low Gain	(0 - 30)
00 22	0aaa aaaa	MFx EQ Mid Freq	(0 - 26)
00 23	0aaa aaaa	MFx EQ Mid Gain	(0 - 30)
00 24	0aaa aaaa	MFx EQ Hi Freq	(0 - 8)
00 25	0aaa aaaa	MFx EQ Hi Gain	(0 - 30)
00 26	0aaa aaaa	(reserved)	(0 - 127)
00 27	0aaa aaaa	(reserved)	(0 - 127)
00 28	0aaa aaaa	(reserved)	(0 - 127)
00 29	0aaa aaaa	(reserved)	(0 - 127)
00 2A	0aaa aaaa	(reserved)	(0 - 127)
00 2B	0aaa aaaa	(reserved)	(0 - 127)
00 2C	0aaa aaaa	(reserved)	(0 - 127)
00 2D	0aaa aaaa	(reserved)	(0 - 127)
00 2E	0aaa aaaa	(reserved)	(0 - 127)
00 2F	0aaa aaaa	(reserved)	(0 - 127)
00 30	0000 000a	Chorus Type	(0 - 1)
		CHORUS, FLANGER	
00 31	0aaa aaaa	Chorus Rate	(0 - 111)
00 32	0aaa aaaa	Chorus Depth	(0 - 127)
00 33	0aaa aaaa	Chorus Feedback	(0 - 98)
00 34	0aaa aaaa	Chorus Pre Dly Time	(0 - 100)
00 35	0aaa aaaa	(reserved)	(0 - 127)
00 36	0aaa aaaa	(reserved)	(0 - 127)
00 37	0aaa aaaa	(reserved)	(0 - 127)
00 38	0aaa aaaa	(reserved)	(0 - 127)
00 39	0aaa aaaa	(reserved)	(0 - 127)
00 3A	0aaa aaaa	(reserved)	(0 - 127)
00 3B	0aaa aaaa	(reserved)	(0 - 127)
00 3C	0aaa aaaa	(reserved)	(0 - 127)
00 3D	0aaa aaaa	(reserved)	(0 - 127)
00 3E	0aaa aaaa	(reserved)	(0 - 127)
00 3F	0aaa aaaa	(reserved)	(0 - 127)
00 40	0aaa aaaa	Reverb Low Time	(0 - 79)
00 41	0aaa aaaa	Reverb Hi Time	(0 - 79)
00 42	0aaa aaaa	Reverb Pre Dly Time	(0 - 115)
00 43	0aaa aaaa	Reverb Density	(0 - 98)
00 44	0aaa aaaa	Reverb Room Size	(0 - 50)
00 45	0aaa aaaa	Reverb Low Damp Gain	(0 - 36)
00 46	0aaa aaaa	Reverb Hi Damp Gain	(0 - 36)
00 47	0aaa aaaa	Reverb Post HC Freq	(0 - 21)
00 48	0aaa aaaa	Reverb Chorus Depth	(0 - 127)
00 49	0aaa aaaa	(reserved)	(0 - 127)
00 4A	0aaa aaaa	(reserved)	(0 - 127)
00 4B	0aaa aaaa	(reserved)	(0 - 127)
00 4C	0aaa aaaa	(reserved)	(0 - 127)
00 4D	0aaa aaaa	(reserved)	(0 - 127)
00 4E	0aaa aaaa	(reserved)	(0 - 127)
00 4F	0aaa aaaa	(reserved)	(0 - 127)
00 00 00 50	Total Size		

○Patch Tone

Offset	Address	Description	
00 00	0000 aaaa	OSC 1 Waveform	(0 - 8)
		SAW, SQUARE, TRIANGLE, SINE, RAMP, JUNO, HQ-SAW, HQ-SQUARE, NOISE	
00 01	0aaa aaaa	OSC 1 Level	(0 - 127)
00 02	00aa aaaa	OSC 1 Impact	(0 - 40)
		0.0 - 4.0	
00 03	0aaa aaaa	OSC 1 Coarse Tune	(16 - 112)
		-48 - +48	
00 04	0aaa aaaa	OSC 1 Fine Tune	(14 - 114)
		-50 - +50 [cent]	
00 05	0aaa aaaa	OSC 1 Pulse Width	(1 - 127)
		-63 - +63	
00 06	0aaa aaaa	OSC 1 Sub OSC	(0 - 127)
00 07	0000 0aaa	OSC 1 LFO Waveform	(0 - 7)
		SIN, TRI, SAW, SQR, RND, TRP, S&H, CHS	
00 08	0aaa aaaa	OSC 1 LFO Rate	(0 - 127)
00 09	0aaa aaaa	OSC 1 LFO Delay Time	(0 - 127)
00 0A	0aaa aaaa	OSC 1 LFO Fade Time	(0 - 127)
00 0B	0000 000a	OSC 1 LFO Key Sync	(0 - 1)
		OFF, ON	
00 0C	0aaa aaaa	OSC 1 Pitch LFO Depth	(1 - 127)
		-63 - +63	
00 0D	0aaa aaaa	OSC 1 Pulse Width LFO Depth	(1 - 127)
		-63 - +63	
00 0E	0aaa aaaa	OSC 1 Sub OSC LFO Depth	(1 - 127)
		-63 - +63	
00 0F	0aaa aaaa	OSC 1 Level LFO Depth	(1 - 127)
		-63 - +63	
00 10	0aaa aaaa	OSC 1 Pitch Envelope Depth	(1 - 127)
		-63 - +63	
00 11	0aaa aaaa	OSC 1 Pitch Env Attack Time	(0 - 127)
00 12	0aaa aaaa	OSC 1 Pitch Env Decay Time	(0 - 127)
00 13	0aaa aaaa	OSC 1 Pitch Env Sustain Level	(0 - 127)
00 14	0aaa aaaa	OSC 1 Pitch Env Release Time	(0 - 127)

00 15	0aaa aaaa	OSC 1 Pulse Width Envelope Depth	(1 - 127)
		-63 - +63	
00 16	0aaa aaaa	OSC 1 PW Env Attack Time	(0 - 127)
00 17	0aaa aaaa	OSC 1 PW Env Decay Time	(0 - 127)
00 18	0aaa aaaa	OSC 1 PW Env Sustain Level	(0 - 127)
00 19	0aaa aaaa	OSC 1 PW Env Release Time	(0 - 127)
00 1A	0aaa aaaa	OSC 1 Sub OSC Envelope Depth	(1 - 127)
		-63 - +63	
00 1B	0aaa aaaa	OSC 1 Sub OSC Env Attack Time	(0 - 127)
00 1C	0aaa aaaa	OSC 1 Sub OSC Env Decay Time	(0 - 127)
00 1D	0aaa aaaa	OSC 1 Sub OSC Env Sustain Level	(0 - 127)
00 1E	0aaa aaaa	OSC 1 Sub OSC Env Release Time	(0 - 127)
00 1F	0aaa aaaa	OSC 1 TVA Env Attack Time	(0 - 127)
00 20	0aaa aaaa	OSC 1 TVA Env Decay Time	(0 - 127)
00 21	0aaa aaaa	OSC 1 TVA Env Sustain Level	(0 - 127)
00 22	0aaa aaaa	OSC 1 TVA Env Release Time	(0 - 127)
00 23	0000 aaaa	OSC 2 Waveform	(0 - 8)
		SAW, SQUARE, TRIANGLE, SINE, RAMP, JUNO, HQ-SAW, HQ-SQUARE, NOISE	
00 24	0aaa aaaa	OSC 2 Level	(0 - 127)
00 25	00aa aaaa	OSC 2 Impact	(0 - 40)
		0.0 - 4.0	
00 26	0aaa aaaa	OSC 2 Coarse Tune	(16 - 112)
		-48 - +48	
00 27	0aaa aaaa	OSC 2 Fine Tune	(14 - 114)
		-50 - +50 [cent]	
00 28	0aaa aaaa	OSC 2 Pulse Width	(1 - 127)
		-63 - +63	
00 29	0aaa aaaa	OSC 2 Sub OSC	(0 - 127)
00 2A	0000 0aaa	OSC 2 LFO Waveform	(0 - 7)
		SIN, TRI, SAW, SQR, RND, TRP, S&H, CHS	
00 2B	0aaa aaaa	OSC 2 LFO Rate	(0 - 127)
00 2C	0aaa aaaa	OSC 2 LFO Delay Time	(0 - 127)
00 2D	0aaa aaaa	OSC 2 LFO Fade Time	(0 - 127)
00 2E	0000 000a	OSC 2 LFO Key Sync	(0 - 1)
		OFF, ON	
00 2F	0aaa aaaa	OSC 2 Pitch LFO Depth	(1 - 127)
		-63 - +63	
00 30	0aaa aaaa	OSC 2 Pulse Width LFO Depth	(1 - 127)
		-63 - +63	
00 31	0aaa aaaa	OSC 2 Sub OSC LFO Depth	(1 - 127)
		-63 - +63	
00 32	0aaa aaaa	OSC 2 Level LFO Depth	(1 - 127)
		-63 - +63	
00 33	0aaa aaaa	OSC 2 Pitch Envelope Depth	(1 - 127)
		-63 - +63	
00 34	0aaa aaaa	OSC 2 Pitch Env Attack Time	(0 - 127)
00 35	0aaa aaaa	OSC 2 Pitch Env Decay Time	(0 - 127)
00 36	0aaa aaaa	OSC 2 Pitch Env Sustain Level	(0 - 127)
00 37	0aaa aaaa	OSC 2 Pitch Env Release Time	(0 - 127)
00 38	0aaa aaaa	OSC 2 Pulse Width Envelope Depth	(1 - 127)
		-63 - +63	
00 39	0aaa aaaa	OSC 2 PW Env Attack Time	(0 - 127)
00 3A	0aaa aaaa	OSC 2 PW Env Decay Time	(0 - 127)
00 3B	0aaa aaaa	OSC 2 PW Env Sustain Level	(0 - 127)
00 3C	0aaa aaaa	OSC 2 PW Env Release Time	(0 - 127)
00 3D	0aaa aaaa	OSC 2 Sub OSC Envelope Depth	(1 - 127)
		-63 - +63	
00 3E	0aaa aaaa	OSC 2 Sub OSC Env Attack Time	(0 - 127)
00 3F	0aaa aaaa	OSC 2 Sub OSC Env Decay Time	(0 - 127)
00 40	0aaa aaaa	OSC 2 Sub OSC Env Sustain Level	(0 - 127)
00 41	0aaa aaaa	OSC 2 Sub OSC Env Release Time	(0 - 127)
00 42	0aaa aaaa	OSC 2 TVA Env Attack Time	(0 - 127)
00 43	0aaa aaaa	OSC 2 TVA Env Decay Time	(0 - 127)
00 44	0aaa aaaa	OSC 2 TVA Env Sustain Level	(0 - 127)
00 45	0aaa aaaa	OSC 2 TVA Env Release Time	(0 - 127)
00 46	0000 0aaa	MOD Type	(0 - 4)
		MIX, RING(AM), FM, ENV RING, OSC SYNC	
00 47	0aaa aaaa	HPF Freq	(0 - 127)
00 48	0aaa aaaa	TVF Freq	(0 - 127)
00 49	0aaa aaaa	TVF Reso	(0 - 127)
00 4A	0aaa aaaa	TVF Freq KeyFollow	(44 - 84)
00 4B	0aaa aaaa	TVF Filter Type	(0 - 1)
00 4C	0aaa aaaa	TVF Freq LFO Depth	(1 - 127)
		-63 - +63	
00 4D	0aaa aaaa	TVF Reso LFO Depth	(1 - 127)
		-63 - +63	
00 4E	0000 0aaa	TVF LFO Waveform	(0 - 7)
		SIN, TRI, SAW, SQR, RND, TRP, S&H, CHS	
00 4F	0aaa aaaa	TVF LFO Rate	(0 - 127)
00 50	0aaa aaaa	TVF LFO Delay Time	(0 - 127)
00 51	0aaa aaaa	TVF LFO Fade Time	(0 - 127)
00 52	0000 000a	TVF LFO Key Sync	(0 - 1)
		OFF, ON	
00 53	0aaa aaaa	TVF Freq Envelope Depth	(1 - 127)
00 54	0aaa aaaa	TVF Freq Attack Time	(0 - 127)
00 55	0aaa aaaa	TVF Freq Decay Time	(0 - 127)
00 56	0aaa aaaa	TVF Freq Sustain Level	(0 - 127)
00 57	0aaa aaaa	TVF Freq Release Time	(0 - 127)
00 58	0aaa aaaa	TVF Freq Velocity Sens	(1 - 127)
		-63 - +63	
00 59	0aaa aaaa	TVF Reso Envelope Depth	(1 - 127)
00 5A	0aaa aaaa	TVF Reso Attack Time	(0 - 127)
00 5B	0aaa aaaa	TVF Reso Decay Time	(0 - 127)
00 5C	0aaa aaaa	TVF Reso Sustain Level	(0 - 127)
00 5D	0aaa aaaa	TVF Reso Release Time	(0 - 127)
00 5E	0aaa aaaa	TVF Reso Velocity Sens	(1 - 127)
		-63 - +63	
00 5F	0aaa aaaa	TVA Level	(0 - 127)
00 60	0aaa aaaa	TVA Attack Time	(0 - 127)
00 61	0aaa aaaa	TVA Decay Time	(0 - 127)
00 62	0aaa aaaa	TVA Sustain Level	(0 - 127)
00 63	0aaa aaaa	TVA Release Time	(0 - 127)
00 00 00 64	Total Size		

MIDI Control Change Table

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MIDI Control#	MIDI Controller Name	Parameter Name	Range
0	Bank Select MSB		
1	Modulation	(Modulation)	
2	Breath Type	OSC 1 Level	0-127
3		OSC 1 Impact	0-40
4	Foot Type	OSC 1 Coarse Tune	16-112
5	Portament Time	Portamento Time	
6	Data Entry MSB		
7	Volume	(Part Volume)	
8	Balance	OSC 1 Fine Tune	14-114
9		OSC 1 Pulse Width	1-127
10	Pan	(Part Pan)	
11	Expression	(Part Expression)	
12		OSC 1 Sub OSC	0-127
13		OSC 1 LFO Rate	0-127
14		OSC 1 LFO Delay Time	0-127
15		OSC 1 LFO Fade Time	0-127
16	General Purpose Controller 1 MSB	OSC 1 Pitch LFO Depth	1-127
17	General Purpose Controller 2 MSB	OSC 1 Pulse Width LFO Depth	1-127
18	General Purpose Controller 3 MSB	OSC 1 Sub OSC LFO Depth	1-127
19	General Purpose Controller 4 MSB	OSC 1 Level LFO Depth	1-127
20		OSC 1 TVA Env Attack Time	0-127
21		OSC 1 TVA Env Decay Time	0-127
22		OSC 1 TVA Env Sustain	0-127
23		OSC 1 TVA Env Release Time	0-127
24		OSC 2 Level	0-127
25		OSC 2 Impact	0-40
26		OSC 2 Coarse Tune	16-112
27		OSC 2 Fine Tune	14-114
28		OSC 2 Pulse Width	1-127
29		OSC 2 Sub OSC	0-127
30		OSC 2 LFO Rate	0-127
31		OSC 2 LFO Delay Time	0-127
32	Bank Select LSB		
33	Modulation LSB	OSC 2 LFO Fade Time	0-127
34	Breath Type LSB	OSC 2 Pitch LFO Depth	1-127
35		OSC 2 Pulse Width LFO Depth	1-127
36	Foot Type LSB	OSC 2 Sub OSC LFO Depth	1-127
37	Portamento Time LSB	OSC 2 Level LFO Depth	1-127
38	Data Entry LSB		
39	Volume LSB	OSC 2 TVA Env Attack Time	0-127
40	Balance LSB	OSC 2 TVA Env Decay Time	0-127
41		OSC 2 TVA Env Sustain	0-127
42	Pan LSB	OSC 2 TVA Env Release Time	0-127
43	Expression LSB	HPF Freq	0-127
44		TVF Freq	0-127
45		TVF Reso	0-127
46		TVF LFO Rate	0-127
47		TVF LFO Delay Time	0-127
48	General Purpose Controller 1 LSB	TVF LFO Fade Time	0-127
49	General Purpose Controller 2 LSB	TVF Freq LFO Depth	1-127
50	General Purpose Controller 3 LSB	TVF Reso LFO Depth	1-127
51	General Purpose Controller 4 LSB	TVF Freq Envelope Depth	1-127
52		TVF Freq Attack Time	0-127
53		TVF Freq Decay Time	0-127
54		TVF Freq Sustain Level	0-127
55		TVF Freq Release Time	0-127
56		TVF Freq Velocity Sens	1-127
57		TVF Reso Envelope Depth	0-127
58		TVF Reso Attack Time	0-127
59		TVF Reso Decay Time	0-127

MIDI Control Change Table

MIDI Control#	MIDI Controller Name	Parameter Name	Range
60		TVF Reso Sustain Level	0–127
61		TVF Reso Env Release Time	0–127
62		TVF Reso Velocity Sens	1–127
63		TVA Level	0–127
64	Hold 1	(Hold)	
65	Portamento	Portamento	
66	Sostenuto	(Sostenuto)	
67	Soft	TVA Attack Time	0–127
68	Legato Foot Switch	TVA Decay Time	0–127
69	Hold 2	TVA Sustain Level	0–127
70	Sound Controller1	TVA Release Time	0–127
71	Sound Controller2	MFx Send Level	0–127
72	Sound Controller3	Chorus Send Level	0–127
73	Sound Controller4	Reverb Send Level	0–127
74	Sound Controller5	MFx Chorus Send Level	0–127
75	Sound Controller6	MFx Reverb Send Level	0–127
76	Sound Controller7	MFx Ring Freq	0–127
77	Sound Controller8	MFx Ring Balance	0–100
78	Sound Controller9	MFx Pitch Shifter Grade	0–4
79	Sound Controller10	MFx Pitch Shifter Coarse	0–24
80	General Purpose Controller 5	MFx Pitch Shifter Fine	0–100
81	General Purpose Controller 6	MFx Pitch Shifter Balance	0–100
82	General Purpose Controller 7	MFx Phaser Manual	0–127
83	General Purpose Controller 8	MFx Phaser Rate	0–111
84	Portamento Control	MFx Phaser Depth	0–127
85		MFx Phaser Resonance	0–127
86		MFx Phaser Mix Level	0–127
87		MFx Delay Time	0–105
88		MFx Delay Feedback	0–98
89		MFx Delay Level	0–127
90		MFx Delay Low Damp Gain	0–36
91	Reverb	(Part Reverb Send Level)	
92	Tremolo	MFx Delay Hi Damp Gain	0–36
93	Chorus	(Part Chorus Send Level)	
94	Seleste	MFx EQ Low Freq	0–19
95	Phaser	MFx EQ Low Gain	0–30
96	Data Increment		
97	Data Decrement		
98	NRPn LSB		
99	NRPn MSB		
100	RPN LSB		
101	RPN MSB		
102		MFx EQ Mid Freq	0–26
103		MFx EQ Mid Gain	0–30
104		MFx EQ Hi Freq	0–8
105		MFx EQ Hi Gain	0–30
106		Chorus Type	0–1
107		Chorus Rate	0–111
108		Chorus Depth	0–127
109		Chorus Feedback	0–98
110		Chorus Pre Dly Time	0–100
111		Reverb Low Time	0–79
112		Reverb Hi Time	0–79
113		Reverb Pre Dly Time	0–115
114		Reverb Density	0–99
115		Reverb Room Size	0–50
116		Reverb Low Damp Gain	0–36
117		Reverb Hi Damp Gain	0–36
118		Reverb Post HC Freq	0–21
119		Reverb Chorus Depth	0–127

* Parameters shown in parentheses () cannot be edited using VariOS-8 Controller.