

VK-77

OWNER'S MANUAL

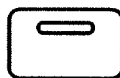
Thank you, and congratulations on your choice of the VK-77 combo organ.

Before using this unit, carefully read the sections entitled: "IMPORTANT SAFETY INSTRUCTIONS" (p. 2), "USING THE UNIT SAFELY" (p. 3), and "IMPORTANT NOTES" (p. 7). These sections provide important information concerning the proper operation of the unit. Additionally, in order to feel assured that you have gained a good grasp of every feature provided by your new unit, Owner's manual should be read in its entirety. The manual should be saved and kept on hand as a convenient reference.

Conventions Used in This Manual

- Button names are enclosed in square brackets; e.g., [EDIT].
- Fractional harmonic bars (p. 31) are expressed like this: 1-1/3'; 2-2/3.'
- Indications such as [<][>] or [+][>] mean that you should press one or the other of the buttons.
- [1]-[8] means that you should press one of the buttons from [1] through [8].
- The dark/lit/blinking status of an indicator is distinguished as follows.

dark



lit





blinking



- The explanations in this manual include illustrations that depict what should typically be shown by the display. Note, however, that your unit may incorporate a newer, enhanced version of the system (e.g., includes sound names), so what you actually see in the display may not always match what appears in the manual.

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	CAUTION RISK OF ELECTRIC SHOCK DO NOT OPEN	
ATTENTION . RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR		
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

INSTRUCTIONS PERTAINING TO A RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS.

IMPORTANT SAFETY INSTRUCTIONS SAVE THESE INSTRUCTIONS

WARNING - When using electric products, basic precautions should always be followed, including the following:

1. Read all the instructions before using the product.
2. Do not use this product near water — for example, near a bathtub, washbowl, kitchen sink, in a wet basement, or near a swimming pool, or the like.
3. This product should be used only with a cart or stand that is recommended by the manufacturer.
4. This product, either alone or in combination with an amplifier and headphones or speakers, may be capable of producing sound levels that could cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.
5. The product should be located so that its location or position does not interfere with its proper ventilation.
6. The product should be located away from heat sources such as radiators, heat registers, or other products that produce heat.
7. The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.
8. The power-supply cord of the product should be unplugged from the outlet when left unused for a long period of time.
9. Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
10. The product should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the product; or
 - C. The product has been exposed to rain; or
 - D. The product does not appear to operate normally or exhibits a marked change in performance; or
 - E. The product has been dropped, or the enclosure damaged.
11. Do not attempt to service the product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

For the USA

GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock.


This product is equipped with a cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER: Improper connection of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product — if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

For the U.K.

WARNING: THIS APPARATUS MUST BE EARTHED
IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.
 GREEN-AND-YELLOW: EARTH, BLUE: NEUTRAL, BROWN: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol  or coloured GREEN or GREEN-AND-YELLOW.

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

The product which is equipped with a THREE WIRE GROUNDING TYPE LINE PLUG must be grounded.

USING THE UNIT SAFELY

INSTRUCTIONS FOR THE PREVENTION OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS

About ⚠ WARNING and ⚠ CAUTION Notices

⚠ WARNING	Used for instructions intended to alert the user to the risk of death or severe injury should the unit be used improperly.
⚠ CAUTION	Used for instructions intended to alert the user to the risk of injury or material damage should the unit be used improperly. * Material damage refers to damage or other adverse effects caused with respect to the home and all its furnishings, as well to domestic animals or pets.

About the Symbols

	The ⚠ symbol alerts the user to important instructions or warnings. The specific meaning of the symbol is determined by the design contained within the triangle. In the case of the symbol at left, it is used for general cautions, warnings, or alerts to danger.
	The ⚡ symbol alerts the user to items that must never be carried out (are forbidden). The specific thing that must not be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the unit must never be disassembled.
	The ● symbol alerts the user to things that must be carried out. The specific thing that must be done is indicated by the design contained within the circle. In the case of the symbol at left, it means that the power-plug must be unplugged from the outlet.

ALWAYS OBSERVE THE FOLLOWING

⚠ WARNING

- Before using this unit, make sure to read the instructions below, and the Owner's Manual.
- Do not open or perform any internal modifications on the unit.
- When using the unit with a rack or stand recommended by Roland, the rack or stand must be carefully placed so it is level and sure to remain stable. If not using a rack or stand, you still need to make sure that any location you choose for placing the unit provides a level surface that will properly support the unit, and keep it from wobbling.
- Avoid damaging the power cord. Do not bend it excessively, step on it, place heavy objects on it, etc. A damaged cord can easily become a shock or fire hazard. Never use a power cord after it has been damaged.
- In households with small children, an adult should provide supervision until the child is capable of following all the rules essential for the safe operation of the unit.
- Protect the unit from strong impact. (Do not drop it!)
- Do not force the unit's power-supply cord to share an outlet with an unreasonable number of other devices. Be especially careful when using extension cords—the total power used by all devices you have connected to the extension cord's outlet must never exceed the power rating (watts/ amperes) for the extension cord. Excessive loads can cause the insulation on the cord to heat up and eventually melt through.
- Before using the unit in a foreign country, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the "Information" page.

⚠ CAUTION

- Always grasp only the plug on the power-supply cord when plugging into, or unplugging from, an outlet or this unit.
- Try to prevent cords and cables from becoming entangled. Also, all cords and cables should be placed so they are out of the reach of children.
- Never climb on top of, nor place heavy objects on the unit.
- Never handle the power cord or its plugs with wet hands when plugging into, or unplugging from, an outlet or this unit.
- If you need to move the instrument, take note of the precautions listed below. At least two persons are required to safely lift and move the unit. It should be handled carefully, all the while keeping it level. Make sure to have a firm grip, to protect yourself from injury and the instrument from damage.
 - Check to make sure the knob bolts securing the unit to the stand have not become loose. Fasten them again securely whenever you notice any loosening.
 - Disconnect the power cord.
 - Disconnect all cords coming from external devices.
- Before cleaning the unit, turn off the power and unplug the power cord from the outlet (p. 27).
- Whenever you suspect the possibility of lightning in your area, pull the plug on the power cord out of the outlet.

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Features

Emphasis on basic organ functionality

Portable double keyboard

The VK-77 features a double 61-note keyboard, indispensable for serious organ playing. While it is far more transportable than vintage organs, a pedal keyboard unit, such as the separately available PK-7 can be connected to support jazz organ playing styles.

Virtual ToneWheel sound generator

The sound of the VK-77 is produced by a digital simulation of the actual tone wheel mechanism of a vintage organ. Notes are quick to “speak,” which is especially advantageous when playing glissandos, etc. Since the upper part, lower part, and pedal part are all completely polyphonic, you can play without ever worrying about “stolen notes.”

Rotary sound

A newly developed effect algorithm based on COSM technology is used to faithfully reproduce the nuances of the rotary speaker sound that is such a central part of organ performance. You can enjoy a full rotary sound simply by connecting the VK-77 to your keyboard amp or stereo set.

Overdrive sound

The VK-77 simulates not only the sound of a rotary speaker, but also the characteristics of a vacuum tube circuit, and the acoustical characteristics of an amplifier cabinet, providing the dense overdrive sound that is ideal for hard rock.

Dedicated interface for pedal keyboard unit

A PK IN jack is provided for connecting a pedal keyboard unit, such as the separately available PK-7. By simply using the special connection cable included with the pedal keyboard unit to connect it to the VK-77, you can enjoy dynamic performances using the pedal keyboard.

Built-in orchestral sound generator

Separately from its organ voices, the VK-77 contains eight groups of orchestral voices: STRINGS, CHOIR, PIANO, BASS, WIND/BRASS, ATTACK, SYNTH, and OTHERS. These can be used together with the organ sounds to make your performances even more expressive.

You can independently specify the type of sound and the volume for the orchestral voices played by the upper part/lower part/pedal part.

Other features

- The EXT (external) button allows you to control an external MIDI sound module in the same way as you control the VK-77's organ voices and orchestral voices. Different MIDI channels can be assigned to the upper part/lower part/pedal part, and you can use controllers such as bender, modulation, and aftertouch to add expression to your playing.
- Independent outputs are provided so that organ voices and orchestral voices can be output independently. For the mixed output, XLR jacks are also provided for reliable connections in concert or in the recording studio.
- Registration memories allow you to store up to 128 different sets of panel settings. Each registration contains organ voices and orchestral voices settings as well as settings for external MIDI sound modules.
- The side panels are made of solid wood, and will take on a richer appearance with years of use.



COSM (Composite Object Sound Modeling) is a Roland technology which uses multiple sound modeling techniques to create new sounds.

IMPORTANT NOTES

In addition to the items listed under “IMPORTANT SAFETY INSTRUCTIONS” and “USING THE UNIT SAFELY” on pages 2 and 3, please read and observe the following:

Power Supply

- Do not use this unit on the same power circuit with any device that will generate line noise (such as an electric motor or variable lighting system).
- Before connecting this unit to other devices, turn off the power to all units. This will help prevent malfunctions and/or damage to speakers or other devices.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum. To alleviate the problem, change the orientation of this unit; or move it farther away from the source of interference.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Do not expose the unit to direct sunlight, place it near devices that radiate heat, leave it inside an enclosed vehicle, or otherwise subject it to temperature extremes. Also, do not allow lighting devices that normally are used while their light source is very close to the unit (such as a piano light), or powerful spotlights to shine upon the same area of the unit for extended periods of time. Excessive heat can deform or discolor the unit.
- To avoid possible breakdown, do not use the unit in a wet area, such as an area exposed to rain or other moisture.
- Do not allow rubber, vinyl, or similar materials to remain on the piano for long periods of time. Such objects can discolor or otherwise harmfully affect the finish.
- Do not put anything that contains water (e.g., flower vases) on the piano. Also, avoid the use of insecticides, perfumes, alcohol, nail polish, spray cans, etc., near the unit. Swiftly wipe away any liquid that spills on the unit using a dry, soft cloth.

Maintenance

- To clean the unit, use a dry, soft cloth; or one that is slightly dampened. Try to wipe the entire surface using an equal amount of strength, moving the cloth along with the grain of the wood. Rubbing too hard in the same area can damage the finish.
- Never use benzine, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Repairs and Data

- Please be aware that all data contained in the unit’s memory may be lost when the unit is sent for repairs. Important data should always be backed up in another MIDI device (e.g., a sequencer), or written down on paper (when possible). During repairs, due care is taken to avoid the loss of data. However, in certain cases (such as when circuitry related to memory itself is out of order), we regret that it may not be possible to restore the data, and Roland assumes no liability concerning such loss of data.

Memory Backup

- This unit contains a battery which powers the unit’s memory circuits while the main power is off. When this battery becomes weak, the message shown below will appear in the display. Once you see this message, have the battery replaced with a fresh one as soon as possible to avoid the loss of all data in memory. To have the battery replaced, consult with your retailer, the nearest Roland Service Center, or an authorized Roland distributor, as listed on the “Information” page.

“Battery Low!”

Additional Precautions

- Please be aware that the contents of memory can be irretrievably lost as a result of a malfunction, or the improper operation of the unit. To protect yourself against the risk of losing important data, we recommend that you periodically save a backup copy of important data you have stored in the unit’s memory in another MIDI device (e.g., a sequencer).
- Unfortunately, it may be impossible to restore the contents of data that was stored in another MIDI device (e.g., a sequencer) once it has been lost. Roland Corporation assumes no liability concerning such loss of data.
- Use a reasonable amount of care when using the unit’s buttons, sliders, or other controls; and when using its jacks and connectors. Rough handling can lead to malfunctions.
- Never strike or apply strong pressure to the display.
- When connecting/disconnecting all cables, grasp the connector itself—never pull on the cable. This way you will avoid causing shorts, or damage to the cable’s internal elements.
- A small amount of heat will radiate from the unit during normal operation.
- To avoid disturbing your neighbors, try to keep the unit’s volume at reasonable levels. You may prefer to use headphones, so you do not need to be concerned about those around you (especially when it is late at night).
- When you need to transport the unit, package it in the box (including padding) that it came in, if possible. Otherwise, you will need to use equivalent packaging materials.
- Use only the specified expression pedal (EV-7, EV-5, or FV-300L; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.
- When using the ROTARY TONE CABINET connector, you must make sure that your rotary tone cabinet meets the specifications given on page 88.
- Do not use the PK IN connector except to connect a pedal keyboard unit that has a PK OUT connector. Use the included special cable to make connections.

How to Use This Manual

Try Out the Functions of the VK-77 (Quick Start)

For those who are using the VK-77 for the first time, this section provides a simple explanation of how to use and enjoy various functions. If you would like to learn more, read the section on **Taking full advantage of the VK-77**.

Using Controllers

Read this section after you have finished reading Quick Start. This section explains how you can use the numerous controllers that are provided to support your realtime performances.

Getting the Most Out of the VK-77

Read this section after you have finished reading **Quick Start**.

This section explains the Edit mode of the VK-77. In Edit mode you can make detailed settings for the VK-77's functions.

Modifying the Settings of the Organ Voice

This section explains the parameters that you can modify to make an organ voice sound more like a vintage organ.

Modifying the Acoustical Effects of the Organ

This section explains the parameters which determine the type of virtual amp or virtual speaker, how to make detailed adjustments to the rotary effect, and how to adjust the acoustical effects that are applied to the audio output of the organ.

Modifying the Settings of the Orchestral Voice

This section explains how to modify the instruments of an orchestral voice, and how to make various settings for the instrument parameters.

Master Keyboard Settings

This section explains the parameters which allow the VK-77 to control external MIDI devices.

Settings for Registrations and Controllers

This section explains the parameters that affect registrations, the bender/modulation lever, and aftertouch.

MIDI Settings for the Entire System

This section explains the parameters for transmitting VK-77 settings to an external MIDI device and receiving data from an external MIDI device.

Settings That Affect the Entire VK-77

This section explains parameters which affect the entire VK-77, such as master tuning, polarity and function of the control pedal jacks, and the brightness of the display.

Convenient Functions for Registrations and Orchestral Voices

This section explains how you can copy registration or orchestral voice settings, transmit all system settings to an external MIDI device, or restore registration and orchestral voice settings to the factory preset condition, etc.

Connecting External Devices

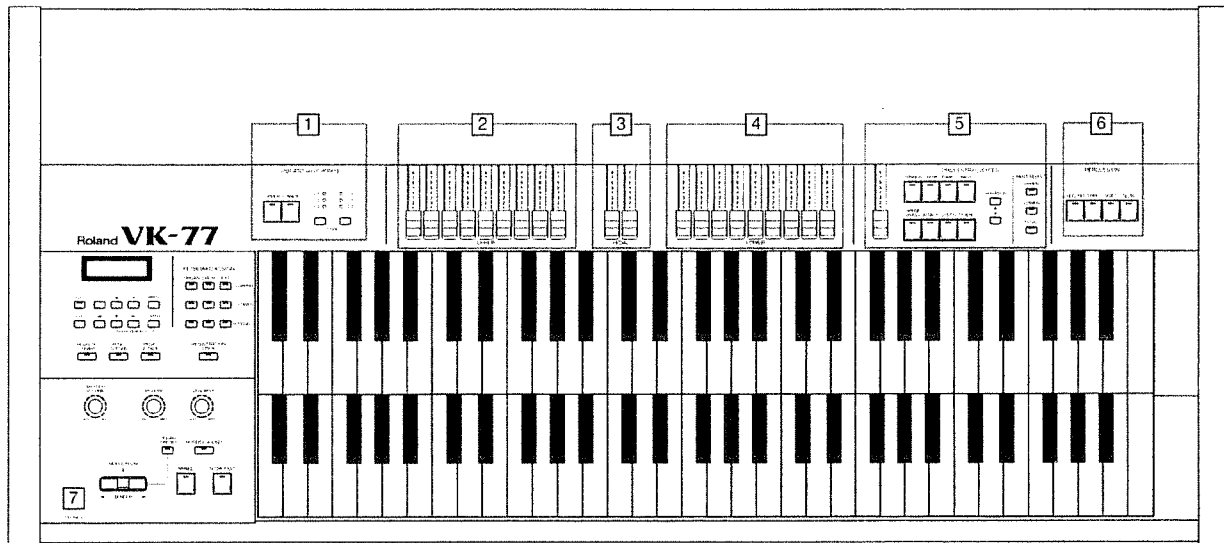
This section explains how you can connect and use external MIDI devices with the VK-77. Read this section when you wish to connect an external MIDI device, or a rotary speaker.

Appendices

If the VK-77 does not operate as you expect, read "Troubleshooting" to make sure that your settings are correct. If an error message appears in the display during operation, consult the "List of messages and error messages" section to determine the appropriate action. The appendices also contains information on creating sounds, various lists, and the MIDI implementation chart, etc.

Front and Rear Panel

Front panel



1. VIBRATO AND CHORUS Section

This section adds vibrato or chorus effects to the upper part, lower part and pedal part of organ voices. The same type of vibrato or chorus will be selected for the upper, lower and pedal part.

→ Applying modulation to the sound—Vibrato and chorus (p. 36)

●UPPER Button

This button applies the vibrato or chorus effect to the upper part of the organ voice.

●LOWER Button

This button applies the vibrato or chorus effect to the lower part and pedal part of the organ voice.

●V-1, V-2, V-3 TYPE Button

This button changes the type of the vibrato. As the value increases, the vibrato will become deeper.

●C-1, C-2, C-3 TYPE Button

This button changes the type of chorus. As the value increases, the chorus will be applied more deeply.

2. UPPER Harmonic Bars

3. PEDAL Harmonic Bars

4. LOWER Harmonic Bars

These bars create the tonality of the organ voice for the upper, pedal and lower keyboard. You can modify the tone in real time as you play.

→ Modifying the sound of the organ—Harmonic bars (p. 31)

5. ORCHESTRAL VOICES Section

Here you can select orchestral voices, and adjust their volume.

→ Layering Sounds Other Than Organ Sounds (Orchestral Voices) (p. 45)

●Orchestral Voice Harmonic Bar

This adjusts the volume of the orchestral voice.

●Sound Group Buttons (STRINGS, CHOIR, PIANO, BASS, WIND/BRASS, ATTACK, SYNTH, OTHERS)

These buttons switch the sound group of the orchestral voice.

●VARIATION Buttons

These buttons select the variation of the orchestral voice that was selected by the sound group buttons.

●PART SELECT

These buttons select the part whose settings will be affected by the settings of the orchestral harmonic bar, sound group buttons, and VARIATION buttons.

• UPPER Button

Press this button when you wish to select an orchestral voice for the upper part, and adjust the volume of the upper part.

• LOWER Button

Press this button when you wish to select an orchestral voice for the lower part and adjust the volume of the lower part.

• PEDAL Button

Press this button when you wish to select an orchestral voice for the pedal part and adjust the volume of the pedal part.

Front and Rear Panel

6. PERCUSSION Section

Here you can add a percussive accent to the upper part of the organ voice.

→ Adding crispness to the sound—Percussion (p. 34)

●SECOND Button

This adds second percussion (same pitch as the 4' harmonic bar) to the organ voice.

●THIRD Button

This adds third percussion (same pitch as the 2-2/3' harmonic bar) to the organ voice.

●SOFT Button

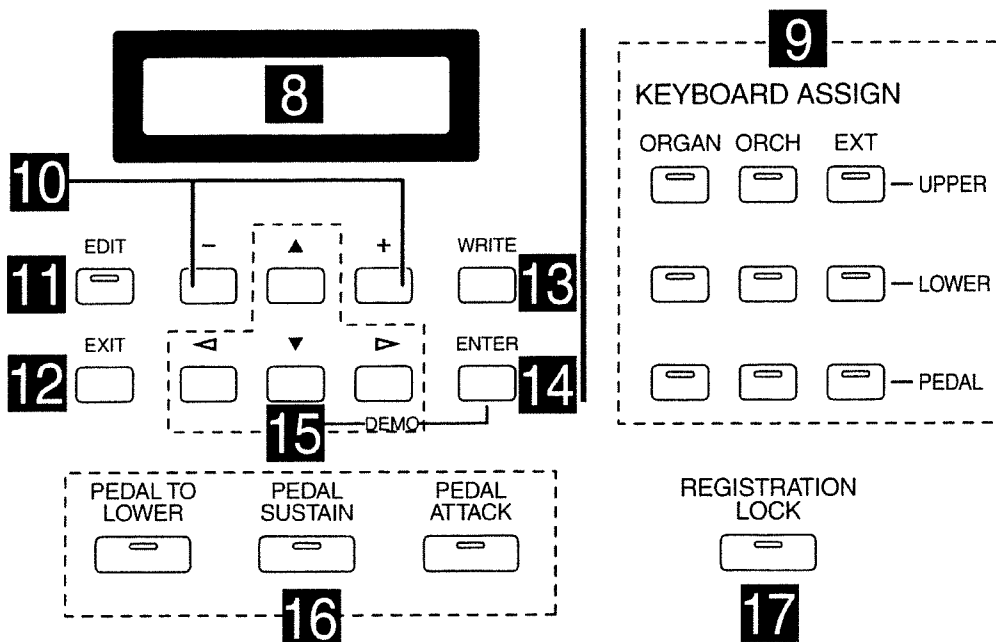
This switches the volume of the percussion.

●SLOW Button

This switches the decay time of the percussion.

7. PHONES Jack

A separately available set of headphones can be connected here.



8. Display

During performance, this shows the name of the selected sounds and the values of the harmonic bars. During editing, this shows the content of the settings.

9. KEYBOARD ASSIGN Section

Here you can assign the upper keyboard/lower keyboard/pedal keyboard to organ voices, orchestral voices, or external MIDI devices.

●ORGAN Buttons

Use these buttons when you wish to play organ voices from the upper/lower/pedal keyboards.

●ORCH (orchestral) Buttons

Use these buttons when you wish to play orchestral voices from the upper/lower/pedal keyboards.

●EXT (external) Buttons

Use these buttons when you wish to transmit music data from the upper/lower/pedal keyboards to an external MIDI device.

10. [+]/[-] Buttons

Use these buttons to modify the value of a parameter or to make various selections. The value will change by one step each time a button is pressed, and will continue to change if you keep holding the button. By simultaneously pressing both [+] and [-] you can return to the initial value.

11. EDIT Button

When this button is pressed, you enter Edit mode, where you can make detailed adjustments to the sound or save the settings that you create.

→ Getting the Most Out of the VK-77 (p. 61)

12. EXIT Button

Use this button to leave Edit mode, or to cancel the registration setting Save procedure.

13. WRITE Button

Use this button to save settings to a registration.

→ Modifying the Panel Settings (Registration Memory) (p. 51)

14. ENTER Button

Use this button to make menu selections in Edit mode, and to confirm the Save operation in Write mode.

15. Cursor Key Section

●[<]/[>] Buttons

Use these buttons to check the status of the harmonic bars or the orchestral voice assignments, or to check the Program Change or Bank Select settings. In Edit mode, these buttons will select menus and change parameters. These buttons are also used to move the underline (cursor) shown in the display.

●[▲]/[▼] Buttons

Use these buttons to check the settings of the upper/lower/pedal parts, and to select parameters in Edit mode.

16. Pedal Part Setting Section

●PEDAL TO LOWER Button

This button divides the lower keyboard into the Lower Part and the Pedal Part.

→ Playing the pedal part in the left hand—Pedal To Lower (p. 40)

●PEDAL SUSTAIN Button

This button adds a decay to the organ voice of the pedal part.

→ Adding a decay to the pedal part—Pedal Sustain (p. 41)

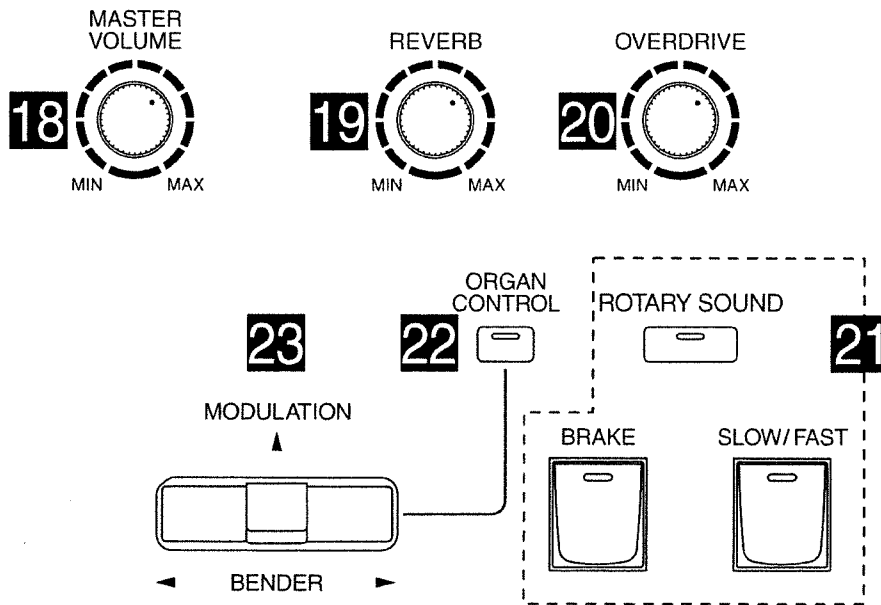
●PEDAL ATTACK Button

This button adds an attack to the organ voice of the pedal part.

→ Sharpening the attack of the pedal part—Pedal Attack (p. 41)

17. REGISTRATION LOCK Button

When this button is on, the registration buttons will be locked, and will not respond when pressed.



18. MASTER VOLUME Knob

This knob adjusts the volume that is output from the PHONES jack, MIX OUTPUT jacks, and ROTARY TONE CABINET jack.

NOTE

The volume of the output from the ORCHESTRAL OUTPUT jacks and the ORGAN OUTPUT jacks cannot be adjusted by the Master Volume knob.

19. REVERB Knob

This knob adjusts the depth of the reverb.

NOTE

If the send level to the reverb effect is too low, the effect of the reverb knob may be difficult to detect.

→ Adding reverberation to the sound—Reverb (p. 39)

→ Adding reverberation to an orchestral voice (p. 47)

20. OVERDRIVE Knob

This knob adjusts the depth of overdrive that is applied to organ voices.

→ Adding distortion to the sound—Overdrive (p. 39)

Front and Rear Panel

21. ROTARY SOUND Section

●ROTARY SOUND Button

This button switches the rotary effect on/off for the organ sound.

●BRAKE Button

This button switches the rotation of the rotary sound. When this is turned on, the rotation will gradually stop. When it is turned off, the rotation will gradually resume.

●SLOW/FAST Button

This button switches the speed of rotation for the rotary sound.

Rapid blinking Fast rotation

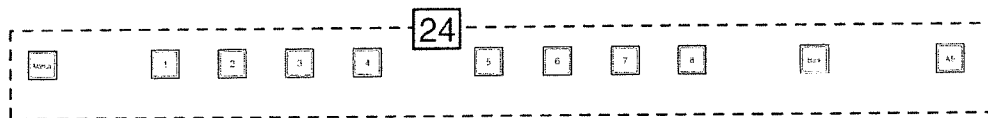
Slow blinking Slow rotation

22. ORGAN CONTROL Button

This button selects whether the BENDER/MODULATION lever will be used as an organ controller or as a controller for orchestral voices and external MIDI devices.

23. BENDER/MODULATION Lever

When this is used as an organ controller, it can be assigned to control various functions such the rotary speaker effect, the tone wheels, overdrive, or ring modulator. When this is used as a controller for the orchestral voices, it can control the pitch of the sound or modulate the pitch. When this is used to control external MIDI sound modules, movements of the lever will transmit pitch bend messages and modulation messages respectively.



24. REGISTRATION Section

These buttons are used to recall previously stored settings, such as organ voice, volume, effects, and orchestral sound and volume selections. Registration memories are organized into groups A and B, each of which contains eight banks of eight memories, providing a total of 128 settings.

→ Playing Various Sounds (p. 30)

→ Modifying the Panel Settings (Registration Memory) (p. 51)

●MANUAL Button

The harmonic bar settings of the selected registration will change to the locations (settings) of the harmonic bars on the front panel.

●[1]–[8] Buttons

These buttons select registrations.

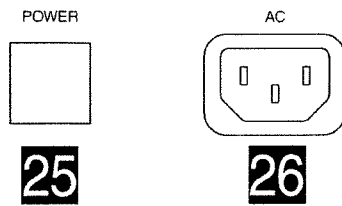
●BANK Button

Use this button to switch the registration bank.

●[A/B] Button

Use this button to switch between registration groups A and B. The button indicator lights when group B is selected.

Rear panel

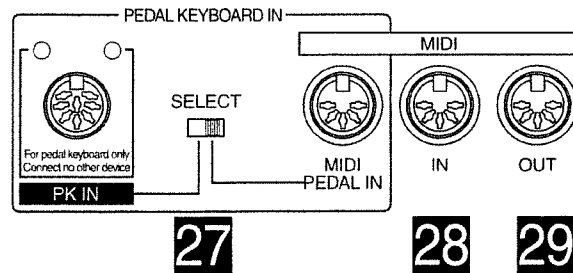


25. POWER Switch

This switch turns the power on/off.
→ Turning the Power On (p. 25)

26. AC Inlet

Connect the included power cable to this inlet.
→ Before You Begin Playing (p. 21)



27. PEDAL KEYBOARD Connector

A pedal keyboard unit can be connected here.

●PEDAL KEYBOARD Select Switch

Set the switch to specify the connector you have used to connect your pedal keyboard unit. Turn off the power before changing the setting of this select switch.

●PK IN Connector

If your pedal keyboard unit (PK-7, etc.) has a PK OUT connector, connect it to this connector.

- Connecting a pedal keyboard unit (PK-7, etc.) which has a PK OUT connector (p. 23)

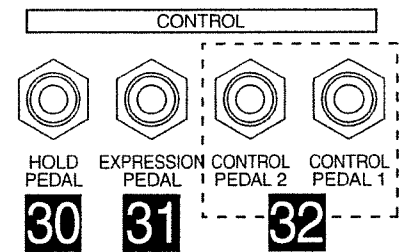
●MIDI PEDAL IN Connector

If your pedal keyboard unit (PK-5, etc.) does not have a PK OUT connector, connect it to this connector.

- Connecting a MIDI pedal keyboard unit (p. 24)

28. MIDI IN Connector

This connector receives messages from an external MIDI device.



29. MIDI OUT Connector

This connector transmits messages from the VK-77. You can add MIDI THRU functionality to the MIDI OUT connector.

- Adding MIDI THRU functionality to the MIDI OUT connector (p. 74)

30. HOLD PEDAL Jack

A hold pedal (DP-2, etc.; sold separately) can be connected here.

31. EXPRESSION PEDAL Jack

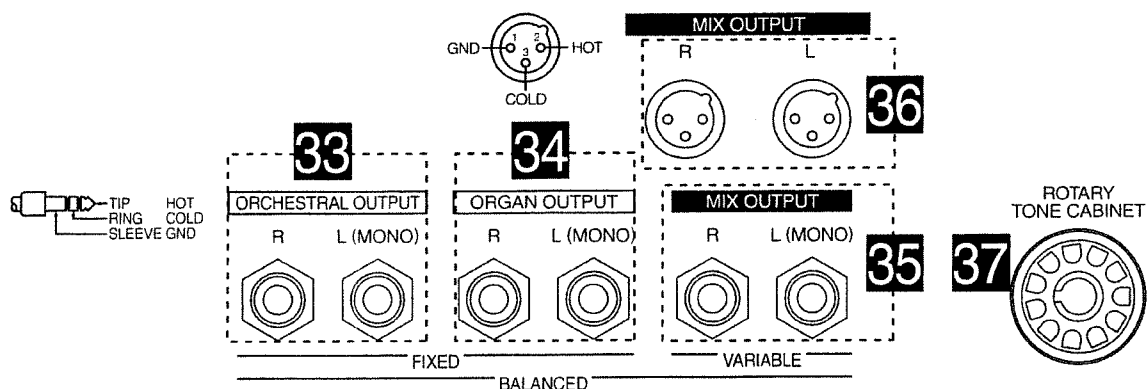
An expression pedal (EV-7, EV-5, or FV-300L; sold separately) can be connected here.

32. CONTROL PEDAL 1/CONTROL PEDAL 2 Jacks

An expression pedal (EV-7, EV-5, or FV-300L; sold separately) or pedal switch (DP-2 or similar; sold separately) can be connected here. You can assign a function to the connected expression pedal or pedal switch, and operate the pedal to control the function.

- Assigning a function to the control pedal (p. 76)

Front and Rear Panel



33. ORCHESTRAL OUTPUT Jacks

These jacks output the audio signal from the orchestral voices to your audio system or amp in stereo L (MONO) /R. They support both unbalanced and balanced output. If you are outputting in mono, connect the L(MONO) jack.

NOTE

The volume of the ORCHESTRAL OUTPUT jack cannot be adjusted by the Master Volume knob.

34. ORGAN OUTPUT Jacks

These jacks output the audio signal from the organ voices to your audio system or amp in stereo L (MONO) /R. They support both unbalanced and balanced output. If you are outputting in mono, connect the L(MONO) jack.

NOTE

The volume of the ORGAN OUTPUT jack cannot be adjusted by the Master Volume knob.

35. MIX OUTPUT Jacks

These jacks output the audio signal from the entire VK-77 to your audio system or amp in stereo L (MONO) /R. They support both unbalanced and balanced output. If you are outputting in mono, connect the L(MONO) jack.

36. MIX OUTPUT Jacks (XLR type)

These jacks output the audio signal from the entire VK-77 to your audio system or amp in stereo L/R.

37. ROTARY TONE CABINET Connector

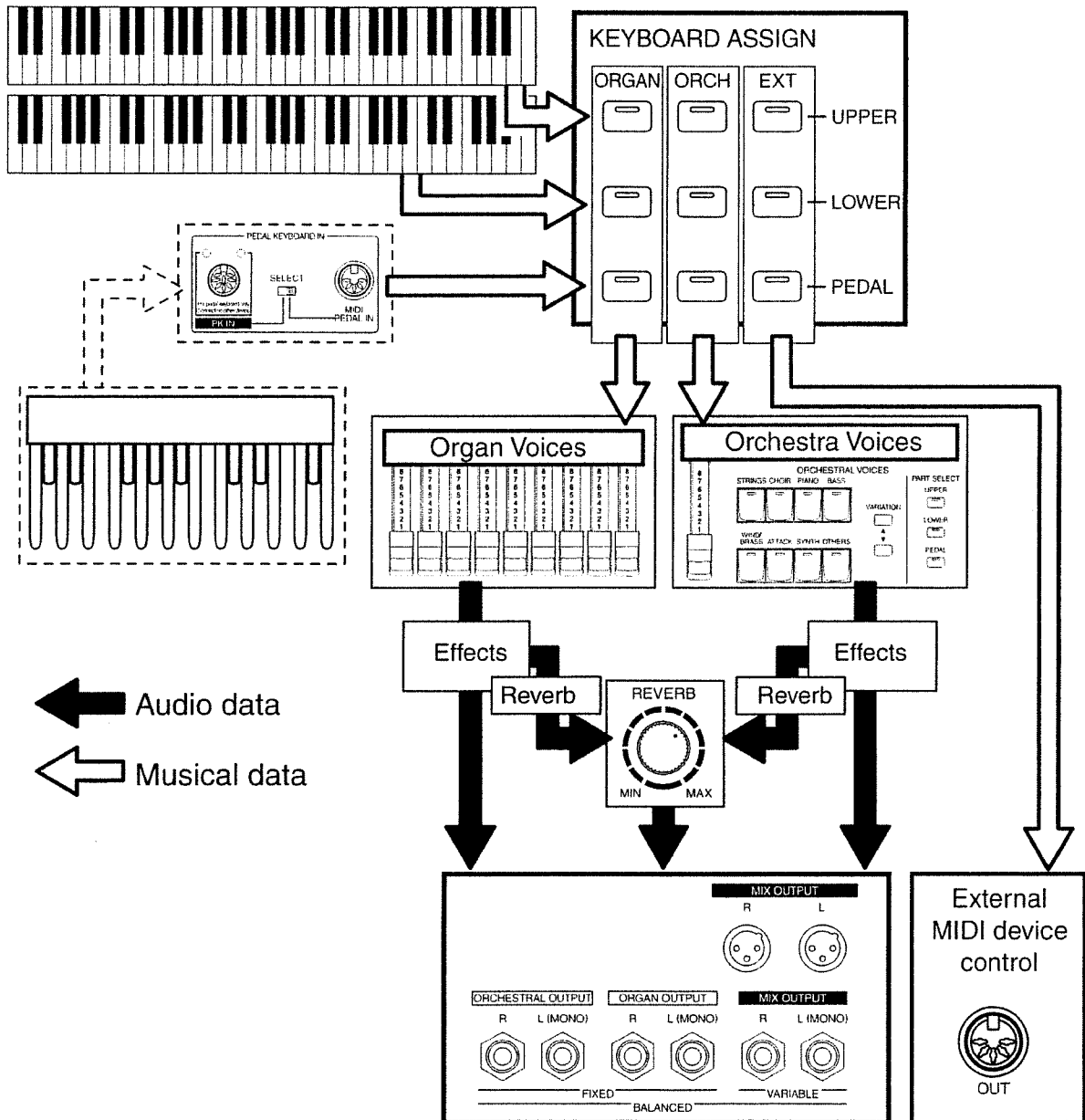
This connector can be connected to a tone cabinet which meets the specifications given on page 88.

How the VK-77 Works

The VK-77 consists of a controller section, sound generating section, and an effects section.

Controller Section

The controller section includes the upper keyboard, lower keyboard, harmonic bars, front panel buttons and knobs, and the pedal switches, expression pedals, and pedal keyboard unit connected to the rear panel. You can use these controllers to play sounds and modify sounds.



How the VK-77 Works

Sound Generator

This is the section that produces the sound. Data from the VK-77's controllers determines how sounds will be played. MIDI messages transmitted from a sequencer or other MIDI device connected to the VK-77 can also play sounds. The VK-77 has two sound generators; organ voices and orchestral voices.

→ Organ Voices and Orchestral Voices (p. 17)

About the upper part/lower part/pedal part

The VK-77 has three parts: the upper part, lower part, and pedal part. To each of these parts you can assign an organ voice or an orchestral voice.

The upper part is always assigned to the upper keyboard. When the [PEDAL TO LOWER] button is turned on, the lower part and pedal part will be assigned to left and right areas of the lower keyboard. When the [PEDAL TO LOWER] button is turned off, the lower part will be assigned to the entire lower keyboard, and the pedal part will be assigned to the keyboard that is connected to the PEDAL KEYBOARD connector of the rear panel.

Effects

The effect section applies various effects to the sound that is produced by the sound generator. By applying effects, you can modify the sound in a variety of ways. The VK-77 contains vibrato, chorus, ring modulator, overdrive, rotary, and reverb effects.

Differences between Vintage Organs and the VK-77's Organ Sound Generator

Vintage organs produce sound using 91 toothed wheels known as "tone wheels." Each tone wheel is constructed to produce a waveform of a different pitch. When these tone wheels are rotated at a certain speed past electromagnetic coils, an electrical audio signal is produced. The harmonic bars and the notes that are played then determine the mix of the audio signals that will be output, and in this way the organ sound is created.

The organ sound generator of the VK-77 digitally simulates the sound-producing mechanism of such vintage organs. Instead of the 91 toothed wheels, "Virtual ToneWheels" (electronic oscillators) are used to produce constant audio signals. The balance of these audio signals is determined by the status of the harmonic bars and by the notes that are played, and in this way the organ sound is created.

Organ Voices and Orchestral Voices

Organ voices

As organ sound generators, the VK-77 contains Virtual ToneWheel sound generators for three parts (upper/lower/pedal), each of which is fully polyphonic over the entire keyboard. In this owner's manual, organ sounds produced by the Virtual ToneWheels are referred to as "organ voices."

Organ voice sounds can be controlled by the dedicated upper, lower and pedal harmonic bars.

Orchestral voices

The VK-77 also contains sounds other than organ sounds. This owner's manual refers to such sounds as "orchestral voices." For each part (upper, lower, pedal), you can select a different orchestral voice and set its volume independently.

The total polyphony of the orchestral voices of the upper part, lower part, and pedal part is a maximum of 64 notes.

Orchestral voices are divided into the following eight groups, each of which contains eight variations, giving you a total of 64 different sounds. You are free to rearrange or modify orchestral voice sounds.

→ Orchestral voice memory, Orchestral voice map (p. 18)

- STRINGS (string instruments, string ensembles, etc.)
- CHOIR (choir, scat singing, etc.)
- PIANO (acoustic piano, electric piano, etc.)
- BASS (acoustic bass, electric bass, synth bass, etc.)
- WIND/BRASS (wind instruments, brass ensembles, etc.)
- ATTACK (attack sounds, pitched percussion, etc.)
- SYNTH (sequencer sounds)
- OTHERS (guitar, etc.)

Sounds and Memories

System memory

This memory area contains settings for the Edit mode SYSTEM BASIC menu, SYSTEM MIDI menu, and ORCHESTRAL menu. Settings that are made in these three menus are automatically stored in the VK-77 **even if you do not perform the Save operation.**

Registration memory

This memory area contains the values of the harmonic bars for each part, the status of the front panel buttons, and the settings of acoustical effects, collectively referred to as "registration memories." Registration memories are organized into two groups (A and B), each of which contains eight banks of eight memories, allowing a total of 128 registration memories to be stored.

Settings that have been stored can be selected instantly using the registration buttons. When modified settings are stored in a registration, the previous settings of that registration will be overwritten.

The temporary area

The memory area which holds the settings used to actually produce the sounds of the VK-77 is called the **temporary area**. When you recall a Registration, the settings are copied from the selected registration memory into the temporary area. When you use the front panel buttons and knobs (or the edit menu) to modify the settings of a registration, you are actually modifying the settings of the temporary area. The modified settings will remain in the temporary area until you perform the Save operation.



All data in the temporary area will be lost when you select a different registration or turn off the power. If you wish to keep the changes you have made, you must save them to a registration memory before selecting another registration or turning off the power.

→ Saving the settings that you created (p. 52)

Orchestral voice memory, Orchestral voice map

Orchestral voices are created using basic sounds known as **instruments**. Instruments are organized into eight groups, each of which contains eight or more instruments. Each group contains a specific type of instrument. For example, the strings group contains string-type instruments, and the piano group contains piano-type instruments.

For each instrument, you can make adjustments to twelve settings, such as effect depth, fine pitch, attack, etc., to create richer sounds. The memory that stores these settings is called **Orchestral voice memory**.

Each of the eight groups has eight variations, allowing you to store a total of 64 sets of data. This is called the **orchestral voice map**. The system contains only one orchestral voice map, and the settings you create are automatically stored in the VK-77 **even if you do not perform the Save operation.**

For each variation, you can change the type of instrument assignment, or assign slightly different sound settings of the same instrument to different variations within the same group.

→ Modifying the Settings of the Orchestral Voice (p. 67)

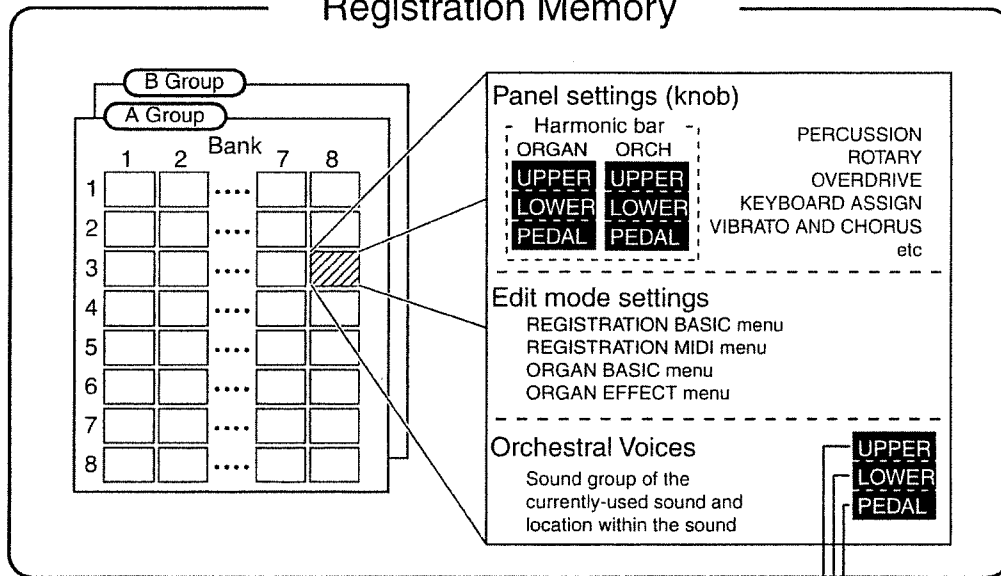


Each registration stores the group number and variation number of the orchestral voice, and refers to this number when it is recalled. This means that if you modify the instrument or settings of the orchestral voice that is being referenced, the resulting sound may be different than when the registration was stored.

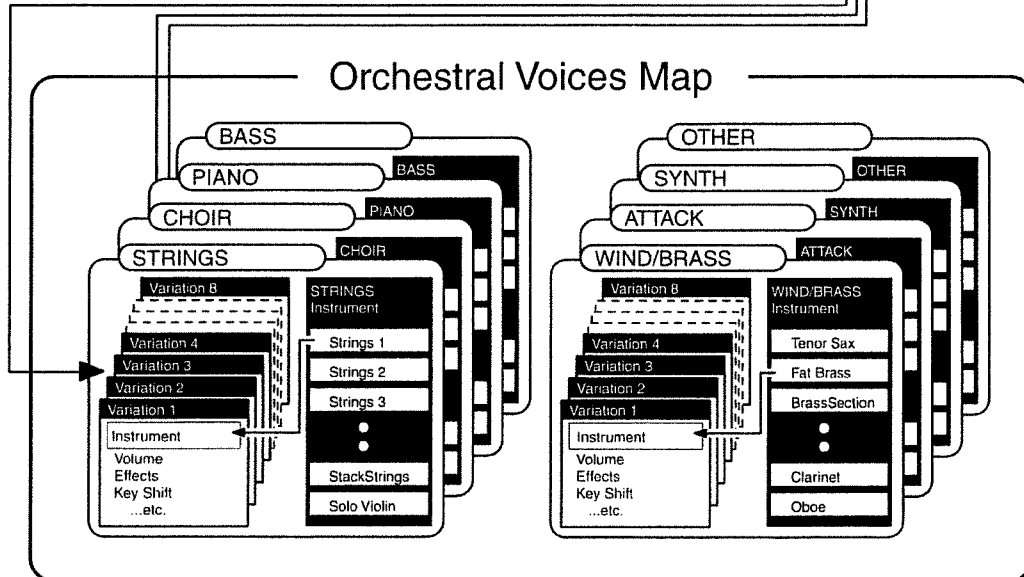
System Memory

Edit mode settings
 SYSTEM BASIC menu
 SYSTEM MIDI menu

Registration Memory



Orchestral Voices Map



- * The location of the REVERB knob is not stored in registration memories or in system memory.
- * Even if you turn off the System MIDI menu Local Control setting, it will always be ON the next time the power is turned on.

Acoustical Effects (Effects)

The following effects are built into the VK-77.

Organ voice effects

Vibrato and chorus

Vibrato cyclically raises or lowers the pitch to modulate the sound. Chorus layers a pitch-shifted sound onto the original sound, adding richness and spaciousness. Vibrato or chorus can be applied to the upper and lower part, and you can use the [VIBRATO TYPE] and [CHORUS TYPE] buttons to select the depth of each effect over three levels. You can also change the type of vibrato and chorus.

→ Modifying the type of modulation for the organ (p. 64)



Vibrato and chorus cannot be applied simultaneously. Nor is it possible to select different effects or different depths for the upper part and lower part.

Ring modulator

This effect applies ring modulation to the organ sound using an internal oscillator, creating a bell-like metallic character. It produces a unique sound that has no clear sense of pitch. The ring modulator can be applied in one of two ways: to the entire organ voice, or only to the organ percussion.

→ Adding a metallic character to the organ (p. 65)

Overdrive

Overdrive distorts the sound in a way that is similar to what a vacuum tube amplifier can do. You can use the OVERDRIVE knob to adjust the depth of the distortion. By specifying the tone quality of the low, mid and high frequency ranges, you can also modify the character of the distortion.

→ Specifying the distortion characteristics of the organ (p. 64)

Rotary

The rotary effect adds modulation to the sound in a way similar to when a rotary speaker is used. Modulation is produced when you turn on [ROTARY SOUND] and turn off [BRAKE]. By adjusting the volume balance of the low and high frequency ranges and changing the speed of modulation, you can produce a variety of settings.

→ Setting the rotary speaker effect (p. 64)

Reverb

This effect adds the reverberation that is characteristic of a large room. Reverb will be applied when you raise the reverb send level. You can adjust the volume of the reverb by rotating the REVERB knob. Reverb can be set independently from the reverb of the orchestral voices.

→ Reverberation settings for the organ (p. 66)

Orchestral voice effects

Chorus

Chorus layers a pitch-shifted sound onto the original sound to add richness and spaciousness. A different type of chorus can be applied to orchestral voices independently from the chorus setting of organ voices. Chorus will be applied when you raise the chorus send level.

→ Adding richness to the sound (p. 69)

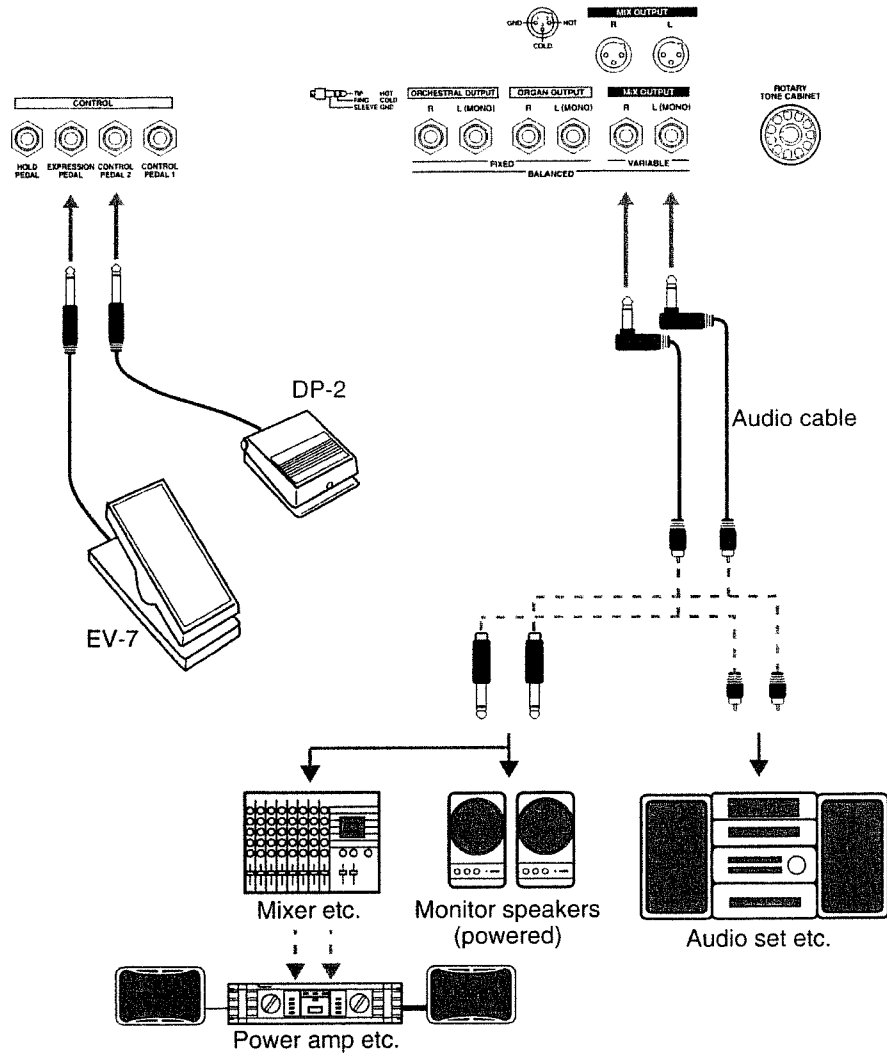
Reverb

This effect adds the reverberation that is characteristic of a large room. Reverb will be applied when you raise the reverb send level. You can adjust the volume of the reverb by rotating the REVERB knob. Reverb can be set independently from the reverb of the organ voices.

→ Modifying the reverberation (p. 68)

Try Out the Functions of the VK-77

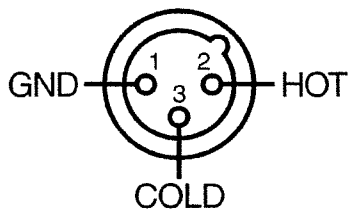
Connect the rear panel MIX OUTPUT L (MONO) and R jacks to your audio system or amp. If you are using headphones, connect them to the PHONES jack.



NOTE

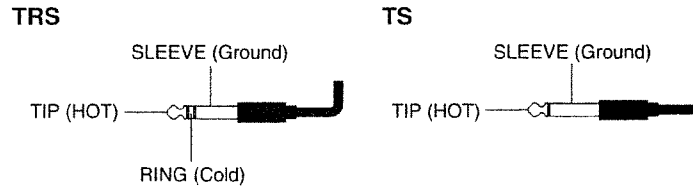
To prevent malfunction and/or damage to speakers or other devices, always turn down the volume, and turn off the power on all devices before making any connections.

The pin assignment for the XLR type connectors is as shown below. Before making any connections, make sure that this pin assignment is compatible with that of all your other devices.





The VK-77's MIX OUTPUT jacks, ORGAN OUTPUT jacks, and ORCHESTRAL OUTPUT jacks can be used for either balanced or unbalanced output. To use balanced output, use a cable with a balanced (TRS type) phone plug. To use unbalanced output, use a cable with an unbalanced (TS type) phone plug.



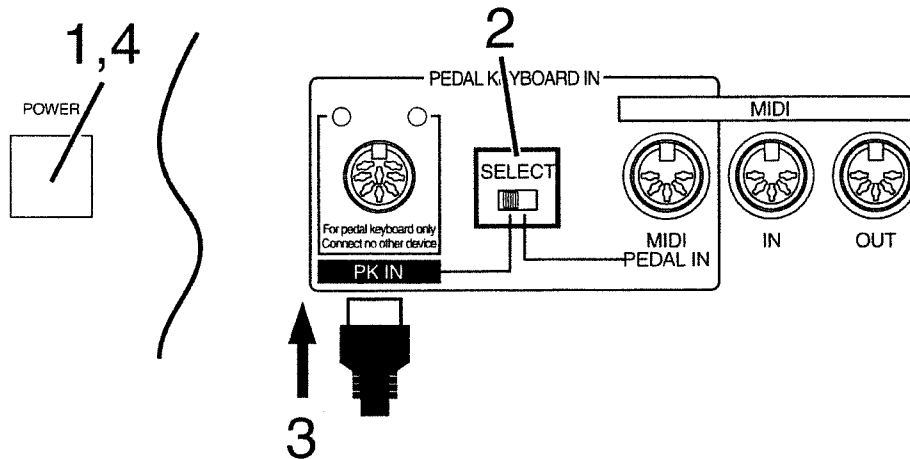
In consideration of live concert situations, the VK-77's PHONES jack is designed to produce a higher volume level than that of other electronic instruments. Extended listening at high volume levels may damage your hearing, so use caution when adjusting the volume.

Connecting a pedal keyboard unit



Make sure that the power of the VK-77 is turned off before you change the position of the SELECT switch. When turning the power of the VK-77 on/off, follow the procedure explained in "Turning the Power On" (p. 25) and "Turning the power off" (p. 27).

Connecting a pedal keyboard unit (PK-7, etc.) which has a PK OUT connector



1. Make sure that the power of the VK-77 is turned off.
2. Set the PEDAL KEYBOARD select switch (located in the center of the rear panel) to the PK IN position.

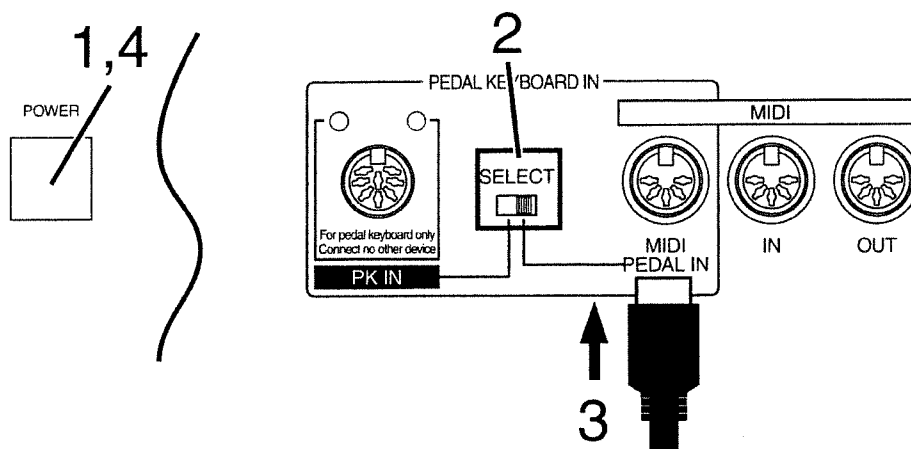
Try Out the Functions of the VK-77

3. Using the special cable that was included with the pedal keyboard unit, connect the VK-77's PK IN connector to the PK OUT connector of your pedal keyboard unit.
4. Turn on the power of the VK-77.



If the special cable is connected, it is not necessary to turn the power of the pedal keyboard unit on/off.

Connecting a MIDI pedal keyboard unit



1. Make sure that the power of the VK-77 is turned off.
2. Set the PEDAL KEYBOARD select switch (located in the center of the rear panel) to the MIDI PEDAL IN position.
3. Use a commercially available MIDI cable to connect the VK-77's MIDI PEDAL IN connector to the MIDI OUT connector of your MIDI pedal keyboard unit.
4. After turning on the power of your MIDI pedal keyboard unit, turn on the power of the VK-77.



The power switch of your MIDI pedal keyboard unit must be turned on before the power switch of the VK-77. When turning the power off, turn off the pedal keyboard unit after the VK-77.

Connecting an expression pedal (EV-7, etc.)

Connect the cable of your expression pedal to the VK-77's rear panel EXPRESSION PEDAL jack or CONTROL PEDAL 1/2 jacks. If separate expression pedals are connected to the EXPRESSION PEDAL jack and the CONTROL PEDAL 1/2 jacks, you will be able to independently control the expression of the organ voice and the orchestral voices, etc.



If a PK-7 pedal keyboard unit is connected using the special cable, the expression pedal built into the PK-7 will make it unnecessary to connect an EV-7, etc. to the EXPRESSION PEDAL jack. If the PK-7 pedal keyboard unit and an expression pedal are both connected, the value of the last-operated expression pedal will take priority.



Use only the specified expression pedal (EV-7, EV-5 or FV-300L; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.



For expressive performance, we recommend that you use a Roland EV-7 expression pedal.

Turning the Power On

Once the connections have been completed, turn on power to your various devices in the order specified. By turning on devices in the wrong order, you risk causing malfunction and/or damage to speakers and other devices.

- 1.** Rotate the **MASTER VOLUME** knob fully counterclockwise, so the volume is at the lowest level possible.
- 2.** Turn down the volume on any connected audio system or amp, so it is at the minimum position.



If the special cable included with the pedal keyboard unit is used to connect the pedal keyboard unit, step 3 is not necessary.

- 3.** If you are using a MIDI pedal keyboard unit, turn on its power.
- 4.** Turn on the VK-77's **POWER** switch (located on the rear panel).



This unit is equipped with a protection circuit. A brief interval (a few seconds) after power up is required before the unit will operate normally.



If a pedal keyboard unit is connected to the VK-77, check that an indication of "Pedal Keyboard Ready" appears in the display when the VK-77 is turned on. If this indication does not appear, it is possible that the pedal keyboard unit is not connected correctly, so turn off the power of the VK-77 and check the connections.

Turning the power off



If you turn off the power while you are making sound settings, the settings that you are modifying will be lost. If you wish to keep your modified settings, you must save them before turning off the power.

› Saving the settings that you created (p. 52)

- 1.** Make sure that the volume controls of the VK-77 and of other connected external devices are turned to the minimum position.
- 2.** Turn off the power of your audio system, amp, and all other external devices except for a MIDI pedal keyboard unit.
- 3.** Turn off the power of the VK-77.
- 4.** If a MIDI pedal keyboard unit is connected, turn off the power of the MIDI pedal keyboard unit.

Try Out the Functions of the VK-77

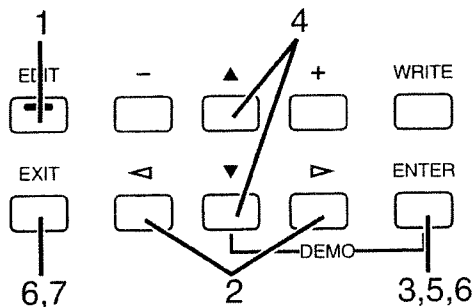
Restoring the factory preset settings (Factory Reset)

If you are not sure of the settings of your VK-77, we suggest that you reset it to the factory preset settings.

NOTE

When you perform the Factory Reset operation, all the data you created will be lost from the VK-77's internal memory. If the VK-77 contains important data that you wish to keep, use the Bulk Dump operation to save the data on an external MIDI sequencer, etc. before you perform the Factory Reset operation.

→ Saving VK-77 settings on a sequencer (p. 87)



- 1.** Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
- 2.** Use [<][>] to make the display read "UTILITY MENU."
- 3.** Press [ENTER].
- 4.** Use [▲][▼] to make the display read "Factory Reset."
- 5.** Press [WRITE].

The following display will appear.

```
Sure?:Fctry Rst
Yes:Entr No:Exit
```

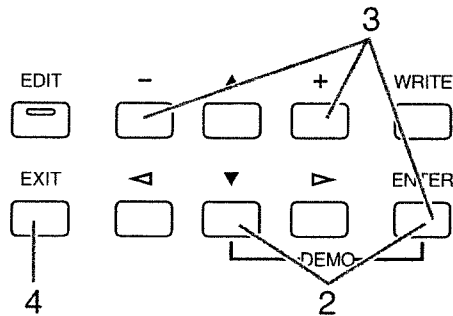
NOTE

If during this procedure, you decide not to restore the factory settings, proceed to step 7 without performing step 6.

- 6.** To restore the factory settings, press [ENTER].
- 7.** Press [EXIT] twice, or press [EDIT].
The [EXIT] indicator goes dark (off), and you leave Edit mode.

Listening to the Demo Songs

The VK-77 contains several demo songs that demonstrate its capabilities. Here's how to listen to the demo songs.



- 1.** While playing the keyboard to produce sound, rotate the **MASTER VOLUME** knob to adjust the volume to an appropriate level.
- 2.** Simultaneously press [**▼**] and [**ENTER**].
You are now in Demo Play mode.
- 3.** Use [**+/-**] to select the song that you wish to hear, and then press [**ENTER**].
- 4.** While the song is playing you can stop playback by pressing [**EXIT**].

When you are finished listening, press [**EXIT**] to leave Demo Play mode.



You can also listen to all of the demo songs in succession. In step 3, use [**</>**] to make the display read *Chain Play*, and then press [**ENTER**].



While a demo song is playing, it is not possible to operate the harmonic bars, keyboard, or any button other than [**EXIT**]. No data for the music that is played will be output from **MIDI OUT**.

For details on the demo songs, refer to the attached "Demo Song List."



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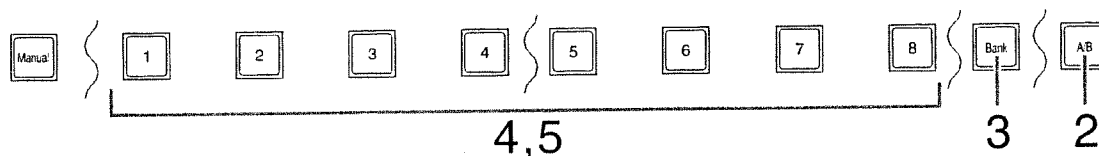
Playing Various Sounds

The VK-77 contains 128 different registrations. This section explains how to select and play different registrations. Registrations are selected by specifying the group A/B, bank [1]–[8], and number [1]–[8].



If you have modified the sound settings, selecting a different registration will cause your modified settings to be lost. If you wish to keep the settings you modify, you must save them before selecting a different registration.

→ Saving the settings that you created (p. 52)



1. Make sure that the lower line of the display shows the settings of the harmonic bars.

If not, press [EXIT] or [<] several times to access the appropriate display.

2. Press [A/B] to select group A or group B.

The upper left of the display will alternately indicate A or B. When group B is selected, the [A/B] button will light.

3. Press [Bank] so the registration buttons [1]–[8] start blinking.

4. Press a registration button [1]–[8] to select the bank.

5. Press a registration [1]–[8] to select the number.

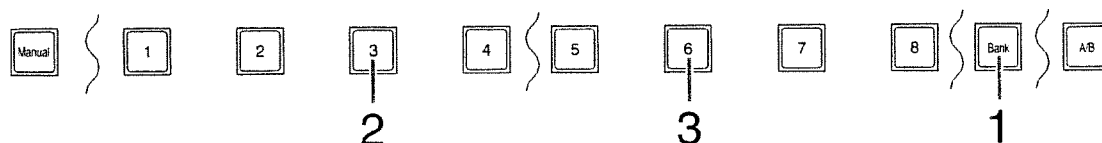
6. Play the keyboard to hear the sound you selected.

The keyboard will play the selected registration.



If you wish to select another registration from the same bank, you can simply press a registration button [1]–[8] to specify the number.

- To change from A11 to A18
press registration button [8].
- To change from A11 to A36
press registration buttons in the order of [Bank], [3], and [6].





If [REGISTRATION LOCK] is on, the function buttons will not function. To change registrations, you must use the registration buttons when [REGISTRATION LOCK] is off.

Select and play various registrations to hear the different sounds.

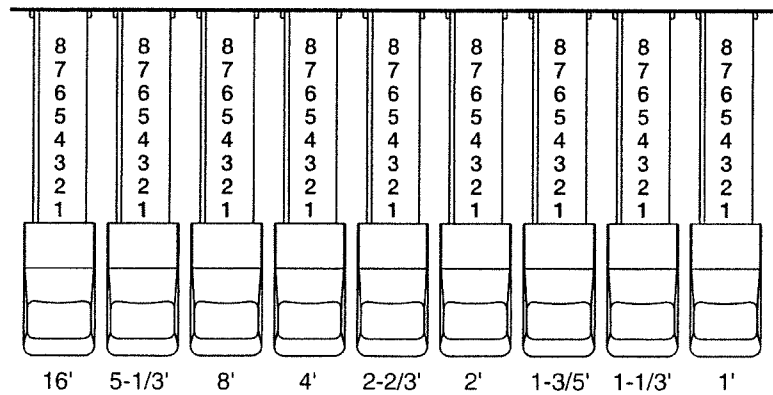
QUICK START

Basic Organ Operation

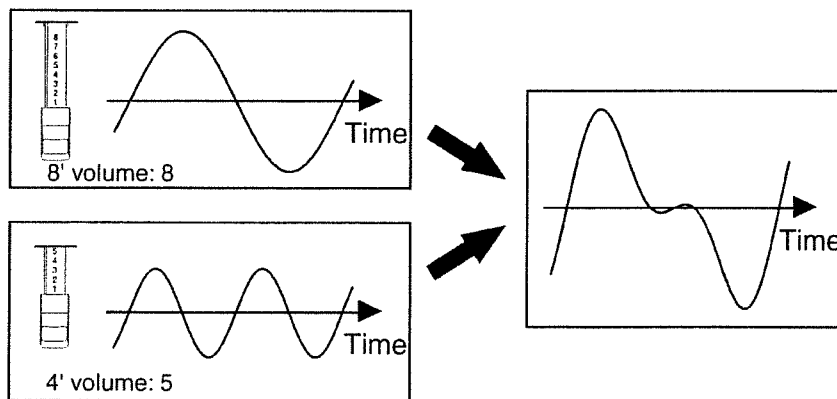
Modifying the sound of the organ—Harmonic bars

The harmonic bars are controllers which create the basic structure of the organ sound. The VK-77 provides nine harmonic bars for the upper part and lower part respectively, and two harmonic bars for the pedal part. By sliding the harmonic bars in and out you can create a variety of tonalities.

In addition to creating the tone, the harmonic bars are also used to adjust the volume balance between the upper, lower and pedal parts.



Each harmonic bar is assigned to a very simple sound (a “sine wave”: see the diagram below) of a different pitch, and you can mix these sounds to create a variety of tonalities.



Try Out the Functions of the VK-77

The numbers (16', 5-1/3', etc.) printed on the knob of each harmonic bar indicate the pitch of that bar in "feet." The pitch of each harmonic bar plays an important role in creating the tone. The 8' pitch is the basic pitch of the sound, and the sound is created based on this 8' pitch. The relative pitch of the harmonic bars is shown below.

When the middle C (C4) note is pressed, each harmonic bar will sound the following notes.

The diagram shows nine harmonic bars, each with a knob labeled with a pitch value. Above each knob is a vertical list of numbers representing fingerings for the left hand (1-5) and right hand (2-5). Below each knob is a small illustration of the bar. The pitch labels and their corresponding harmonic names are: 16' (one octave below), 5-1/3' (5th), 8' (root), 4' (8th), 2-2/3' (12th), 2' (15th), 1-3/5' (17th), 1-1/3' (19th), and 1' (22nd). Below the diagram is a musical staff showing the notes for each bar: 16' (C2), 5-1/3' (G2), 8' (C4), 4' (C4), 2-2/3' (C4), 2' (C4), 1-3/5' (C4), 1-1/3' (C4), and 1' (C4). A separate staff shows the 8' pitch as a middle C note (C4).

On vintage organs, the pitch relationship shown in the diagram does not hold true in a certain region of the keyboard. In the high range of the keyboard, high-pitched feet are "wrapped around" one octave down. In the low range of the keyboard, low-pitched feet are "wrapped around" one octave up. It is thought that the reason for this is that mechanical limitations of the tone wheel mechanism of vintage organs made it difficult to produce sound at a high pitch. However, by "wrapping around" the high range, unneeded high-frequency components were suppressed, making the sound more pleasant to the ear.

On the VK-77 you can select whether or not the low-frequency range will be "wrapped around" as on vintage organs.

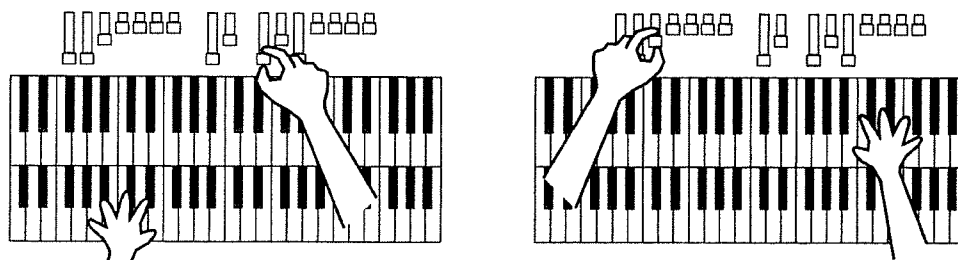
→ Creating vintage organ sounds (p. 62)

As you can see from the relation of the pitches, the 5-1/3' pitch is unique in that it is not arranged in order of pitch. The reason is that the 5-1/3' sound blends not with the 8' (fundamental), but with the 16' pitch.

Acoustic instruments produce sound consisting of frequencies at integer multiples of the fundamental frequency; double, triple, and so on. These are called "integer harmonics." Relative to the 8' pitch that is the basic pitch of an organ, the 5-1/3' pitch is not an integer multiple, and does not blend. However, relative to the 16' pitch (which is one octave lower), 5-1/3' is an integer multiple and therefore does blend. (Starting at 16', the 5-1/3' pitch is three times higher.) Because 5-1/3' blends with 16', these two harmonic bars are colored differently than the other harmonic bars, and are placed together.

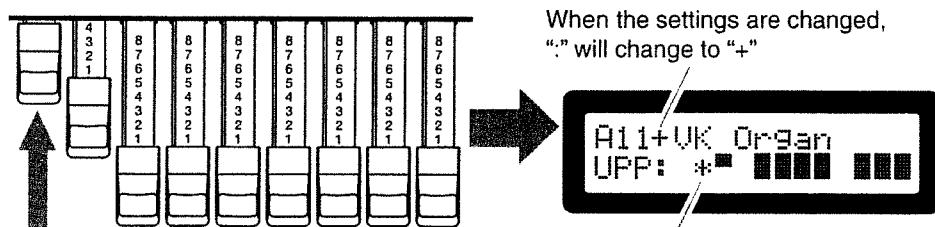


On the VK-77, the harmonic bars of the upper part are placed at the left, and the harmonic bars of the lower part are placed at the right. Since the upper keyboard is usually played by the right hand and the lower keyboard by the left hand, this arrangement makes it easier to use your other hand to operate the harmonic bars while you play the keyboard.



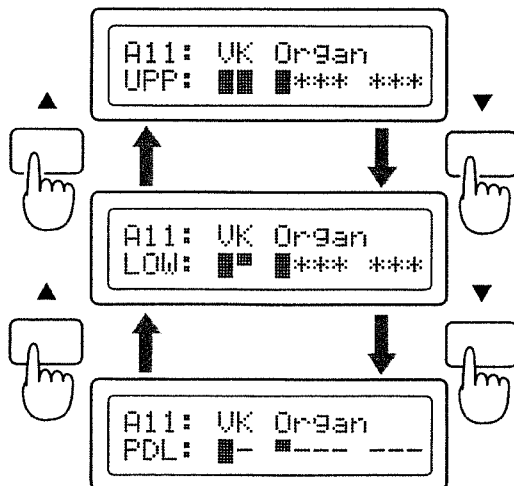
The numbers (1-8) printed on the bars indicate nine levels from 0 to 8, and help you to set the harmonic bars rapidly. If you push a bar in until no numbers are visible, that pitch (foot) will have a volume of zero. If you pull a bar out until 8 is visible, that pitch (foot) will have the maximum volume. The volume change over nine levels reproduces the volume change on vintage organs.

The settings of the harmonic bars is shown in the lower line of the display.



Press inward until the numbers are no longer visible

When you select a different registration, the current harmonic bar settings (sounds) will no longer match the physical settings of the bars. If you wish to check the harmonic bar settings of each part, use the [▲][▼] buttons.



- "UPP" Harmonic bar settings of the upper part
- "LOW" Harmonic bar settings of the lower part
- "PDL" Harmonic bar settings of the pedal part

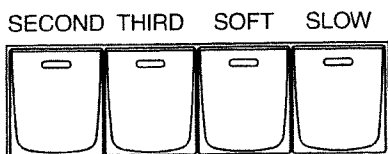
Adding crispness to the sound—Percussion

Percussion adds an attack-type sound to the beginning of the note to give the sound more crispness. When you play legato (smoothly and connectedly), percussion will be added only to the first-played note. When you play staccato (articulating each note separately), percussion will be added to all notes. There are two types of percussion: [SECOND] (second percussion) and [THIRD] (third percussion).



Percussion can be added only to the upper part of organ voices. It cannot be added to the lower part of organ voices, nor to the pedal part or orchestral voices.

PERCUSSION



[SECOND] (second percussion)

This button switches Second Percussion on/off.



Percussion will sound at the same pitch as the 4' harmonic bar.



Second percussion will not sound.

[THIRD] (third percussion)

This button switches Third Percussion on/off.



Percussion will sound at the same pitch as the 2-2/3' harmonic bar.



Third percussion will not sound.



It is not possible to simultaneously select both [SECOND] and [THIRD].



With the factory settings, adding percussion will cause the 1' harmonic bar to stop producing sound. This reproduces the behavior of vintage organs. By changing the organ voice settings, you can cause the percussion and 1' harmonic bar to both be heard.

→ Percussion settings (Perc 1' Cancel) (p. 63)

[SOFT] (percussion soft)

This button switches the percussion volume.



The percussion sound will be softer.

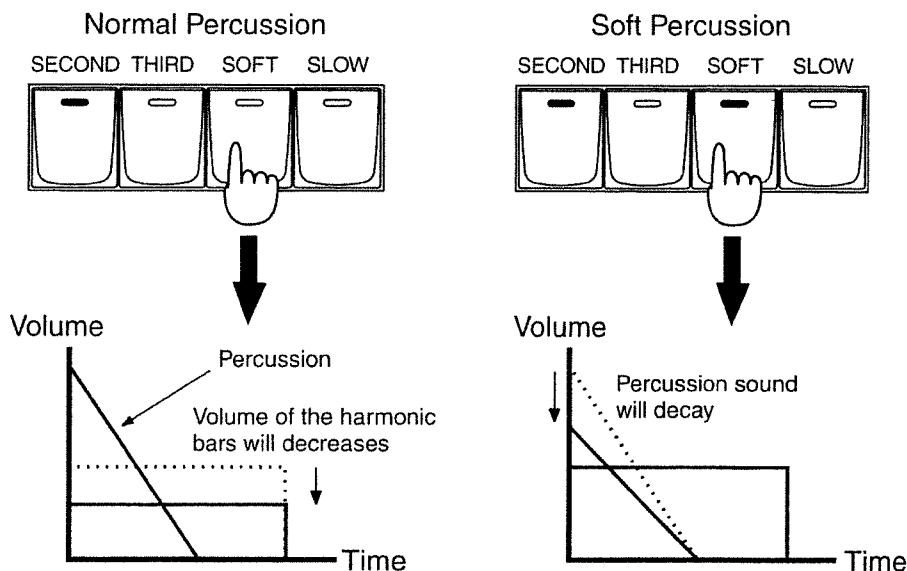


The percussion sound will be normal.



When you turn [SOFT] off to strengthen the percussion sound, the organ sound specified by the harmonic bars will become lower. This reproduces the behavior of vintage organs. If the organ volume decreases when you turn [SOFT] off, you can make settings in Edit mode. You can also specify the percussion volumes that will be selected by the Percussion Normal/Soft settings.

→ Percussion settings (Perc Level) (p. 63)



[SLOW] (Percussion slow)

This button switches the speed at which the percussion sound will disappear.



The percussion sound will disappear slowly.



The percussion sound will disappear quickly.



For each setting (slow/fast) you can specify the actual speed at which the percussion sound will disappear.

→ Percussion settings (Perc Time) (p. 63)

Vintage organ percussion—Single trigger algorithm —

The percussion on vintage organs did not apply to all notes that were played. It was applied only to notes which were played simultaneously from a condition where no notes were being played. When notes were played legato (smoothly and connectedly), percussion was applied only to the first-played note. When notes were played staccato (articulating each note separately), percussion was applied to all notes. This method is referred to as **single trigger algorithm**, and is a very important element in organ performance.

On vintage organs, percussion was produced by an analog circuit. For this reason, when there was only a very short time interval from when one key was released until the next key was pressed, the percussion circuit was unable to recharge fully, causing the percussion to sound at a lower volume. The VK-77 simulates this behavior, and also allows you to modify the organ voice settings to adjust the recharge time characteristics of the circuit.

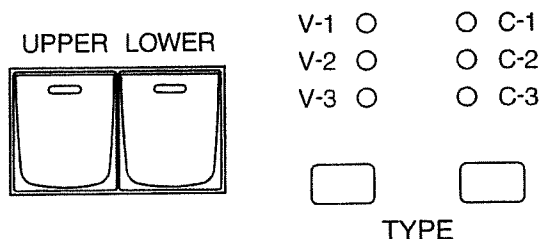
→ Percussion settings (Perc Recharge) (p. 63)

Applying modulation to the sound—Vibrato and chorus

The vibrato effect cyclically modulates the pitch of organ voice sounds. The chorus effect mixes the normal sound of the organ with a sound to which vibrato has been applied, adding richness and spaciousness to the sound.

Three types of vibrato and three types of chorus are provided (a total of six types). The types of vibrato and chorus can be selected by pressing one of the [TYPE] buttons.

VIBRATO AND CHORUS



V-1, V-2, V-3

This applies vibrato (pitch modulation). The effect will become stronger as the number increases.

C-1, C-2, C-3

This applies chorus to add depth and spaciousness to the sound. The effect will become stronger as the number increases.

Use [UPPER][LOWER] to specify the part to which vibrato or chorus will be applied. If neither [UPPER] or [LOWER] are selected, the vibrato and chorus effect will be off. You can select one of three types of vibrato and chorus that were typical on vintage organs.

→ Modifying the type of modulation for the organ (V/C Vintage) (p. 64)



It is not possible to apply both vibrato and chorus simultaneously. Nor is it possible to select different vibrato or chorus types for the upper part and lower part.



Vibrato or chorus cannot be applied to percussion.



When [LOWER] is turned on, Vibrato and Chorus can be applied to the lower part and the pedal part.

By modifying settings in Edit mode, you can also specify that Vibrato and Chorus not be applied to the pedal part.

→ Modifying the type of modulation for the organ (V/C Lower) (p. 64)

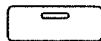
Adding a rotary speaker effect—Rotary Sound

Rotary Sound is an effect which adds the modulation that is produced when organ voices are used with a rotary speaker. On most rotary speakers, the high-frequency speaker and low-frequency speaker rotates at different speeds. The VK-77 can simulate this type of complex modulation.



The Rotary Sound effect is not applied to the audio signal that is output from the ROTARY TONE CABINET connector.

ROTARY SOUND



BRAKE



SLOW/FAST



[SLOW/FAST]

The speed of rotation will change each time this button is pressed. The simulated rotary speaker will be in the “fast” state when the indicator blinks rapidly, and in the “slow” state when the indicator blinks slowly. When you change between fast/slow, the speed of rotation will change gradually.



The speed of the rotary speaker can be set independently for fast/slow and for high-frequency/low-frequency rotors. You can also adjust the time over which the rotation changes from slow to fast and from fast to slow.

→ Setting the rotary speaker effect (p. 64)

Try Out the Functions of the VK-77

[BRAKE]

This button temporarily halts the rotation of the rotary sound. The rotation will change gradually.



The speed of rotation will gradually slow down and then stop.



From a stopped condition, the rotation will gradually become faster.

If you press [SLOW/FAST] when the rotation is stopped, the [BRAKE] will automatically be turned off, and rotation will begin.

[ROTARY SOUND]

This button turns the rotary sound on/off.



Rotary sound will be applied.



Rotary sound will be turned off. There will be no modulation.

The difference between [BRAKE] and [ROTARY SOUND]

When [BRAKE] is turned on, the rotation will stop gradually. Even after the rotation has stopped, the location at which the speaker stopped (i.e., the angle at which the sound is projected from the speaker) will still be simulated.

When [ROTARY SOUND] is turned off, the modulation (rotation) will disappear immediately. Although there will be no rotation effect, the acoustical characteristics of the rotary speaker will still be maintained.

If you wish to bypass the acoustical characteristics of the speaker as well (i.e., cancel the effect entirely), go to Edit mode and set the Virtual Amp and Virtual Speaker to "bypass type."

→ Changing the virtual amp/virtual speaker (p. 64)



You can use the bender, etc. to switch the rotary speaker between fast and slow.

→ Controlling the rotary speaker effect (p. 59)

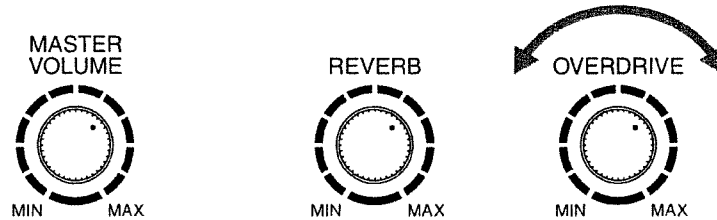
The VK-77 uses a newly developed effect algorithm based on COSM technology, and is able to faithfully reproduce the modulation of an actual rotary speaker and the irregularities of its rotation. You can also make sophisticated settings, such as the characteristics of the amplifier, the resonance of the speaker cabinet, and the distance of the microphone which picks up the sound of the rotary speaker. You can even specify complex modulation, such as that which occurs when two rotary speakers are used.

→ Setting the rotary speaker effect (p. 64)

→ Changing the virtual amp/virtual speaker (p. 64)

Adding distortion to the sound—Overdrive

Overdrive is an effect which distorts the sound. By distorting the sound, you can create the intense organ sounds that are frequently used in styles, such as hard rock.



Rotate fully right: The distortion effect will be at maximum.

Rotate fully left: No effect.

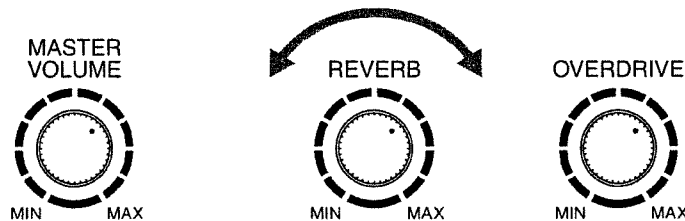


You can change the type of overdrive, the characteristics of the amp, and the resonance of the speaker cabinet.

- Specifying the distortion characteristics of the organ (p. 64)
- Changing the virtual amp/virtual speaker (p. 64)

Adding reverberation to the sound—Reverb

Reverb is an effect which adds concert hall-like reverberation to the sound.



Rotate fully right: Maximum reverberation.

Rotate fully left: No effect.



You can change the type of reverb and the amount of reverb, etc. You can also specify the amount of sound that will be sent from the organ voice to the reverb (Send Level). If this level is low, the effect of the REVERB knob may be difficult to hear.

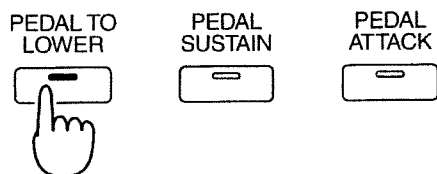
- Reverberation settings for the organ (p. 66)



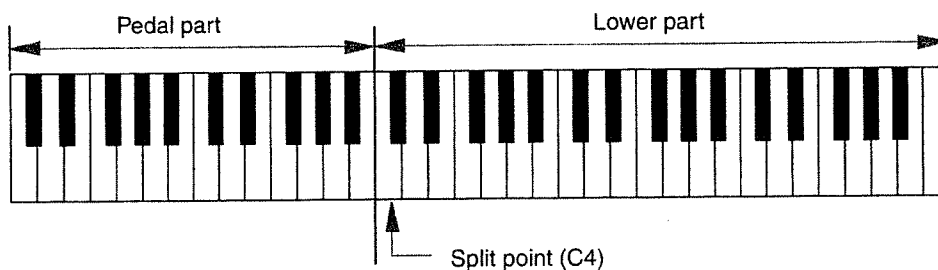
The position of the REVERB knob is not stored as part of the registration.

Playing the Pedal Part of the Organ

Playing the pedal part in the left hand—Pedal To Lower



The lower keyboard can be divided into two areas, and assigned to the Lower part and the Pedal part respectively. This function is referred to as “Pedal To Lower.” Even if a pedal keyboard unit is not connected to the VK-77, this function lets you use the lower keyboard to play the pedal part. The location at which the keyboard is divided is called the Split Point, and is indicated as the lowest note which will play the Lower part.



When the [PEDAL TO LOWER] indicator is lit, you can use the lower keyboard to play the Lower part and Pedal part.



The “Pedal To Lower” function applies simultaneously to the organ voice, the orchestral voice, and all external parts.



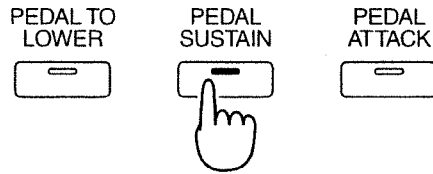
You are free to change the split point.

→ Changing the Pedal To Lower key area (p. 72)



It is not possible to split the upper keyboard.

Adding a decay to the pedal part—Pedal Sustain



You can add a decay to the pedal part of the organ voice. The length of the decay can be adjusted in Edit mode.

→ Adjusting the settings of the pedal part (Pd1 SustainTime) (p. 63)

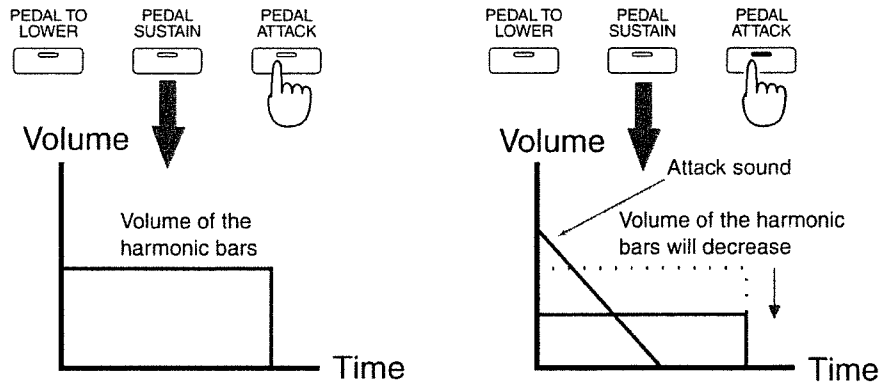


This function does not apply to the pedal part of the orchestral voice.

Sharpening the attack of the pedal part—Pedal Attack

This emphasizes the beginning of each note (the “attack”) of the pedal part of the organ voice. The strength of the attack and the speed at which the attack disappears can be adjusted in Edit mode.

→ Adjusting the settings of the pedal part (Pd1 Attack) (p. 63)



This function does not apply to the pedal part of the orchestral voice.

Using Controllers to Add Expression to the Organ Voice

The VK-77 provides a large number of controllers to support realtime performance. The front panel provides a bender/modulation lever, and the upper keyboard is sensitive to aftertouch. The rear panel provides four jacks to accommodate expression pedals and foot switches. If you connect a pedal keyboard unit that has a PK OUT connector (such as the PK-7; sold separately), you will be able to assign a variety of functions to the foot switch of the pedal keyboard unit.

Here we will explain how to add expression to the organ voice using the VK-77's bender/modulation lever and aftertouch, and—indispensable for organ performance—an expression pedal (EV-7, EV-5, or FV-300L; sold separately).

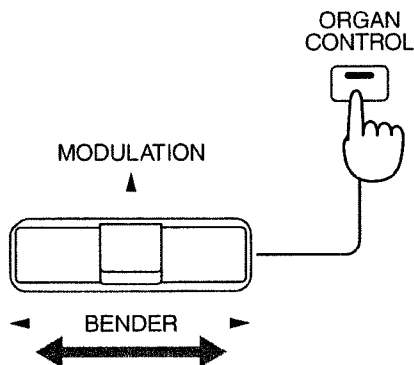
First, select registration B86 and turn the [ORGAN CONTROL] indicator on (lit). When the [ORGAN CONTROL] indicator is lit (on), the bender/modulation lever will control the organ voice.



If the [ORGAN CONTROL] indicator is dark (off), the bender/modulation lever will transmit pitch bend messages/modulation messages to the organ voice, orchestral voice and to an external device.

→ Using Controllers (p. 57)

Bender



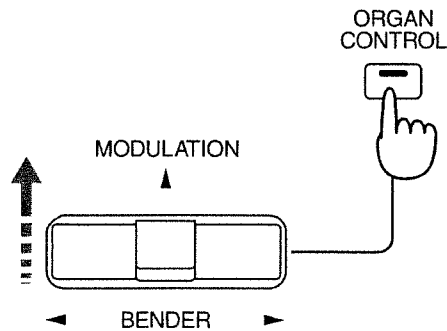
When you move the lever to left or right, the rotational speed of the rotary effect will change. This will have the same effect as the [SLOW/FAST] button. When you release your hand from the bender, the lever will return to the center position, but the speed of rotation will be maintained. When you wish to switch the rotation speed once again, move the lever to either left or right.



Functions other than the above can also be assigned to the bender. To change the assignment, make settings in Edit mode.

→ Assigning controllers to the organ voice (p. 72)

Modulation lever



When you push the lever away from yourself, the pitch of the organ voice will gradually fall, and the volume will gradually decrease. This effect is called the Wheel Brake function. When you return the lever to the original position, the pitch and volume will gradually return to normal.

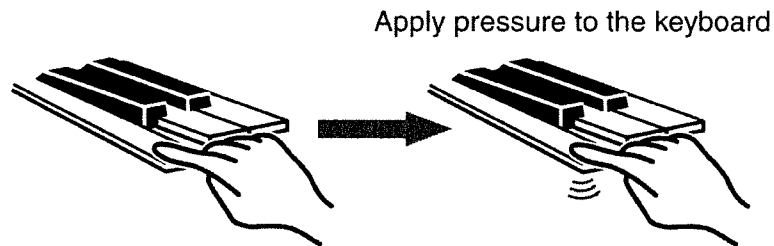
→ Stopping the rotation of the tone wheels (Wheel Brake) (p. 54)



Functions other than the above can also be assigned to the modulation lever. To change the assignment, make settings in Edit mode.

→ Assigning controllers to the organ voice (Org Mod Asgn) (p. 72)

Aftertouch



When you apply additional pressure to the upper keyboard after playing a note, the rotational speed of the rotary effect will change. This has the same result as the [SLOW / FAST] button. This allows you to switch between slow and fast rotation while you play, without having to take your hands off of the keyboard.

You can also vary the speed of the rotary effect continuously by the amount of pressure that is applied to the keyboard. To assign the desired function, make settings in Edit mode.

- 1.** Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
- 2.** Use [<][>] to make the display read "REGIST BASIC MENU."
- 3.** Press [ENTER].
- 4.** Use [▲][▼] to make the upper line of the display read "Org After Asgn."

Try Out the Functions of the VK-77

5. Use [+] [-] to make the lower line of the display read "Rotary Speed."

6. Press [EXIT] twice, or press [EDIT].

The [EDIT] indicator goes dark (off), and you exit Edit mode.

The specified function has now been assigned to aftertouch. Apply aftertouch to the upper keyboard, and notice how the rotary effect changes.



If the speed of rotation fails to change when you apply pressure to the keyboard, try changing the rate at which the speed of rotation changes.

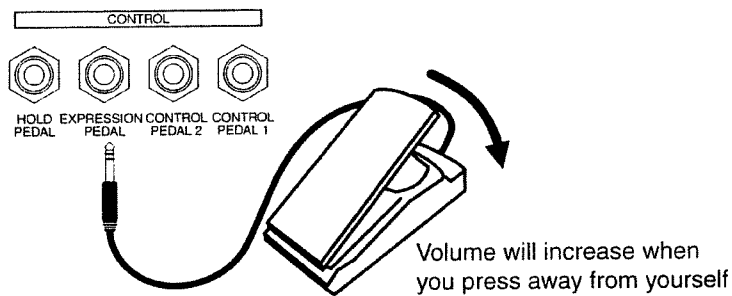
→ Setting the rotary speaker effect (Rotary RiseTime/Rotary FallTime) (p. 65)



Functions other than the above can also be assigned to aftertouch. To assign the desired function, make settings in Edit mode.

→ Assigning controllers to the organ voice (Org After Asgn) (p. 72)

Expression pedal



If you connect an expression pedal (EV-7, EV-5, or FV-300L; sold separately) to the rear panel EXPRESSION PEDAL jack or use a special cable to connect a pedal keyboard unit with a PK OUT connector, you will be able to use the expression pedal to control the volume of the organ voice. Advancing the pedal away from yourself will increase the volume, and returning it toward yourself will decrease the volume.



Since the volume of the organ voice is not affected by the force with which you strike the keys, we recommend that you use an expression pedal to add dynamic expression to your playing. The VK-77's expression circuit not only controls the volume, but simultaneously simulates the changes in frequency response that occur on a vintage organ, thus producing a richer variety of expression.



Use only the specified expression pedal (EV-7, EV-5 or FV-300L; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.



On the VK-77 organ voices, returning the expression pedal all the way toward yourself to minimize the volume will not produce a volume of "zero."

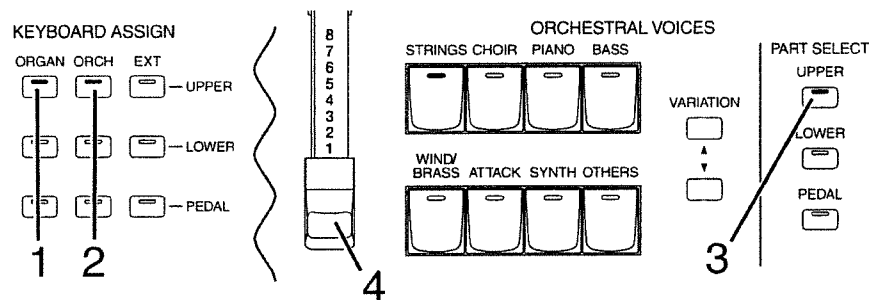
Layering Sounds Other Than Organ Sounds (Orchestral Voices)

The VK-77 provides orchestral voices in addition to organ sounds. If you wish to play orchestral voices from the upper/lower/pedal keyboards and controllers, press the KEYBOARD ASSIGN section buttons [ORCH UPPER], [ORCH LOWER], or [ORCH PEDAL] to turn them on (lit).

The KEYBOARD ASSIGN section also contains [EXT UPPER], [EXT LOWER] and [EXT PEDAL] buttons. Turn these buttons on (lit) when you wish to transmit keyboard or controller messages to a MIDI device connected to the VK-77's MIDI OUT connector. By combining the on/off settings of the buttons in the KEYBOARD ASSIGN section, you can control organ voices, orchestral voices, and external MIDI devices. For details on controlling external devices, refer to "Connecting External Devices" (p. 82).

Layering an orchestral voice with an organ voice

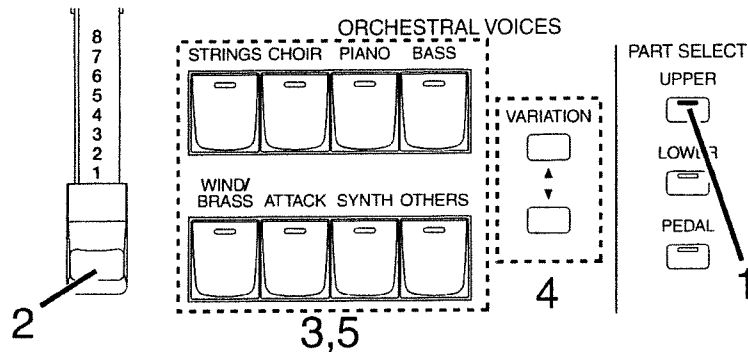
Here we will explain how to use the upper keyboard to simultaneously play an organ voice and an orchestral voice.



- 1.** Switch the KEYBOARD ASSIGN button [ORGAN UPPER] to the on (lit) position.
Play the upper keyboard to make sure that an organ voice sounds.
- 2.** Switch the KEYBOARD ASSIGN button [ORCH UPPER] indicator to the on (lit) position.
- 3.** In the upper right of the front panel, switch the PART SELECT button [UPPER] to the on (lit) position.
- 4.** Pull the orchestral harmonic bar toward yourself to adjust the volume.
Play the upper keyboard to verify that the orchestral voice sounds.

Try Out the Functions of the VK-77

Next, let's switch the type of orchestral voice.



1. In the upper right of the front panel, turn on the PART SELECT [UPPER] button.

2. Use the orchestral harmonic bar to adjust the volume.

3. Press a sound group button to switch the sound group.

The name and number of the orchestral voice will appear in the display. (The previous display will reappear in a short time.)

4. Use the VARIATION [▲][▼] buttons to select a variation of the sound.

The sound name and number in the display will change each time you press the button.

5. Press the blinking group button to finalize the selected variation.

To assign an orchestral voice to the lower part or pedal part, use the same procedure given above, but read [UPPER] as [LOWER] or [PEDAL].

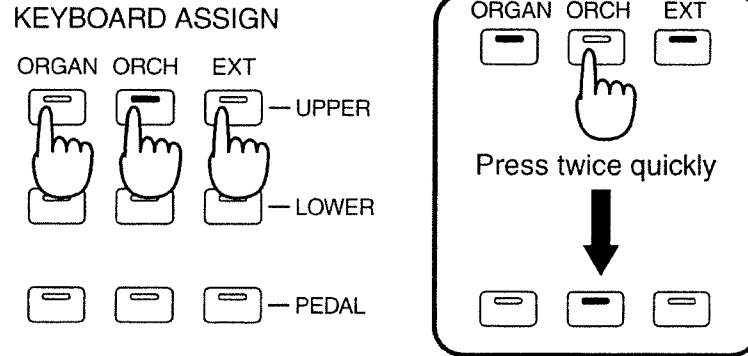
The sound groups contain several sounds (instruments) which are not specified by a variation. To use these sounds, you will need to change the instrument assignments of the variation.

→ Selecting the Instrument (p. 67)

→ Instrument/Registration List (p. 95)

Playing an orchestral voice by itself

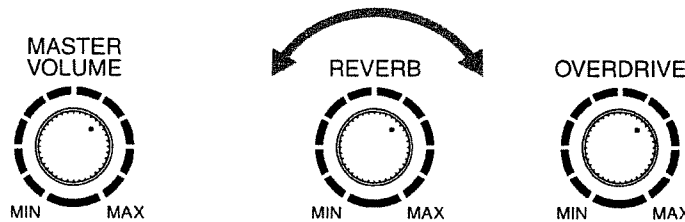
If you wish to play an orchestral voice by itself, switch KEYBOARD ASSIGN [ORGAN UPPER] off, and switch [ORCH UPPER] on. To assign only an orchestral voice to the lower part or pedal part, switch [ORGAN LOWER] (or [ORGAN PEDAL]) off, and switch [ORCH LOWER] (or [ORCH PEDAL]) on.



Instead of the above procedure, you can rapidly press [ORCH UPPER] twice to turn on only the orchestral voice. Similarly, you can assign the upper keyboard to only the organ or only the external MIDI device by rapidly pressing the [ORGAN UPPER] or [EXT UPPER] button twice. You can use the same procedure to switch the lower part or pedal part. Press each button twice in rapid succession.

Adding reverberation to an orchestral voice

Reverb is an effect which adds concert hall-like reverberation to the sound.



Rotate fully right: Maximum reverberation.
Rotate fully left: No effect.



The REVERB knob simultaneously controls the amount of reverb for both the orchestral voice and organ voice. If you wish to separately control the amount of reverberation for the orchestral voice and the organ voice, you can adjust the respective Send Level value. If the Send Level is too low, the effect of the REVERB knob will be difficult to detect.

→ Modifying the reverberation (Orch Rev Send) (p. 68)



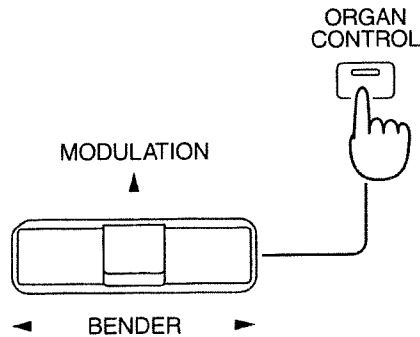
You can modify the type and amount, etc. of the reverb. You can also make settings that are different than the reverb of the organ voice.

Try Out the Functions of the VK-77

Controllers that apply effects to the orchestral voice

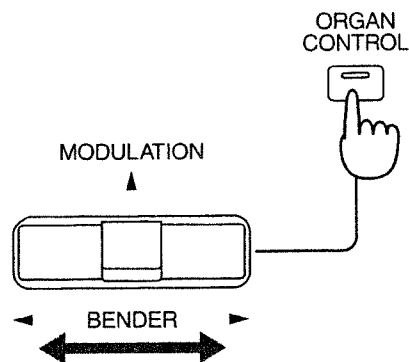
The controllers that apply effects to the organ voice can also be assigned to the orchestral voice.

This section explains how you can turn [ORGAN CONTROL] off (indicator dark), and control the orchestral voice.



Smoothly changing the pitch of the sound—Bender and Glide

Bender



When [ORGAN CONTROL] is off, moving the bender toward the right (left) will raise (lower) the pitch of the orchestral voice. The pitch will change smoothly from the far right to the far left position of the bender.



The width of pitch change can be specified in semitone steps over a range of ± 1 octave. If the width of pitch change is set at 0, moving the bender to left or right will not change the pitch. The value that you specify here is remembered independently for each orchestral voice, and will not be lost even when the power of the VK-77 is turned off.

→ Applying change to the pitch (Orch Bend Sens) (p. 68)

Glide

When the Glide effect is used, pressing a control pedal or a foot switch (such as the PK-7) will cause the pitch to change to the pitch that was previously specified for that orchestral voice. When the switch is released, the pitch will return to the normal level. This is especially effective when used on CHOIR type sounds or GUITAR type sounds.



Even if you do not have a control pedal or foot switch, you can apply the Glide effect automatically at the timing at which you play the keyboard (Auto Glide function). When you play legato (smoothly connecting each note), the glide effect will apply only to the first-played note. When you play staccato (sharply articulating each note), the glide effect will apply to all notes.

→ Applying change to the pitch (Orch Glide Sw) (p. 68)



The width of the Glide effect can be specified in semitone steps over a range of ± 1 octave. You can also specify the speed over which the pitch will return to the original level. If the width is set at 0, there will be no glide effect. The value that you specify here is remembered independently for each orchestral voice, and will not be lost even when the power of the VK-77 is turned off.

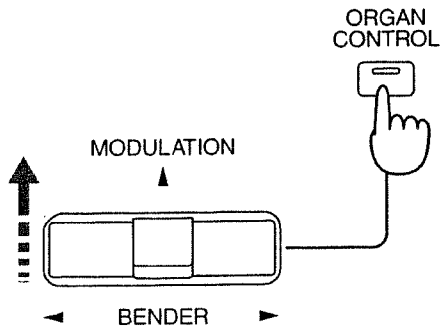
→ Applying change to the pitch (Orch Glide Set) (p. 68)



It is not possible to use the Glide to control the pitch of the organ voice.

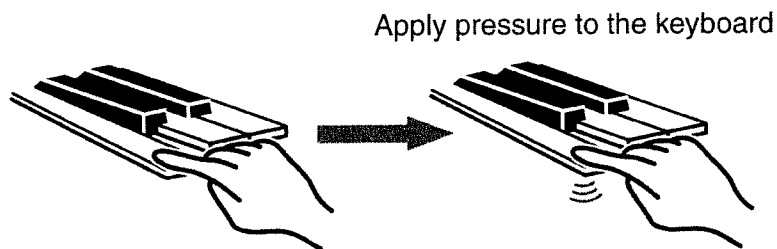
Cyclically changing the pitch—"Modulation" & "Aftertouch"

Modulation



When [ORGAN CONTROL] is off, pushing the modulation lever away from yourself will apply modulation to the pitch of the orchestral voice.

Aftertouch



When using the upper keyboard to play an orchestral voice, you can apply additional pressure to the upper keyboard after playing a note to apply modulation to the pitch of the orchestral voice.



Depending on the type of sound, the pitch modulation effect may be difficult to detect.



Depending on the registration, aftertouch may be turned off.

→ Setting for the entire orchestral voice (OrchUpperAft Sw) (p. 73)



You can specify the sensitivity of the modulation lever and of aftertouch. This setting is remembered independently for each sound of the orchestral voices, and these values will not be lost even when the power of the VK-77 is turned off.

→ Applying pitch change to the pitch (Orch Mod Sens/Orch After Sens) (p. 68)



It is not possible to use the modulation lever or aftertouch to control pitch modulation of an organ voice.

Modifying the Panel Settings (Registration Memory)

The settings of the organ voice, the settings of the orchestral voice, and the settings for external MIDI devices can collectively be saved in a “Registration.” When you have come up with settings that you like, it’s a good idea to save them as a Registration.

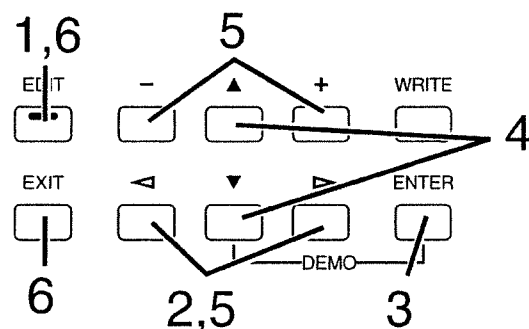


With the factory settings, each of the 128 registration memories already contains various settings. When you save a registration, the registration data that was previously occupying that memory number will be overwritten. You are free to restore the contents of registration memory to the factory condition at any time.

→ Restoring a registration to the factory settings (p. 79)

Naming a registration

For this example, let’s assign a name of “My Regist” to the current panel settings.



- 1.** Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
- 2.** Use [<][>] to make the display read “REGIST BASIC MENU.”
- 3.** Press [ENTER].
- 4.** Use [▲][▼] to make the display read “Regist Name.”
- 5.** Use [<][>] to move the cursor, and use [+]/[-] to select the desired characters.
You can input a name of up to twelve characters. The following characters are available.
0 1 2 3 4 5 6 7 8 9 (space) ! " # % & ' () * + , - . / : ; = ? ^ _
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z
- 6.** When you have finished inputting the name, press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark (off), and you exit Edit mode.



Each registration can be restored to the factory settings separately.

→ Restoring a registration to the factory settings (p. 79)



You can also swap registrations to rearrange them at your convenience, or copy the contents of one registration to another registration.

→ Exchanging a registration with another registration (p. 79)

→ Copying registrations (p. 77)

Preventing registrations from being switched—Registration Lock

To prevent the registration from being switched accidentally as you play, you can lock the registration select buttons ([1]–[8], [Manual], [Bank], [A/B]).

REGISTRATION
LOCK



When [REGISTRATION LOCK] is on, the [1]–[8], [Manual], [Bank], and [A/B] buttons will not respond.

When you wish to change registrations or store the current settings in a registration, turn [REGISTRATION LOCK] off.



Even if [REGISTRATION LOCK] is on, the settings of the harmonic bars and the front panel buttons and controllers will not be locked.

Special Techniques for Rock Organ

Throughout the history of rock organ playing, performers have discovered a variety of special effects and used them in their music. The VK-77 is able to simulate many of these special effects, and is also able to produce effects that are not possible on any other instrument.

Stopping the rotation of the tone wheels (Wheel Brake)

You can stop the rotation of the tone wheels of the organ. This produces an unexpected effect in which the pitch of the organ voice gradually falls, and the sound finally ceases.

- 1.** Select registration B88.
- 2.** Make sure that [ORGAN CONTROL] is on.
- 3.** While playing an organ sound, push the modulation lever away from yourself.

While the lever is pushed away, the pitch of the organ voice will gradually fall, and the sound will eventually stop. When you return the lever toward yourself, the pitch will gradually return to normal.



Depending on the registration, the modulation lever may not be assigned to the Wheel Brake function.



The Wheel Brake effect can also be controlled from the bender, aftertouch, or control pedal, etc.

→ Assigning controllers to the organ voice (p. 72)

The technique of stopping the rotation of the tone wheels was occasionally used on vintage organs. The amplifiers inside vintage organs were analog circuits which used vacuum tubes, and would continue to produce sound for a short time even after the power was turned off. However, since the tone wheel would begin slowing down immediately when the power was turned off, it was possible to hear the pitch fall. Skillful performers sometimes utilized this effect in their music.

Simulating a stack-type vacuum tube amp that rotates

The VK-77 is able to simulate the sound of a variety of amps. Here we will explain how you can apply the unique modulation of a rotary speaker to the sound of a large vacuum tube amp stack.

1. Select registration B88.
2. Rotate the OVERDRIVE knob to adjust the distortion of the organ voice.
3. Press [ROTARY SOUND] so the indicator lights (on).
4. While playing the organ sound, press [SLOW/FAST] or [BRAKE] to hear the rotary speaker effect.

The rotational speed of the speaker can be continuously varied by applying aftertouch to the upper keyboard.



You can also change the type of amp, and make more detailed edits to the rotary speaker effect.

- Changing the virtual amp/virtual speaker (p. 64)
- Specifying the distortion characteristics of the organ (p. 64)
- Setting the rotary speaker effect (p. 64)

In the 1970's, rock organ players began plugging their organs into large vacuum tube amp stacks in pursuit of powerful distortion that would not be drowned out by the guitar. However, the powerful sound of an amp stack and the unique sound of a rotary speaker were a product of the amps or speakers themselves, and it was impossible to obtain both of these sounds simultaneously.

Since the VK-77 provides a rotary speaker effect based on COSM technology in addition to faithful simulations of the distortion of an amp circuit and the acoustical characteristics of a speaker cabinet, it is able to simulate physical impossibilities, such as the sound of a large amp stack being rotated.



The controllers of registration B88 are assigned as follows.

- Bender: Wheel Brake
Moving the lever to left or right will cause the rotation of the tone wheels to gradually slow down, and finally the sound will stop. Moving the lever to left or right again will cause the tone wheels to gradually resume rotation.
- Modulation lever: Wheel Brake
Moving the lever away from yourself will cause the rotation of the tone wheels to gradually slow down, and finally the sound will stop. Returning the lever will cause the tone wheels to gradually resume rotation.
- Aftertouch: Rotary Speed
Applying pressure to the upper keyboard will cause the rotary speaker to shift smoothly between SLOW and FAST.
→ Assigning controllers to the organ voice (p. 72)

Try Out the Functions of the VK-77

Giving a metallic character to the sound (Ring Modulator)

The VK-77 contains a ring modulator which can be applied to the organ voice. By using the ring modulator you can create unpitched metallic sounds reminiscent of a bell.

- 1. Select registration B87.**
- 2. While playing an organ sound, apply pressure to the upper keyboard. When you apply aftertouch, the frequency of the internal oscillator of the ring modulator will change.**



You can also use a control pedal or foot switch to switch the ring modulator on/off, or use a control pedal or the modulation lever to control the frequency of the internal oscillator of the ring modulator.

→ Assigning controllers to the organ voice (p. 72)

On the VK-77, it is also possible to apply the ring modulator only to the percussion sound of the organ voice. This will cause only the percussion to have a metallic resonance, producing a unique sound that could not be created on previous organs.

In hard rock styles of the past, intense effects such as the ring modulator were sometimes applied to the organ in an effort to compete with the intense playing of the electric guitarist. In the case of a vintage organ, it was necessary to modify the organ itself if you wanted to apply a ring modulator only to the percussion sound. However, on the VK-77, you can apply the ring modulator effect either to the entire organ voice or to the percussion alone. This allows you to enjoy unique effects that could not be produced on a vintage organ.



It is not possible to use a control pedal or foot switch to change the destination (i.e., the entire organ voice/only percussion sound) to which the ring modulator is applied. You must first create the desired settings as a registration, and switch this setting in Edit mode.

→ Adding a metallic character to the organ (p. 65)

By applying ring modulation to two audio signals, you can create a complex overtone structure with components that are not present in either of the original audio signals. These complex overtones produce a metallic resonance. The term "ring" comes from the fact that when ring modulation is created in analog circuitry, the circuit forms a loop ("ring").



The controllers of registration B87 are assigned as follows.

- **Bender: Rotary Slow/Fast**
Moving the lever will switch the rotary speaker effect alternately between SLOW/FAST.
- **Modulation Lever: Wheel Brake**
Moving the lever away from yourself will cause the rotation of the tone wheels to gradually slow down, and finally the sound will stop. Returning the lever will cause the tone wheels to gradually resume rotation.
- **Aftertouch: Ring Modulator Frequency**
By applying pressure to the upper keyboard, you can change the frequency of the internal oscillator of the ring modulator.
→ Assigning controllers to the organ voice (p. 72)

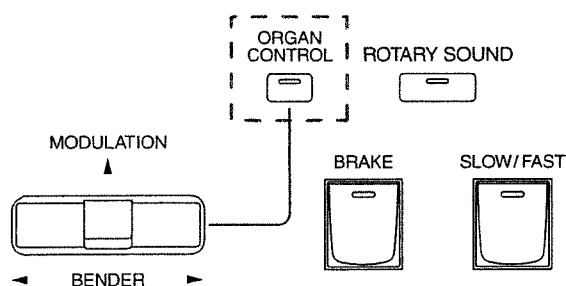
Using Controllers

The VK-77 provides a variety of controllers to support realtime performance. This section will introduce you to the controllers provided on the VK-77's and the controllers that can be connected to the VK-77, and explain what you can do using these controllers.

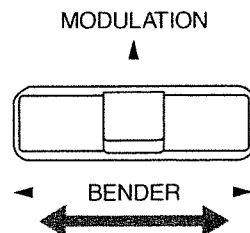
The VK-77's Controllers

ORGAN CONTROL Button

When the [ORGAN CONTROL] indicator is lit (on), the bender/modulation lever will be assigned as controllers for the organ voice. When the indicator is dark (off), the bender/modulation lever will transmit pitch bend messages/modulation messages.



Bender



When [ORGAN CONTROL] is lit (on):

The rotation speed and wheel brake of the rotary effect can be controlled.

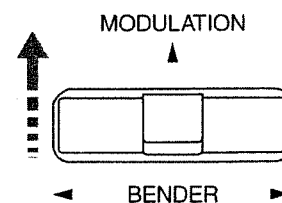
→ Assigning controllers to the organ voice (p. 72)

When [ORGAN CONTROL] is dark (off):

Pitch bend messages will be transmitted. The width of pitch change of the organ voices and orchestral voices can be specified in semitone steps over a range of ± 1 octave. You can specify whether or not this data will be transmitted from each part (upper/lower/pedal) to the external device. For details on how the sound will be affected when pitch bend messages are transmitted to an external MIDI device, refer to the owner's manual of your MIDI device.

- (Orchestral Voice) Applying change to the pitch (p. 68)
- (External) Enabling/disabling controller data transmission (p. 70)

Modulation lever



When [ORGAN CONTROL] is lit (on):

The wheel brake effect, the frequency of the internal oscillator of the ring modulator, and the amount of overdrive can be controlled continuously.

→ Assigning controllers to the organ voice (p. 72)

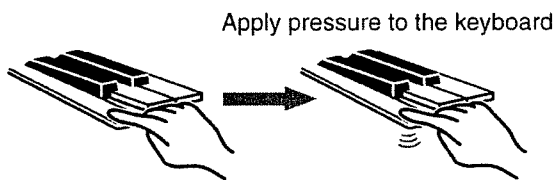
When [ORGAN CONTROL] is dark (off):

Modulation messages will be transmitted to orchestral voice and to external. When modulation messages are transmitted to the orchestral voice, the pitch of the orchestral voice will be modulated. You can specify whether or not each of the upper/lower/pedal parts will transmit this data to an external device. For details on how the sound will be affected when modulation messages are transmitted to an external MIDI device, refer to the owner's manual of your MIDI device.

- (Orchestral Voice) Applying change to the pitch (p. 68)
- (External) Enabling/disabling controller data transmission (p. 70)

Using Controllers

Aftertouch



You can control the rotational speed of the rotary effect, the wheel brake effect, the internal oscillator frequency of the ring modulator, and the amount of overdrive.

→ Assigning controllers to the organ voice (Org Aft Asgn) (p. 72)

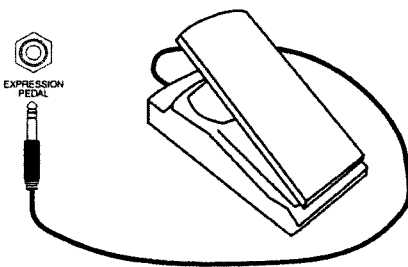
The pitch of the sound selected for the upper part of the Orchestral Voice will be modulated.

→ Applying change to the pitch (Orch After Sens) (p. 68)

Channel pressure messages will be transmitted to an external MIDI device that is receiving the MIDI channel of the external upper part. For details on how the sound will be affected when channel pressure messages are transmitted to the external MIDI device, refer to the owner's manual for that MIDI device.

→ Enabling/disabling controller data transmission (ExtUpper Aft Sw) (p. 71)

Expression pedal

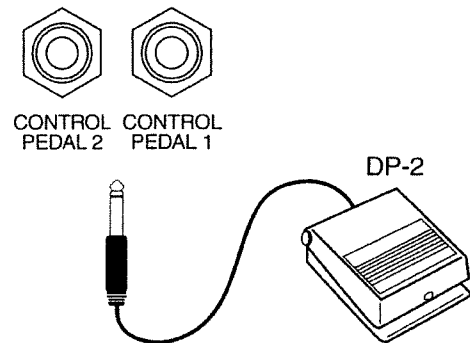


When an expression pedal (EV-7, EV-5, or FV-300L; sold separately) is connected to the rear panel EXPRESSION PEDAL jack, you can use it to control the volume of the organ, orchestral, or external MIDI instrument voices. The volume will increase as you advance the pedal away from yourself, and will decrease as you return the pedal toward yourself.

NOTE

Use only the specified expression pedal (EV-7, EV-5 or FV-300L; sold separately). By connecting any other expression pedals, you risk causing malfunction and/or damage to the unit.

Control pedal 1/2



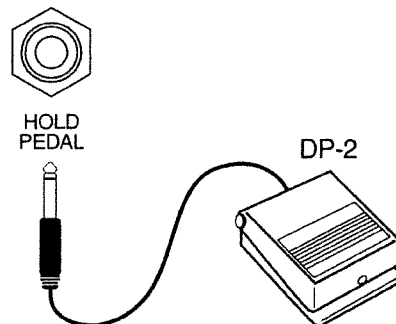
When a pedal switch (such as the DP-2; sold separately) is connected to the rear panel CONTROL PEDAL 1/2 jack, you can use it to control the rotary effect, glide, ring modulator, overdrive, wheel brake effect, or to start and stop an external sequencer.

When an expression pedal (EV-7, EV-5, or FV-300L; sold separately) is connected, you can use it to control the internal oscillator frequency of the ring modulator, or the volume of the orchestral voice or external MIDI device.

→ Switching the polarity of the control pedal (p. 76)

→ Assigning a function to the control pedal (p. 76)

Hold



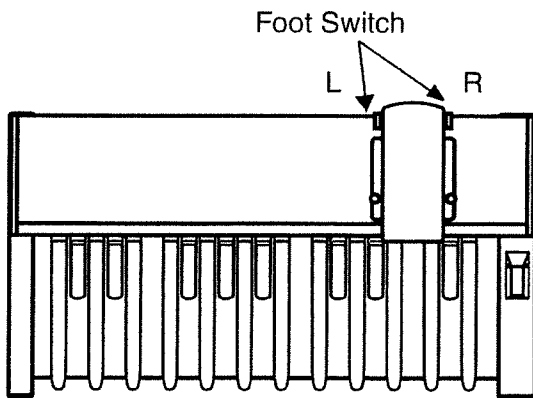
When a pedal switch (such as the DP-2; sold separately) is connected to the rear panel HOLD jack, the notes you play on the organ voice or orchestral voice will be sustained as long as you continue pressing the pedal. This is the same function as the damper pedal of a piano.



By changing the settings in Edit mode, you can individually specify whether or not Hold will be applied to the organ voice, orchestral voice, and external parts.

- (Organ Voice) Assigning controllers to the organ voice (p. 72)
- (Orchestral Voice) Setting for the entire orchestral voice (Orch Hold Sw) (p. 73)
- (External) Enabling/disabling controller data transmission (p. 70)

The foot switch of the pedal keyboard unit



If you use a special cable to connect a foot-switch-equipped pedal keyboard unit such as the PK-7, you will be able to assign the foot switch to control functions such as the rotary effect, glide, ring modulator, overdrive, wheel brake, external sequencer start/stop, and hold.

- Assigning a function to the foot switch of a pedal keyboard unit (p. 76)

How You Can Use the Controllers

These controllers can be used to control the following functions. To assign a function to each controller, refer to the corresponding page.

Control pedal

Assigning a function to the control pedal (p. 76)

Foot switch of the pedal keyboard unit

Assigning a function to the foot switch of a pedal keyboard unit (p. 76)

Bender/modulation lever, Aftertouch

Organ voice	Assigning controllers to the organ voice (p. 72)
Orchestral voice	Applying change to the pitch (p. 68)
External	Enabling/disabling controller data transmission (p. 70)

Controlling the rotary speaker effect

Bender Slow/fast speeds will alternate each time you move the lever to left or right.

Aftertouch

The rotational speed of the rotary speaker will switch when you apply pressure to the keyboard. To switch the rotational speed once again, press down again on the keyboard. Alternatively, you can continuously change the speed of rotation by applying pressure to the keyboard.

Control pedal 1/2

By pressing the pedal you can stop rotation, switch to fast, switch to slow, or alternate between fast and slow each time you press the pedal.

Foot switch of the pedal keyboard unit

By pressing the switch you can stop rotation, switch to fast, switch to slow, or alternate between fast and slow each time you press the switch.

Controlling the wheel brake

→ Stopping the rotation of the tone wheels (Wheel Brake) (p. 54)

Modulation lever

When you move the modulation lever away from yourself, the rotational speed of the tone wheel will gradually slow down, and the sound will diminish. When you return the lever, the sound will gradually return to the normal state.

Aftertouch

The effect will be applied when you apply pressure to the keyboard. When you stop applying pressure, the tone wheel rotation will gradually return to normal.

Bender When you move the lever to the side, the rotational speed of the tone wheel will gradually slow down, and the sound will diminish. At this time, returning the lever to the center position will not cause the sound to return to normal. When you move the lever to the side once again, the tone wheel will gradually resume rotating.

Control pedal 1/2

When you press the pedal, the rotational speed of the tone wheel will gradually slow down, and the sound will diminish. When you return the pedal, the tone wheel will gradually resume rotating.

Foot switch of the pedal keyboard unit

When you press the foot switch, the rotational speed of the tone wheel will gradually slow down, and the sound will diminish. When you press the switch once again, the tone wheel will gradually resume rotating.



While the Wheel Brake is being applied, the following display will alternate with the normal display.

Wheel Brake

Controlling overdrive

Modulation lever

Push the modulation lever away from yourself to regulate the depth of the effect. When you return the lever toward yourself the effect will disappear.

Aftertouch

Apply pressure to the keyboard to regulate the depth of the effect. When you stop applying pressure to the keyboard, the effect will disappear.

Control pedal 1/2

Regulate the depth of the effect.

Controlling the ring modulator

→ Giving a metallic character to the sound (Ring Modulator) (p. 56)

Modulation lever

Moving the lever away from yourself will raise the frequency of the internal oscillator. Returning the lever toward yourself will lower the frequency of the internal oscillator, but the ring modulator effect will not disappear.

Aftertouch

Applying pressure to the keyboard will raise the frequency of the internal oscillator. Releasing the pressure on the keyboard will lower the frequency of the internal oscillator, but the ring modulator effect will not disappear.

Control pedal 1/2

You can switch the ring modulator on/off, or change the frequency of the internal oscillator.

Foot switch of the pedal keyboard unit

You can switch the ring modulator on/off.

* If you wish to use Control Pedal 1/2 to continuously control the internal oscillator frequency of the ring modulator, connect an expression pedal.

* If you wish to turn the ring modulator on/off without using a control pedal or the foot switch of a pedal keyboard unit, you will need to change the settings of Edit mode.

→ Adding a metallic character to the organ (p. 65)

Adding dynamics to the sound

Expression pedal

Adjusts the volume of the organ voice. Simultaneously with controlling the organ voice, this can also control the volumes of the orchestral voice and external MIDI device.

Control pedal 1/2

Adjusts the volume of the parts other than the organ part.

* If you wish to use Control Pedal 1/2 to continuously change the volume, you must connect an expression pedal.

Getting the Most Out of the VK-77

Edit mode allows you to get the most out of the VK-77's functions by making more detailed settings. This section explains the functions that can be set in Edit mode. In this owner's manual, the process of modifying a setting is referred to as "editing," and the item of data that is modified is referred to as a "parameter."

Menus in Edit Mode

The VK-77's Edit mode is organized into eight menus. Depending on the menu, some parameters are saved with independent values for each registration, while other parameters are saved with one setting that affects the entire system. In this section of the owner's manual, parameters that are saved for each registration will be indicated by a ● symbol at the beginning of the paragraph, and parameters that are saved with only one value for the entire system are indicated by a ○ symbol. Items marked by a ■ symbol are parameters that are not saved even if their setting is modified, or parameters of the UTILITY menu that provide various convenient functions. →Edit Parameters List (p. 96)

● ORGAN BASIC menu

Here you can make settings for the characteristics of the organ sound itself: the type of Virtual ToneWheel, leakage noise, key click, percussion, and how the pedal part will sound, etc. The settings you modify can be saved independently for each registration.

● ORGAN EFFECT menu

Here you can make settings for the effects that are applied to the organ: vibrato and chorus, the rotating speaker effect, the type of amp and speaker, etc. The settings you modify can be saved independently for each registration.

○ ORCHESTRAL menu

Here you can make settings for the orchestral voice and effects. The settings you modify are automatically saved in the orchestral voice map.

● REGISTRATION MIDI menu

Here you can make settings for controlling external MIDI devices. The settings you modify can be saved independently for each registration.

● REGISTRATION BASIC menu

Here you can assign a name to a registration, change the split location of the lower keyboard, and assign functions to the bender/modulation lever and aftertouch, etc. The settings you modify can be saved independently for each registration.

○ SYSTEM MIDI menu

Here you can set MIDI-related parameters for the entire system. The settings you modify are saved automatically, and will apply to the entire system.

○ SYSTEM BASIC menu

Here you can adjust the master tuning of the system, assign functions to the control pedal and pedal keyboard unit, and adjust the brightness of the display. The settings you modify are saved automatically, and will apply to the entire system.

■ UTILITY menu

Here you can copy or exchange registrations, transmit VK-77 data to an external MIDI device, restore registration or orchestral voice settings to the factory preset condition, or restore the entire system to the factory preset condition.

Basic Operating Procedure

To enter Edit mode and change the value of a parameter, use the following procedure.

1. Press [EDIT].

The [EDIT] indicator lights (on), and you enter Edit mode.

2. Use [<|>] to get the display to show the desired edit menu.

3. Press [ENTER] or [▼].

The menu you chose will be selected, and its parameters will appear in the display.

4. Use [▲|▼] to get the display to show the desired parameter.

5. Use [+|−] to modify the value.

For some parameters, there may be two or more values to modify within a single screen. In this case, use [<|>] in step 5 to select the value you wish to modify, and use [+|−] to modify the value.

* The [+|−] and [▲|▼] buttons will modify the value more rapidly if you hold down one button and then press the other button. You can use the same technique with the [▲] and [▼] buttons, the [<|>] buttons, and the VARIATION [▲] and [▼] buttons to make the value change more rapidly. By simultaneously pressing both [+|−] and [−], you can set the parameter to its default value.

6. When you have finished making settings, press [EXIT] twice, or press [EDIT].

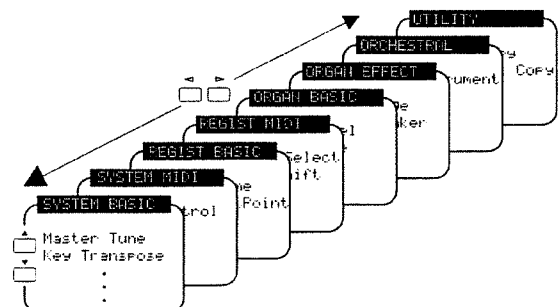
The [EDIT] indicator goes dark (off), and you exit Edit mode. If you wish to save the modified settings in a registration, simply save the registration.

→ Saving the settings that you created (p. 52)

* If you are editing two or more parameters that are in different menus, or if you selected a menu by mistake and wish to return to the Edit menu display, press [▲] several times until the menu appears, or press [EXIT] once.

* You can jump directly to an Edit mode parameter setting display by holding down the [EDIT] button and operating a front panel button, knob, or harmonic bar. This is referred to as the **short-cut function**.

You can use the short-cut function to jump directly to the parameters marked by (*) in the following list. There is also a list of the short-cut functions at the end of this owner's manual.



Modifying the Settings of the Organ Voice (ORGAN BASIC menu)

The parameters of the ORGAN BASIC menu let you specify the character of the organ voice and how it will sound. The settings you modify can be saved independently for each registration.

Adjusting the volume of the organ

● Organ Level (0-127)

This adjusts the volume of the entire organ voice. Use this setting to adjust the balance between the organ voice and the orchestral voice. Raising the value will increase the volume.

* Use the harmonic bars to adjust the volume balance between the upper/lower/pedal parts.

Creating vintage organ sounds

Tone Wheel, Leakage Noise, and Key Click are important elements in creating vintage organ sounds.

• Tone Wheel

Tone wheels are the ninety-one metal disks that produce the sound on vintage organs. Teeth are cut into the edge of each disk, and sound is generated by rotating the disks past an electrical coil at a fixed speed. The VK-77 digitally simulates the tone wheel mechanism of a vintage organ, and thus provides the rapid response and full polyphony that characterize these instruments. The sounds that are produced by the tone wheels of a vintage organ are not precisely pure sine waves, since they are affected by the manufacturing precision of the wheel and by the characteristics of the analog circuitry. However, it is these imperfections in the waveform that give a vintage organ its unique character. The VK-77 allows you to select either the tone wheel waveform distinctive of vintage organs, or a precise sine wave.

• Leakage Noise

On vintage organs, the sound of the note that was pressed was slightly “contaminated” by audio signals from tone wheels not related to that note. Formerly, this was seen as a problem, but today this idiosyncrasy is considered an important element of the distinctive sound of a vintage organ. The VK-77 allows you to adjust the volume of the leakage noise.

• Key Click

Key Click is the “blip” noise that is heard when a note is pressed or released on a vintage organ. Formerly, this was seen as a problem, but as vintage organs came to be used in a wide range of musical genres such as jazz or pop, the key click became part of the characteristic elements of the organ sound. The VK-77 faithfully reproduces this key click sound, and allows you to independently adjust the volume of the key click for key-on and key-off.

Changing the type of the Virtual ToneWheel

● Wheel Type (Vintage1/Vintage2/Clean/Solid)

Selects one of four types of waveform for the tone wheel.

● Fold Back (On/Off)

Specifies whether or not the 16’ wheel will be “folded back” an octave in the lower range of the upper part and lower part. When this setting is On, the pitch will be folded back.

On vintage organs, the 16’ wheel of the lowest octave in the upper part and lower part was designed to produce the same pitch as the 8’ wheel. This was because when chords are played in the lowest octave, the sound tended to become muddy. The VK-77 allows you to choose either to fold back the pitch (as on vintage organs), or not to fold it back.

When Fold Back is turned off, the lowest twelve notes will use the wheels of the pedal part, which sound differently than the other wheels.

→ The lowest twelve tone wheels (p. 63)

● Wheel Table (Mellow/Bright/Low Boost)

Selects the type of volume balance between the tone wheels, from three different types.

By making delicate adjustments on a vintage organ, it was possible to adjust the volume balance of each tone wheel. The VK-77 provides three different types of tone wheel balance settings.

Adjusting the leakage noise

● Leakage Level (0-15)

This parameter adds leakage noise to the tone wheel that was selected by the Wheel Type parameter. Increasing the value will increase the amount of leakage noise.

* If Wheel Type is set to “Vintage1/Vintage2/Solid” it will not be possible to eliminate the leakage noise.

Adjusting the key click

● Click Level (On: 0-15, Off: 0-15)

Specifies the level of the click sound that occurs when a key is pressed (On) or released (Off). Increasing this value will increase the volume.

Percussion settings

You can make detailed settings for the percussion sound.

- **Perc Level (Percussion Level) (Sft: 0–15, Nrm: 0–15) ***

Specifies the volume levels for when percussion is set to soft (Sft: [SOFT] is on) and to normal (Nrm: [SOFT] is off).

Increasing this value will increase the volume of percussion.

- **Perc Time (Percussion Time) (Slw: 0–127, Fst: 0–127) ***

Specifies the speed at which the percussion will decay when it is set to slow (Slw: [SLOW] is on) or fast (Fst: [SLOW] is off).

Increasing this value causes the percussion to decay more slowly.

- **Perc Recharge (Percussion Recharge Time) (0–10) ***

Specifies the percussion charge time that determines the time from when the keys are released until percussion is recharged. Increasing this value will increase the time necessary for percussion to recharge, causing the percussion sound to be smaller for rapidly repeated notes.

The percussion on vintage organs was created by analog circuitry. This meant that if only a very short time elapsed from when the keys were released until the next key was pressed, the percussion circuit was unable to recharge fully, and the percussion sound that was added would therefore be lower in volume. This also meant that even if legato was broken during a rapid trill, etc., an appropriate amount of percussion was added. The percussion charge time parameter adjusts this charge time.

- **Perc 1' Cancel (Percussion 1-foot Cancel) (On/Off) ***

Specifies whether or not the sound of the 1' harmonic bar will be canceled when you turn percussion on. If this parameter is turned On, the 1' sound will no longer be heard when you apply the percussion effect.

On vintage organs, turning on the percussion would silence the sound of the 1' harmonic bar. The VK-77's Percussion 1-foot Cancel parameter lets you choose whether to faithfully simulate the characteristics of a vintage organ, or to keep the sound of the 1' harmonic bar.

- **Perc HBarLevel (Percussion Harmonic Bar Level) (0–127) ***

Adjusts the volume of the harmonic bars when [SOFT] is turned off. As this value is increased, the sound of the harmonic bars will be less affected by the percussion.

On vintage organs, turning the percussion on would lower the overall volume specified by the harmonic bars. This is because the percussion on vintage organs was designed not to impair the volume balance of the entire organ. The VK-77 allows you to adjust this change in volume balance.

- **Perc Direct (Percussion Direct) (On/Off) ***

Specifies whether the rotary effect will be applied to the percussion sound, or whether the effect will be bypassed.

When this parameter is On, the rotary effect will not apply to the percussion.

Adjusting the settings of the pedal part

- **Pedal H.Bar Mix 16' (Pedal Harmonic Bar Mixing Ratio 16') (0–8) ***

- **Pedal H.Bar Mix 8' (Pedal Harmonic Bar Mixing Ratio 8') (0–8) ***

The pedal part of a vintage organ was created by two bars which blended in subtle amounts of feet other than 8' and 16'. The pedal part of the VK-77 can likewise be created.

The Pedal Harmonic Bar Mixing Ratio parameters let you adjust the blend ratio. You can independently specify the mix amounts used when the 16' and the 8' bars are operated. As these values are increased, a greater volume will be mixed in.

The lowest twelve tone wheels

When the Pedal Harmonic Bar Mixing Ratio is set to 80 0000 000, you will notice that the timbre of the lowest twelve notes is different than the higher range of notes. This is because the VK-77 faithfully reproduces the characteristic of vintage organs in which the lowest twelve tone wheels added a third harmonic (relative to the 16' pitch this would be 5-1/3') to their own pitch.

- **Pdl SustainTime (Pedal Sustain Time) (0–127) ***

Specifies the length of the sustain that will occur after a note is released when [PEDAL SUSTAIN] is on. Increasing this value will lengthen the sustain.

- **Pdl Attack (Pedal Attack) (Tim: 0–127, Lvl: 0–127) ***

Specify the attack sound of the pedal part, which will be added when [PEDAL ATTACK] is turned on.

Tim Specify the decay time of the attack sound. Increasing this value will cause the attack sound to decay more slowly.

Lvl Specify the volume of the attack sound. Increasing this value will increase the volume of the attack sound.

Modifying the Acoustical Effects of the Organ (ORGAN EFFECTS menu)

Here you can make settings for vibrato and chorus, the rotary speaker effect, the type of amp and speaker, and other effects that are applied to the organ. The settings you modify can be saved independently for each registration.

Modifying the type of modulation for the organ <Vibrato and Chorus Vintage>

● V/C Vintage (Vibrato and Chorus Vintage) ('50/'60/'70) *

You can select the type of vibrato and chorus. The character of vibrato and chorus differed slightly depending on the year in which a vintage organ was manufactured. This parameter simulates these differences, and replaces all six types of vibrato and chorus that are selected by the front panel [TYPE] buttons.

● V/C Lower (Vibrato and Chorus Lower) (Lower/Lower&Pedal) *

When the VIBRATO AND CHORUS section [LOWER] button is turned on, this parameter specifies whether the effect will be applied only to the Lower part or to the Lower part and Pedal part simultaneously.

Lower	The effect of the VIBRATO AND CHORUS section will apply only to the Lower part.
Lower&Pedal	The effect of the VIBRATO AND CHORUS section will apply simultaneously to the Lower part and the Pedal part. This simulates the way that a vintage organ sounds.

Changing the virtual amp/virtual speaker

● Amp & Speaker (Amp and Speaker Type) (Type I/Type II/Type III/Stack I/Stack II/StackMix/Combo/Bypass) *

This parameter switches the frequency response and cabinet resonance of the virtual amp or virtual speaker.

Type I, Type II, Type III	Characteristics of the most frequently used rotary speakers.
Stack I, Stack II, Stack MIX	Characteristics of the large vacuum tube amps that were an indispensable element of the British hard rock of the 70's, and that continue to be favored by many hard rock guitarists.
Combo	Characteristics of the combo-type amps that were often used in rock of the 60's.
Bypass	Flat response with no idiosyncrasies. Select this when you do not wish to specify a virtual amp.

Specifying the distortion characteristics of the organ <Overdrive>

The characteristics of an amp are not determined solely by its frequency response—the way in which the sound distorts is also a very important element. You can adjust the character and level of overdrive as suitable for the type of amp and speaker.

● OD Character (Overdrive Character) (Mild/Normal/Hard) *

Switches the character of the overdrive. You can select from three types, from soft distortion to extreme distortion.

● OD Level (Overdrive Level) (0-127)

Specifies the strength of the distortion. This has the same function as the front panel OVERDRIVE knob. Increasing the strength of the distortion will also increase the volume of the organ voice.

* In addition to using the OVERDRIVE knob, the overdrive level can also be controlled using the modulation lever or aftertouch, or by using an expression pedal connected to the CONTROL PEDAL 1/2 jacks.

- Assigning controllers to the organ voice (p. 72)
- Assigning a function to the control pedal (p. 76)

Modifying the tonal character of the organ <Equalizer>

● Equalizer (B: -5--+5, M: -5--+5, T: -5--+5)

You can modify the tonal character by adjusting the level of the bottom (B), middle (B) and top (T) ranges.

Setting the rotary speaker effect <Rotary>

You can make detailed settings for the rotary speaker effect produced using COSM technology.

● Rotary Type (Rich/Twins) *

Selects the effect type for the rotary speaker effect.

Rich	This uses a newly developed effect algorithm to simulate the sound of when one rotary speaker is connected.
Twins	This simulates the sound of when two rotary speakers are connected in parallel. It allows a complex modulation to be produced.

● Rotary Level (Wf: 0-127, Tw: 0-127) *

The rotary speaker effect consists of a low range and a high range, and you can independently adjust the volume of the low-range speaker (woofer) and the high-range speaker (tweeter) to produce a more realistic effect.

Wf	Specifies the volume of the low-range speaker (woofer)
Tw	Specifies the volume of the high-range speaker (tweeter)

● **Rotary RiseTime (Rotary Rise Time)**
(Wf: 0-127, Tw: 0-127) *

Specifies the rate at which the rotary speaker effect will change from the slow to the fast speed. This can be set independently for the low-range speaker (woofer) and the high-range speaker (tweeter). The change will occur more rapidly as this value is increased.

Wf Specifies the rate at which the low-range speaker (woofer) will change from the slow to the fast speed.

Tw Specifies the rate at which the high-range speaker (tweeter) will change from the slow to the fast speed.

● **Rotary FallTime (Rotary Fall Time)**
(Wf: 0-127, Tw: 0-127) *

Specifies the rate at which the rotary speaker effect will change from the fast to the slow speed. This can be set independently for the low-range speaker (woofer) and the high-range speaker (tweeter). The change will occur more rapidly as this value is increased.

Wf Specifies the rate at which the low-range speaker (woofer) will change from the fast to the slow speed.

Tw Specifies the rate at which the high-range speaker (tweeter) will change from the fast to the slow speed.

* *The Rotary Rise Time/FallTime parameters affect not only the change produced by the [SLOW/FAST] switch, but also the rate at which [BRAKE] will stop or resume rotation.*

● **RotarySpd Slow (Rotary Speed Slow)**
(Wf: 0-127, Tw: 0-127) *

Specifies the rotational speed for the Slow setting of the rotary speaker. This can be set independently for the low-range speaker (woofer) and high-range speaker (tweeter). Increasing the value raises the speed.

Wf Specifies the rotational speed for the low-range speaker (woofer).

Tw Specifies the rotational speed for the high-range speaker (tweeter).

● **RotarySpd Fast (Rotary Speed Fast)**
(Wf: 0-127, Tw: 0-127) *

Specifies the rotational speed for the Fast setting of the rotary speaker. This can be set independently for the low-range speaker (woofer) and high-range speaker (tweeter). Increasing the value raises the speed.

Wf Specifies the rotational speed for the low-range speaker (woofer).

Tw Specifies the rotational speed for the high-range speaker (tweeter).

● **Mic Distance (0-16) ***

Specifies the distance from the rotary speaker to the mic. As this value is increased, the mic and speaker will be located further apart, and the volume will be modulated less.

● **Rotary Spread (Wf: 0-10, Tw: 0-10) ***

Specifies the left/right spread of the rotary speaker.

Increasing this value will increase the sense of stereo.

Wf Specify the spaciousness of the low-range speaker (woofer).

Tw Specify the spaciousness of the high-range speaker (tweeter).

● **Rotary Randomize (0-10) ***

Adjusts the irregularity in the rotation of the rotary speaker.

Increasing this value will produce more irregularity in the rotation.

Adding a metallic character to the organ <Ring Modulator>

Here you can make settings for the ring modulator effect.

→ Giving a metallic character to the sound (Ring Modulator) (p. 56)

● **Ring Modulator (Sw: On/Off, Mode: All/Perc)**

You can turn the ring modulator on/off, or specify the sound to which the ring modulator will be applied when it is on.

Sw Turn the ring modulator on/off.

Mode Setting this parameter to All when the ring modulator is on will cause the ring modulator to be applied to the entire organ voice. This will result in a unique sound with little sense of pitch, producing an aggressive character.

Setting this parameter to Perc when the ring modulator is on will cause the ring modulator to be applied only to the percussion sound of the organ voice.

* *Sw (Ring Modulator On/Off) can also be switched using a pedal switch connected to the CONTROL PEDAL 1/2 jack, or using the foot switch of the pedal keyboard unit.*

→ (Control Pedal 1/2) Assigning a function to the control pedal (p. 76)

→ (Foot Switch) Assigning a function to the foot switch of a pedal keyboard (p. 76)

● **Ring Mod Freq (Ring Modulator Frequency) (0-127)**

Specifies the internal oscillator frequency of the ring modulator.

* *The internal oscillator frequency of the ring modulator can be controlled continuously by the modulation lever, by aftertouch, or by an expression pedal connected to the CONTROL PEDAL 1/2 jacks.*

→ (Modulation, Aftertouch) Assigning controllers to the organ voice (p. 72)

→ (Control Pedal 1/2) Assigning a function to the control pedal (p. 76)

Reverberation settings for the organ <Reverb>

The VK-77 allows you to specify separate reverb settings for the organ sound generator and for the orchestral sound generator. Here we will explain the parameters which set reverb for the organ voice.

● ReverbStructure (Organ Reverb Structure) (Rotary→Reverb/Reverb→Rotary/Parallel)

This parameter specifies how the rotary sound effect and the reverb effect applied to the organ voice will be connected.

Rotary→Reverb The rotary effect will be applied first. This simulates the sound produced by a rotary speaker that has been placed in a reverberant room.

Reverb→Rotary The reverb effect will be applied first. Some vintage organs had a reverb circuit that utilized a spring mechanism, and was placed before the rotary speaker. This setting simulates the result.

Parallel The reverb effect and the rotary effect will be applied in parallel. This reproduces the effect obtained by using a tone cabinet that has both a rotary speaker section without reverb and a fixed (non-rotating) speaker with a spring-type reverb unit.

● Reverb Type (Organ Reverb Type) (Room 1/Room 2/Room 3/Hall 1/Hall 2/Plate/Delay) *

Selects the type of reverb.

Room 1, Room 2, Room 3

Reverb which simulates the reverberation within a room. It produces a well-defined and spacious reverberation.

Hall 1, Hall 2

These simulate the reverberation of a concert hall, producing reverberation with a greater sense of depth.

Plate

This setting simulates a plate reverb unit (a type of artificial reverb that utilized a metal plate).

Delay

A standard delay, which creates an echo-like effect.

● Reverb Send Lvl (Organ Reverb Send Level) (0-127)

● Delay Send Lvl (Organ Delay Send Level) (0-127)

Specifies the reverb and delay send levels (the volume of the sound sent to the effect).

* If the Organ Reverb Type parameter is set to a value other than "Delay," this parameter will be displayed as the Reverb Send Level. If "Delay" is selected, this parameter will be displayed as the Delay Send Level.

● Reverb Time (Organ Reverb Time) (0-127)

● Delay Time (Organ Delay Time) (0-127)

Specifies the time length of the reverb, or the time interval between delay repeats. Increasing this value will lengthen the reverb time or the delay interval.

* If the Organ Reverb Type parameter is set to a value other than "Delay," this parameter will be displayed as the Reverb Time. If "Delay" is selected, this parameter will be displayed as the Delay Time.

● Delay Feedback (Organ Delay Feedback) (0-127)

Specifies how the delay will repeat. Raising this value will increase the number of repeats.

* This parameter will appear only if the Organ Reverb Type parameter is set to "Delay."

Modifying the Settings of the Orchestral Voice (ORCHESTRAL menu)

The ORCHESTRAL menu contains parameters which affect the orchestral voice. You can assign instruments to the orchestral voice map, and modify the way in which the sounds are played. When you select the ORCHESTRAL menu, the parameters of the orchestral voice that was last selected before entering Edit mode will be displayed.

If while editing you wish to move to the settings for another orchestral voice, use the same procedure as when changing the orchestral voice while you play (p.46). While editing, you can also press the ORCHESTRAL VOICES section PART SELECT [UPPER]/[LOWER]/[PEDAL] buttons to change the orchestral voice for each part (upper/lower/pedal) as you edit. The settings that you modify will be saved automatically in the orchestral voice map.

Selecting the Instrument

○ Orch Instrument (Orchestral Instrument Select) *

Selects the instrument that will be assigned to the orchestral voice.

→Instrument/Registration List (p. 95)

Adjusting the volume

○ Orch Level (0-127) *

Adjusts the volume of the entire orchestral voice. Use this parameter to adjust the volume balance between the orchestral voice and the organ voice.

Adjusting the keyboard touch sensitivity <Orchestral Voice Velocity Setting>

○ Orch Velocity (Orchestral Voice Velocity Setting) (Sns: 0-127, Ofst: 0-127) *

You can modify the relationship between the force with which a note is played and the loudness of the orchestral voice.

Sns As this value is increased, greater change in the sound will result even if the keyboard playing dynamics vary only slightly. As this value is decreased, the sound will change less even if keyboard playing dynamics are varied greatly.

Ofst Increasing this parameter will produce an overall increase in loudness even if you play softly. Decreasing this parameter will produce an overall decrease in loudness even if you play strongly.

* Depending on the settings of these parameters, notes may not sound at all. In this case, increase the values of Sns or Ofst.

Transposing the orchestral voice <Orchestral Voice Key Shift>

○ Orch Key Shift (Orchestral Voice Key Shift) (-24-0+24) *

This parameter transposes the currently selected orchestral voice. As this value is increased (decreased) by one, the pitch will rise (fall) by one semitone. A setting of 12 will produce a pitch change of one octave. With a setting of zero there will be no transposition.

Fine adjustments to the pitch <Orchestral Voice Fine Tune>

○ Orch Fine Tune (Orchestral Voice Fine Tune) (-50-0+50)

Use this parameter when you want to make fine adjustments in the pitch of the currently selected orchestral voice. As this value is increased (decreased) by one, the pitch will rise (fall) by one cent (1/100 of a semitone).

Applying modulation to the sound <Pitch LFO>

○ Orch LFO (Orchestral Voice Pitch LFO) (Dpt: -50+50, Rat: -50+50) *

This parameter applies modulation to the pitch of the orchestral voice. The depth and rate can be adjusted independently.

PDpt Adjusts the depth of modulation. To increase the depth, specify a positive (+) value. To decrease the depth, specify a negative (-) value.

Rat Adjusts the speed of modulation. Positive (+) settings will make the modulation speed faster, and negative (-) settings will make the modulation speed slower.

Adjusting the high frequency range of the sound <Brilliance>

○ Orch Brilliance (Orchestral Voice Brilliance) (-50+50)

This parameter adjusts the high frequency range of the orchestral voice. Positive (+) settings will boost the high range, and will brighten the sound.

Adjusting the attack and release of the sound <Amp Envelope>

○ Orch AmpEnv Mod (Orchestral Amp Envelope Modify) (Atk: -50+50, Rls: -50+50) *

These parameters adjust the attack (Atk) and release (Rls) of the orchestral voice.

- Atk Adjusts the sharpness of the attack of the sound. Positive (+) settings will make the attack gentler, and negative (-) settings will make the attack sharper.
- Rls Adjusts the time from when the note is released until the sound disappears. Positive (+) settings will lengthen the release, and negative (-) settings will allow the note to be articulated more sharply.

Applying change to the pitch <Pitch Bend> <Glide> <Modulation> <Aftertouch>

The pitch of an orchestral voice can be changed smoothly using the bender or glide, and can be modulated using the modulation lever or aftertouch. Here we will explain the parameters for these functions.

○ Orch Glide Sw (Orchestral Glide Switch) (Off/Manual/Auto)

Specifies the type of glide effect.

→ Smoothly changing the pitch of the sound—Bender and Glide (p. 48)

- Off Select this setting when you do not want to apply Glide.
- Manual Select this setting when you want to use a control pedal or foot switch to apply Glide.
- Auto Select this setting when you want to apply Glide automatically. When you select Auto, glide will be applied only once when you play the keyboard. Then the pitch will immediately return to normal. Glide will not be applied again until you take your hand off of the keyboard for that part.

* *In order to apply Glide manually, you will need a control pedal or foot switch. After connecting the control pedal or foot switch, assign the glide control function to the controller.*

→ Assigning controllers to the organ voice (p. 72)

○ Orch Glide Set (Orchestral Glide Setting) (Rate: 0-127, Dpt: -12-0+12)

Specifies the speed at which the glide effect will return to normal pitch, and the depth of pitch change it will produce.

- Rate Specifies the speed at which the pitch will return to normal.
- Dpt Specifies the pitch at which glide will start. As this value is increased (decreased) by one, the glide effect will start one semitone higher (lower). A setting of 12 corresponds to one octave. With a setting of zero, there will be no glide effect.

○ Orch Bend Sens (Orchestral Voice Pitch Bend Control Sensitivity) (0-12) *

Specifies the width of pitch change that will occur when you operate the bender. As this value is increased by one, the range of pitch change that occurs when the bender is moved to left or right will increase by one semitone. With a setting of 12, the pitch will change one octave up or down when the bender is moved to right or left.

○ Orch Mod Sens (Orchestral Voice Modulation Control Sensitivity) (0-127) *

Specifies the amount of pitch modulation change that will occur when the modulation lever is operated. As this value is increased, a stronger modulation becomes possible. With a value of 0, moving the modulation lever will not apply modulation.

○ Orch After Sens (Orchestral Voice Aftertouch Sensitivity) (0-127) *

Specifies the amount of pitch modulation that will occur when you apply aftertouch. As this value is increased, a stronger modulation becomes possible. With a value of 0, applying aftertouch will not apply modulation.

Modifying the reverberation <Orchestral Reverb>

○ Orch Rev Send (Orchestral Reverb Send Level) (0-127)

Specifies the send level (the volume that is sent to the effect) for the reverb effect (or delay effect) that is applied to the output of the orchestral voice.

* *The reverb parameters for the orchestral voice are located in the REGISTRATION BASIC menu.*

→ Settings for the entire orchestral voice (p. 73)

Adding richness to the sound <Orchestral Chorus>

○ Orch Chorus Typ (Orchestral Voice Chorus Type) (Chorus/Fbk Chorus/Flanger/Short Delay/Stereo Tremolo/Mono Tremolo)

Selects the type of chorus.

Chorus	A standard chorus that adds spaciousness and depth to the sound.
Fbk Chorus	Chorus that produces a flanger-like effect, creating a soft sound.
Flanger	This effect produces a rising and falling sweep reminiscent of a jet airplane.
Short Delay	A short time delay.
Stereo Tremolo	Cyclic modulation of the volume. This effect is frequently used on electric piano. It is effective when the VK-77 is played in stereo.
Mono Tremolo	This is a tremolo that is effective when the VK-77 is played in mono.

* When the VK-77 is played in mono, the correct Stereo Tremolo effect will not be obtained. If you are playing the VK-77 in mono, please use Mono Tremolo.

- **Orch Chorus Set (Orchestra Voice Chorus Setting) (Rat: 0-127, Dpt: 0-127)**
- **Orch SDelay Set (Orchestra Voice Short Delay Setting) (Tim: 0-127, Fbk: 0-127)**
- **Orch Tremolo Set (Orchestral Voice Tremolo Setting) (Rat: 0-127, Dpt: 0-127)**

These are the parameters for the chorus effect.

Rat	Specify the modulation speed of the chorus, or the speed of the tremolo. Increasing this value will make the modulation or tremolo faster.
Tim	Specify the delay time of the short delay. Increasing this value will lengthen the delay time.
Dpt	Specify the amount of modulation for the chorus, or the depth of the tremolo. Increasing this value will deepen the modulation or tremolo.
Fbk	Specify the strength of the short delay repeating. Increasing this value will increase the strength of sound that repeats.

* The parameters that appear in the display will depend on the type of chorus.

- **Orch Chorus Lvl (Orchestra Voice Chorus Level) (0-127)**
- **Orch SDelay Lvl (Orchestra Voice Short Delay Level) (0-127)**

Specify the send level (the volume of sound sent to the effect) for when the chorus effect is applied.

* The parameters that appear in the display will depend on the type of chorus.

Master Keyboard Settings (REGISTRATION MIDI menu)

These settings allow the VK-77 to function as a master keyboard to control external MIDI devices. The settings you modify can be saved independently for each registration.

Transmitting a Program Change to an external MIDI device

- **Ext Tone Select U (External Upper Part Tone Select) ***
- **Ext Tone Select L (External Lower Part Tone Select)**
- **Ext Tone Select P (External Pedal Part Tone Select)**
(Program Number: Off, 1-128/Bank Select MSB/LSB: Off, 0-127)

On the VK-77, the sounds of a MIDI device being controlled by each external part (upper/lower/pedal) can be selected automatically when you select a registration. In addition to Program Change messages, Bank Select messages can also be used to select sounds on the external MIDI device. If you do not want sounds on an external MIDI device to be re-selected when you select a registration, set the Program Number parameter to "off."

→ Bank Select (p. 83)

* When Program Number is turned Off, neither Program Change messages nor Bank Select messages will be transmitted. Nor will it be possible to specify the Bank Select MSB and LSB values.

Ext. Tone Select#

☐ [Off] Off-Off

PC MSB LSB

Program
change

Bank
select

☐: Upper part

☐: Lower part

☐: Pedal part

* The MIDI channels of the external upper/lower/pedal parts can be set in SYSTEM MIDI menu Ext MIDI Ch parameter (p. 74).

Transposing an external MIDI device

- **Ext Key Shift (External Part Key Shift)**
(-24-0-+24)

This parameter transposes an external MIDI device that is connected to the VK-77. You can specify a separate transposition for each external part—upper (U)/lower (L)/pedal (P). As this value is increased (decreased) by one, the pitch sounded on the external MIDI device will rise (fall) by a semitone. A setting of 12 corresponds to a transposition of one octave. With a setting of zero there will be no transposition.

Adjusting the keyboard touch sensitivity (MIDI Velocity) for the external MIDI device

MIDI note-on messages contain “velocity” data to convey the force with which you play each note. When you play the keyboard strongly, the velocity data that is transmitted has a higher value. For each registration, you can make various settings that determine how velocity data is transmitted to an external MIDI device.

* Some external MIDI devices may not operate as you expect in response to various values of velocity data. For details refer to the owner’s manual for the MIDI device that is connected to your VK-77.

* Depending on the values that you specify here, some notes may not sound. In this case, increase the *Sns* or *Ofst* values.

- **Ext Upper Velo (External Upper Velocity Setting)** (*Sns*: 0-127, *Ofst*: 0-127)

- **Ext Lower Velo (External Lower Velocity Setting)** (*Sns*: 0-127, *Ofst*: 0-127)

- **Ext Pedal Velo (External Pedal Velocity Setting)** (*Sns*: 0-127, *Ofst*: 0-127)

These parameters allow you to modify the relation between your keyboard playing dynamics and the velocity values that are transmitted to an external MIDI device.

Sns As this value is increased, even small differences in your keyboard dynamics will produce large changes in the velocity values that are transmitted. As this value is decreased, even large differences in your keyboard dynamics will produce little change in the velocity values that are transmitted.

Ofst Raising this value will produce louder notes even if you play the keyboard softly. Lowering this value will produce softer notes even if you play the keyboard strongly.

* It is not possible to produce variation in playing dynamics on the PK-7 pedal keyboard units. If you wish to use playing dynamics in your performance, either turn on [PEDAL TO LOWER] and play the lower keyboard, or connect a velocity-sensitive keyboard unit (such as PK-5) to the PEDAL IN connector.

Enabling/disabling controller data transmission

- **Ext Volume (External Part Volume Switch)**
(U: On/Off, L: On/Off, P: On/Off)

Specifies whether or not Volume messages will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts when you move the orchestral harmonic bar. Turn this parameter Off if you do not want Volume messages to be transmitted.

- **Ext Hold (External Part Hold Switch)**
(U: On/Off, L: On/Off, P: On/Off)

Specifies whether or not Hold messages will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts when you use the hold pedal. Turn this parameter Off if you do not want Hold messages to be transmitted.

- **Ext Expression (External Part Expression Switch)**
(U: Off/C-1/C-2/Exp, L: Off/C-1/C-2/Exp, P: Off/C-1/C-2/Exp)

When you use the expression pedal, Expression messages will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts. Turn this parameter Off if you do not want Expression messages to be transmitted.

Off The expression messages will not be transmitted.

Exp Expression messages will be transmitted when you operate an expression pedal connected to the EXPRESSION PEDAL jack or the expression pedal of the pedal keyboard unit.

C-1 Expression messages will be transmitted when you operate an expression connected to the CONTROL PEDAL 1 jack.

C-2 Expression messages will be transmitted when you operate an expression connected to the CONTROL PEDAL 2 jack.

* To select C-1/C-2, the SYSTEM BASIC parameter “Ctrl1 Assign/Ctrl2 Assign” must be select “Orch&Ext Exp.”

→ Assigning a function to the control pedal (p. 76)

- **Ext Modulation (External Part Modulation Switch)** (U: On/Off, L: On/Off, P: On/Off)

When the modulation lever is operated, Modulation messages will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts. Turn this parameter Off if you do not want Modulation messages to be transmitted.

● **Ext Bender (External Part Bender Switch)**
(U: On/Off, L: On/Off, P: On/Off)

When the bender is operated, Pitch Bend messages will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts. Turn this parameter Off if you do not want Pitch Bend messages to be transmitted.

● **Ext BenderRange (External Part Bender Range)** (U: 1–24, L: 1–24, P: 1–24) *

Specifies the range of pitch change that will occur for the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts when Pitch Bend data is transmitted. This settings is in semitone steps from ± 1 semitone (1)– ± 2 octaves (24).

● **ExtUpper Aft Sw (External Upper Part Aftertouch Switch)** (U: On/Off) *

When you apply pressure to the upper keyboard, Aftertouch (channel pressure) messages will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts. Turn this parameter Off if you do not want Aftertouch messages to be transmitted.

Transmitting controller data when a registration is selected

When you select a registration, the VK-77 can transmit the following settings on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts.

● **Ext Pan (External Part Panpot Switch)** (Off, L64–0–R63)

When you select a registration, Panpot messages (to specify the left/right position of the sound) will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts.

Even if the KEYBOARD ASSIGN settings [EXT UPPER], [EXT LOWER], and [EXT PEDAL] are turned off, the Panpot data will be transmitted to the respective MIDI channels. Turn this parameter Off if you do not want this data to be transmitted.

● **Ext Coarse Tune (External Part Coarse Tune)**
(Off, -24–0–+24)

When you select a registration, Coarse Tune messages will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts.

Even if the KEYBOARD ASSIGN settings [EXT UPPER], [EXT LOWER], and [EXT PEDAL] are turned off, the Coarse Tune data will be transmitted to the respective MIDI channels. Turn this parameter Off if you do not want this data to be transmitted.

● **Ext Fine Tune (External Part Fine Tune)**
(Off, -50–0–+50)

When you select a registration, Fine Tune messages will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts.

Even if the KEYBOARD ASSIGN settings [EXT UPPER], [EXT LOWER], and [EXT PEDAL] are turned off, the Fine Tune data will be transmitted to the respective MIDI channels. Turn this parameter Off if you do not want this data to be transmitted.

● **Ext Reverb (External Part Reverb Level)**
(Off, 0–127)

When you select a registration, Reverb Level messages will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts.

Even if the KEYBOARD ASSIGN settings [EXT UPPER], [EXT LOWER], and [EXT PEDAL] are turned off, the Reverb Level data will be transmitted to the respective MIDI channels. Turn this parameter Off if you do not want this data to be transmitted.

● **Ext Chorus (External Part Chorus Level)**
(Off, 0–127)

When you select a registration, Chorus Level messages will be transmitted on the MIDI channels assigned to the external upper (U)/lower (L)/pedal (P) parts.

Even if the KEYBOARD ASSIGN settings [EXT UPPER], [EXT LOWER], and [EXT PEDAL] are turned off, the Chorus Level data will be transmitted to the respective MIDI channels. Turn this parameter Off if you do not want this data to be transmitted.

Settings for Registrations and Controllers (REGISTRATION BASIC menu)

Here you can assign a name to a registration, change the split point of the lower keyboard, and make settings for the bender/modulation lever or aftertouch. The settings you modify can be saved independently for each registration.

Assigning a name to the registration

● **Regist Name (Registration Name)**

A name of up to twelve characters can be assigned to a registration that you create. The following characters can be used in the registration name.

0 1 2 3 4 5 6 7 8 9 (space) ! " # % & ' () * + , - . / : ; = ? ^ _
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
a b c d e f g h i j k l m n o p q r s t u v w x y z

Changing the Pedal To Lower key area

● LowerSplitPoint (Lower Keyboard Split Point) (C2–C7) *

This parameter sets the split point at which the lower keyboard will be divided into the lower part and the pedal part when [PEDAL TO LOWER] is on. The key that you specify here is included in the lower part, and all notes to the left of that key will be assigned to the pedal part. This setting can be saved independently for each registration.

Assigning controllers to the organ voice

When [ORGAN CONTROL] is on, you can use the bender/modulation lever or aftertouch to control various functions of the organ voice. This section explains the functions that can be assigned to the bender/modulation lever and to aftertouch.

● Org Bender Asgn (Organ Voice Bender Assign) (Off/Rotary Slw, Fst/Wheel Brake) *

Specifies the function that will be controlled by the bender when [ORGAN CONTROL] is on.

- Off No function is assigned.
- Rotary Slw/Fst Moving the lever to left or right will switch the rotary effect speed between slow and fast.
- Wheel Brake Moving the lever to left or right will switch the wheel brake effect between on and off.
- Stopping the rotation of the tone wheels (Wheel Brake) (p. 54)

● Org Mod Asgn (Organ Voice Modulation Lever Assign) (Off/Overdrive/Ring Mod Freq/Wheel Brake) *

Specifies the function that will be controlled by the modulation lever when [ORGAN CONTROL] is on.

- Off No function is assigned.
- Overdrive Pushing the lever away from yourself will apply the overdrive effect. Returning the lever will minimize the overdrive effect.
- Ring Mod Freq Pushing the lever away from yourself will raise the internal oscillator frequency of the ring modulator. Returning the lever will lower the internal oscillator frequency of the ring modulator.

* If the ring modulator is turned off, this will have no effect.

- Adding a metallic character to the organ (p. 65)
- Wheel Brake Pushing the modulation lever away from yourself will turn the wheel brake effect on, and the tone wheels will stop rotating. Returning the lever will turn off the wheel brake effect, and the tone wheels will gradually resume rotating.
- Stopping the rotation of the tone wheels (Wheel Brake) (p. 54)

● Org After Asgn (Organ Voice Aftertouch Assign) (Off/Rotary Slw, Fst/Rotary Speed/Rotary Brake/Wheel Brake/Ring Mod Freq/Overdrive) *

Specifies the function that will be controlled by pressure on the upper keyboard when [ORGAN CONTROL] is on.

- Off No function is assigned.
- Rotary Slw/Fst
When you apply pressure to the upper keyboard, the rotary effect will switch between slow and fast. This produces the same result as pressing the [SLOW/FAST] button.
- Rotary Speed
Pressure applied to the upper keyboard will continuously vary the speed of the rotary effect between the slow and fast limits that you specify. When you release the pressure on the keyboard, the rotary effect speed will return to the Slow state.
- * The rate at which the speed of the rotary effect changes can be adjusted by the ORGAN EFFECTS menu Rotary Rise Time/Fall Time parameters.

→ Setting the rotary speaker effect (p. 64)

- Rotary Brake
Applying pressure to the upper keyboard will have the same effect as pressing the [BRAKE] button.

- Wheel Brake
The wheel brake effect will be turned on while you apply pressure to the upper keyboard.
- Stopping the rotation of the tone wheels (Wheel Brake) (p. 54)

- Ring Mod Freq
Pressure applied to the upper keyboard will continuously control the internal oscillator frequency of the ring modulator. When you release the pressure on the keyboard, the internal oscillator frequency of the ring modulator will be lowered.

* There will be no effect if the ring modulator is turned off.

→ Adding a metallic character to the organ (p. 65)

- Overdrive
Pressure applied to the upper keyboard will continuously control the overdrive effect. When you release the pressure on the keyboard, the overdrive effect will be minimized.

● Organ Bend Range (Organ Voice Bend Range) (Off, 1–12) *

When [ORGAN CONTROL] is off, this parameter allows the bender to be used to apply pitch bending to the entire organ voice. Increasing this value by one will allow an additional semitone of pitch change when the bender is moved to left or right. With a setting of 12, a pitch change of one octave will result when the bender is moved to left or right.

● Organ Hold Sw (Organ Voice Hold Switch) (On/Off)

When a hold pedal is connected to the VK-77, you can specify whether the hold pedal will be enabled (on) or disabled (off) for the upper (U)/lower (L)/pedal (P) parts of the organ voice.

Settings for the entire orchestral voice

● Orch Part Level (Orchestral Voice Part Level) (0-127)

This parameter sets the volume of the upper (U)/lower (L)/pedal (P) parts of the orchestral voice. The setting of the orchestral harmonic bar will be reflected in this setting.

● Orch Hold Sw (Orchestral Voice Part Hold Switch) (On/Off)

When a hold pedal is connected to the VK-77, you can specify whether the hold pedal will be enabled (on) or disabled (off) for the upper (U)/lower (L)/pedal (P) parts of the orchestral voice.

● Orch Exp Sw (Orchestral Voice Part Expression Switch) (Off/Exp/C-1/C-2)

When an expression pedal is connected to the VK-77, you can assign it to the upper (U)/lower (L)/pedal (P) parts of the orchestral voice.

- Off The expression pedal will not be worked.
- Exp An expression pedal connected to the EXPRESSION PEDAL jack or the expression pedal of a pedal keyboard unit can be used to adjust the volume.
- C-1 An expression pedal connected to the CONTROL PEDAL 1 jack can be used to adjust the volume.
- C-2 An expression pedal connected to the CONTROL PEDAL 2 jack can be used to adjust the volume.

* To select C-1/C-2, the SYSTEM BASIC parameter "Ctrl1 Assign/Ctrl2 Assign" must be select "Orch&Ext Exp."

→ Assigning a function to the control pedal (p. 76)

● OrchUpperAft Sw (Orchestral Upper Part Aftertouch Switch) (On/Off) *

When [ORGAN CONTROL] is off, you can use aftertouch to apply pitch modulation to the orchestral voice of the upper part.

- On Select this setting if you want to use aftertouch to apply pitch modulation to the orchestral voice.
- Off Select this setting if you do not want to use aftertouch.

● OrchReverbType (Orchestral Reverb Type) (Room 1/Room 2/Room 3/Hall 1/Hall 2/Plate/Delay)

Selects the type of reverb for the entire orchestral voice.

Room 1, Room 2, Room 3

Reverb which simulates the reverberation within a room. It produces a well-defined and spacious reverberation.

Hall 1, Hall 2 These simulate the reverberation of a concert hall, producing reverberation with a greater sense of depth.

Plate This setting simulates a plate reverb unit (a type of artificial reverb that utilized a metal plate).

Delay A standard delay, which creates an echo-like effect.

● OrchReverbTime (Orchestral Reverb Time) (0-127)

● Orch Delay Time (Orchestral Delay Time) (0-127)

Specifies the time length of the reverb, or the time interval between delay repeats. Increasing this value will lengthen the reverb time or the delay interval.

* If the Orchestral Reverb Type parameter is set to a value other than "Delay," this parameter will be displayed as the Reverb Time. If "Delay" is selected, this parameter will be displayed as the Delay Time.

● Orch Delay FB (Orchestral Delay Feedback) (0-127)

Specifies how the orchestral voice delay will repeat. Raising this value will increase the number of repeats.

* This parameter can be selected only if the Orchestral Reverb Type parameter is set to "Delay."

MIDI Settings for the Entire System (SYSTEM MIDI menu)

Here you can make MIDI settings for the entire system. The settings you modify are saved automatically, and will apply to the entire system.

Connecting/disconnecting the sound generator and keyboard <Local Control>

■ Local Control (On/Off)

This parameter connects/disconnects the internal link between the VK-77's sound generator (organ voice and orchestral voice) and its keyboard and other controllers.

- On The sound generator will be internally connected to the keyboard and other controllers. Normally you will use the VK-77 with this setting.
- Off The sound generator will be internally disconnected from the keyboard and other controllers (included pedal keyboard unit to connect the PEDAL IN connector). Use this setting when you are recording your performance on a sequencer.

→ Recording Your Playing on an External Sequencer (p. 86)

* To prevent problems such as failure to sound, the Local Control setting will automatically be turned on each time the VK-77 is powered up.

Adding MIDI THRU functionality to the MIDI OUT connector <MIDI Thru>

■ MIDI Thru (Off/On(w/o SysEx)/On(All))

MIDI THRU functionality (re-transmission of messages received at MIDI IN) can be added to the MIDI OUT connector. When the MIDI Thru function is on, music data from the VK-77's own keyboards and the pedal keyboard unit connected to the PEDAL KEYBOARD IN connector will be combined (merged) with the data that is being received at the MIDI IN connector, and transmitted from the MIDI OUT connector.

The MIDI Thru setting will automatically be turned off each time the VK-77 is powered up.

- Off The Thru function will be turned off.
- On(w/o SysEx) All data received at the MIDI IN connector except for exclusive data will be re-transmitted from the MIDI OUT connector.
- On(All) All data received at the MIDI IN connector will be re-transmitted from the MIDI OUT connector.

* When the Thru function is on, receiving a large quantity of exclusive data may temporarily cause the VK-77 to be unable to transmit keyboard data from MIDI OUT at the correct timing. If this occurs, either reduce the amount of exclusive data or divide it into smaller portions.

* The MIDI Thru function applies only to data that is received at the MIDI IN connector. Messages from a MIDI device connected to the MIDI PEDAL IN connector will not be output even if MIDI Thru is turned on.

Setting the Device ID Number

○ Device ID No. (Device ID Number) (17-32)

The Device ID Number is an identification number used when transmitting or receiving exclusive data (MIDI data specific to the VK-77). The Device ID Number allows you to distinguish between two or more VK-77 units when transmitting or receiving exclusive data. However, in order for two or more VK-77's to exchange exclusive data, they must both be set to the same Device ID Number. If you have only one VK-77, there is no need to change this setting.

○ Org&Orch MIDI (Organ Voice & Orchestral Voice MIDI Transmit/MIDI Receive Switch) (Tx: On/Off, Rx: On/Off) *

These parameters turn MIDI message transmission (Tx) and reception (Rx) on/off.

Tx When this is on, not only the music data of the external upper/lower/pedal parts, but also the music data of the organ voice and orchestral voice as well as exclusive data can be transmitted. When this is off, MIDI messages other than musical of the external part will not be transmitted.

Rx When this is on, music data for the organ voice or orchestral voice and exclusive data will be received. When this is off, MIDI messages will not be received.

MIDI channel settings

○ Control MIDI Ch (Control MIDI Channel) (1-16)

Select the MIDI channel that will be used to transmit and receive MIDI messages to control the VK-77. This channel can be used to select registrations on the VK-77, and to control the expression of the organ voice, etc.

○ Organ MIDI Ch (Organ Voice MIDI Channel) (1-16)

○ Orch MIDI Ch (Orchestral Voice MIDI Channel) (1-16)

○ Ext MIDI Ch (External MIDI Channel) (1-16) *

These parameters specify the MIDI channels that will be used to transmit and receive music data for the keyboard and controllers.

* Different MIDI channels must be assigned to the upper/lower/pedal parts. It is not possible to select the same channel for two or more parts. MIDI channels which have already been assigned will not be available for selection.

* A MIDI channel that has already been assigned to a part of the orchestral voice or external cannot be selected as the control channel.

Transmitting/receiving the harmonic bar settings

○ **HarmonicBarMode (Harmonic Bar Mode)**

You can specify the form in which the VK-77's harmonic bar settings will be transmitted.

Mode 1 The harmonic bar settings will be transmitted as system exclusive messages (data unique to the VK-77). The volume of the harmonic bars will be transmitted.

Mode 2 The harmonic bar settings will be transmitted as control change messages. The control change numbers are specified by the Harmonic Bar Controller Number parameters.

Off Harmonic bar settings will not be transmitted.

○ **16' H.Bar CC No.**

○ **5-1/3' H.Bar CC No.**

○ **8' H.Bar CC No.**

○ **4' H.Bar CC No.**

○ **2-2/3' H.Bar CC No.**

○ **2' H.Bar CC No.**

○ **1-3/5' H.Bar CC No.**

○ **1-1/3' H.Bar CC No.**

○ **1' H.Bar CC No.**

Harmonic Bar Controller Number (1-31, 33-95)

When the Harmonic Bar Mode is set to "Mode2" (control change messages), you can specify the control change number that will be assigned to each harmonic bar.

Control changes 70 through 78 are assigned to sound controllers. On the VK-77, the volume changes of the harmonic bars are assigned.

* *Other messages are assigned to other controller numbers. To see what has been assigned to each controller number, refer to the MIDI implementation chart (p. 109).*

* *When sound control data is transmitted to a device other than the VK-77, the other device may interpret this data differently than the VK-77.*

* *If harmonic bar settings are transmitted as system exclusive data, some time may be required for transmission.*

Settings That Affect the Entire VK-77 (SYSTEM BASIC menu)

This menu contains parameters that affect the entire VK-77 system. They allow you to do things such as adjust the system master tuning, assign functions to the control pedal or pedal keyboard unit, or adjust the brightness of the display. A setting that you modify here is saved automatically, and will apply to the entire system.

Adjusting the pitch to another instrument <Master Tune>

○ **Master Tune (427.4-452.6 Hz)**

This is a fine adjustment to the pitch of the VK-77. The frequency of A4 (middle A of the keyboard) can be set in 0.2 Hz steps over a range of 427.4-452.6 Hz.

Transposing the entire VK-77 <Key Transpose>

○ **Key Transpose (-6-0+5)**

This transposes the entire VK-77. The value is in semitone steps over a range of -6-0+5. With a setting of 0, there will be no transposition.

Selecting how notes will sound when the orchestral voice is changed

○ **Orch NoteRemain (Orchestral Voice Note Remain) (Remain/Retrigger)**

This parameter specifies the timing at which the voice will actually change when you select a different orchestral voice.

Remain The voice will not change until you release the keyboard.

Retrigger Any notes currently pressed will change voice and be re-triggered.

Switching the polarity of the hold pedal <Hold Pedal Polarity>

○ **Hold Polarity (Hold Pedal Polarity) (Standard/Reverse)**

Depending on the type of pedal switch, the result when the switch is pressed may be the opposite of what you intend. If the pedal switch does not operate as described in this owner's manual, change the polarity setting.

Standard Use this setting if the pedal switch operates as described in this owner's manual.

Reverse Use this setting if the pedal switch operates the opposite of the description in this owner's manual.

Switching the polarity of the control pedal <Control Pedal Polarity>

○ **Ctrl1 Polarity (Control Pedal 1 Polarity) (Standard/Reverse) ***

○ **Ctrl2 Polarity (Control Pedal 2 Polarity) (Standard/Reverse) ***

Depending on the type of pedal switch or expression pedal, the result when the switch is operated may be the opposite of what you intend. If the pedal switch or expression pedal does not operate as described in this owner's manual, change the polarity setting.

Standard Use this setting if the pedal switch or expression pedal operates as described in this owner's manual.

Reverse Use this setting if the pedal switch or expression pedal operates the opposite of the description in this owner's manual.

Assigning a function to the control pedal <Control Pedal Assign>

○ **Ctrl1 Assign (Control Pedal 1 Assign) ***

○ **Ctrl2 Assign (Control Pedal 2 Assign) ***

The following 14 different functions can be assigned to a pedal switch or expression pedal connected to the CONTROL PEDAL 1/2 jacks.

Rotary Speed The speed of the rotary speaker effect can be freely controlled between slow and fast. This is especially effective when assigned to the expression pedal.

Rotary Slw/Fst The rotary speaker effect can be switched between slow and fast. This is the same function as the [SLOW/FAST] button.

RotBrake Latch This is the same function as turning [BRAKE] on/off.

RotBrake Moment When the pedal is pressed, the rotary speaker will gradually stop rotating. When the pedal is released, the previous rotation will resume.

Orch Glide Glide will be controlled. The pitch will change as long as the pedal is pressed, and will gradually return to normal when the pedal is released.

Preset Up (Ctrl2 only) Registrations will be selected consecutively. Each time the pedal is pressed, the next registration will be selected.

Preset Down (Ctrl1 only) Registrations will be selected consecutively. Each time the pedal is pressed, the previous registration will be selected.

Ring Mod Sw Each time the pedal is pressed, the ring modulator will be switched on/off.

Ring Mod Freq The internal oscillator frequency of the ring modulator will be controlled. This is effective when assigned to an expression pedal.

Overdrive The depth of overdrive will be controlled. This is effective when assigned to an expression pedal.

Seq Start/Stop Each time the pedal is pressed, a sequencer connected via MIDI will be started/stopped (paused).

Seq Reset A command to return to the beginning of the song (Song Position Reset) will be transmitted to a sequencer connected via MIDI.

Wheel Brake Wheel brake will be switched on/off.

Orch & Ext Exp The volume of the orchestral voice and external parts can be controlled by an expression pedal.

Assigning a function to the foot switch of a pedal keyboard unit <PK Foot Switch Assign>

○ **PK FootL Assign (Foot Switch L Assign) ***

○ **PK FootR Assign (Foot Switch R Assign) ***

When a pedal keyboard unit with a PK connector (such as the PK-7) is connected via the special cable, you can assign one of the following twelve functions to a foot switch of the pedal keyboard unit.

Rotary Speed The rotary speaker effect will switch to Fast while the switch remains pressed.

Rotary Slw/Fst The rotary speaker effect will switch between fast and slow each time the switch is pressed. This is the same function as the [SLOW/FAST] button.

RotBrake Latch The same function as when [BRAKE] is turned on/off.

RotBrake Moment While the switch remains pressed, the rotation of the rotary speaker will gradually stop. When the switch is released the rotation will gradually return to normal.

Orch Glide The switch will control Glide. The pitch will change while the switch remains pressed, and will gradually return to normal when the switch is released.

Preset Up (Ctrl2 only) Registrations will be selected consecutively. Each time the switch is pressed, the next registration will be selected.

Preset Down (Ctrl1 only) Registrations will be selected consecutively. Each time the switch is pressed, the previous registration will be selected.

Ring Mod Sw Each time the switch is pressed, the ring modulator will be switched on/off.

Seq Start/Stop Each time the switch is pressed, a sequencer connected via MIDI will be started/stopped (paused).

Seq Reset A command to return to the beginning of the song (Song Position Reset) will be transmitted to a sequencer connected via MIDI.

Wheel Brake Wheel brake will be switched on/off.

Hold This is the same function as the Hold pedal.

Specifying the registration at power-on

○ Power Up Regist (Power Up Registration Number) (A11-B88, Last)

You can specify the registration that will be automatically selected when the VK-77's power is turned on. If this parameter is set to Last, the registration number that had been selected when the power was turned off will be recalled.

Specifying how the tone cabinet will sound

○ Tone Cabinet FX (Tone Cabinet Effect) (RNG→EQ→OD→REV, RNG→EQ)

Specify how effects will be applied to the Organ Voice signal that is sent to the ROTARY TONE CABINET connector.

* Before you connect a speaker to the ROTARY TONE CABINET connector, please refer to p. 88.

RNG→EQ→OD→REV

When a speaker is correctly connected to the ROTARY TONE CABINET connector, the audio signal that is output to the ROTARY TONE CABINET connector will have effects applied to it in the following order: 1. Ring Modulator → 2. Equalizer → 3. Overdrive → 4. Reverb. At this time, the ORGAN OUT jacks and MIX OUT jacks will function as monitor jacks for the audio output of the ROTARY TONE CABINET connector. For this reason, you need to change the ORGAN EFFECT menu item Amp & Speaker to the "Bypass" setting, and turn [ROTARY SOUND] off (the registration will not change).

RNG→EQ The audio signal that is output to the ROTARY TONE CABINET connector will have effects applied to it in the following order: 1. Ring Modulator → 2. Equalizer. The organ voice signal that is output from the ORGAN OUT jack and MIX OUT jack will be processed by the effects that are specified by the ORGAN EFFECT menu.

Adjusting the brightness of the display <Display Contrast>

○ DisplayContrast (Display Contrast) (1-8)

Changes in the brightness or temperature of the environment in which the VK-77 is used or changes in the viewing angle may make the display difficult to read. If this occurs, you can adjust the brightness of the display.

Convenient Functions for Registrations and Orchestral Voices (UTILITY menu)

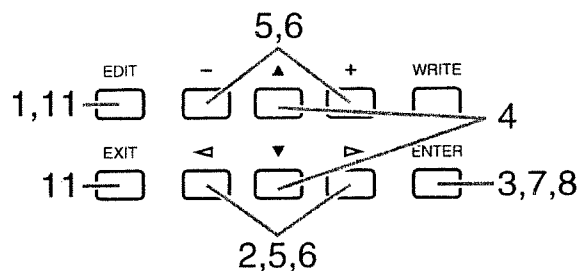
The UTILITY menu allows you to copy the contents of a registration, or exchange (swap) the settings of two registrations. You can also transmit the internal data of the VK-77 to an external MIDI device, or restore the VK-77's settings to the factory preset condition.

Copying registrations

■ Regist Copy (Registration Copy) (copy source: A11-B88, copy destination: A11-B88)

This operation copies the contents of a registration to a different registration.

All	The entire contents of the registration selected as the copy source will be copied.
Org Upp	The upper part settings of the organ voice will be copied.
Org Low	The lower part settings of the organ voice will be copied.
Org Pal	The pedal part settings of the organ voice will be copied.
Org Fx	The acoustical effect settings of the registration selected as the copy source will be copied.
Ext Upp	The external upper part settings will be copied.
Ext Low	The external lower part settings will be copied.
Ext Pal	The external pedal part settings will be copied.



1. Press [EDIT].
The [EDIT] indicator lights (on), and you enter Edit mode.
2. Using [<][>], get the UTILITY menu to appear in the display.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to make the display read Regist Copy (Registration Copy).
5. Use [<][>] and [+][−] to select one of the above eight methods of copying registration data.
6. Use [<][>] and [+][−] to select the registration copy source and copy destination.
7. Press [ENTER].
The display will ask you to confirm the Copy operation.

```
Sure?: B87→B88
Yes:Entr No:Exit
```

* If you decide to cancel the copy operation, press [EXIT] twice or press [EDIT] instead of performing step 8, to leave Edit mode.

8. To execute the Copy operation, press [ENTER].
9. The display will indicate "Complete." to indicate that the data has been copied.

```
Regist Copy
Complete.
```

10. If you wish to copy another registration, repeat steps 5.–8.
11. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark (off), and you leave Edit mode.

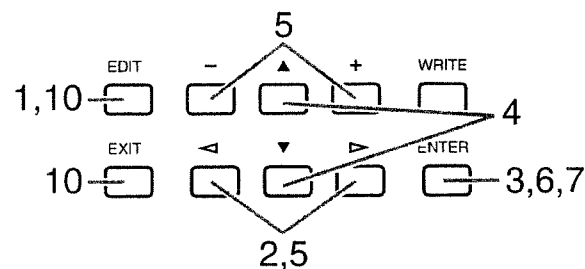
* It is not possible to select the same registration number as both the copy source and the copy destination.

Copying the settings of an orchestral voice

■ Orchestral Copy (Orchestral Voice Copy)

This operation copies the settings of an orchestral voice.

* Settings can be copied only within the same group. It is not possible to specify a different group.



1. Press [EDIT].
The [EDIT] indicator lights (on), and you enter Edit mode.
2. Using [<][>], get the UTILITY menu to appear in the display.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to make the display read Orchestral Copy (Orchestral Voice Copy).
5. Use [<][>] and [+][−] to select the copy source and copy destination orchestral voices.
6. Press [ENTER].
The display will ask you to confirm the Copy operation.

```
Sure?: → STR-1
Yes:Entr No:Exit
```

* If you decide to cancel the Copy operation, press [EXIT] twice or press [EDIT] instead of performing step 7, to leave Edit mode.

7. To execute the Copy operation, press [ENTER].
8. The display will indicate "Complete." to indicate that the data has been copied.

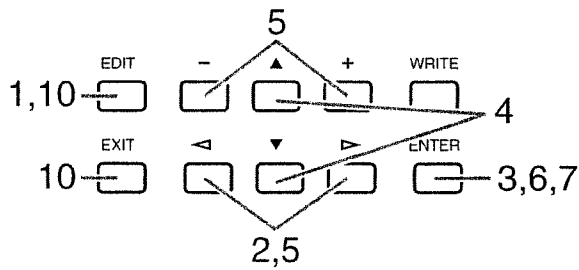
```
Orchestral Copy
Complete.
```

9. If you wish to copy another orchestral voice, repeat steps 5.–7.
10. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark (off), and you leave Edit mode.

Exchanging a registration with another registration

■ Regist Swap (Registration Swap) (A11-B88, A11-B88)

This operation exchanges the contents of two registrations. This is convenient when you wish to rearrange registrations in the order of use for a live performance, etc.



1. Press [EDIT].
The [EDIT] indicator lights (on), and you enter Edit mode.
2. Using [<][>], get the UTILITY menu to appear in the display.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to make the display read Regist Swap (Registration Swap).
5. Use [<][>] or [+][−] to select the registrations that you wish to exchange.
6. Press [ENTER].
The display will ask you to confirm the Registration Swap operation.

```
Sure?: B87+→B88
Yes:Entr No:Exit
```

* If you decide to cancel the Registration Swap operation, press [EXIT] twice or press [EDIT] instead of performing step 6, to leave Edit mode.

7. To execute the Registration Swap operation, press [ENTER].
8. The display will show "Complete." to indicate that the registrations have been exchanged.

```
Regist Swap
Complete.
```

9. If you wish to exchange other registrations, repeat steps 5.-7.
10. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark (off), and you exit Edit mode.

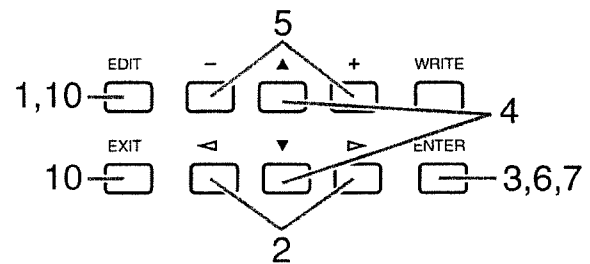
Restoring a registration to the factory settings

■ Regist Reload (Registration Reload) (A11-B88)

Even after you have modified the settings of a registration, you can return the settings of each registration to the factory settings.

* When you execute the Reload operation, the registration(s) selected as the reload destination will be overwritten. If you do not want to lose the data in the reload destination, you can either swap it with a registration that you don't mind losing, or save the registration settings on an external sequencer.

- Exchanging a registration with another registration
- Saving VK-77 settings on a sequencer (p. 87)



1. Press [EDIT].
The [EDIT] indicator lights (on), and you enter Edit mode.
2. Using [<][>], get the UTILITY menu to appear in the display.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to make the display read Regist Reload (Registration Reload).
5. Use [+][−] to select the registration that you wish to restore to the factory settings.

Getting the Most Out of the VK-77

6. Press [ENTER].

The display will ask you to confirm the Reload operation.

```
Sure?:      All
Yes:Entr No:Exit
```

* If you decide to cancel the Reload operation, press [EXIT] twice or press [EDIT] instead of performing step 7, to leave Edit mode.

7. To execute the Reload operation, press [ENTER].
8. The display will show "Complete." to indicate that Reload has been completed.

```
Regist Reload
Complete.
```

9. If you wish to reload another registration, repeat steps 5.-7.
10. Press [EXIT] twice, or press [EDIT].

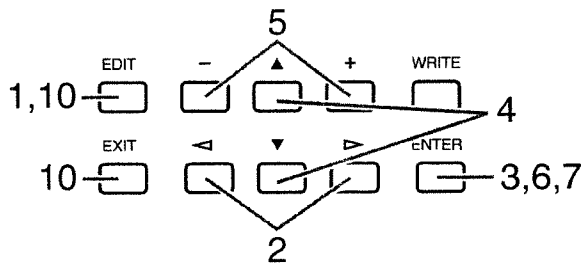
The [EDIT] indicator goes dark (off), and you exit Edit mode.

Restoring an orchestral voice to the factory settings

■ Orche Reload (Orchestral Voice Reload)

Even after you have modified the settings of an orchestral voice, you can restore each orchestral voice to the factory settings.

* When you execute the Reload operation, the settings of the orchestral voice selected as the reload destination will be overwritten.



1. Press [EDIT].
- The [EDIT] indicator lights (on), and you enter Edit mode.

2. Use [<|>] to select the UTILITY menu.

3. Press [ENTER] or [▼].

4. Use [▲][▼] to make the display read Orche Reload (Orchestral Voice Reload).

5. Use [+][-] to select the orchestral voice that you wish to reset to the factory settings.

6. Press [ENTER].

The display will ask you to confirm the Reload operation.

```
Sure?:      STR-1
Yes:Entr No:Exit
```

* If you decide to cancel the Reload operation, press [EXIT] twice or press [EDIT] instead of performing step 6, to leave Edit mode.

7. To execute the Reload operation, press [ENTER].
8. The display will indicate "Complete." to show that Reload has been completed.

```
Orch Reload
Complete.
```

9. If you wish to reload another orchestral voice, repeat steps 5.-7.

10. Press [EXIT] twice, or press [EDIT].

The [EDIT] indicator goes dark (off), and you exit Edit mode.

Transmitting VK-77 settings as MIDI data <Bulk Dump>

■ Bulk Dump

VK-77 data can be transmitted as exclusive data (MIDI data specific to the VK-77).

→ Saving VK-77 settings on a sequencer (p. 87)

All	All settings of the VK-77 will be transmitted.
Regist	Settings stored in a registration will be transmitted. You can select the registration that will be transmitted.
Orch	Settings stored in an orchestral voice will be transmitted. You can select the orchestral voice that will be transmitted.
System	VK-77 system settings will be transmitted.

Connect the VK-77's MIDI OUT to the sequencer's MIDI IN, and connect the VK-77's MIDI IN to the sequencer's MIDI OUT (p. 86).

1. Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
2. Using [<|>], get the UTILITY menu to appear in the display.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to make the display read Bulk Dump.
5. Use [+][-] to select the data that you wish to transmit.
6. If you selected Regist or Orche, use [<|>] or [+][-] to select the settings that you wish to transmit.
7. When you have specified the data that you wish to save, start recording on your sequencer.
8. Press [ENTER].
The data you wish to save will be transmitted from the MIDI OUT connector.

```
Bulk DUMP: 77%
Executing...
```

9. When data transmission ends, the display will indicate "Complete." Stop the sequencer.

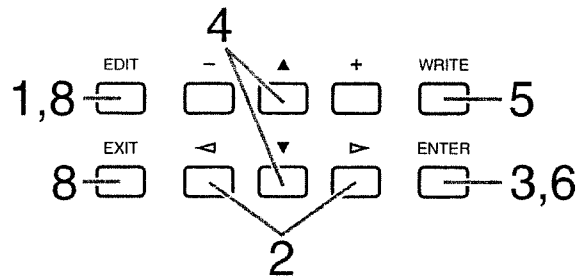
```
Bulk DUMP
Complete.
```

10. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark (off), and you exit Edit mode.

Restoring the factory settings <Factory Reset>

■ Factory Reset

This operation restores all settings of the VK-77 to their factory preset condition.



1. Press [EDIT].
The [EDIT] indicator lights (on), and you enter Edit mode.
2. Using [<|>], get the UTILITY menu to appear in the display.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to make the display read Factory Reset.
5. Press [WRITE].
The display will ask you to confirm the Factory Reset operation.

```
Sure?:Fctry Rst
Yes:Entr No:Exit
```

* If you decide not to execute the Factory Reset operation, press [EXIT] twice or press [EDIT] instead of performing step 6, to leave Edit mode.

6. To execute the Factory Preset operation, press [ENTER].
7. The following display will appear, indicating that the Factory Reset operation has been executed.

```
Factory Reset
Complete.
```

8. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark (off), and you exit Edit mode.

Connecting External Devices

Using the VK-77 As a Master Keyboard

A MIDI device can be connected to the rear panel MIDI OUT and controlled from the VK-77. In this section we will explain how you can use the VK-77 as a MIDI master keyboard.

What is MIDI?

MIDI (Musical Instrument Digital Interface) is a worldwide standard for exchanging music data among electronic musical instruments and computers. MIDI does not send audio signals, but instead converts performance data and commands into digital data for transmission. The digital data handled by MIDI is collectively referred to as MIDI messages.

Any device with a MIDI connector can be connected via a MIDI cable to another MIDI device, to allow data to be exchanged regardless of the manufacturer or model of the device.

- MIDI IN connector Receives MIDI messages from an external MIDI device.
- MIDI OUT connector Transmits MIDI messages from the VK-77.

In addition, you can make settings in Edit mode so that the music data from the VK-77 itself will be combined (merged) with the data received at MIDI IN, and transmitted together.

→ Adding MIDI THRU functionality to the MIDI OUT connector (p. 74)

MIDI channels

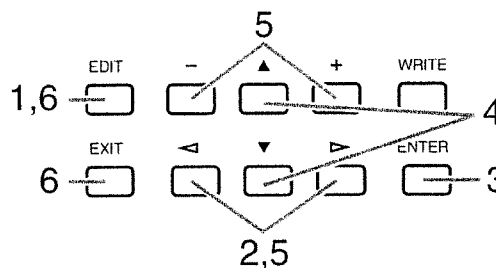
MIDI is able to transmit or receive a large number of messages over a single cable. In order to do so, it uses a concept called “channels” (analogous to the channels used in TV broadcasting), so that MIDI messages are received only when the channel of the receiving device matches the channel of the transmitting device.

The VK-77 is able to simultaneously handle a total of nine channels of data: three for the organ voice, three for the orchestral voice, and three for external MIDI devices.

Simultaneously controlling the VK-77 and an external MIDI device

When each of the KEYBOARD ASSIGN section buttons [EXT UPPER]/[EXT LOWER]/[EXT PEDAL] is turned on, playing the keyboard will cause the music data of the upper/lower/pedal parts to be transmitted to the external MIDI device. The VK-77 and the external MIDI device can be controlled simultaneously according to the combination of the KEYBOARD ASSIGN section buttons [EXT UPPER]/[EXT LOWER]/[EXT PEDAL], [ORGAN UPPER]/[ORGAN LOWER]/[ORGAN PEDAL] (organ voice), and [ORCH UPPER]/[ORCH LOWER]/[ORCH PEDAL] (orchestral voice).

To set the MIDI channels that will be used to transmit music data, use the following procedure. Only one set of the settings that you make here will be saved automatically, and these settings will apply to the entire instrument.



1. Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
2. Use [<][>] to get the display to show the SYSTEM MIDI menu.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to get the display to show the Ext MIDI Ch (External MIDI Channel).
5. Use [<][>] to select the upper (U), lower (L), or pedal (P) part, and use [+][−] to set the MIDI channel for each.
6. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark (off), and you exit Edit mode.

* Upper, lower, and pedal must each be assigned to a different MIDI channel—it is not possible to select the same MIDI channel for these. Similarly, it is not possible to select the same channels as the channels which were assigned to the organ voice or orchestral voice.

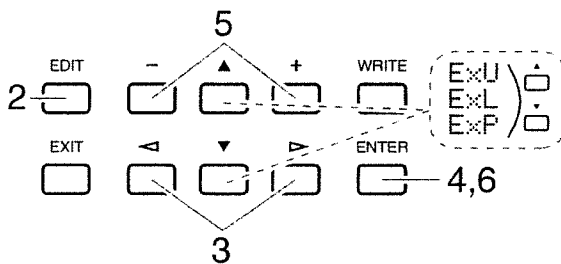
Selecting tones on the external MIDI device

You can transmit MIDI program change messages to select tones (sounds) on an external MIDI device. To select tones on an external MIDI device, you need to transmit Program Change messages to that MIDI device.

On the VK-77, there are two ways to transmit Program Change messages: you can press buttons to transmit a program change message when the [EDIT] indicator is dark, or you can specify a program change that will be transmitted when you select a registration.

Here's how to transmit a program change by pressing buttons.

* For details on how tones will be selected on your external MIDI device, refer to the owner's manual for your MIDI device.

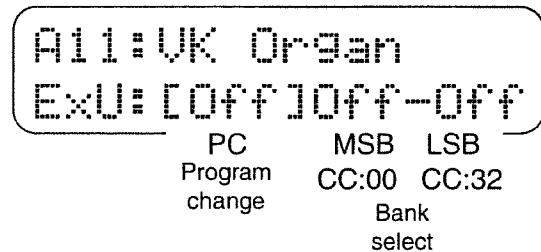


1. Make sure that the KEYBOARD ASSIGN [EXT UPPER][EXT LOWER][EXT PEDAL] buttons are on. If they are off, press the button to make the indicator light (on).
2. Make sure that the [EDIT] indicator is dark (off). If it is on, press the button to make the indicator go dark (off).
3. Use [<][>] to make the following screen appear in the display.
4. Press [ENTER].
Make sure that the cursor () is blinking in the lower line of the display.
5. Use [+][-] to select the program number that you wish to transmit.
6. Press [ENTER], and the program change message will be transmitted on the MIDI channel that is assigned to the upper keyboard.

The program change will not be transmitted until you press [ENTER].

* If you wish to transmit a program change message on the MIDI channel that is assigned to the lower keyboard or pedal keyboard, use [▲][▼] in step 3 above to make the lower left of the display read ExL (lower part) or ExP (pedal part) before proceeding to step 4.

As needed, you can transmit a Bank Select message at the same time as the Program Change. In step 4 above, use [<][>] to move the cursor to MSB/LSB, and use [+][-] to specify the number.



ExU : Upper part
ExL : Lower part
ExP : Pedal part

Bank Select

Program numbers allow you to select from 128 different tones, but many MIDI devices have many more than 128 tones. On such instruments, you can broaden the range of selectable tones by using Program Change messages in conjunction with Bank Select messages.

Bank Select messages include an MSB (a value of 0–127 for controller number 0) and LSB (a value of 0–127 for controller number 32).

* Some devices do not recognize the LSB, and some devices are not able to use bank select messages at all. For details refer to the owner's manual of your MIDI device.

* It is not possible to transmit a Bank Select message by itself. When the Program Number display is OFF, it is not possible to use [<][>] to move the cursor to MSB/LSB.

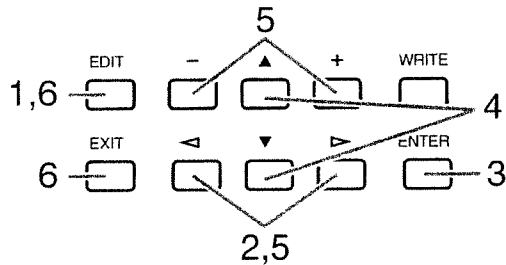
* You can make settings so that when you change registrations, not only a program change message but also panpot, coarse tune, fine tune, reverb send and chorus send control data is transmitted to the external MIDI device. Program change and control data values can be stored in each registration.

→ Transmitting a Program Change to an external MIDI device (p. 69)

→ Transmitting controller data when a registration is selected (p. 71)

Transposing an external MIDI device

The external upper, lower, and pedal parts can each be transposed to a different pitch. The amount of transposition for each part can be memorized independently for each registration.



1. Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
2. Use [<|>] to get the display to show the REGISTRATION MIDI menu.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to make the display read Ext Key Shift (External Key Shift).
5. Use [<|>] to select the upper (U), lower (L), or pedal (P) part, and use [+][-] to specify the amount of transposition.
6. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark, and you exit Edit mode.
7. If desired, save the registration.
→ Saving the settings that you created (p. 52)

* Independently from the transposition setting for each part, the VK-77 has a function that lets you transpose all parts including the organ voice and orchestral voice. The amount of transposition specified here for each part will be added to the amount of transposition specified for the entire VK-77, and the total transposition will determine the pitch of the music data transmitted to external MIDI devices.

→ Transposing the entire VK-77 (p. 75)

Transmitting VK-77 controller data to an external MIDI device

For each external part (upper/lower/pedal), you can switch the VK-77's controllers on or off.

Ext Volume

Specifies whether or not Volume messages will be transmitted to an external MIDI device when you move the orchestral harmonic bar.

Ext Hold Specifies whether or not Hold messages will be transmitted to an external MIDI device when you operate a pedal connected to the VK-77's Hold jack.

Ext Expression

Specifies whether or not Expression messages will be transmitted to an external MIDI device when you use the expression pedal.

Ext Modulation

Specifies whether or not Modulation messages will be transmitted to an external MIDI device when you move the modulation lever.

Ext Bender, Ext BenderRange

Specifies whether or not Pitch Bend messages will be transmitted to an external MIDI device when you move the bender. You can also specify the width of the pitch change that will occur when Pitch Bend messages are transmitted (Bender Range). The range can be set in twenty-four semitone steps from +/-1 semitone (1) up to +/-2 octaves (24).

ExtUpper Aft Sw (aftertouch)

Specifies whether or not Aftertouch messages will be transmitted for the external upper part when you apply pressure to the upper keyboard.

1. Press [EDIT].
The indicator lights (on), and you enter Edit mode.
2. Use [<|>] to get the display to show the REGISTRATION MIDI menu.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to get the display to show the controller whose settings you wish to modify.
5. Use [<|>] to select either the upper (U), lower (L), or pedal (P) part, and use [+][-] to turn the controller on/off or specify a numeric value.

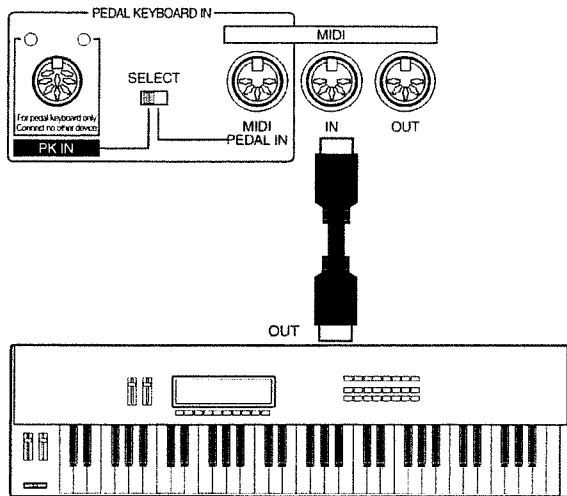
* If an expression pedal is connected to the Control Pedal 1/2 jack, you can control the volume of an external MIDI device independently from the expression of the organ voice.

→ Assigning a function to the control pedal (p. 76)

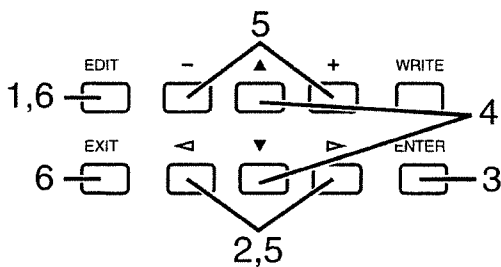
6. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark (off), and you exit Edit mode.
7. If desired, save the registration.
→ Saving the settings that you created (p. 52)

Playing the VK-77's Internal Sound Generator from an External MIDI Device

By transmitting music data to the VK-77 from a sequencer or MIDI keyboard, you can play the VK-77's organ voice or orchestral voice. In order for the VK-77 to receive MIDI messages and produce sound, the Edit mode SYSTEM MENU parameters must be set appropriately. This section will explain how to make settings to play the VK-77's internal sound generator from an external MIDI device.



If you want the VK-77 to produce sound in response to messages received from an external MIDI device, use the following procedure.



1. Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
2. Use [<|>] to get the display to show the SYSTEM MIDI menu.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to get the display to show Org&Orch MIDI (Organ Voice & Orchestral Voice MIDI Transmit/MIDI Receive Switch).
5. Use [<|>] and [+][-] to turn the receive switch (Rx) On.

6. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark, and you exit Edit mode.

Setting the MIDI receive channel for the organ voice

Here's how to set the MIDI channel which will control acoustical effects (Effects), etc. for the organ voice. The settings that you make here will not be lost when the power is turned off.

When messages of the specified MIDI channel are received, the musical result will be the same as if the VK-77's own keyboard or controllers were used.

→ MIDI channel settings (p. 74)

1. Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
2. Use [<|>] to get the display to show the SYSTEM MIDI menu.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to get the display to show Control MIDI Ch (Control MIDI Channel).
5. Use [+][-] to set the MIDI channel.
6. Press [EXIT] or [EDIT].
The [EDIT] indicator goes dark (off), and you exit Edit mode.

Set the MIDI channel that you want to assign to each part (upper, lower, pedal) of the organ voice.

1. Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
2. Use [<|>] to get the display to show the SYSTEM MIDI menu.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to get the display to show Organ MIDI Ch (Organ Voice MIDI Channel).
5. Use [<|>] to select the upper (U), lower (L), or pedal (P) part, and use [+][-] to specify the MIDI channel.
6. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark (off), and you exit Edit mode.

* It is not possible to change the Transmit channel and the Receive channel independently of each other.

* Different MIDI channels are used for upper, lower, and pedal. It is not possible to select the same MIDI channel for two or more parts. Nor is it possible to select the same MIDI channel as a channel that has already been assigned to the orchestral voice or external.

Connecting External Devices

Setting the MIDI receive channel for the orchestral voice

In the same way as for the organ voice, you can specify the MIDI channel for each part of the orchestral voice.

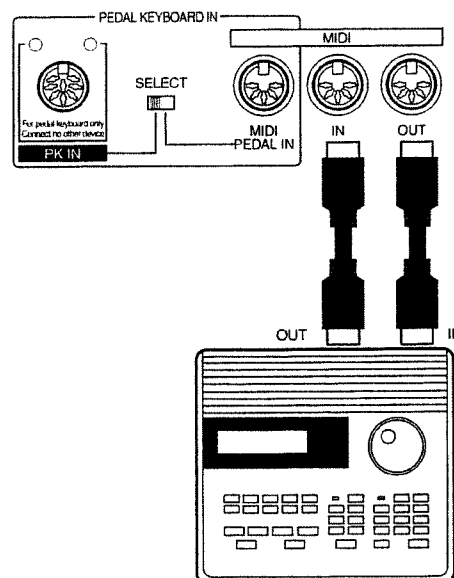
1. Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
2. Use [<|>] to get the display to show the SYSTEM MIDI menu.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to get the display to show Orch MIDI Ch (Orchestral Voice MIDI Channel).
5. Use [<|>] to select the upper (U), lower (L), or pedal (P) part, and use [+][−] to specify the MIDI channel.
6. Press [EXIT] twice, or press [EDIT].
The [EDIT] indicator goes dark (off), and you exit Edit mode.

- * It is not possible to change the Transmit channel and the Receive channel independently of each other.
- * Different MIDI channels are used for upper, lower, and pedal. It is not possible to select the same MIDI channel for two or more parts. Nor is it possible to select the same MIDI channel as a channel that has already been assigned to the organ voice or external.

Recording Your Playing on an External Sequencer

Preparations for recording

You can connect a sequencer to the VK-77 and record your playing. The sequencer will store your performance on the VK-77 as various types of MIDI data. The MIDI data that was recorded can be played back by the sequencer and re-transmitted to the VK-77 to reproduce your performance. Some sequencers are able to record settings such as the VK-77's registrations, orchestral voice settings, and system settings.

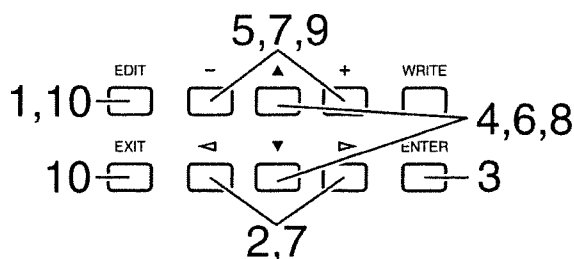


Connect the MIDI OUT of the VK-77 to the MIDI IN of your sequencer, connect the MIDI IN of the VK-77 to the MIDI OUT of your sequencer, and set the Thru function of the sequencer (refer to the owner's manual of your sequencer). This will allow you to listen to the performance while you record.

- * Turn off the power of the VK-77 and of the other devices before you make connections. If connections are made when the power is on, malfunctions or problems may occur.

So that the music data sent directly from the keyboard to the organ voice or orchestral voice is not sounded by the VK-77 in duplicate with the music data re-transmitted by the sequencer, you must turn the VK-77's Local Control setting OFF. The VK-77 must also be set so it will produce sound in response to messages received from an external MIDI device.

→ Playing the VK-77's Internal Sound Generator from an External MIDI Device (p. 85)



1. Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
2. Use [<|>] to get the display to show the SYSTEM MIDI menu.
3. Press [ENTER] or [▼].
4. Use [▲][▼] to get the display to show Local Control.
5. Use [+][-] to turn the setting Off.
6. Use [▲][▼] to get the display to show Org&Orch MIDI (Organ Voice & Orchestral Voice MIDI Transmit/MIDI Receive Switch).
7. Use [<|>] to select the MIDI message transmission (Tx) and reception (Rx) parameters, and use [+][-] to turn them On.
8. Use [▲][▼] to get the display to show MIDI Thru.
9. Use [+][-] to select Off.
The VK-77's Thru function will be turned off.
→ Adding MIDI THRU functionality to the MIDI OUT connector (p. 74)
10. Press [EXIT] twice, or press [EDIT] to exit Edit mode.

Recording

When you are ready, start recording on your sequencer and record your performance.

1. Start recording on your sequencer.
2. Adjust the harmonic bars, or select an orchestral voice sound, and then play.
3. When you finish playing, stop the sequencer.
4. When you playback the sequencer, your performance will be reproduced.

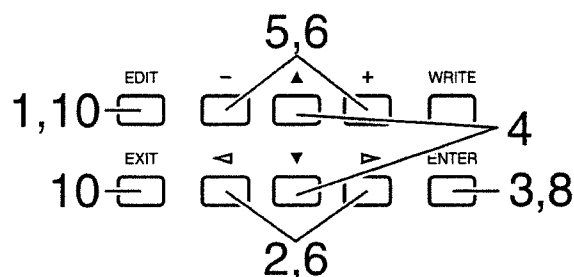
* You can use a control pedal or the follows of a pedal keyboard unit to control the start/stop function of your sequencer.

→ Assigning a function to the control pedal (p. 76)

→ Assigning a function to the foot switch of a pedal keyboard unit (p. 76)

Saving VK-77 settings on a sequencer

You can connect the VK-77 to a sequencer and use the Bulk Dump function to save registrations, orchestral voice settings, and system settings. This data is transferred in the form of MIDI Exclusive data.



Connect the VK-77's MIDI OUT to your sequencer's MIDI IN, and the VK-77's MIDI IN to your sequencer's MIDI OUT.

1. Press [EDIT].
The [EDIT] indicator lights, and you enter Edit mode.
2. Use [<|>] to get the display to show the UTILITY menu.

Connecting External Devices

3. Press [ENTER] or [▼].
4. Use [▲][▼] to get the display to show Bul Dump (Bulk Dump).
5. Use [+][−] to select the data that you wish to transmit.

All	All data of the VK-77 will be transmitted.
Regist	Data stored in registration memory will be transmitted. You can select the registration that you wish to transmit.
Orch	Orchestral voice settings will be transmitted. You can select the settings that you wish to transmit.
System	VK-77 system settings will be transmitted.
6. If you selected Regist or Orch, use [<][>] or [+][−] to select the settings that you wish to transmit.
7. Once you've specified the data you wish to save, start recording on your sequencer.
8. Press [ENTER].

The data you specified will be transmitted from the MIDI OUT connector.

```
Bulk Dump: 77%  
Executing...
```

9. When the data has been transmitted, the display will indicate "Complete." Now stop the sequencer.

```
Bulk Dump  
Complete.
```

10. Press [EXIT] twice, or press [EDIT] to exit Edit mode.

To restore the recorded settings to the VK-77, use the following procedure.

1. Connect the VK-77's MIDI OUT to the sequencer's MIDI IN, and connect the VK-77's MIDI IN to the sequencer's MIDI OUT.
2. Prepare (load) the data which contains the settings, and with the VK-77's power turned on, start playback on the sequencer.

* For details on transmitting exclusive data, refer to the owner's manual for your sequencer.

Connecting a Rotary Speaker

In addition to providing a rotary speaker effect, the VK-77 also allows you to connect an actual rotary speaker. Connect your rotary speaker to the ROTARY TONE CABINET connector located on the rear panel.

* Connecting a speaker which does not meet the following specifications may cause malfunctions.

The pinout for the ROTARY TONE CABINET connector is as follows:

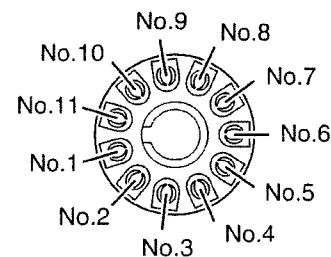
No. 1	ORGAN (ROTARY)
No. 2	ORGAN (STATIONARY)
No. 3	ORCHESTRAL L
No. 4	GND
No. 5	GND
No. 6	POWER ON/OFF CONTROL
No. 7	FAST CONTROL
No. 8	SLOW CONTROL
No. 9	NC
No. 10	ORCHESTRAL R
No. 11	+24 V IN

Pin Nos. 1 and 2 are the output of the organ voice.

Pin Nos. 3 and 10 are the output of the orchestral voice.

Pin Nos. 6, 7, and 8 are the open collector output, and are at a nominal voltage of 5–30 V DC, and nominal loaded current of 50 mA maximum.

Pin no. 11 detects the connection. If the nominal input voltage is outside the acceptable range (18–30 V DC), the connection will not operate correctly.



The volume of the external speaker can be adjusted by the MASTER VOLUME knob.

[FAST/SLOW] will switch the rotational speed of the connected rotary speaker.

[BRAKE] will temporarily stop the rotation of the connected speaker. To resume rotation, press [BRAKE] again, or press [FAST/SLOW].

* The rotary speaker effect of the organ voice will not be applied to the audio signal that is output from the ROTARY TONE CABINET connector.

Troubleshooting

If there is no sound or if the unit does not operate as you expect, please check the following points first. If this does not resolve the problem, contact your dealer or the nearest Roland Service Center.



If a message appears in the display during operation, refer to the following "Error Message" section.

Power does not turn on

Is the power cable correctly connected to the VK-77 and to the AC outlet?

- Check the power cable connections.

No sound/insufficient volume

Is the power turned on for the connected devices?

- Make sure that the power is turned on for the connected amp and mixer etc.

Are the MIX OUTPUT jack/ORGAN OUTPUT jack/ORCHESTRAL OUTPUT jack correctly connected to your amp/mixer system?

- The ORGAN OUTPUT jack is an audio output only for the organ voice, and the ORCHESTRAL OUTPUT jack is an audio output only for the orchestral voice. If you wish to use the audio output of both the organ voice and orchestral voice, please use the MIX OUTPUT connector.

Has the volume been turned down?

- Check the master volume of the VK-77, and the volume settings of the connected amp or mixer etc.

Has the expression pedal been returned toward yourself?

- While paying attention to the volume, advance the pedal away from yourself.

Is there sound in the headphones?

- If there is sound in the headphones, it is possible that a cable connecting the VK-77 to your amp/mixer is broken, or that your amp/mixer is malfunctioning. Check your cables and amp/mixer system once again.

Has the Local Control parameter been turned Off?

- Set the Edit mode SYSTEM MIDI menu parameter Local Control to the ON setting. → p. 74

Organ voices cannot be heard/Volume is too low

Is the KEYBOARD ASSIGN section [ORGAN] button turned on (lit)?

- Press the [ORGAN] button to turn the indicator ON (lit) for the part that you wish to play.

Have the harmonic bars for each part been pushed all the way in?

- Pull out the harmonic bars for the part that you wish to play.

Is the setting of the Edit mode ORGAN BASIC menu parameter Organ Level too low?

- Increasing the value will increase the volume of all organ voices. → p. 62

Does the display indicate "Wheel Brake," showing that the Wheel Brake is turned on?

- Operate the foot switch, control pedal, or bender etc. to defeat the Wheel Brake.

Has the expression pedal been returned toward yourself?

- While being careful of the volume, advance the pedal away from yourself.

Orchestral voices cannot be heard/Volume is too low

In the KEYBOARD ASSIGN section, is the [ORCH] button on (lit)?

- For the part that you wish to play, press the [ORCH] button to turn it on (lit).

Has the orchestral harmonic bar been pushed all the way in?

- In the ORCHESTRAL VOICES section, use PART SELECT [UPPER]/[LOWER]/[PEDAL] to select the part that you wish to play, and pull the orchestral harmonic bar toward yourself.

Is the Edit mode ORCHESTRAL menu parameter OrchestralLevel too low?

- Increasing this value will increase the volume of the currently selected orchestral voice. → p. 67

Has the control pedal been returned toward yourself?

- If the Edit mode SYSTEM BASIC menu parameter Ctrl1 Assign/Ctrl2 Assign has been assigned to Orch & Ext Exp, the volume of the orchestral voice will be controlled by the control pedal. While being careful of the volume, advance the pedal away from yourself.

Has the expression pedal been returned toward yourself?

- While being careful of the volume, advance the pedal away from yourself.

Pedal part cannot be heard

Is the PEDAL KEYBOARD select switch in the correct position, and is the cable connected correctly?

- If you are using the special cable to connect a PK-7 pedal keyboard unit, set the select switch to the PK IN position. If you are using a MIDI cable to connect the PK-5 etc., set the select switch to the MIDI PEDAL IN position. Also make sure that the cable is connected correctly. → p. 23, 24

If you are using the lower keyboard to play the pedal part, has [PEDAL TO LOWER] been turned off (dark)?

- If you wish to use the lower keyboard to play the pedal part, turn [PEDAL TO LOWER] on (lit). → p. 40

Click is heard when you press/release a key

- On vintage organs, a "click" noise is heard when you press or release a key. Initially this was considered a problem, but as sounds with this "click" became widely used in various types of music, it came to be seen as a feature of this type of organ sound. The VK-77 faithfully simulates the click sound of vintage organs. The volume of the click can be adjusted by the Edit mode ORGAN BASIC menu parameter Click Level. → p. 62

Pitch is incorrect

Is the Master Tune setting correct?

- Check the setting of the Edit mode SYSTEM BASIC menu parameter Master Tune. → p. 75

Is the Key Transpose setting correct?

- Check the setting of the Edit mode SYSTEM BASIC menu parameter Key Transpose. → p. 75

Is the Key Shift setting of the orchestral voice correct?

- Check the setting of the Edit mode ORCHESTRAL menu parameter Orch Key Shift. → p. 67

Is the Fine Tune setting of the orchestral voice correct?

- Check the setting of the Edit mode ORCHESTRAL menu parameter Orch Fine Tune. → p. 67

Has "Glide" been assigned to the Edit mode SYSTEM BASIC menu parameter Ctrl1 Assign/Ctrl2 Assign? → p. 76

- If "Glide" is assigned when no foot switch or control pedal is connected to the CONTROL PEDAL 1/2 jack, the pitch may be incorrect.

Has "Wheel Brake" been assigned to the Edit mode SYSTEM BASIC menu parameter Ctrl1 Assign/Ctrl2 Assign? → p. 76

- If "Wheel Brake" is assigned when no foot switch or control pedal is connected to the CONTROL PEDAL 1/2 jack, the pitch may be incorrect.

Have pitch bend messages been received without returning to the normal value?

- Turn the [ORGAN CONTROL] button off, and try moving the bender to left and right.

Is the Ring Modulator being applied to the organ voice?

- Check the setting of the Edit mode ORGAN EFFECTS menu parameter Ring Modulator. → p. 56, 65

Cannot change the registration/orchestral voice sound

Has [REGISTRATION LOCK] been turned on (lit)?

- If you wish to use [1]–[8], [Bank], and [A/B] to change registrations, turn [REGISTRATION LOCK] off (dark). → p. 53

If you are attempting to select sounds from an external device, has the MIDI message reception switch been turned off?

- In Edit mode SYSTEM MIDI menu, turn the Org&Orch MIDI reception switch (Rx) on. → p. 74

If you are attempting to select sounds from an external device, is the Control Channel set correctly?

- Make sure that the Edit mode SYSTEM MIDI menu parameter Control MIDI Ch matches the MIDI channel of the external device that is transmitting the program change message. → p. 74

Overdrive is not applied

Is the overdrive level too low?

- Adjust the level either by rotating the OVERDRIVE knob or by increasing the value of the Edit mode ORGAN EFFECTS menu parameter OD Level. → p. 64

Is the Edit mode ORGAN BASIC menu parameter Organ Level too low?

- If the Organ Level value is too low, overdrive will not be applied. Increase the value. → p. 62

Has the expression pedal been returned toward yourself?

- Paying attention to the volume, advance the pedal away from yourself.

Overdrive will not apply to orchestral voices.

Rotary does not apply

Has [ROTARY SOUND] been turned off (dark)?

- Press [ROTARY SOUND] to turn it on (lit).

Has [BRAKE] been turned on (lit)?

- To defeat the brake and apply the rotary effect, either turn [BRAKE] off (dark) or press [SLOW/FAST].

When a speaker is connected to the ROTARY TONE CABINET connector, has the Edit mode SYSTEM BASIC menu parameter Tone Cabinet FX been set to RNG → EQ → OD → REV? → p. 77

- In this situation, the rotary effect of the VK-77 is temporarily bypassed. The rotary effect will not apply to the audio output from the MIX OUTPUT jack/ORGAN OUTPUT jack/ROTARY TONE CABINET connector.

The rotary effect will not apply to orchestral voices.

Reverb does not apply

Is the reverb return level (the volume returned from the effect) too low?

- Rotate the REVERB knob to adjust the reverb level.

Is the reverb send level (the volume sent to the effect) too low?

- (Organ Voice): Increase the value of the Edit mode ORGAN EFFECTS menu parameter Reverb Send. → p. 66
- (Orchestral Voice): Increase the value of the Edit mode ORCHESTRAL menu parameter Orch Rev Send. → p. 68

Has the reverb type been set to Delay?

- (Organ Voice): Set the Edit mode ORGAN EFFECTS menu parameter Reverb Type to a setting other than Delay. → p. 66
- (Orchestral Voice): Set the Edit mode REGISTRATION BASIC menu parameter OrchReverbType to a setting other than Delay. → p. 73

Delay does not apply

Is the delay return level (the volume returned from the effect) too low?

- Rotate the REVERB knob to adjust the delay level.

Is the delay send level (the volume sent to the effect) too low?

- (Organ Voice): Increase the value of the Edit mode ORGAN EFFECTS menu parameter Delay Send. → p. 66
- (Orchestral Voice): Increase the value of the Edit mode ORCHESTRAL menu parameter Orch Rev Send. → p. 68

Has the reverb type been set to Delay?

- (Organ Voice): Set the Edit mode ORGAN EFFECTS menu parameter Reverb Type to Delay. → p. 66
- (Orchestral Voice): Set the Edit mode REGISTRATION BASIC menu parameter OrchReverbType to Delay. → p. 73

Is the delay feedback setting too low?

- (Organ Voice): Increase the value of the Edit mode ORGAN EFFECTS menu parameter Delay Feedback. → p. 66
- (Orchestral Voice): Increase the value of the Edit mode REGISTRATION BASIC menu parameter Orch Delay FB. → p. 73

Is the delay time too short?

- (Organ Voice): Increase the value of the Edit mode ORGAN EFFECTS menu parameter Delay Time. → p. 66
- (Orchestral Voice): Increase the value of the Edit mode REGISTRATION BASIC menu parameter Orch Delay Time. → p. 73

MIDI messages are not transmitted/received correctly

Is the MIDI message transmit/receive switch turned off?

- Turn the Edit mode SYSTEM MIDI menu Org&Orch MIDI transmit/receive switch (Tx/Rx) on. → p. 74

Is the device ID number set correctly?

- Check the setting of the Edit mode SYSTEM MIDI menu Device ID No. parameter. → p. 74

Are the MIDI channels of each part set correctly?

- Check the setting of the Edit mode SYSTEM MIDI menu Organ MIDI Ch/Orch MIDI Ch/EXT MIDI Ch parameters. → p. 74

Is the control MIDI channel set correctly?

- Make sure that the Edit mode SYSTEM MIDI menu Control MIDI Ch setting matches the MIDI channel on which the program change or expression messages are being transmitted. → p. 74

Is the bulk dump setting (type) correct?

- Check the Edit mode UTILITY menu Bulk Dump setting. → p. 81

Is the playback tempo of your sequencer correct?

- Set your sequencer to playback at the same tempo as when the exclusive data was recorded.

Can't set the MIDI channel

Has the desired channel already been specified as the MIDI channel for another part?

- You must either change the other part to a different MIDI channel, or use a MIDI channel that is not being used by any other part. → p. 74

Are you attempting to assign a MIDI channel which is already being used as the control MIDI channel to the orchestral voice or external?

- It is not possible to assign the orchestral voice or external to the same MIDI channel as the control MIDI channel. → p. 74

List of messages/error messages

The display of the VK-77 will occasionally show messages regarding a special operation, or error messages that indicate that an operation was incorrect or could not be performed. This section explains the meaning of each message/error message, and describes the action that you should take. Carefully read the explanation and take the appropriate measures.

Messages

Wheel Brake

This is displayed when the wheel brake is in effect. If the organ voice does not sound, it is possible that the wheel brake has been left on. Check that this message is shown in the display, and turn off the wheel brake. → p. 54, 60

Pedal Keyboard Ready

This message will appear when the power of the VK-77 is turned on if a pedal keyboard unit (PK-7, PK-5 etc.) is connected correctly. If this message does not appear even though a pedal keyboard unit is connected, turn off the power of the VK-77, and check the cable connections and the position of the PEDAL KEYBOARD select switch. → p. 23, 24

Thru Excl: Press [EXIT] to Cancel

Since a large system exclusive message is being "thru'ed," the VK-77 has temporarily suspended operation.

Either wait until the system exclusive message has finished being thru'ed, or press [EXIT] to abort the "Thru." If the Thru is aborted, the SYSTEM MIDI menu → MIDI Thru setting will automatically be set to On (w/o SysEx), and system exclusive messages will stop being thru'ed. → p. 74

Error messages

Battery Low!

Cause: The internal backup battery (which maintains the registrations, orchestral voices, and system settings that you make) has run down.

Action: Contact your dealer or a nearby Roland Service Center to have the battery replaced.

Memory Damaged!

Cause: The backup battery has run down, causing the internal data to be lost.

Action: Contact your dealer or a nearby Roland Service Center to have the battery replaced.

MIDI Buffer Full!

Cause: More MIDI data was received in a short time than the VK-77 was able to process.

Action: Reduce the amount of MIDI data that is being transmitted to the VK-77.

MIDI Communication Error!

Cause: It is possible that a MIDI cable is disconnected or broken.

Action: Check that the MIDI cables are connected correctly and are not broken.

Sys Excl: Check Sum Error!

Cause: A system exclusive message with an incorrect check sum was received.

Action 1: Check the data that is being transmitted from the other device to the VK-77. If the data was incorrect, correct it and try the operation once again.

Action 2: If the check sum is correct, use as short a MIDI cable as possible, and try the operation once again.

Action 3: If the check sum is correct and there is another MIDI device (such as a device with MIDI Thru functionality) between the transmitting device and the VK-77, disconnect that device, connect the transmitting device directly to the VK-77, and try the operation once again.

If the same message appears in spite of this, contact your dealer or a nearby Roland Service Center.

Sys Excl: Rx Data Error!

Cause: System exclusive data is not being received correctly.

Action: Check the data that is being transmitted and the settings of the transmitting device.

Edit Parameters List

SYSTEM BASIC menu (p. 75)

<input type="radio"/> Master Tune	Master Tune
<input type="radio"/> Key Transpose	Key Transpose
<input type="radio"/> Orch Note Remain	Orchestral Voice Note Remain
<input type="radio"/> Hold Polarity	Hold Pedal Polarity
<input type="radio"/> Ctrl1 Polarity	Control Pedal 1 Polarity
<input type="radio"/> Ctrl1 Assign	Control Pedal 1 Assign
<input type="radio"/> Ctrl2 Polarity	Control Pedal 2 Polarity
<input type="radio"/> Ctrl2 Assign	Control Pedal 2 Assign
<input type="radio"/> PK FootL Assign	Foot Switch L Assign
<input type="radio"/> PK FootR Assign	Foot Switch R Assign
<input type="radio"/> Power Up Regist	Power Up Registration Number
<input type="radio"/> Tone Cabinet FX	Tone Cabinet Effects
<input type="radio"/> DisplayContrast	Display Contrast

SYSTEM MIDI menu (p. 74)

<input checked="" type="checkbox"/> Local Control	Local Control
<input checked="" type="checkbox"/> MIDI Thru	MIDI Thru
<input type="radio"/> Device ID No.	Device ID Number
<input type="radio"/> Org&Orch MIDI	Organ Voice & Orchestral Voice MIDI Transmit/MIDI Receive Switch
<input type="radio"/> Control MIDI Ch	Control MIDI Channel
<input type="radio"/> Organ MIDI Ch	Organ Voice MIDI Channel
<input type="radio"/> Orch MIDI Ch	Orchestral Voice MIDI Channel
<input type="radio"/> Ext MIDI Ch	External MIDI Channel
<input type="radio"/> HarmonicBarMode	Harmonic Bar Mode
<input type="radio"/> H.Bar CC No. 16'	16' Harmonic Bar Controller Number
<input type="radio"/> H.Bar CC No. 5-1/3'	5-1/3' Harmonic Bar Controller Number
<input type="radio"/> H.Bar CC No. 8'	8' Harmonic Bar Controller Number
<input type="radio"/> H.Bar CC No. 4'	4' Harmonic Bar Controller Number
<input type="radio"/> H.Bar CC No. 2-2/3'	2-2/3' Harmonic Bar Controller Number
<input type="radio"/> H.Bar CC No. 2'	2' Harmonic Bar Controller Number
<input type="radio"/> H.Bar CC No. 1-3/5'	1-3/5' Harmonic Bar Controller Number
<input type="radio"/> H.Bar CC No. 1-1/3'	1-1/3' Harmonic Bar Controller Number
<input type="radio"/> H.Bar CC No. 1'	1' Harmonic Bar Controller Number

REGISTRATION BASIC menu (p. 71)

<input checked="" type="checkbox"/> Regist Name	Registration Name
<input checked="" type="checkbox"/> LowerSplitPoint	Lower Keyboard Split Point
<input checked="" type="checkbox"/> Org Bender Asgn	Organ Voice Bender Assign
<input checked="" type="checkbox"/> Org Mod Asgn	Organ Voice Modulation Lever Assign
<input checked="" type="checkbox"/> Org After Asgn	Organ Voice Aftertouch Assign
<input checked="" type="checkbox"/> Organ BendRange	Organ Voice Pitch Bend Range
<input checked="" type="checkbox"/> Organ Hold Sw	Organ Voice Hold Switch
<input checked="" type="checkbox"/> Orch Part Level	Orchestral Voice Part Level
<input checked="" type="checkbox"/> Orch Hold Sw	Orchestral Voice Part Hold Switch
<input checked="" type="checkbox"/> Orch Exp Sw	Orchestral Voice Part Expression Switch
<input checked="" type="checkbox"/> OrchUpperAft	Orchestral Upper Part Aftertouch Switch
<input checked="" type="checkbox"/> OrchReverbType	Orchestral Reverb Type
<input checked="" type="checkbox"/> OrchReverbTime	Orchestral Reverb Time
<input checked="" type="checkbox"/> Orch Delay Time	Orchestral Delay Time
<input checked="" type="checkbox"/> Orch Delay FB	Orchestral Delay Feedback

REGISTRATION MIDI menu (p. 69)

- Ext Tone Select U External Upper Part Tone Select
- Ext Tone Select L External Lower Part Tone Select
- Ext Tone Select P External Pedal Part Tone Select
- Ext Key Shift External Part Key Shift
- Ext Upper Velo External Upper Velocity Setting
- Ext Lower Velo External Lower Velocity Setting
- Ext Pedal Velo External Pedal Velocity Setting
- Ext Volume External Part Volume Switch
- Ext Hold External Part Hold Switch
- Ext Expression External Part Expression Switch
- Ext Modulation External Part Modulation Switch
- Ext Bender External Part Bender Switch
- Ext BenderRange External Part Bender Range
- ExtUpper Aft Sw External Upper Part Aftertouch Switch
- Ext Pan External Part Panpot Switch
- Ext Coarse Tune External Part Coarse Tune
- Ext Fine Tune External Part Fine Tune
- Ext Reverb External Part Reverb Level
- Ext Chorus External Part Chorus Level

ORGAN BASIC menu (p. 62)

- Organ Level Organ Level
- Wheel Type Wheel Type
- Fold Back Fold Back
- Wheel Table Wheel Table
- Leakage Level Leakage Level
- Click Level Click Level
- Perc Level Percussion Level
- Perc Time Percussion Time
- Perc Recharge Percussion Recharge Time
- Perc 1' Cancel Percussion 1-foot Cancel
- Perc HBarLevel Percussion Harmonic Bar Level
- Perc Direct Percussion Direct
- Pedal H.Bar Mix 16' Pedal Harmonic Bar Mixing Ratio 16'
- Pedal H.Bar Mix 8' Pedal Harmonic Bar Mixing Ratio 8'
- Pdl SustainTime Pedal Sustain Time
- Pdl Attack Pedal Attack

ORGAN EFFECTS menu (p. 64)

- V/C Vintage Vibrato and Chorus Vintage
- V/C Lower Vibrato and Chorus Lower
- Amp & Speaker Amp and Speaker Type
- OD Character Overdrive Character
- OD Level Overdrive Level
- Equalizer Equalizer
- Rotary Type Rotary Type
- Rotary Level Rotary Level
- Rotary RiseTime Rotary Rise Time
- Rotary FallTime Rotary Fall Time
- RotarySpd Slow Rotary Speed Slow
- RotarySpd Fast Rotary Speed Fast
- Mic Distance Mic Distance
- Rotary Spread Rotary Spread
- RotaryRandomize Rotary Randomize
- Ring Modulator Ring Modulator
- Ring Mod Freq Ring Modulator Frequency
- ReverbStructure Organ Reverb Structure
- Reverb Type Organ Reverb Type
- Reverb Send Lvl Organ Reverb Send Level
- Delay Send Lvl Organ Delay Send Level
- Reverb Time Organ Reverb Time
- Delay Time Organ Delay Time
- Delay Feedback Organ Delay Feedback

ORCHESTRAL menu (p. 67)

<input type="radio"/> Orch Instrument	Orchestral Instrument Select
<input type="radio"/> Orch Level	Orchestral Level
<input type="radio"/> Orch Velocity	Orchestral Voice Velocity Setting
<input type="radio"/> Orch Key Shift	Orchestral Voice Key Shift
<input type="radio"/> Orch Fine Tune	Orchestral Voice Fine Tune
<input type="radio"/> Orch LFO	Orchestral Voice Pitch LFO
<input type="radio"/> Orch Brilliance	Orchestral Voice Brilliance
<input type="radio"/> Orch AmpEnv Mod	Orchestral Amp Envelope Modify
<input type="radio"/> Orch Glide Sw	Orchestral Glide Switch
<input type="radio"/> Orch Glide Set	Orchestral Glide Setting
<input type="radio"/> Orch Bend Sens	Orchestral Voice Pitch Bend Control Sensitivity
<input type="radio"/> Orch Mod Sens	Orchestral Voice Modulation Control Sensitivity
<input type="radio"/> Orch After Sens	Orchestral Voice Aftertouch Sensitivity
<input type="radio"/> Orch Rev Send	Orchestral Reverb Send Level
<input type="radio"/> Orch Chorus Typ	Orchestral Voice Chorus Type
<input type="radio"/> Orch Chorus Set	Orchestral Voice Chorus Setting
<input type="radio"/> Orch SDelay Set	Orchestral Voice Short Delay Setting
<input type="radio"/> Orch TremoloSet	Orchestral Voice Tremolo Setting
<input type="radio"/> Orch Chorus Lvl	Orchestral Voice Chorus Level
<input type="radio"/> Orch SDelay Lvl	Orchestral Voice Short Delay Level

UTILITY menu (p. 77)

■ Regist Copy	Registration Copy
■ Orchestral Copy	Orchestral Voice Copy
■ Regist Swap	Registration Swap
■ Regist Reload	Registration Reload
■ Orch Reload	Orchestral Voice Reload
■ Bulk Dump	Bulk Dump
■ Factory Reset	Factory Reset

●: Saved for each registration

○: The settings you modify are saved automatically.

■: Parameters not saved even if the settings is modified or parameters of UTILITY menu

MIDI implementation

Model: VK-77 (Combo Organ)
Date: Sep. 28 1998
Version: 1.00

1. Recognized Receive Data

- The VK-77 has two MIDI IN connectors: MIDI IN and PEDAL KEYBOARD IN. Messages that are input from PEDAL KEYBOARD IN will be received as messages for the pedal part, regardless of their channel number.
- Messages for the system or for the entire organ voice will be received on the channel specified by Control MIDI Channel (SYSTEM MIDI MENU -> Control MIDI Ch.).
- Messages for the organ upper/lower/pedal part will be received on the each channels specified by Organ MIDI Channel (SYSTEM MIDI MENU -> Organ MIDI Ch.).
- Messages for the orchestral upper/lower/pedal part will be received on the each channels specified by Orchestral MIDI Channel (SYSTEM MIDI MENU -> Orch MIDI Ch.).
- Following messages are not received if the "Rc" of Organ Voice & Orchestral Voice MIDI Transmit/MIDI Receive Switch (SYSTEM MIDI MENU -> Org&Orch MIDI) is OFF.
- The VK-77's MIDI channels is defined as follows at the factory settings.

Control MIDI Channel ... 1	Organ Voices	Upper Part ... 1	Lower Part ... 3	Pedal Part ... 2
Orchestral Voices	Upper Part ... 4	Lower Part ... 5	Pedal Part ... 6	
External	Upper Part ... 7	Lower Part ... 8	Pedal Part ... 9	

[ORGAN] It means the message that can receive the each part of the Organ Voices.
[ORCH] It means the message that can receive the each part of the Orchestral Voices.
[CTRL] It means the message that can receive the MIDI channel specified by Control MIDI Channel.
[PEDAL] It means the message that can receive from the PEDAL KEYBOARD IN Connector.

■Channel Voice Message

●Note Off [ORGAN] [ORCH] [PEDAL]

Status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)
kk =note number: 00H-7FH (0-127)
vv =note off velocity: 00H-7FH (0-127)

●Note On [ORGAN] [ORCH] [PEDAL]

Status	2nd byte	3rd byte
9nH	kkH	vvH

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)
kk =note number: 00H-7FH (0-127)
vv =note on velocity: 01H-7FH (1-127)

●Control Change

○Modulation (Controller number 1) [ORCH]

Status	2nd byte	3rd byte
BnH	01H	vvH

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)
vv =modulation depth: 00H-7FH (0-127)

○Data Entry (Controller number 6, 38)

Status	2nd byte	3rd byte
BnH	06H	mmH
BnH	26H	llH

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)
mm =upper byte (MSB) of parameter number specified by RPN
ll =lower byte (LSB) of parameter number specified by RPN

○Volume (Controller number 7) [CTRL] [ORCH]

Status	2nd byte	3rd byte
BnH	07H	vvH

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)
vv =Volume: 00H-7FH (0-127) Initial value is "64H" (100)

- This messages can control the volume of the entire organ voice when it is received in the channel which was specified by Control MIDI Channel (SYSTEM MIDI MENU -> Control MIDI Ch). But it can not control organ upper/lower/pedal part separately.

- This messages can control the volume of the each part of the orchestral voices when it is received in the channel which was specified by Orchestral MIDI Channel (SYSTEM MIDI MENU -> Orch MIDI Ch)

○Expression (Controller number 11) [CTRL] [ORCH] [PEDAL]

Status	2nd byte	3rd byte
BnH	0BH	vvH

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)
vv =expression: 00H-7FH (0-127) Initial value is "7FH" (127)

- It can be used independently from Volume messages. Expression messages are used for musical expression within a performance; e.g., expression pedal movements, crescendo and decrescendo.
- This messages can control the volume of the entire organ voice when it is received in the channel which was specified by Control MIDI Channel (SYSTEM MIDI MENU -> Control MIDI Ch). But it can not control organ upper/lower/pedal part separately.
- This messages can control the volume of the each part of the orchestral voices when it is received in the channel which was specified by Orchestral MIDI Channel (SYSTEM MIDI MENU -> Orch MIDI Ch).
- Data received from PEDAL KEYBOARD IN will be handled in the same way as the EXPRESSION PEDAL jack of the VK-77 itself.

○General Purpose Controller 1 (Controller number 16) (Orchestral Glide) [ORCH]

Status	2nd byte	3rd byte
BnH	10H	vvH

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)
vv =control value: 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON

○General Purpose Controller 2 (Controller number 17) (Wheel Brake) [CTRL]

Status	2nd byte	3rd byte
BnH	11H	vvH

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)
vv =control value: 00H-7FH (0-127) 0-63 = SPIN, 64-127 = BRAKE

○General Purpose Controller 3 (Controller number 18)

Status	2nd byte	3rd byte
BnH	12H	vvH

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)

- The function will depend on the jack.

a) MIDI IN (Overdrive) [CTRL]

vv =control value: 00H-7FH (0-127)

b) PEDAL KEYBOARD IN (PK Foot Switch L) [PEDAL]

vv =control value: 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON

- The function can be assigned by Foot Switch-L Assign (SYSTEM BASIC menu -> PK Foot L Assign).

○General Purpose Controller 4 (Controller number 19)

Status	2nd byte	3rd byte
BnH	13H	vvH

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)

- The function will depend on the jack.

a) MIDI IN (Ring Modulator Frequency) [CTRL]

vv =control value: 00H-7FH (0-127)

b) PEDAL KEYBOARD IN (PK Foot Switch R) [PEDAL]

vv =control value: 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON

- The function can be assigned by Foot Switch-R Assign (SYSTEM BASIC menu -> PK Foot R Assign).

○Hold 1 (Controller number 64) [ORGAN] [ORCH] [PEDAL]

Status	2nd byte	3rd byte
BnH	40H	vvH

n =MIDI Channel Number: 0H-FH (ch.1~ch.16)
vv =control value: 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON

* Data received from PEDAL KEYBOARD IN will be handled in the same way as the HOLD PEDAL jack of the VK-77 itself

○Sound Controller 1-9 (Controller number 70-78) [ORGAN]

Status	2nd byte	3rd byte
BnH	ccH	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 cc =Controller number: 46H-4EH (70-78)
 vv =control value: 00H-7FH (0-127)

- * The Harmonic Bar level will change.
- * The Value can be received when Harmonic Bar Mode (SYSTEM MIDI MENU -> HarmonicBarMode) is "Mode 2." To change the assignment of control changes to CC#1-31, 33-95, use H.Bar Controller Number (SYSTEM MIDI MENU -> H.Bar CC No.)
- * With the factory setting, control change message are assigned to each Harmonic Bar as follows.

cc	H.Bar Feet
46H (70)	16'
47H (71)	5-1/3'
48H (72)	8'
49H (73)	4'
4AH (74)	2-1/3'
4BH (75)	2'
4CH (76)	1-3/5'
4EH (77)	1-1/3'
4FH (78)	1'

* The control value corresponds to the H.Bar levels as follows.

vv	H.Bar Level
00H-0EH	0
0FH-1CH	1
1DH-2AH	2
2BH-3EH	3
39H-47H	4
48H-55H	5
56H-63H	6
64H-71H	7
72H-7FH	8

○General Purpose Controller 5 (Controller number 80) (Rotary Speed) [CTRL]

Status	2nd byte	3rd byte
BnH	50H	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =control value: 00H-7FH (0-127) 0-63 = SLOW, 64-127 = FAST

○General Purpose Controller 6 (Controller number 81) (Rotary Brake) [CTRL]

Status	2nd byte	3rd byte
BnH	51H	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =control value: 00H-7FH (0-127) 0-63 = BRAKE, 64-127 = SPIN

○General Purpose Controller 7 (Controller number 82) (Reverb Return Level) [CTRL]

Status	2nd byte	3rd byte
BnH	52H	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =control value: 00H-7FH (0-127)

○General Purpose Controller 8 (Controller number 83) (Ring Modulator Switch) [CTRL]

Status	2nd byte	3rd byte
BnH	53H	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =control value: 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON

○RPN MSB/LSB (Controller number 100,101)

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 mm =upper byte (MSB) of parameter number specified by RPN
 ll =lower byte (LSB) of parameter number specified by RPN

The RPN (Registered Parameter Number) messages are expanded control changes, and each function of RPN is described by the MIDI Standard.

To use these messages, you must first use RPN MSB and RPN LSB messages to specify the parameter to be controlled, and then use Data Entry messages to specify the value of the specified parameter. Once an RPN parameter has been specified, all Data Entry messages received on that channel will modify the value of that parameter. To prevent accidents, it is recommended that you set RPN Null (RPN Number = 7FH/7FH) when you have finished setting the value of the desired parameter.

On the VK-77, RPN can be used to modify the following parameters.

RPN	Data entry	Explanation
MSB/LSB 00H/00H	MSB/LSB mmH/00H	Pitch Bend Sensitivity [CTRL][ORCH] mm: 00H-0CH (0-12 semitones) ll: processed as 00H specify up to 1 octaves in semitone steps.
00H/00H	mmH/llH	Master Fine Tuning [CTRL] mm, ll: 20 00H-40 00H-60 00H (-8192 * 50 / 8192-0-+8192 * 50 / 8192 cent)
7FH/7FH	---	RPN null [CTRL][ORCH] Set Condition where RPN is unspecified.

* This messages can control the Organ Voice Pitch Bend Sensitivity parameter (ORGAN BASIC MENU -> Org Bend Sens) when it is received in the channel which was specified by Control MIDI Channel (SYSTEM MIDI MENU -> Control MIDI Ch).

* This messages can rewrite the Orchestral Voice Pitch Bend Sensitivity parameter (ORCHESTRAL MENU -> Orch Bend Sens) when it is received in the channel which was specified by Orchestral MIDI Channel (SYSTEM MIDI MENU -> Orch MIDI Ch).

* This messages can control the Master Tune parameter (SYSTEM BASIC MENU -> Master Tune) of the VK-77 itself when it is received in the channel which was specified by Control MIDI Channel (SYSTEM MIDI MENU -> Control MIDI Ch).

●Program Change [CTRL] [ORCH]

Status	2nd byte
CnH	ppH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 pp =program number: 00H-7FH (prog.1-prog.128)

* This messages can control the registration when it is received in the channel which was specified by Control MIDI Channel (SYSTEM MIDI MENU -> Control MIDI Ch).

* This messages can control each part of the program number of the orchestral voices when it is received in the channel which was specified by Orchestral MIDI Channel (SYSTEM MIDI MENU -> Orch MIDI Ch).

●Channel Aftertouch [ORCH]

Status	2nd byte
DnH	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =channel aftertouch: 00H-7FH (0-127)

●Pitch Bend Change [CTRL] [ORCH]

Status	2nd byte	3rd byte
EnH	llH	mmH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 mm, ll =Pitch Bend value: 00 00H-40 00H-7F 7FH (-8192-0-+8191)

* This messages can control Pitch Bend Change of the organ voice when it is received in the channel which was specified by Control MIDI Channel (SYSTEM MIDI MENU -> Control MIDI Ch).

* This messages can control Pitch Bend Change of the each part of the orchestral voice upper/lower/pedal when it is received in the channel which was specified by Orchestral MIDI Channel (SYSTEM MIDI MENU -> Orch MIDI Ch)

■Channel Mode Messages

●All Sound Off (Controller number 120) [ORGAN] [ORCH]

Status	2nd byte	3rd byte
BnH	78H	00H

n = MIDI Channel Number: 0H-FH (ch.1~ch.16)

- When this message is received, all notes currently sounding on the corresponding channel will be turned off.

●Reset All Controllers (Controller number 121) [CTRL] [ORGAN] [ORCH]

Status	2nd byte	3rd byte
BnH	79H	00H

n = MIDI Channel Number: 0H-FH (ch.1~ch.16)

- When this message is received, the following controllers will be set to their reset values.

Controller	Reset value
Pitch Bend Change	±0 (center)
Channel Pressure	0 (off)
Modulation	0 (off)
Expression	127 (maximum) However the controller will be at minimum.
Hold 1	0 (off)
Orchestral Glide	0 (off)
Wheel Brake	0 (SPIN)
RPN	unset; previously set data will not change

●All Note Off (Controller number 123) [ORGAN] [ORCH]

Status	2nd byte	3rd byte
BnH	7BH	00H

n = MIDI Channel Number: 0H-FH (ch.1~ch.16)

- When All Note Off is received, all currently sounding notes of the corresponding channel will be turned off. However if Hold 1 is on, the sound will be held until these are turned off.

■System Realtime Message

●Active Sensing

Status
FE

- When an Active Sensing message is received, the unit will begin monitoring the interval at which MIDI Message are received. During monitoring, if more than 420 ms passes without a message being received, the same processing will be done as when All Sound Off, All Note Off, and Reset All Controllers message are received. Then monitoring will be halted.

■System Exclusive Message

Status	Data byte	Status
F0H	iiH, ddH,, ccH	F7H

F0H: System Exclusive message status
 ii = ID number: This is the ID number (manufacturer ID) that specifies the manufacturer whose exclusive message this is. Roland's manufacturer ID is 41H. ID numbers 7EH and 7FH are defined in an expansion of the MIDI standard as Universal Non-realtime messages (7EH) and Universal Realtime messages (7FH.)
 dd,, cc = data: 00H-7FH (0-127)
 F7H: EOX (End Of Exclusive) This is the last status of system exclusive message.

The System Exclusive Messages received by the VK-77 are: messages related to mode settings, Universal Realtime System Exclusive Messages, Data Requests (RQ1), and Data Set (DT1.)

●Universal Realtime System Exclusive Message

○Identity Request Message

Status	Data byte	Status
F0H	7FH, dev, 06H, 01H	F7H

Byte	Explanation
F0H	Exclusive Status
7FH	ID number (Universal Realtime message)
dev	Device ID (dev: 10H-1FH (17-32))
06H	Sub ID#1 (General Information)
01H	Sub ID#2 (Identity Request)
F7H	EOX (End Of Exclusive)

- The "dev" is own device number or 7FH (Broadcast.)

●Data Request 1 (RQ1)

This message requests the other device to transmit data. The address and size determine 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 conditions are not met, nothing is transmitted.

The model ID of the exclusive messages used by this instrument is 00 1AH.

Status	Data byte	Status
F0H	41H, dev, 00H, 1AH, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, vvH, sum	F7H

Byte	Explanation
F0H	Exclusive Status
7FH	ID number (Roland)
dev	device ID (dev: 10H-1FH)
00H	model ID
1AH	model ID (VK-77)
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)

- For the address, size, and checksum, refer to "Examples of system exclusive messages and calculating the checksum." (p. 108)

●Data Set 1 (DT1)

This message transmits the actual data, and is used when you wish to set the data of the receiving device.

Status	Data byte	Status
F0H	41H, dev, 00H, 1AH, 12H, aaH, bbH, ccH, ddH, eeH ... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive Status
7FH	ID number (Roland)
dev	device ID (dev: 10H-1FH)
00H	model ID
1AH	model ID (VK-77)
12H	command ID (DT1)
aaH	address MSB
bbH	address
ccH	address
ddH	address LSB
eeH	data: The actual data to be transmitted. Multi-byte data is transmitted in the order of the address.
:	:
ffH	data
sum	checksum
F7H	EOX (End Of Exclusive)

- Data whose size is greater than 128 byte should be divided into packets of 128 bytes or less and transmitted. Successive "Data Set 1" messages should have at least 40 ms of time interval between them.
- For the address, size, and checksum, refer to "Examples of system exclusive messages and calculating the checksum." (p. 108)

2. Transmitted Data

[EXT]	It means the message that can transmit the each part of the External upper/lower/pedal.
[ORGAN]	It means the message that can transmit the each part of the Organ Voices.
[ORCH]	It means the message that can transmit the each part of the Orchestral Voices.
[CTRL]	It means the message that can transmit a MIDI channel specified by Control MIDI Channel.

- Messages for the external upper/lower/pedal part will be transmitted on the each channels specified by External MIDI Channel (SYSTEM MIDI MENU -> Ext MIDI Ch).
- Messages for the external upper/lower/pedal part will be transmitted when the [EXT UPPER]/[EXT LOWER]/[EXT PEDAL] of the KEYBOARD ASSIGN Section is lighted (On).
- Messages for the system or for the entire organ voice will be transmitted on the channel specified by Control MIDI Channel (SYSTEM MIDI MENU -> Control MIDI Ch).
- Messages for the organ upper/lower/pedal part will be transmitted on the each channels specified by Organ MIDI Channel (SYSTEM MIDI MENU -> Organ MIDI Ch).
- Messages for the orchestral upper/lower/pedal part will be transmitted on the each channels specified by Orchestral MIDI Channel (SYSTEM MIDI MENU -> Orch MIDI Ch).
- Following messages are not transmitted if the "Tx" of Organ Voice & Orchestral Voice MIDI Transmit/MIDI Receive Switch (SYSTEM MIDI MENU -> Org&Orch MIDI) is Off.

■ Channel Voice Message

● Note Off [ORGAN] [ORCH] [EXT]

Status	2nd byte	3rd byte
8nH	kkH	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
kk =note number:	1EH-65H (30-101) (Organ Voices and Orchestral Voices)	
kk =note number:	06H-7DH (6-125) (External)	
vv =note off velocity:	40H (64)	

● Note On [ORGAN] [ORCH] [PEDAL]

Status	2nd byte	3rd byte
9nH	kkH	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
kk =note number:	1EH-65H (30-101) (Organ Voices and Orchestral Voices)	
kk =note number:	06H-7DH (6-125) (External)	
vv =note on velocity:	01H-7FH (1-127)	

● Control Change

○ Bank Select (Controller number 0, 32) [EXT]

Status	2nd byte	3rd byte
BnH	00H	mmH
BnH	20H	llH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
mm, ll =Bank number:	00 00H-7F 7FH (bank.1=bank.16384)	

- The bank number will be transmitted for the external upper/lower/pedal part that was designated by External Tone Select Upper/Lower/Pedal parameter (REGISTRATION MIDI MENU -> Ext Coarse Tune). (Initial value is "Off.")

○ Modulation (Controller number 1) [EXT] [ORCH]

Status	2nd byte	3rd byte
BnH	01H	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
vv =modulation depth:	00H-7FH (0-127)	

- Not transmitted for the external upper/lower/pedal part, when the External Part Modulation Switch (REGISTRATION MIDI MENU -> Ext Modulation) is Off.

○ Volume (Controller number 7) [EXT] [CTRL] [ORCH]

Status	2nd byte	3rd byte
BnH	07H	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
vv =volume:	00H-7FH (0-127). Initial value is "64H" (100)	

- The value of the Orchestral Harmonic Bar will be transmitted for the external upper/lower/pedal part, when the External Part Volume Switch (REGISTRATION MIDI MENU -> Ext Volume) is On.

○ Pan (Controller number 10) [EXT]

Status	2nd byte	3rd byte
BnH	0AH	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
vv =pan:	00H-40H-7FH (left-center-right). Initial value is "40H" (center)	

○ Expression (Controller number 11) [EXT] [CTRL] [ORCH]

Status	2nd byte	3rd byte
BnH	0BH	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
vv =expression:	10H-7FH (16-127) Initial value is "7FH" (127) (Organ Voices) 00H-7FH (0-127) Initial value is "7FH" (Orchestral Voices)	

- Not transmitted for the external upper/lower/pedal part, when the External Part Expression Switch (REGISTRATION MIDI MENU -> Ext Expression) is Off.

○ General Purpose Controller 1 (Controller number 16) (Orchestral Glide) [ORCH]

Status	2nd byte	3rd byte
BnH	10H	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
vv =control value:	00H-7FH (0-127) 0-63 = Off, 64-127 = On	

○ General Purpose Controller 2 (Controller number 17) (Wheel Brake) [CTRL]

Status	2nd byte	3rd byte
BnH	11H	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
vv =control value:	00H-7FH (0-127) 0-63 = SPIN, 64-127 = BRAKE	

○ General Purpose Controller 3 (Controller number 18) (Overdrive) [CTRL]

Status	2nd byte	3rd byte
BnH	12H	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
vv =control value:	00H-7FH (0-127)	

○ General Purpose Controller 4 (Controller number 19) (Ring Modulator Frequency) [CTRL]

Status	2nd byte	3rd byte
BnH	13H	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
vv =control value:	00H-7FH (0-127)	

○ Hold 1 (Controller number 64) [EXT] [ORGAN] [ORCH]

Status	2nd byte	3rd byte
BnH	40H	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
vv =control value:	00H-7FH (0-127) 0-63 = Off, 64-127 = On	

- Not transmitted for the external upper/lower/pedal part, when the External Part Hold Switch (REGISTRATION MIDI MENU -> Ext Hold) is Off.

○ Sound Controller 1-9 (Controller number 70-78) [ORGAN]

Status	2nd byte	3rd byte
BnH	ceH	vvH
n =MIDI Channel Number:	0H-FH (ch.1-ch.16)	
cc =Controller number:	46H-4EH (70-78)	
vv =control value:	00H-7FH (0-127)	

- The Harmonic Bar level will change.
- The value can be transmitted when Harmonic Bar Mode (SYSTEM MIDI MENU -> HarmonicBarMode) is "Mode 2." To change the assignment of control changes to CC#1-31, 33-95, use H.Bar Controller Number (SYSTEM MIDI MENU -> H.Bar CC No.)
- With the factory setting, control change message are assigned to each Harmonic Bar as follows.

cc	H.Bar Feet
46H (70)	16'
47H (71)	5-11/32'
48H (72)	8'
49H (73)	4'
4AH (74)	2-2/3'
4BH (75)	2'
4CH (76)	1-3/5'
4DH (77)	1-1/3'
4EH (78)	1'

* The control value corresponds to the H.Bar levels as follows.

vv	H.Bar Level
00H	0
16H	1
24H	2
32H	3
41H	4
4FH	5
5DH	6
6AH	7
7FH	8

General Purpose Controller 5 (Controller number 80) (Rotary Speed) [CTRL]

Status	2nd byte	3rd byte
BnH	50H	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =control value: 00H-7FH (0-127) 0-63 = SLOW, 64-127 = FAST

General Purpose Controller 6 (Controller number 81) (Rotary Brake) [CTRL]

Status	2nd byte	3rd byte
BnH	51H	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =control value: 00H-7FH (0-127) 0-63 = SPIN, 64-127 = BRAKE

General Purpose Controller 7 (Controller number 82) (Reverb Return Level) [CTRL]

Status	2nd byte	3rd byte
BnH	52H	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =control value: 00H-7FH (0-127)

General Purpose Controller 8 (Controller number 83) (Ring Modulator Switch) [CTRL]

Status	2nd byte	3rd byte
BnH	53H	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =control value: 00H-7FH (0-127) 0-63 = OFF, 64-127 = ON

Effect 1 (Controller number 91) (Reverb Send Level) [EXT]

Status	2nd byte	3rd byte
BnH	5BH	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =control value: 00H-7FH (0-127)

Effect 3 (Controller number 93) (Chorus Send Level) [EXT]

Status	2nd byte	3rd byte
BnH	5DH	vvH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =control value: 00H-7FH (0-127)

ORPN MSB/LSB (Controller number 100, 101)

Status	2nd byte	3rd byte
BnH	65H	mmH
BnH	64H	llH

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)

mm =upper byte (MSB) of parameter number specified by RPN
 ll =lower byte (LSB) of parameter number specified by RPN

On the VK-77, RPN can be used to modify the following parameters.

RPN	Data entry	Explanation
MSB,LSB	MSB,LSB	
00H 00H	mmH 00H	Pitch Bend Sensitivity [EXT] [ORCH] mm: 00H-18H (0-24 semitones) ll: processed as 00H specify up to 1 octaves in semitone steps.
00H 01H	mmH 01H	Master Fine tuning [EXT] mm, ll: 20 00H-40 00H-60 00H (-8192 * 50 / 8192-0-8192 * 50 / 8192 cent)

* The value will be transmitted for the external upper/lower/pedal part that was designated by External Part Fine Tuning parameter (REGISTRATION MIDI MENU -> Ext Fine Time).

RPN	Data entry	Explanation
00H 02H	mmH --	Master Coarse Tuning [EXT] mm: 28H-40H-58H (-24-0-+24 semitones) ll: Ignored (Processed as 00H)

* The value will be transmitted for the external upper/lower/pedal part that was designated by External Part Coarse Tuning parameter (REGISTRATION MIDI MENU -> Ext Coarse Tune).

RPN	Data entry	Explanation
7FH 7FH	---	RPN null [EXT] [ORCH] Set Condition where RPN is unspecified.

Program Change [EXT] [ORCH] [CTRL]

Status	2nd byte	3rd byte
CnH	ppH	

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 pp =Program number: 00H-7FH (prog.1-prog.128)
 00H-3FH (Orchestra)

* The program number will be transmitted for the external upper/lower/pedal part that was designated by External Tone Select Upper/Lower/Pedal parameter (REGISTRATION MIDI MENU -> Ext Tone Select U/L/P).

Channel Aftertouch [EXT] [ORCH]

Status	2nd byte	3rd byte
DnH	vvH	

n =MIDI Channel Number: 0H-FH (ch.1-ch.16)
 vv =Channel Aftertouch: 00H-7FH (0-127)

* Not transmitted for the external upper part when the External Upper Part Aftertouch (REGISTRATION MIDI MENU -> ExtUpperAt5w1) is Off.

Pitch Bend Change [EXT] [ORCH]

Status	2nd byte	3rd byte
EnH	llH	mmH

mm, ll = Pitch Bend value: 00 00H-40 00H-7F 7FH (-8192-0-+8191)

* Not transmitted for the external Upper/Lower/Pedal part, when the External Part Bender Switch (REGISTRATION MIDI MENU -> Ext Bender) is Off.

System Common Message

Song Position

Status	2nd byte	3rd byte
F2H	00H	00H

System Realtime Message

Active Sensing

Status
FEH

* This will be transmitted constantly at intervals of approximately 250 ms.

Continue

Status
FBH

Stop

Status
FCH

System Exclusive Messages

"Identity Reply" and "Data Set 1 (DT1)" are the only system Exclusive messages transmitted by VK-77. When an appropriate "Identity Request Message" and "Data Request 1 (RQ1)" message are received, the requested internal data will be transmitted.

Identity Reply

Status	Data byte	Status
F0H	7EH, dev, 06H, 02H, 41H, 1AH, 01H, 00H, 00H, 00H, 01H, 03H, 00H	F7H

Byte	Explanation
F0H	Exclusive Status
7EH	ID number (Universal Non-realtime message)
dev	Device ID (use the same as the device ID of Roland)
06H	Sub ID#1 (General Information)
02H	Sub ID#2 (Identity Reply)
41H	ID number (Roland)
1AH	Device family code (LSB)
01H	Device family code (MSB)
00H	Device family number code (LSB)
00H	Device family number code (MSB)
00H	Software revision level
01H	Software revision level
00H	Software revision level
00H	Software revision level
F7H	EOX (End Of Exclusive)

- Reply the message by the unique device ID (dev) when the device has received the "Identity Request Message" in the Broadcast.

Data Set 1 DT1

Status	Data byte	Status
F0H	41H, dev, 00H, 1AH, 12H, aaH, bbH, ccH, ddH, eeH... ffH, sum	F7H

Byte	Explanation
F0H	Exclusive Status
41H	ID number (Roland)
dev	device ID (dev: 10H-1FH, initial value is "10H")
00H	model ID
1AH	model ID (VK-77)
12H	command ID (DT1)
aaH	address MSB
bbH	address
ccH	address
ddH	address LSB
eeH	data: The actual data to be transmitted. Multi-byte data is transmitted in the order of 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 Section 3. (p. 104)
- Large amounts of the must be divided into packets of 128 bytes or less, and transmitted at intervals of approximately 40 ms.
- For the address, size, and checksum, refer to "Examples of system exclusive messages and calculating the checksum." (p. 108)

3. Parameter Address Map

<MODEL ID = 00 1AH>

Start address	Description	
00 00 00 00	System SYSTEM BASIC/SYSTEM MIDI	(1)
01 00 00 00	Temporary Registration	(3)
10 00 00 00	Registration All	(3)
10 01 00 00	Registration A12	(3)
:	:	:
10 3F 00 00	Registration A68	(3)
10 40 00 00	Registration B11	(3)
:	:	:
10 7F 00 00	Registration B68	(3)
20 00 00 00	Orchestral Voice 1	(2)
20 01 00 00	Orchestral Voice 2	(2)
:	:	:
20 3F 00 00	Orchestral Voice 64	(2)

(1) SYSTEM BASIC/SYSTEM MIDI

Offset address	Description	
00	0aaa aaaa | Master Tune	0-126 (427.4-452.6)
01	0aaa aaaa | Key Transpose	58-69 (-6-+5: 0 -> 64)
02	0000 000a | Note Remain	0-1 (REMAIN, RETRIEGER)
03	0000 000a | Hold Polarity	0-1 (STANDARD, REVERSE)
04	0000 000a | Control Pedal 1 Polarity	0-1 (STANDARD, REVERSE)
05	0000 aaaa | Control Pedal 1 Assign	0-12 *1
06	0000 000a | Control Pedal 2 Polarity	0-1 (STANDARD, REVERSE)
07	0000 aaaa | Control Pedal 2 Assign	0-12 *2
08	0000 aaaa | PK Foot Switch-L Assign	0-11 *3
09	0000 aaaa | PK Foot Switch-R Assign	0-11 *4
0A	0000 000a | Tone Cabinet Effects	0-1 *5
0B	0000 000a | Power Up Registration Mode	0-1 (NUMBER, LAST)
0C	0aaa aaaa | Power Up Registration Number	0-127 (A11-B88)
0D	0aaa aaaa | Master Reverb Level	0-127
0E	0000 00aa | MIDI Thru	0-2 *6
0F	0000 000a | Tx Organ Orch MIDI	0-1 (OFF, ON)
10	0000 000a | Rx Organ Orch MIDI	0-1 (OFF, ON)
11	0000 aaaa | Organ Control MIDI Channel	0-15 (1-16)
12	0000 aaaa | Organ MIDI Channel Upper	0-15 (1-16)
13	0000 aaaa | Organ MIDI Channel Lower	0-15 (1-16)
14	0000 aaaa | Organ MIDI Channel Pedal	0-15 (1-16)
15	0000 aaaa | Orch MIDI Channel Upper	0-15 (1-16)
16	0000 aaaa | Orch MIDI Channel Lower	0-15 (1-16)
17	0000 aaaa | Orch MIDI Channel Pedal	0-15 (1-16)
18	0000 aaaa | Ext MIDI Channel Upper	0-15 (1-16)
19	0000 aaaa | Ext MIDI Channel Lower	0-15 (1-16)

1A	0000 aaaa	Ext MIDI Channel Pedal	0-15 (1-16)
1B	0000 000a	Harmonic Bar MIDI Mode	0-1 (MODE 1, MODE 2)
1C	0aaa aaaa	Harmonic Bar Ctrl No. 15'	1-95 (1-31, 33-95)
1D	0aaa aaaa	Harmonic Bar Ctrl No. 5-1/3'	1-95 (1-21, 33-95)
1E	0aaa aaaa	Harmonic Bar Ctrl No. 8'	1-95 (1-31, 33-95)
1F	0aaa aaaa	Harmonic Bar Ctrl No. 4'	1-95 (1-31, 33-95)
20	0aaa aaaa	Harmonic Bar Ctrl No. 2-2/3'	1-95 (1-31, 33-95)
21	0aaa aaaa	Harmonic Bar Ctrl No. 2'	1-95 (1-31, 33-95)
22	0aaa aaaa	Harmonic Bar Ctrl No. 1-3/5'	1-95 (1-31, 33-95)
23	0aaa aaaa	Harmonic Bar Ctrl No. 1-1/3'	1-95 (1-31, 33-95)
24	0aaa aaaa	Harmonic Bar Ctrl No. 1'	1-95 (1-31, 33-95)
[Total Size | 00 00 00 25			

12	0000 0aaa	Chorus Type	0-5 *2
13	0aaa aaaa	Chorus Rate (Time)	0-127
14	0aaa aaaa	Chorus Depth (Feedback)	0-127
15	0aaa aaaa	Chorus Level	0-127
[Total Size | 00 00 00 16			

- *1 ROTARY SPEED, ROTARY SLOW/FAST, ROTARY BRAKE-LATCH, ROTARY BRAKE-MOMENT, ORCH GLIDE, PRESET DOWN, RING MODULATOR SWITCH, RING MODULATOR FREQUENCY, OVERDRIVE, SEQUENCER START/STOP, SEQUENCER RESET, WHEEL BRAKE, ORCH & EXT EXPRESSION
- *2 ROTARY SPEED, ROTARY SLOW/FAST, ROTARY BRAKE-LATCH, ROTARY BRAKE-MOMENT, ORCH GLIDE, PRESET UP, RING MODULATOR SWITCH, RING MODULATOR FREQUENCY, OVERDRIVE, SEQUENCER START/STOP, SEQUENCER RESET, WHEEL BRAKE, ORCH & EXT EXPRESSION
- *3 ROTARY SPEED, ROTARY SLOW/FAST, ROTARY BRAKE-LATCH, ROTARY BRAKE-MOMENT, ORCH GLIDE, PRESET DOWN, RING MODULATOR SWITCH, SEQUENCER START/STOP, SEQUENCER RESET, HOLD
- *4 ROTARY SPEED, ROTARY SLOW/FAST, ROTARY BRAKE-LATCH, ROTARY BRAKE-MOMENT, ORCH GLIDE, PRESET UP, RING MODULATOR SWITCH, SEQUENCER START/STOP, SEQUENCER RESET, HOLD
- *5 RNG->EQ->OD->REV.RNG->EQ
- *6 OFF, ON (w/o SYSTEM EXCLUSIVE), ON (ALL)

(2) ORCHESTRAL

Offset	address	Description	
00	0aaa aaaa	Instrument	0-127 *1
01	0aaa aaaa	Level	0-127
02	0aaa aaaa	Velocity Sensitivity	0-127
03	0aaa aaaa	Velocity Offset	0-127
04	0aaa aaaa	Key Shift	40-68 (-24--24: 0 -> 64)
05	0aaa aaaa	Fine Tune	14-114 (-50+50: 0 -> 64)
06	0aaa aaaa	Pitch LFO Depth	14-114 (-50+50: 0 -> 64)
07	0aaa aaaa	LFO Rate	14-114 (-50+50: 0 -> 64)
08	0aaa aaaa	Brilliance	14-114 (-50+50: 0 -> 64)
09	0aaa aaaa	Envelope Attack	14-114 (-50+50: 0 -> 64)
0A	0aaa aaaa	Envelope Release	14-114 (-50+50: 0 -> 64)
0B	0000 0Caa	Glide Switch	0-2 (OFF, MANUAL, AUTO)
0C	0aaa aaaa	Glide Rate	0-127
0D	0aaa aaaa	Glide Depth	52-75 (-12+12: 0 -> 64)
0E	0000 aaaa	Pitch Bend Control Sensitivity	0-12
0F	0aaa aaaa	Modulation Control Sensitivity	0-127
10	0aaa aaaa	Aftertouch Sensitivity	0-127
11	0aaa aaaa	Reverb Send Level	0-127

- *1 STRINGS (0-) Strings 1, Strings 2, Strings 3, Oct.Strings, Solo Pad, JP Strings, StackStrings, Solo Violin
- CHOIR (16-) Jazz Scat, Large Choir, Choir Forte, Gospel Choir, Synth Choir1, Angels Choir, VP Choir, Synth Choir2
- PIANO (32-) St.Concert, Stage Rhodes, Suitcase, SA Rhodes 1, 60s E.Piano, FM E.Piano, Clav, Synth Bells, SA Rhodes 2
- BASS (48-) AcousticBass, FingeredBass, FretlessBass, Picked Bass, Slap Bass, Voice Bass, Bass&Cymbal, Bass&Lead, SH-101 Bass, Resonance Bs
- WIND/BRASS (64-) Tenor Sax, Fat Brass, BrassSection, Trumpet, Mute TP, Flute, Pan Pipes, OrchBrassEns, Trombone, Clarinet, Oboe
- ATTACK (80-) Glockon, Xylophone, Marimba, Vibraphone, Attack No.1, Attack No.2, Attack No.3, Attack No.4, Toy Vibe, Nomad Perc
- SYNTH (96-) Fantasy, Synth Brass, Poly Synth, D-50 Pad, Wire Keys, 5th Pad, Saw Lead, Square Lead, Digital Lead, GR-300 Lead, Sine Lead, Bell Pad
- OTHERS (102-) Nylon Guitar, Full Organ, Harp, Accordion 1, Accordion 2, Harmonica, Jazz Guitar, Timpani, Steel Ac.Gtr

- *2 CHORUS, FBK CHORUS, FLANGER, SHORT DELAY, STEREO TREMOLO, MONO TREMOLO

(3) REGISTRATION

Offset	address	Description	
00	00 00	REGISTRATION Common	(3-1)
10	00 00	REGISTRATION Upper	(3-2)
12	00 00	REGISTRATION Lower	(3-2)
14	00 00	REGISTRATION Pedal	(3-2)
40	00 00	ORGAN BASIC	(3-3)
50	00 00	ORGAN EFFECT	(3-4)

(3-1) REGISTRATION Common

Offset	address	Description	
00	0aaa aaaa	Registration Name 1	32-127
01	0aaa aaaa	Registration Name 2	32-127
02	0aaa aaaa	Registration Name 3	32-127
03	0aaa aaaa	Registration Name 4	32-127
04	0aaa aaaa	Registration Name 5	32-127
05	0aaa aaaa	Registration Name 6	32-127
06	0aaa aaaa	Registration Name 7	32-127
07	0aaa aaaa	Registration Name 8	32-127
08	0aaa aaaa	Registration Name 9	32-127
09	0aaa aaaa	Registration Name 10	32-127
0A	0aaa aaaa	Registration Name 11	32-127
0B	0aaa aaaa	Registration Name 12	32-127
0C	0aaa aaaa	Registration Name 13	32-127
0D	0aaa aaaa	Registration Name 14	32-127
0E	0aaa aaaa	Registration Name 15	32-127
0F	0aaa aaaa	Registration Name 16	32-127
10	0000 000a	Pedal to Lower	0-1 (OFF, ON)
11	0aaa aaaa	Lower Keyboard Split Point	36-96
12	0000 00aa	Organ Part Bender Assign	0-2 *1
13	0000 00aa	Organ Part Modulation Assign	0-3 *2
14	0000 0aaa	Organ Part Aftertouch Assign	0-6 *2
15	0000 aaaa	Organ Part Bender Range	0-12 (OFF, 1-12)
16	0000 000a	Orch Part Aftertouch Switch	0-1 (OFF, ON)
17	0000 000a	Bend/Mod Organ Control Switch	0-1 (OFF, ON)
18	0000 0aaa	Orch Reverb Character	0-6 *4

19	0aaa aaaa	Orch Reverb Time	0-127
1A	0aaa aaaa	Orch Delay Time	0-127
1B	0aaa aaaa	Orch Delay Feedback	0-127
Total Size 00 00 00 1C			

- *1 OFF, ROTARY SLOW/FAST, WHEEL BRAKE
- *2 OFF, OVERDRIVE, RING MOD FREQ, WHEEL BRAKE
- *3 OFF, ROTARY SLOW/FAST, ROTARY SPEED, ROTARY BRAKE, WHEEL BRAKE, RING MOD FREQ, OVERDRIVE
- *4 ROOM 1, ROOM 2, ROOM 3, HALL 1, HALL 2, PLATE, DELAY

28	0aaa aaaa	Ext Reverb Level	0-127
29	0000 000a	Ext Chorus Transmit Switch	0-1
Total Size 00 00 00 2B			

- *1 STRINGS, CHOIR, PIANO, BASS, WIND/BRASS, ATTACK, SYNTH, OTHERS
- *2 OFF, ON (Upper Part Only)

(3-2) REGISTRATION Part

Offset	address	Description	
00	0000 000a	Keyboard Assign Organ	0-1
			(OFF, ON)
01	0000 000a	Keyboard Assign Orch	0-1
			(OFF, ON)
02	0000 000a	Keyboard Assign Ext	0-1
			(OFF, ON)
03	0000 000a	Organ Hold Switch	0-1
			(OFF, ON)
04	0aaa aaaa	Orch Part Level	0-127
05	0000 000a	Orch Hold Switch	0-1 (OFF, ON)
06	0000 000a	Orch Bend Switch	0-1 (OFF, ON)
07	0000 000a	Orch Modulation Switch	0-1
			(OFF, ON)
08	0000 00aa	Orch Expression Switch	0-3
			(OFF, EXP, C-1, C-2)
09	0000 0aaa	Orch Voice Select	0-7 *1
0A	0000 0aaa	Orch Variation Strings	0-7
0B	0000 0aaa	Orch Variation Choir	0-7
0C	0000 0aaa	Orch Variation Piano	0-7
0D	0000 0aaa	Orch Variation Bass	0-7
0E	0000 0aaa	Orch Variation Wind/Brass	0-7
0F	0000 0aaa	Orch Variation Attack	0-7
10	0000 0aaa	Orch Variation Synth	0-7
11	0000 0aaa	Orch Variation Others	0-7
12	0000 000a	Ext Tone Select	
		PC Change Send Switch	0-1
13	0000 000a	Ext Tone Select	
		Bank Select Send Switch	0-1
14	0aaa aaaa	Ext Tone Select PC Number	0-127
			(1-128)
15	0aaa aaaa	Ext Tone Select	
		Bank Select MSB	0-127
16	0aaa aaaa	Ext Tone Select	
		Bank Select LSB	0-127
17	0aaa aaaa	Ext Key Shift	40-88
18	0aaa aaaa	Ext Velocity Sense	0-127
19	0aaa aaaa	Ext Velocity Offset	0-127
1A	0000 000a	Ext Volume Switch	0-1 (OFF, ON)
1E	0000 000a	Ext Hold Switch	0-1 (OFF, ON)
1C	0000 00aa	Ext Expression Switch	0-3
			(OFF, EXP, C-1, C-2)
1D	0000 000a	Ext Modulation Switch	0-1
			(OFF, ON)
1E	0000 000a	Ext Bender Switch	0-1 (OFF, ON)
1F	000a aaaa	Ext Bender Range	1-24
20	0000 000a	Ext Aftertouch Switch	0-1 *2
21	0000 000a	Ext Panpot Switch	0-1 (OFF, ON)
22	0aaa aaaa	Ext Panpot Value	0-127 (L64-R63)
23	0000 000a	Ext Coarse Tune Transmit Switch	0-1
			(OFF, ON)
24	0aaa aaaa	Ext Coarse Tune	40-88
			(-24+24: 0 -> 64)
25	0000 000a	Ext Fine Tune Transmit Switch	0-1
			(OFF, ON)
26	0aaa aaaa	Ext Fine Tune	14-114
			(-50+50: 0 -> 64)
27	0000 000a	Ext Reverb Transmit Switch	0-1

(3-3) ORGAN BASIC

Offset	address	Description	
00	0aaa aaaa	Organ Level	0-127
01	0000 000a	Organ Wheel Type	0-3 *1
02	0000 000a	Fold Back Switch	0-1 (OFF, ON)
03	0000 000a	Wheel Level Table	0-2 *2
04	0000 aaaa	Leakage Level	0-15
05	0000 aaaa	Key On Click Level	0-15
06	0000 aaaa	Key Off Click Level	0-15
07	0000 000a	Percussion Switch	0-1 (OFF, ON)
08	0000 000a	Percussion Harmonic	0-1 (2ND, 3RD)
09	0000 000a	Percussion Soft	0-1 (NORM, SOFT)
0A	0000 000a	Percussion Decay	0-1 (SLOW, FAST)
0E	0000 aaaa	Percussion Level Soft	0-15
0C	0000 aaaa	Percussion Level Norm	0-15
0D	0aaa aaaa	Percussion Decay Time Slow	0-127
0E	0aaa aaaa	Percussion Decay Time Fast	0-127
0F	0000 aaaa	Percussion Recharge Time	0-10
10	0000 000a	Percussion 1' Cancel	0-1 (OFF, ON)
11	0aaa aaaa	Percussion H.Bar Level	0-127
12	0000 000a	Percussion Direct Switch	0-1
			(OFF, ON)
13	0000 aaaa	Upper H.Bar 16'	0-8
14	0000 aaaa	Upper H.Bar 5-1/3'	0-8
15	0000 aaaa	Upper H.Bar 8'	0-8
16	0000 aaaa	Upper H.Bar 4'	0-8
17	0000 aaaa	Upper H.Bar 2-2/3'	0-8
18	0000 aaaa	Upper H.Bar 2'	0-8
19	0000 aaaa	Upper H.Bar 1-3/5'	0-8
1A	0000 aaaa	Upper H.Bar 1-1/3'	0-8
1B	0000 aaaa	Upper H.Bar 1'	0-8
1C	0000 aaaa	Lower H.Bar 16'	0-8
1D	0000 aaaa	Lower H.Bar 5-1/3'	0-8
1E	0000 aaaa	Lower H.Bar 8'	0-8
1F	0000 aaaa	Lower H.Bar 4'	0-8
20	0000 aaaa	Lower H.Bar 2-2/3'	0-8
21	0000 aaaa	Lower H.Bar 2'	0-8
22	0000 aaaa	Lower H.Bar 1-3/5'	0-8
23	0000 aaaa	Lower H.Bar 1-1/3'	0-8
24	0000 aaaa	Lower H.Bar 1'	0-8
25	0000 aaaa	Pedal H.Bar 16'	0-8
26	0000 aaaa	Pedal H.Bar 8'	0-8
27	0000 aaaa	Pedal 16' H.Bar Mixing Ratio 16'	0-8
28	0000 aaaa	Pedal 16'	
		H.Bar Mixing Ratio 5-1/3'	0-8
29	0000 aaaa	Pedal 16' H.Bar Mixing Ratio 8'	0-8
2A	0000 aaaa	Pedal 16' H.Bar Mixing Ratio 4'	0-8
2B	0000 aaaa	Pedal 16'	
		H.Bar Mixing Ratio 2-2/3'	0-8
2C	0000 aaaa	Pedal 16' H.Bar Mixing Ratio 2'	0-8
2D	0000 aaaa	Pedal 16'	
		H.Bar Mixing Ratio 1-3/5'	0-8
2E	0000 aaaa	Pedal 16'	
		H.Bar Mixing Ratio 1-1/3'	0-8
2F	0000 aaaa	Pedal 16' H.Bar Mixing Ratio 1'	0-8
30	0000 aaaa	Pedal 8' H.Bar Mixing Ratio 16'	0-8
31	0000 aaaa	Pedal 8'	
		H.Bar Mixing Ratio 5-1/3'	0-8
32	0000 aaaa	Pedal 8' H.Bar Mixing Ratio 8'	0-8

33	0000	aaaa	Pedal R' H.Bar Mixing Ratio 4'	0-8
34	0000	aaaa	Pedal R' H.Bar Mixing Ratio 2-2/3'	0-6
35	0000	aaaa	Pedal R' H.Bar Mixing Ratio 2'	0-8
36	0000	aaaa	Pedal R' H.Bar Mixing Ratio 1-3/5'	0-8
37	0000	aaaa	Pedal R' H.Bar Mixing Ratio 1-1/3'	0-8
38	0000	aaaa	Pedal R' H.Bar Mixing Ratio 1'	0-8
39	0000	000a	Pedal Sustain	0-1 (OFF, ON)
3A	0aaa	aaaa	Pedal Sustain Time	0-127
3B	0000	000a	Pedal Attack	0-1 (OFF, ON)
3C	0aaa	aaaa	Pedal Attack Time	0-127
3D	0aaa	aaaa	Pedal Attack Level	0-127
Total Size				00 00 00 2E

*1 VINTAGE1, VINTAGE2, CLEAN, SOLID
*2 MELLOW, BRIGHT, LOW BOOST

(3-4) ORGAN EFFECT

Offset address	Description			
00	0000 000a	Vibrato/Chorus Switch Upper (OFF, ON) 0-1		
01	0000 000a	Vibrato/Chorus Switch Lower (OFF, ON) 0-1		
02	0000 0aaa	Vibrato/Chorus Type 0-5 *1		
03	0000 00aa	Vibrato/Chorus Vintage (*50, *60, *70) 0-2		
04	0000 000a	Vibrato/Chorus Lower 0-1 *2		
05	0000 0aaa	Amp & Speaker Type 0-7 *3		
06	0000 00aa	Overdrive Character (MILD, NORMAL, HARD) 0-3		
07	0aaa 0aaa	Overdrive Level 0-127		
08	0aaa 0aaa	Equalize Gain Bass 59-69		
09	0aaa 0aaa	Equalize Gain Middle 59-69		
0A	0aaa 0aaa	Equalize Gain Treble 59-69 (*5-+5; 0 -- 64)		
0B	0000 000a	Rotary Sound 0-1 (BYPASS, INSERT)		
0C	0000 000a	Rotary Speed 0-1 (SLOW, FAST)		
0D	0000 000a	Rotary Rotation 0-1 (BRAKE, SPIN)		
0E	0000 000a	Rotary Type 0-1 (RICH, TWINS)		
0F	0aaa 0aaa	Rotary Level Woofer 0-127		
10	0aaa 0aaa	Rotary Level Tweeter 0-127		
11	0aaa 0aaa	Rotary Woofer Rise Time 0-127		
12	0aaa 0aaa	Rotary Woofer Fall Time 0-127		
13	0aaa 0aaa	Rotary Tweeter Rise Time 0-127		
14	0aaa 0aaa	Rotary Tweeter Fall Time 0-127		
15	0aaa 0aaa	Rotary Woofer Speed Slow 0-127		
16	0aaa 0aaa	Rotary Woofer Speed Fast 0-127		
17	0aaa 0aaa	Rotary Tweeter Speed Slow 0-127		
18	0aaa 0aaa	Rotary Tweeter Speed Fast 0-127		
19	000a 0aaa	Mic Distance 0-16		
1A	0000 0aaa	Rotary Spread Woofer 0-10		
1B	0000 0aaa	Rotary Spread Tweeter 0-10		
1C	0000 0aaa	Rotary Randomize 0-10		
1D	0000 000a	Ring Modulator Switch 0-1 (OFF, ON)		
1E	0000 000a	Ring Modulator Mode 0-1 (PERC, ALL)		
1F	0aaa 0aaa	Ring Modulator Frequency 0-127		
20	0000 00aa	Organ Reverb Structure 0-2 *4		
21	0000 0aaa	Organ Reverb Type 0-6 *5		
22	0aaa 0aaa	Organ Reverb Level 0-127		
23	0aaa 0aaa	Organ Reverb Time 0-127		
24	0aaa 0aaa	Organ Delay Level 0-127		
25	0aaa 0aaa	Organ Delay Time 0-127		
26	0aaa 0aaa	Organ Delay Feedback 0-127		
Total Size				00 00 00 27

*1 V-1, V-2, V-3, C-1, C-2, C-3
*2 LOWER, LOWER & PEDAL
*3 TYPE I, TYPE II, TYPE III, STACK I, STACK II, STACK MIX, COMBO, BYPASS
*4 ROTARY->REVERB, REVERB->ROTARY, PARALLEL
*5 ROOM 1, ROOM2, ROOM 3, HALL 1, HALL 2, PLATE, DELAY

4. Supplementary Material

■ Decimal/Hexadecimal Table

MIDI uses 7-bit hexadecimal values to indicate data values and the address and size of exclusive messages. The following table shows the correspondence between decimal and hexadecimal numbers.

* Hexadecimal values are indicated by a following 'H'.

D	H	D	H	D	H	D	H
0	00H	32	20H	64	40H	96	60H
1	01H	33	21H	65	41H	97	61H
2	02H	34	22H	66	42H	98	62H
3	03H	35	23H	67	43H	99	63H
4	04H	36	24H	68	44H	100	64H
5	05H	37	25H	69	45H	101	65H
6	06H	38	26H	70	46H	102	66H
7	07H	39	27H	71	47H	103	67H
8	08H	40	28H	72	48H	104	68H
9	09H	41	29H	73	49H	105	69H
10	0AH	42	2AH	74	4AH	106	6AH
11	0BH	43	2BH	75	4BH	107	6BH
12	0CH	44	2CH	76	4CH	108	6CH
13	0DH	45	2DH	77	4DH	109	6DH
14	0EH	46	2EH	78	4EH	110	6EH
15	0FH	47	2FH	79	4FH	111	6FH
16	10H	48	30H	80	50H	112	70H
17	11H	49	31H	81	51H	113	71H
18	12H	50	32H	82	52H	114	72H
19	13H	51	33H	83	53H	115	73H
20	14H	52	34H	84	54H	116	74H
21	15H	53	35H	85	55H	117	75H
22	16H	54	36H	86	56H	118	76H
23	17H	55	37H	87	57H	119	77H
24	18H	56	38H	88	58H	120	78H
25	19H	57	39H	89	59H	121	79H
26	1AH	58	3AH	90	5AH	122	7AH
27	1BH	59	3BH	91	5BH	123	7BH
28	1CH	60	3CH	92	5CH	124	7CH
29	1DH	61	3DH	93	5DH	125	7DH
30	1EH	62	3EH	94	5EH	126	7EH
31	1FH	63	3FH	95	5FH	127	7FH

D: decimal
H: hexadecimal

- * Decimal expressions such as used for MIDI channel, Bank Select, and Program Change will be the value 1 greater than the decimal value given the above table.
- * Since each MIDI byte carries 7 significant data bits, each byte can express a maximum of 128 different values. Data for which higher resolution is required must be transmitted using two or more bytes. For example a value indicated as a two-byte value of aa bbH would have a value of aa x 128 + bb.
- * For a signed number (2), 00H = -64, 40H = 0, and 7FH = +63. I.e., the decimal equivalent will be 64 less than the decimal value given in the above table. For a two-byte signed number, 00 00H = -8192, 40 00H = 0, and 7F 7FH = +8191. For example the decimal expression of aa bbH would be aa bbH - 40 00H = (aa x 128 + bb - 64) x 128.
- * Hexadecimal notation in two 4-bit units is used for data indicated as "nibbled." The nibbled two-byte value of 0a 0bH would be a x 16 + b.

<Example 1> What is the decimal equivalent of 5AH?

From the above table, 5AH = 90.

<Example 2> What is the decimal equivalent of the 7-bit hexadecimal values 12 34H?

From the above table, 12H = 18, 34H = 52
Thus, 18 x 128 + 52 = 2356

■ASCII Code Table

D	H	Char	D	H	Char	D	H	Char
32	20H	SP	64	40H	@	96	60H	'
33	21H	!	65	41H	A	97	61H	A
34	22H	"	66	42H	B	98	62H	b
35	23H	#	67	43H	C	99	63H	c
36	24H	\$	68	44H	D	100	64H	d
37	25H	%	69	45H	E	101	65H	e
38	26H	&	70	46H	F	102	66H	f
39	27H	'	71	47H	G	103	67H	g
40	28H	(	72	48H	H	104	68H	h
41	29H	)	73	49H	I	105	69H	i
42	2AH	*	74	4AH	J	106	6AH	j
43	2BH	+	75	4BH	K	107	6BH	k
44	2CH	,	76	4CH	L	108	6CH	l
45	2DH	-	77	4DH	M	109	6DH	m
46	2EH	.	78	4EH	N	110	6EH	n
47	2FH	/	79	4FH	O	111	6FH	o
48	30H	0	80	50H	P	112	70H	p
49	31H	1	81	51H	Q	113	71H	q
50	32H	2	82	52H	R	114	72H	r
51	33H	3	83	53H	S	115	73H	s
52	34H	4	84	54H	T	116	74H	t
53	35H	5	85	55H	U	117	75H	u
54	36H	6	86	56H	V	118	76H	v
55	37H	7	87	57H	W	119	77H	w
56	38H	8	88	58H	X	120	78H	x
57	39H	9	89	59H	Y	121	79H	y
58	3AH	:	90	5AH	Z	122	7AH	z
59	3BH	;	91	5BH	[	123	7BH	{
60	3CH	<	92	5CH	\	124	7CH	|
61	3DH	=	93	5DH	]	125	7DH	}
62	3EH	>	94	5EH	^			
63	3FH	?	95	5FH	_			

D, decimal
H, hexadecimal

Note: SP indicates "space."

■Examples of Actual MIDI Messages

<Example 1> 92 3E 5F

9n is the Note On status and 'n' is the MIDI channel number. Since 2H = 2, 3EH = 62 and 5FH = 95, this is a Note On Message of MIDI CH = 3 note number 62 (note name D4) and velocity 95.

<Examples 2> C0 25

CnH is the Program Change status and 'n' is the MIDI channel number. Since 0H = 0, and 25H = 37, this is a Program Change message of MIDI CH = 1, Program number 38.

■Examples of System Exclusive Messages and Calculating the Checksum

Roland exclusive messages (RQ1, DT1) are transmitted with checksum at the end of the data (before F7) to check that the data was received correctly. The value of the checksum is determined by the address and data (or the size) of the exclusive message.

●How to calculate the checksum

The checksum consists of a value whose lower 7 bits are 0 when the address, size and checksum itself are added. The following formula shows how to calculate the checksum when the exclusive message to be transmitted has an address of aa bb cc ddH and data or size of ee ffH.

$$aa + bb + cc + dd + ee + ff = \text{total}$$

$$\text{total} \div 128 = \text{quotient} \dots \text{remainder}$$

$$128 - \text{remainder} = \text{checksum}$$

The checksum is zero on condition that the remainder is zero.

<Example 1> Setting the Temporary Registration "Amp & Speaker" type to "Stack I" (DT1)

The "Parameter address map" indicates that the starting address of the Temporary is 01 00 00 00H, that the offset address of the Organ effect parameter is 50 00H, and that the "Amp & Speaker" type address is 00 05H. Thus, the address is:

```
01 00 00 00H
      50 00H
+)    00 05H
-----
01 00 50 05H
```

Since "Stack I" is parameter value 02H,

```
F0 41 10 00 1A 12 01 00 50 05 03 ?? F7
(1) (2) (3) (4) (5) address data checksum (6)
```

(1) Exclusive status (2) ID number (Roland)
(3) Device ID (17) (4) Model ID (VK-77)
(5) Command ID (DT1) (6) EOX

Next we calculate the checksum.

$$01H + 00H + 50H + 05H + 03H = 1 + 0 + 80 + 5 + 3 = 89 \text{ (sum)}$$

$$89 \text{ (total)} \div 128 = 0 \text{ (quotient)} \dots 89 \text{ (remainder)}$$

$$\text{checksum} = 128 - 89 \text{ (remainder)} = 39 = 27H$$

This means that the message transmitted will be F0 41 10 00 1A 12 02 00 50 05 03 27 F7

<Example 2> Retrieving data for REGISTRATION: A12 Organ Basic Parameter

The "Parameter address map" indicates that the starting address of the REGISTRATION: A12 is 10 01 00 00H, that the offset address of the Organ basic parameter is 40 00H. Thus, the address is:

```
10 01 00 00H
+)    40 00H
-----
10 01 40 00H
```

Since the size of the Performance of parts is 00 00 00 3EH,

```
F0 41 10 00 1A 11 10 01 40 00 00 00 00 3E ?? F7
(1) (2) (3) (4) (5) address data checksum (6)
```

(1) Exclusive status (2) ID number (Roland)
(3) Device ID (17) (4) Model ID (VK-77)
(5) Command ID (RQ1) (6) EOX

Next we calculate the checksum.

$$10H + 01H + 40H + 00H + 00H + 00H + 3EH =$$

$$16 + 1 + 64 + 0 + 0 + 0 + 0 + 62 = 143 \text{ (sum)}$$

$$143 \text{ (total)} \div 128 = 1 \text{ (quotient)} \dots 15 \text{ (remainder)}$$

$$\text{checksum} = 128 - 15 \text{ (remainder)} = 113 = 71H$$

Thus, a message of F0 41 10 00 1A 11 10 01 40 00 00 00 00 3E 71 F7 would be transmitted.

Specifications

VK-77: Combo Organ

● Keyboard

Upper: 61 keys (with velocity and aftertouch)

Lower: 61 keys (with velocity)

● Sound Generator

Virtual ToneWheel Method

● Part

Upper Organ, Lower Organ, Pedal Organ,

Upper Orchestral, Lower Orchestral, Pedal Orchestral

● Maximum Polyphony

Organ: Full Polyphony

Orchestral: 64 notes

● Organ

AMP simulator

Type I, Type II, Type III, Stack I,

Stack II, Stack Mix, Combo, Bypass

Overdrive

Percussion

SECOND, THIRD, SOFT, SLOW

Vibrato and Chorus

V-1, V-2, V-3, C-1, C-2, C-3

Ring Modulator

Reverb

Hall1, Hall2, Room1, Room2, Room3, Plate, Delay

● Orchestral

Voice Category

STRINGS, CHOIR, PIANO, BASS,

WIND/BRASS, SYNTH, ATTACK, OTHERS

Chorus

Chorus, Feedback Chorus, Flanger, Short Delay,

Stereo Tremolo, Mono Tremolo

Reverb

Hall1, Hall2, Room1, Room2, Room3, Plate, Delay

● Internal Memory

Registration Memory: 128

Orchestral Voices: 64

● Control

VIBRATO AND CHORUS

UPPER, LOWER, TYPE

UPPER HARMONIC BAR

16', 5-1/3', 8', 4', 2-2/3', 2', 1-3/5', 1-1/3', 1'

LOWER HARMONIC BAR

16', 5-1/3', 8', 4', 2-2/3', 2', 1-3/5', 1-1/3', 1'

PEDAL HARMONIC BAR

16', 8'

ORCHESTRAL HARMONIC BAR

ORCHESTRAL VOICE

STRINGS, CHOIR, PIANO, BASS,

WIND/BRASS, SYNTH, ATTACK, OTHERS

ORCHESTRAL PART SELECT

UPPER, LOWER, PEDAL

PERCUSSION

SECOND, THIRD, SOFT, SLOW

EDIT

EDIT, EXIT, WRITE, ENTER, PARAMETER SELECT x 4

KEYBOARD ASSIGN

ORGAN UPPER, ORGAN LOWER, ORGAN PEDAL

ORCHESTRAL UPPER, ORCHESTRAL LOWER,

ORCHESTRAL PEDAL

EXTERNAL UPPER, EXTERNAL LOWER, EXTERNAL PEDAL

REGISTRATION

MANUAL, 1, 2, 3, 4, 5, 6, 7, 8, BANK, A/B

ROTARY SOUND

ROTARY SOUND, BRAKE, SLOW /FAST

Miscellaneous

PEDAL TO LOWER, PEDAL SUSTAIN,

PEDAL ATTACK, REGISTRATION LOCK,

MASTER VOLUME, REVERB,

OVERDRIVE, ORGAN CONTROL,

BENDER/MODULATION LEVER, POWER

● Display

16 characters, 2 lines (backlit LCD)

● Connectors

MIX OUT Jacks (L(MONO), R)

MIX OUT Jacks (L, R : XLR 3-32 type)

ORGAN OUT Jacks (L(MONO), R)

ORCHESTRAL OUT Jacks (L(MONO), R)

CONTROL PEDAL Jacks (1, 2)

EXPRESSION PEDAL Jack

HOLD PEDAL Jack

MIDI Connectors (IN/OUT/MIDI PEDAL IN)

PK IN Jack

ROTARY TONE CABINET Jack

AC Inlet

● Power

AC 117 V, AC 230 V, AC 240 V

● Power Consumption

38 W

● Finish

Top Panel: Traditional Walnut

Side Panel: Solid Agathis Walnut Finish

● Dimensions

1160 (W) x 505 (D) x 190 (H) mm

45-9/16 (W) x 19-15/16 (D) x 7-1/2 (H) inches

● Weight

29.1 kg / 64 lbs 3 oz

● Accessories

Owner's Manual

Power cable

● Options

Expression Pedal: EV-7, FV-300L (BOSS), EV-5

Pedal Keyboard: PK-7/5

Pedal Switch: FS-5U (BOSS), DP-2/6

Keyboard Stand: KS-77

* In the interest of product improvement, the specifications and/or appearance of this unit are subject to change without prior

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For EU Countries

Apparatus containing Lithium batteries

ADVARSEL!

Lithiumbatteri - Eksplosionsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandøren.

ADVARSEL

Eksplosjonsfare ved feilaktig skifte av batteri.
Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten.
Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

CAUTION

Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type recommended by the manufacturer.
Discard used batteries according to the manufacturer's instructions.

VARNING

Explosionsfara ved felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparatillverkaren.
Kassera använt batteri enligt fabrikantens instruktion.

VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

For EU Countries



This product complies with the requirements of European Directives EMC 89/336/EEC and LVD 73/23/EEC.

For the USA

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the users authority to operate this equipment.
This equipment requires shielded interface cables in order to meet FCC class B Limit.

For Canada

NOTICE

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

AVIS

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

List of Shortcuts

When you operate following Buttons, knobs, and controllers while pressing [EDIT], you can call related parameter of edit mode.

Organ Voice settings

Volume level setting for the percussion sound	
Perc Level (p. 63)	[EDIT] + [SOFT]
Disappear speed setting for the percussion sound	
Perc Time (p. 63)	[EDIT] + [SLOW] [EDIT] + [SECOND] [EDIT] + [THIRD]
Other setting for the percussion sound	
Perc Recharge (p. 63) Perc 1' Cancel (p. 63) Perc HBarLevel (p. 63) Perc Direct (p. 63)	[EDIT] + [SECOND] [EDIT] + [THIRD]
Adjusting the settings of the pedal sustain time	
PdI SustainTime (p. 63)	[EDIT] + [PEDAL SUSTAIN]
Adjusting the settings of the pedal attack	
PdI Attack (p. 63)	[EDIT] + [PEDAL ATTACK]
Adjusting the blend ratio of the 8' H.bar	
PdI H.Bar Mix 8' (p. 63)	[EDIT] + 8' PEDAL H.BAR
Adjusting the blend ratio of the 16' H.bar	
PdI H.Bar Mix 16' (p. 63)	[EDIT] + 16' PEDAL H.BAR
Changing the split point of the lower keyboard	
LowerSplitPoint (p. 72)	[EDIT] + [PEDAL TO LOWER]

Effects settings

Changing the character of the vibrato and chorus	
V/C Vintage (p. 64)	[EDIT] + V-1, V-2, V-3 [TYPE] [EDIT] + C-1, C-2, C-3 [TYPE] [EDIT] + VIBRATO AND CHORUS [UPPER] [EDIT] + VIBRATO AND CHORUS [LOWER]
Pedal part setting of the vibrato and chorus	
V/C Lower (p. 64)	[EDIT] + VIBRATO AND CHORUS [LOWER]
Setting of the overdrive	
OD Character (p. 64)	[EDIT] + OVERDRIVE knob
Adjusting of the rotary type	
Amp & Speaker (p. 64) Rotary Type (p. 64) Rotary Level (p. 64) Mic Distance (p. 65) Rotary Spread (p. 65)	[EDIT] + [ROTARY SOUND]
Adjusting of the rotary speed	
RotarySpd Slow (p. 64) RotarySpd Fast (p. 64) Rotary RiseTime (p. 65) Rotary FallTime (p. 65) RotaryRandomize (p. 65)	[EDIT] + [BRAKE] [EDIT] + [SLOW/FAST]
Setting of the reverb	
Reverb Type (p. 66)	[EDIT] + REVERB knob

Orchestral voice settings

Orch Instrument (p. 67)*	[EDIT] + VARIATION [▲]
Orch Level (p. 67)*	[EDIT] + VARIATION [▼]
Orch Velocity (p. 67)*	[EDIT] + PART SELECT [UPPER]
Orch Key Shift (p. 67)*	[EDIT] + PART SELECT [LOWER]
Orch LFO (p. 67)*	[EDIT] + PART SELECT [PEDAL]
Orch Brilliance (p. 67)*	[EDIT] + (Each Group button)
Orch AmpEnv Mod (p. 68)*	

Settings of the Controllers

Settings of the bender	
Org Bender Asgn (p. 72) Organ BendRange (p. 72) Ext BenderRange (p. 71) Orch Bend Sens (p. 68)*	[EDIT] + Bender
Settings of the modulation lever	
Org Mod Asgn (p. 72) Orch Mod Sens (p. 68)*	[EDIT] + Modulation Lever
Settings of the aftertouch	
Org After Asgn (p. 72) OrchUpperAft Sw (p. 73) Orch After Sens (p. 68)* ExtUpper Aft Sw (p. 71)	[EDIT] + Aftertouch
Settings of the bender and the modulation lever	
Org Bender Asgn (p. 72) Org Mod Asgn (p. 72)	[EDIT] + [ORGAN CONTROL]
Settings of the control pedal 1	
Ctrl1 Polarity (p. 76) Ctrl1 Assign (p. 76)	[EDIT] + Control pedal 1
Settings of the control pedal 2	
Ctrl2 Polarity (p. 76) Ctrl2 Assign (p. 76)	[EDIT] + Control pedal 2
Setting of the PK Foot switch L	
PK FootL Assign (p. 76)	[EDIT] + PK Foot switch L
Setting of the PK Foot switch R	
PK FootR Assign (p. 76)	[EDIT] + PK Foot switch R

Settings of the MIDI device

Org & Orch MIDI (p. 74)	[EDIT] + KEYBOARD ASSIGN [ORGAN] [EDIT] + KEYBOARD ASSIGN [ORCH]
Ext MIDI Ch (p. 74) Ext Tone Select U (p. 74)	[EDIT] + KEYBOARD ASSIGN [EXT]

* The variation that was chosen with the PART SELECT [UPPER]/[LOWER]/[PEDAL] is changed.

Regretfully, a number of inaccuracies appear in the Owner's Manual for VK-77. It should read as shown below. We apologize inconveniences this may cause.

Page 7 "IMPORTANT NOTES"

Incorrect

- Do not use the PK IN connector except to connect a pedal keyboard unit that has a PK OUT connections. Use the included special cable to make connections.

Correct

- Do not use the PK IN connector except to connect a pedal keyboard unit that has a PK OUT connections. Use the special cable that was included with the pedal keyboard unit to make connections.

Page 41

"Adding a decay to the pedal part-Pedal Sustain"

NOTE

Incorrect

This function does not apply to the pedal part of the orchestral voice.

Correct

- To change the length of the decay to the pedal part of the orchestral voices, you increase the Rls value of the parameter of the current orchestral voice.
- Adjusting the attack and release of the sound (p.68)

Page 68

Applying change to the pitch

Incorrect

- Assigning controllers to the organ voice (p.72)

Correct

- Assigning a function to the control pedal (p.76)
- Assigning a function to the foot switch of a pedal keyboard unit (p.76)

Page 75

Transmitting / receiving the harmonic bar settings

Please remove the following text.

- Off Harmonic bar settings will not be transmitted.

Page 76

Assigning a function to the foot switch of a pedal keyboard unit

Please add the following parameter.

- PK FootL Assign (Foot Switch L Assign)
PK FootR Assign (Foot Switch R Assign)
Off No function is assigned.

Page 88 Connecting a Rotary Speaker

Incorrect

[FAST/SLOW] will switch the rotational speed of the connected rotary speaker.

Correct

[SLOW/FAST] will switch the rotational speed of the connected rotary speaker.

Incorrect

To Resume rotation, press [BRAKE] again, or press [FAST/SLOW].

Correct

To Resume rotation, press [BRAKE] again, or press [SLOW/FAST].

Page 95

Orchestral Voices Instrument List

Strings

Incorrect

3 (3): Strings 3

Correct

3 (3): .Orch.Ens

WIND/Brass

Incorrect

5 (37): Mute TP

Correct

5 (37): Mute Trumpet

お詫びと訂正 (VK-77)

VK-77取扱説明書に誤記がありました。謹んでお詫びを申し上げますとともに、次のように訂正いたします。

- P.7 「その他の注意について」の最後の文章
(誤)
 - PK IN 端子は、PK OUT 端子を持つペダル鍵盤ユニットを接続するとき以外は使わないでください。接続の際は、付属の専用ケーブルをお使いください。

(正)

 - PK IN 端子は、PK OUT 端子を持つペダル鍵盤ユニットを接続するとき以外は使わないでください。接続の際は、PK-7に付属の専用ケーブルをお使いください。

- P.41 「ペダル・パートに余韻をつける『ペダル・サステイン』」のご注意
(誤)

オーケストラ・ボイスのペダル・パートには機能しません。

(正)

オーケストラ・ボイスのペダル・パートにサステイン効果をつけるには、ペダル・パートで使用する音色のRI値を大きくします。
→音の立ち上がりや余韻を調整する (P.68)

- P.68 「音の高さに変化をつける」
Orch Glide Sw (オーケストラ・グライド・スイッチ)
(誤)

→オルガン・ボイスにコントローラーを割り当てる (P.72)

(正)

→コントロール・ペダルに機能を割り当てる (P.76)
→ペダル鍵盤ユニットのフット・スイッチに機能を割り当てる (P.76)

- P.74 「MIDI OUT 端子に MIDI THRU の機能を持たせる」
(誤)

VK-77の電源をオンにすると、MIDI スルーは自動的にオン (w/o SysEx) に設定されます。

(正)

VK-77の電源をオンにすると、MIDI スルーは自動的にオフ (Off) に設定されます。

- P.76 「コントロール・ペダルに機能を割り当てる」
(誤)

Rotary Slw/Fst回転スピーカー効果のローとファストを切り替えます。[FAST/SLOW]と同じはたらきをします。

(正)

Rotary Slw/Fst回転スピーカー効果のローとファストを切り替えます。[SLOW/FAST]と同じはたらきをします。

(誤)

RotBrake Mornet

(正)

RotBrake Moment

- P.76 「ペダル鍵盤ユニットのフット・スイッチに機能を割り当てる」
以下のパラメーターを追加
Off 何も割り当てません。

Rotary Slw/Fst
(誤)
[FAST/SLOW]と同じはたらきをします。

(正)
[SLOW/FAST]と同じはたらきをします。

- P.77 「トーン・キャビネットの鳴りかたを設定する」
RNG → EQ → OD → REV
(誤)

そのため、一時的に ORGAN EFFECT メニューの Amp&Speaker を Bypass に変更し、[ROTARY EFFECT] をオフにします

(正)

そのため、一時的に ORGAN EFFECT メニューの Amp&Speaker を Bypass に変更し、[ROTARY SOUND] をオフにします

- P.88 「回転スピーカーを接続する」
(誤)

[FAST/SLOW] は接続した回転スピーカーの回転速度を切り換えます。

(正)

[SLOW/FAST] は接続した回転スピーカーの回転速度を切り替えます。

(誤)

再び回転をスタートさせるには、もう一度 [BRAKE] を押すか、[FAST/SLOW] を押ししてください。

(正)

再び回転をスタートさせるには、もう一度 [BRAKE] を押すか、[SLOW/FAST] を押ししてください。

- P.95 オーケストラ・ボイス インストゥルメント一覧
Strings
(誤)

3 (3) : Strings 3

(正)

3 (3) : Orch.Ens

WIND/Brass
(誤)

5 (37) : Mute TP

(正)

5 (37) : Mute Trumpet

Demo Song List (VK-77)

Song Number	Song Name	Composer	Copyright
1	Little Mode	Joey DeFrancesco	©1998 DeFrancesco Publishing Co.
2	Voice of King	Seiichi Itoh	©1997 Roland Corporation
3	Organ Blues	Joey DeFrancesco	©1997 DeFrancesco Publishing Co.
4	Crescent High	Richard Souther	©1997 NortherSouth Music, ASCAP administered by EMI Christian Music Publishing, ASCAP
5	Newport Transfer	Scott Wilkie	© 1998 Scott Wilkie Media (ASCAP)

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* No data for the music that is played will be output from MIDI OUT.

Profile

Joey DeFrancesco

Joey DeFrancesco is a well-known jazz organist, composer and arranger. He has recorded more than ten albums and is listed as “#1 Jazz Organist” by Downbeat and Jazz Times magazines. His Keyboard virtuosity has acquainted an entirely new generation of listeners with the energy and excitement of the popular jazz organ sound.

Joey regularly appears at the top jazz clubs, concerts and festivals around the world—either as a solo performer or with members of his own quartet. Equally at home on the organ or synthesizer, Joey’s sound and style are easily recognized and admired by his many fans and fellow musicians. Joey also performs frequently for Roland and Rodgers throughout the U.S., Japan and Europe.

Richard Souther

Los Angeles based artist, composer and producer. His album, Vision: the music of Hildegard von Bingen, received the 1995 Billboard magazine classical/crossover album of the year. In 1992 the Gospel Music Association of singer Twila Paris’s Sanctuary. His latest solo project is entitled, Illumination: Hildegard von Bingen, The Fire of the Spirit on Sony Classical.

Seiichi Itoh

His life has thus far been a story of remarkable achievements, beginning with winning an electric organ contest even while still in junior high school. While in high school, he acquired in-depth knowledge on computers and their use in business. At the time he entered university, he was also an active participant in the business of a Japanese record company. Afterwards, a period in which he served as an advisor on keyboard instruments for Roland Corporation lead to his being taken on-board as a full-time employee. So far, he has performed in 137 cities overseas, and 200 within Japan. He resigned from Roland in 1987 in order to establish his own school of music. Currently, while managing his company’s “Studio Ichi,” he also serves as an advisor to Roland concerning development of new electronic musical instruments, and assists with their promotion throughout the realm of music.

Scott Wilkie

Scott Wilkie is a contemporary jazz recording artist, based in southern California. He tours frequently with his own band, and also appears as an artist for Roland in the U.S., Japan, Europe and South America. His debut solo album, Chasing The Dream, will be released worldwide in 1999 on Narada/Virgin Records. You can find him on-line at <http://www.scottwilkie.com/>

デモ・ソング一覧 (VK-77)

曲順	曲名	作曲者	Copyright
1	Little Mode	Joey DeFrancesco	©1998 DeFrancesco Publishing Co.
2	Voice of King	伊藤 精一 (Seiichi Itoh)	©1997 Roland Corporation
3	Organ Blues	Joey DeFrancesco	©1997 DeFrancesco Publishing Co.
4	Crescent High	Richard Souther	©1997 NortherSouth Music, ASCAP administered by EMI Christian Music Publishing, ASCAP
5	Newport Transfer	Scott Wilkie	©1998 Scott Wilkie Media (ASCAP)

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※デモ・ソングの演奏データはMIDI OUT 端子からは出力されません。

作曲者のプロフィール

Joey DeFrancesco (ジョーイ・デ・フランチェスコ)

ジョーイ・デ・フランチェスコは著名なジャズ・オルガニストであるばかりでなく、作曲家、アレンジャーでもある。彼は 10 枚以上のアルバムをリリースしており、Downbeat 誌や Jazz Times 誌ではナンバーワン・ジャズ・オルガニストとして評価されている。彼の卓越したキーボード・プレイは、最近の新しい世代のリスナーをもエネルギーで熱いオルガン・サウンドの虜にしている。

ジョーイは、世界でトップ・クラスのジャズ・クラブ、コンサート、音楽祭等に常にクレジットされる一方で、彼自身のカルテットやソロ・プレイヤーとしても第一線で活躍しており、ジョーイ独特のサウンドやスタイルに魅了されるファンやミュージシャンの数も少なくない。最近では、そんな多忙な合間を縫って、ローランドやロジャースのデモ・プレイヤーとしても北米、日本、ヨーロッパ間を飛び回っている。

Richard Souther (リチャード・サウザー)

ロサンゼルスを中心に活躍するアーティストで、有能な作曲家やプロデューサーでもある。彼のアルバム「Vision: the Music of Hildegard von Bingen」は 1995 年度ビルボード誌のクラシック／クロスオーバー部門で見事、アルバム・オブ・ザ・イヤーに輝いている。一方、1992 年にはゴスペル・ミュージック・アソシエーションより、歌手 Twila Paris's Sanctuary のプロデュースにより Dove Award を受賞している。彼の最近の活動としては、Sony Classicalより「Illustration: Hildegard von Bingen, The Fire of the Spirit」という名のソロ・アルバムをリリースしている。

伊藤精一 (Seiichi Itoh)

中学時代より電子オルガン・コンクールで輝かしい成績を残す。高校時代は、商業コンピューター関連の知識を身につけ、大学入学とともに国内のレコード会社に在籍。また、ローランドのキーボード・アドバイザーを引き受けたことをきっかけにローランドに正式入社。以降、東南アジア、北米、オーストラリアと演奏した都市は、国内で 200、海外でも 137 にのぼる。1987 年、音楽学校設立のため、ローランドを退社。現在は、自分の会社『スタジオ・イチ』を設立して、ローランド電子楽器開発アドバイザーや普及活動を展開中。

Scott Wilkie (スコット・ウィルキー)

南カリフォルニアを拠点に録音活動をしている現代ジャズ・アーティスト。現在、彼自身のバンドを率いて、また Roland U.S. 所属のアーティストとして、日本、ヨーロッパ、南アメリカなどを駆け回っている。ソロ・デビュー・アルバム「Chasing The Dream」を Narada/Virgin Records より 1999 年にリリース予定。また、インターネットの <http://www.scottwilkie.com/> にて自身の情報発信を行っている。

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