Roland®

XP-50

Owner's Manual Set

Roland®

GENERAL MIDI

MUSIC WORKSTATION

XP-50

Quick Start

Introduction

Thank you for purchasing the Roland XP-50 Music Workstation.

The XP-50 is a music workstation that combines a synthesizer sound source that produces a rich variety of sounds (upwardly-compatible with the JV-1080) with a powerful and easy-to-operate sequencer. From desk-top music system to live stage performance, the XP-50 gives you music power at your fingertips.

How to use the XP-50 manuals

In order to take full advantage of the XP-50's functionality and enjoy trouble-free use, please read this manual and the operating manual.

The XP-50 comes with two manuals; a Quick Start manual and the Operating Manual.

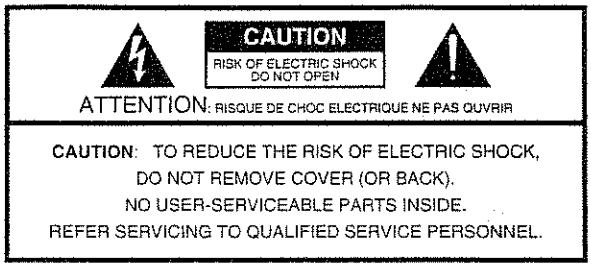
Quick Start

This manual explains how you can quickly and easily begin enjoying music with the XP-50. If you want to take complete advantage of the many advanced functions of the XP-50, first read the Quick Start manual, and then read the Operating Manual.

Operating Manual

Chapters 1 and 2 explain the basic concepts and operation of the XP-50. Be sure to read these chapters. The remaining chapters contain explanations of the various parameters and functions, ways in which the XP-50 can function in a more advanced setup, and supplementary materials. Read these chapters as necessary.

Contents



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 onto 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

This product may be equipped with a polarized line plug (one blade wider than the other) . This is a safety feature. If you are unable to insert the plug into the outlet, contact an electrician to replace your obsolete outlet. Do not defeat the safety purpose of the plug.

For Canada

For Polarized Line Plug

CAUTION: TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

ATTENTION: POUR ÉVITER LES CHOCS ÉLECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQU' AU FOND.

For the U.K.

IMPORTANT: THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE.

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 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.
Under no circumstances must either of the above wires be connected to the earth terminal of a three pin plug.

IMPORTANT NOTES

In addition to the items listed under Safety Precautions inside the front cover, please read and observe the following:

Power Supply

- Before connecting this unit to other devices, turn off the power to all units; this will help prevent damage or malfunction.
- Do not use this unit on the same power circuit with any device that will generate line noise; an electric motor or variable lighting system for example.

Placement

- Using the unit near power amplifiers (or other equipment containing large power transformers) may induce hum.
- This device may interfere with radio and television reception. Do not use this device in the vicinity of such receivers.
- Observe the following when using the unit's disk drive. For further details, refer to "Before Using Disks".
  - ○ Do not place the unit near devices that produce a strong magnetic field (eg., loudspeakers).
  - ○ Install the unit on a solid, level surface.
  - ○ Do not move the unit or subject it to vibration while the drive is operating.

Maintenance

- For everyday cleaning wipe the unit with a soft, dry cloth or one that has been slightly dampened with water. To remove stubborn dirt, use a mild, non-abrasive detergent. Afterwards, be sure to wipe the unit thoroughly with a soft, dry cloth.
- Never use benzene, thinners, alcohol or solvents of any kind, to avoid the possibility of discoloration and/or deformation.

Memory Backup

- This unit contains a battery which powers the unit's memory circuits while the main (AC) power is off. The expected life of this battery is 5 years or more. However, to avoid the untimely loss of memory data, it is strongly recommended that you change the battery every 5 years. Please be aware that the actual life of the battery will depend upon the physical environment — especially the temperature — in which the unit is used. When it is time to change the battery, consult with qualified service personnel.
- When the battery becomes weak the following message will appear in the display: "Battery Low". Please change the battery as soon as possible to avoid the loss of memory data.
- Please be aware that the contents of memory may at times be lost; when the unit is sent for repairs or when by some chance a malfunction has occurred. Important data should be stored on a floppy disk, or written down on paper (if 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.

Before Using Disks

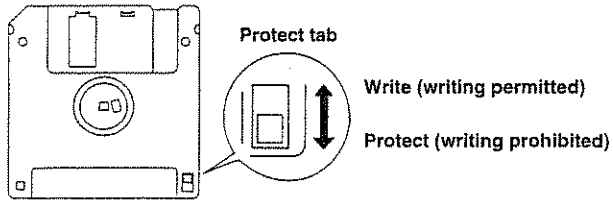
* **Unfortunately, it may be impossible to restore the contents of data stored on disk once it has been corrupted. Roland assumes no liability concerning such loss of data.**

Handling the drive

- Install the unit on a solid, level surface in an area free from vibration. If the unit must be installed at an angle, be sure the installation falls within the specified range: upward; 5°, downward; 35°.
- Avoid using the unit in areas of high humidity (eg., condensation). High levels of humidity can adversely affect the operation of the drive and/or damage floppy disks. When the unit has been transported, allow it to warm to room temperature before operating.
- To insert a disk, push it gently but firmly into the drive — it will click into place. To remove a disk, press the EJECT button firmly. Do not use excessive force to remove a disk which is lodged in the drive.
- Never attempt to remove a floppy disk from the drive while the drive is operating (the indicator is brightly lit); damage could result to both the disk and the drive.
- Remove any disk from the drive before powering up or down.

Handling Floppy Disks

- Floppy disks contain a magnetic storage medium (much like magnetic recording tape). Please observe the following when handling floppy disks:
  - ○ Never touch the magnetic medium inside the disk.
  - ○ Do not subject floppy disks to temperature extremes (eg., direct sunlight in an enclosed vehicle). Recommended temperature range: 10 to 50°C.
  - ○ Do not expose floppy disks to strong magnetic fields, such as those generated by loudspeakers.
- Floppy disks contain a "write protect" tab which can protect the disk from accidental erasure. It is recommended that the tab be kept in the "PROTECT" position and moved to the "WRITE" position only when you wish to write new data onto the disk.



- All important data should be copied onto backup disk(s). This provides a complete duplicate of the data should the original disk(s) be lost or damaged.
- The identification label should be firmly fixed to the disk. Should the label come loose while the disk is in the drive, it may be difficult to remove the disk.
- Put the disk back into its case for storage.

Additional Precautions

- Protect the unit from strong impact.
- Never strike or apply strong pressure to the display.
- A small amount of heat will radiate from the unit during normal operation.
- Before using the unit in a foreign country, consult with qualified service personnel.
- A small amount of noise may be heard from the display during normal operation.

Conventions in this manual

The following printing conventions are used in this manual when describing operations.

- References to the ◀ / ▶ buttons or INC/DEC buttons indicate that you should press one or the other button.
- References such as SHIFT button + PERFORM button indicate that you should hold down the SHIFT button and press the PERFORM button.
- An asterisk (*) at the beginning of a paragraph indicates a note or caution.
- References of (p.**) indicate a reference page.
- In the explanation of parameters, the paragraph title is given as "Displayed abbreviation (Full name of parameter)"

  [Examples]
  Rat (Chorus rate)
  Typ (Filter type)

* **The XP-50 has a large number of parameters (items that you can set). These parameters are organized in a hierarchy of mode / display group / display. Thus, we refer to a parameter (for example) in the following way; Cut parameter (PATCH: TVF: FILTER). This would mean that a parameter called Cut parameter is found in the FILTER display of the TVF group in PATCH mode. We will also refer to display screens in the same way.**

Display screens

The display screens printed in this manual may sometimes differ from the factory settings.

Features of the XP-50

Expandability

- Up to 4 Wave Expansion Boards can be installed

  Up to four Wave Expansion Boards can be installed, to provide a vast selection of waveform data for instant availability.

- SMF compatible

  The built-in sequencer can playback commercially available SMF (Standard MIDI File) song data or song data created on the SUPER-MRC.

Quick, easy, and simple operation

Dedicated buttons are provided for each function, for enhanced operability. The group of function buttons located below the display allow intuitive editing operation.

Advanced synthesizer sound source section (JV-1080 compatible)

- 64-note polyphony / 16-part multi-timbral

  The XP-50 is a 16-part multi-timbral sound source that can produce up to 64 simultaneous notes of polyphony. When used in conjunction with the built-in sequencer or an external computer, the XP-50 gives you complete freedom of musical creativity.

- Full-featured effects section

  Advanced DSP (digital signal processor) technology provides a rich variety of effects. In addition to a multi-effect (EFX) section that features 40 different types of effect, the XP-50 also has independent chorus and reverb units, for a total of three effect systems.

- Selectable Structures for sound-creating freedom

  The basic elements of sound can be combined in ten different Structures, for a nearly unlimited range of sound-creating possibilities. In addition, the Ring Modulator and the Booster (new for the XP-50) provide even more possibilities.

- GM-system compatible

  The XP-50 provides a mode compatible with the GM system, the standard format for desktop music (DTM) systems, and can playback any of the wide variety of commercially available GM song data.

  GM system

  GM (General MIDI) is a standard for MIDI sound source functionality that allows song data to playback correctly on sound sources made by different manufacturers. GM-compatible song data carries the GM logo (GENERAL MIDI), indicating that it will playback correctly on any GM-compatible sound source.

A highly-functional and easy-to-use sequencer

- Quick Play function for immediate song playback

  A song from floppy disk can be played back immediately, without the need to load it into internal memory.

- RPS (Realtime Phrase Sequencer) function for exciting live performances possibilities

  The RPS function allows you to playback previously created Patterns by simply pressing a note on the keyboard. This function can be used even while a song plays back.

- Chain Play function for automatic playback of specified songs

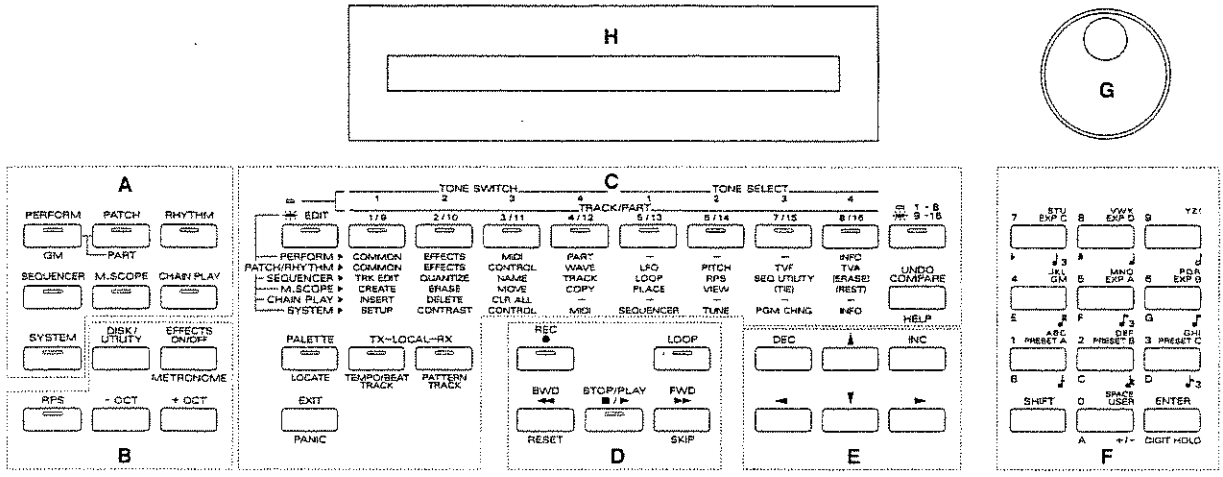
  Songs from a floppy disk can be automatically and consecutively played back in the order you specify. This function is especially convenient when using the XP-50's sequencer on stage.

- Shuffle Quantize and Groove Quantize functions to modify the rhythmic "feel"

  In addition to the conventional type of quantization (Grid Quantize) that corrects the timing of notes, the XP-50 features Shuffle Quantize and Groove Quantize functions. Shuffle Quantize adds a "swing" feeling to your recorded playing. Groove Quantize is especially effective when used on percussion tracks. You can apply any type of rhythmic feeling by selecting from 90 types of template.

Front and rear panel

■ Front panel



A

These buttons select the operational mode. The button indicator of the selected mode will light. The functions of the function buttons will change depending on the selected mode.

B

● DISK/UTILITY button

Press this button when you wish to write or copy Patches, format disks, or save data, etc.

● EFFECTS ON/OFF button / METRONOME button

EFFECTS : This button turns the internal effects (EFX, chorus, reverb) on/off.

METRONOME : When you wish to turn on the metronome, hold down the SHIFT button and press this button. To stop the metronome, hold down the SHIFT button and press this button once again.

● RPS button

This button turns the RPS function on/off.

● -OCT/+OCT buttons

These buttons adjust the pitch of the keyboard in steps of one octave.

C

● Function buttons

The function of these buttons will depend on the operational mode and the status of the EDIT button indicator.

● EDIT button

Press this button when you wish to adjust various settings. Use the function buttons to select the display screen for the parameter you wish to modify.

● 1-8/9-16 button

Use this button to select the group (1—8/9—16) of Parts or Phrase Tracks to be selected by the function buttons.

● UNDO button / COMPARE button / HELP button

The function of these buttons will depend on the operation being performed.

UNDO : Press this button to restore a modified value to the original value.

COMPARE : When storing Patch settings, you can press this button to check the settings in the writing destination.

HELP : To view a help display of the full name and setting range of the selected parameter, hold down the SHIFT button and press this button.

● PALETTE button / LOCATE button

PALETTE : Press this button when you wish to use the Palette display to modify Patch or Performance settings.

LOCATE : Press this button to set or jump to sequencer positions (measure - beat - clock).

● TX button, RX button

When playing in Performance mode, these buttons select the Part functions that will be selected by the function buttons. To turn the Local Control setting on/off, simultaneously press both the TX and RX buttons.

TX : MIDI message transmission on/off

RX : MIDI message reception on/off

LOCAL : Local Control on/off

● TEMPO/BEAT TRACK button

When operating the sequencer, press this button to select the Tempo track or the Beat track. If you have temporarily modified the tempo and now wish to playback the song with the initial tempo, press this button while holding down the SHIFT button.

● PATTERN TRACK button

Press this button to select Patterns recorded in the Pattern track.

● EXIT button / PANIC button

EXIT: Press this button when you wish to return to the Play display of a mode, or to cancel an operation without executing.

PANIC : If for some reason notes are stuck and continue sounding, hold down the SHIFT button and press this button to clear the stuck notes.

D

● REC button

Press this button to begin recording.

● BWD button, FWD button

Use these buttons to rewind/fast-forward through a song. By holding down the SHIFT button when you press these buttons, you can jump to the beginning/end of the song.

● STOP/PLAY button

Press this button to start or stop playback.

● LOOP button

Press this button to turn the loop function on/off.

E

● Cursor buttons (◄ , ►)

Use these buttons to move the cursor (underline) to the value you wish to modify.

● Page buttons (▲ , ▼)

When the left edge of the display shows a ↑ or ↓ symbol, use these buttons to move to other parameter displays

● INC button, DEC button

Use these buttons to modify values. If you continue holding down one button and then press the other button, the value will change more rapidly. If you press one of these buttons while holding down the SHIFT button, the value will change in larger steps.

F

● Numeric keys

Use these keys to set a value. They can be used to enter alphabetical characters and notes in addition to numerical values.

● SHIFT button

This button is used together with other buttons. Some of the buttons on the front panel have printing in brown characters. This printing indicates the function of the button when the SHIFT button is held down.

● ENTER button / DIGIT HOLD button

ENTER : Use this button to finalize a value or execute an operation.

DIGIT HOLD : If you press this button while holding down the SHIFT button, the Digit Hold function will be turned on. If the Digit Hold function is on when you use the numeric keys to select Patches, the 100's place and 10's place will be held and only the 1's place will change. This means that you can select Patches without having to press the ENTER button, simply by pressing the number for the 1's place. To turn off Digit Hold, hold down the SHIFT button and press this button once again. The same applies when selecting Performances or Rhythm set.

G

● Alpha-dial

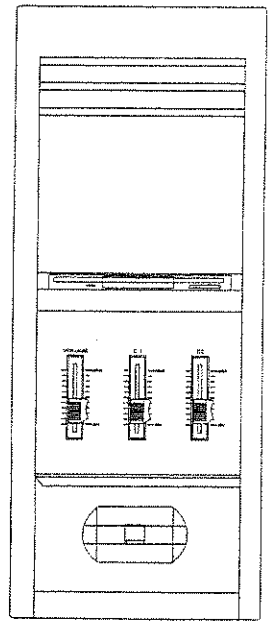
This dial is used to modify values. If you hold down the SHIFT button as you rotate the Alpha-dial, the value will change in larger steps.

H

● Display

Various information is displayed here for the currently selected function or operation.

■ Side panel



● Master volume slider

This slider adjusts the overall volume that is output from the rear panel OUTPUT jacks and PHONES jack.

● C1 slider, C2 slider

Various parameters or functions can be assigned to these sliders, allowing you to control the sound source section as you play.

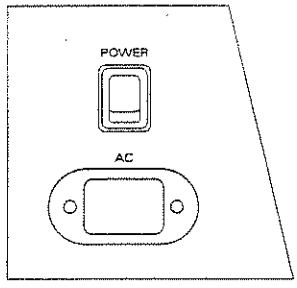
● Pitch bend/modulation lever

This lever allows you to control pitch bend or to apply vibrato. Depending on the settings, other specified parameters can also be controlled.

● Floppy disk drive

This floppy disk drive uses 3.5 inch 2DD/2HD disks. To remove the disk, press the eject switch located at the lower right of the disk insertion slot.

■ Rear panel

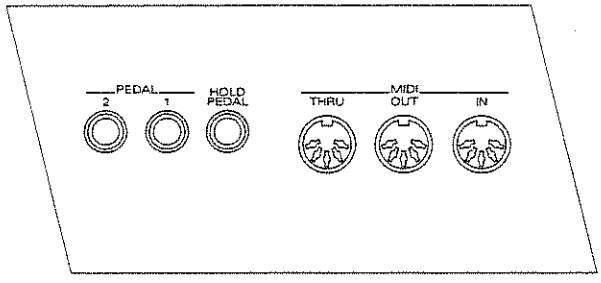


● Power switch

Press this switch to turn the power on/off.

● AC inlet

Connect the included power cable to this inlet.



● PEDAL 1 jack, PEDAL 2 jack

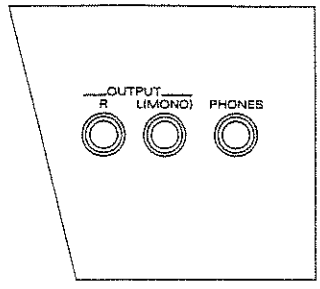
Separately sold pedal switches or expression pedals can be connected to these jacks. By assigning the desired function to a pedal, you can use it to sustain or modify the sound in various ways.

● HOLD PEDAL jack

A separately sold pedal switch can be connected to this jack to function as a hold pedal.

● MIDI connectors

These connectors can be connected to other MIDI devices to receive and transmit MIDI messages.



● OUTPUT R jack, OUTPUT L (MONO) jack

These jacks output the audio signal to your mixer/amp system. For mono output, use the L output jack.

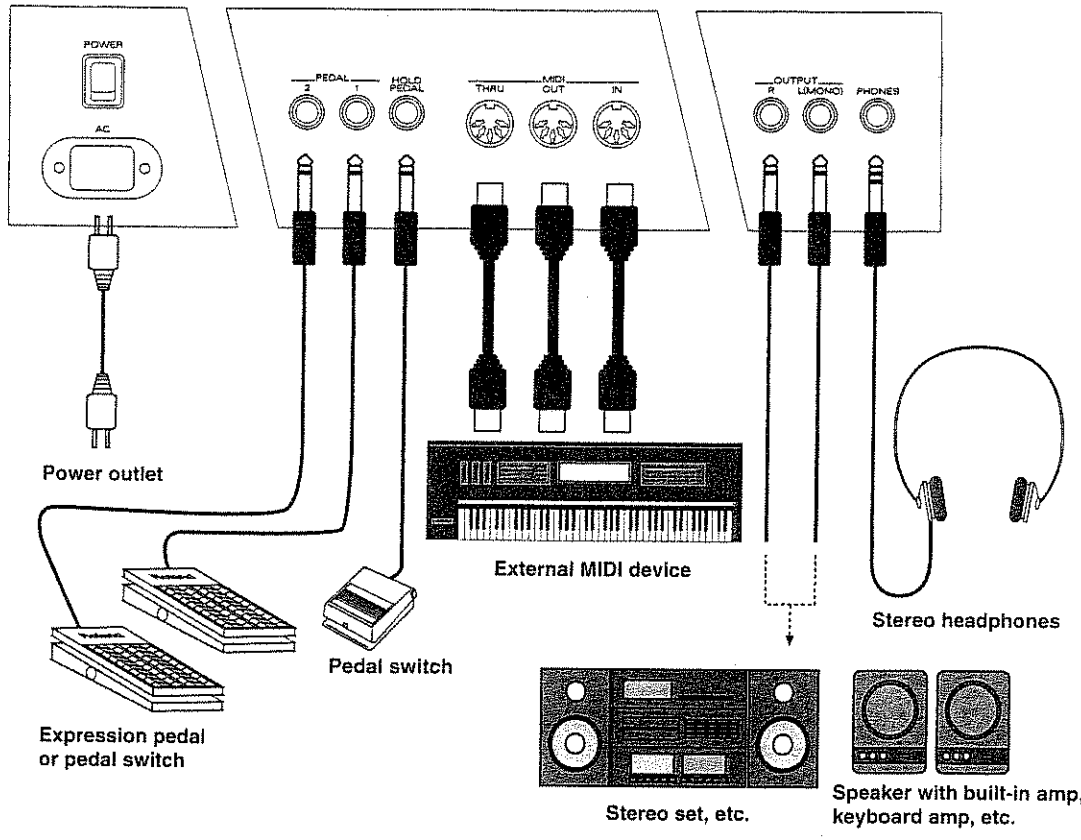
● PHONES jack

A set of headphones can be connected to this jack. Make sure that your headphones have an impedance of 8—150 ohms.

Make connections

The XP-50 does not contain an amp or speaker. In order to hear the sound, you will need to connect a keyboard amp or an audio system, or a set of headphones. Refer to the following diagram and connect the XP-50 to the external equipment you are using.

*** Audio cables are not included. Purchase them from your dealer as necessary.**



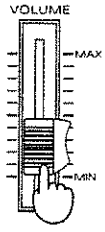
1. Before you make connections, make sure that the power is turned off for all devices.
   *** If the power is on when you make connections, the speakers may be damaged.**
2. Connect the included AC cable to the XP-50, and plug the other end into an AC power outlet.
   *** For 117 V models of the XP-50, the AC cable is permanently attached.**
3. Connect audio cables and MIDI cables as shown in the diagram. If you are using headphones, plug them into the PHONES jack. Connect pedal switches or expression pedals as necessary.
   *** In order to take full advantage of the XP-50's sound, we recommend that you use a stereo amp/speaker system. If you are using a mono system, connect the L (MONO) OUTPUT jack.**
   *** The PEDAL 1 and PEDAL 2 jacks can accommodate either expression pedals or pedal switches.**

Turn the power on

1. Before you turn the power on, check to make sure of the following points.
   - All external devices are connected correctly to the XP-50.
   - The volume controls of the XP-50 and the amp/mixer system are turned to the minimum position.
   - There is no disk in the floppy disk drive.
2. Turn on the power switch located on the rear panel of the XP-50.

*** A protection circuit will mute the sound for a short time after the power is turned on.**

3. Turn on the power of your amp system.
4. While playing the XP-50, gradually raise the volume controls of the XP-50 and your amp or mixer to an appropriate volume level.



*** Be careful not to excessively raise the master volume slider of the XP-50.**

● To turn the power off

1. Before you turn the power off, check to make sure of the following points.
   - The volume controls of the XP-50 and the amp/mixer system are turned to the minimum position.
   - There is no disk in the floppy disk drive.
   - Important data has been saved to a disk, etc. (p.22).
2. Turn off the power of your amp/mixer system.
3. Turn off the XP-50 power.

Play the sounds

■ Select and play Patches

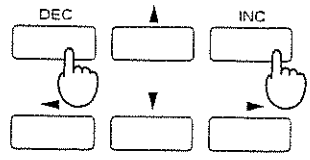
The XP-50 contains a large number of sounds ready for you to play. The sounds that you select and play normally are called Patches. Here's how to select and play Patches.

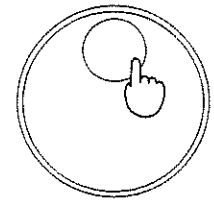
1. Press the PATCH button to select the Patch mode Play display.
   The display will indicate the group, number, and name of the currently selected Patch.

Group Number Name

```
PATCH     PR-A:001 64voicePiano
PLAY                          center=C 4
```

2. Play the keyboard and listen to the sound.
3. Select and play other Patches by rotating the Alpha-dial or pressing the INC/DEC buttons.





To move more rapidly through the selections:
Alpha-dial..... hold down SHIFT as you rotate the dial
INC/DEC buttons ..... Hold down the SHIFT button while you press a button. Or, hold down one button and then press the other button.

■ Play percussion sounds from the keyboard

The XP-50's Rhythm Sets contain a wide variety of percussion sounds and special effect sounds. Here's how to select a Rhythm Set and play percussion sounds.

1. Press the RHYTHM button to select the Rhythm Set mode Play display.
   The display will indicate the group, number, and name of the currently selected Rhythm Set.

Group Number Name

```
RHYTHM    PR-A:001 PopDrumSet 1
PLAY          C 4(Cga Mute Hi )center=C 4
```

Note name Wave name

2. A different percussion instrument will sound for each note you play.
   The display will indicate the last-pressed key (note name) and the percussion instrument (wave name) assigned to that key.

   * **The percussion instrument played by each key will depend on the selected Rhythm Set. For details refer to chapter 12 "Factory Preset Settings" in the Operating Manual.**

3. To select another Rhythm Set, rotate the Alpha-dial or press the INC/DEC buttons.

■ Try out the performance functions

The XP-50 provides various controllers that can modify the sound. While playing the keyboard, try out these controllers and listen to their effect.

*** The effect that the controllers will have will depend on the settings of the selected Patch. If the effect of the controllers is difficult to detect, select another Patch.**

● Velocity / Aftertouch

The force with which you play the keyboard (velocity) can affect the volume or tone color of the sound. Aftertouch (pressure that you apply to the keyboard after playing a note) can also affect the sound.

● Pitch Bend / Modulation lever

While playing the keyboard, move the lever to the left to lower the pitch, or to the right to raise the pitch. This effect is known as Pitch Bend. You can apply vibrato by pressing the lever away from you. This effect is known as Modulation.

You can also press the lever away from you and to one side to apply both effects simultaneously.

● C1 slider / C2 slider

While playing the keyboard, you can move the sliders up or down to modify the volume or tone color.

● Hold pedal

If a pedal switch (FS-1, DP-2; sold separately) is connected to the rear panel HOLD PEDAL jack, pressing the pedal switch will sustain (hold) the sound even if the keys are released. However if the selected Patch is one in which the sound decays naturally even if the key remains pressed, pressing the pedal will not sustain the sound.

● Expression pedal

If an expression pedal (EV-5, EV-10; sold separately) is connected to the rear panel PEDAL 1 or PEDAL 2 jack, you can use the pedal to control the volume or tone color.

Try out the demo disk

■ Listen to the demo songs

The included disk contains 7 demo songs. Here's how you can hear the demo songs, and get an idea of the XP-50's rich array of sounds and effects.

Song number: Filename (Song name)		Composer	
01 : DEMO_001.SVQ	(Phaser-Dance)	Mitsuru Sakaue	Copyright © 1995 Roland Corporation
02 : DEMO_002.SVQ	(Meaning Of Life)	Masashi Hirashita, Kazuko Hirashita	Copyright © 1995 Roland Corporation
03 : DEMO_003.SVQ	(RPS City)	Naoki Matsura	Copyright © 1995 Roland Corporation
04 : DEMO_004.SVQ	(Secrets)	Chong Lim	Copyright © 1995 BMG Publishing
05 : DEMO_005.SVQ	(Flying Chicken)	S. Nakamura	Copyright © 1995 Roland Corporation
06 : DEMO_006.SVQ	(Hard Day)	Naoki Matsuura	Copyright © 1995 Roland Corporation
07 : DEMO_007.SVQ	(Prince Of Peace)	Eric Persing	Copyright © 1995 Big Green Music

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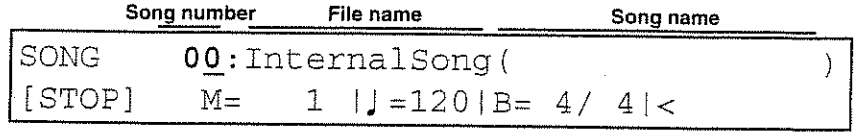
1. Insert the included disk into the disk drive. Insert the disk in the direction of the arrow, with the label side facing up.
   When the disk is inserted correctly, you will hear a click and the eject button located at the lower right of the slot will pop out.
2. Press the SEQUENCER button to access the Song Play display.



3. Make sure that the cursor (underline) is located at the song number.
4. Select the demo song that you wish to hear, either by rotating the Alpha-dial, or by using the INC/DEC buttons or the numeric keys.
5. Press the ENTER button to finalize the song selection, and press the STOP/PLAY button to start demo song playback.
   Playback will stop automatically when the song ends. If you wish to interrupt playback, press the STOP/PLAY button once again.

   * **You can also start playback by pressing the STOP/PLAY button without pressing the ENTER button.**

   * **If you interrupt song playback, a "+" symbol may appear at the side of the displayed measure number (M=). This indicates that the song is stopped in the middle of a measure.**

   * **If you play the keyboard after a song has been played back and experience problems such as there being no sound or the pitch being incorrect, hold down the SHIFT button and press the EXIT button (the Panic function).**

■ Using the RPS function during song playback

The RPS (Realtime Phrase Sequence) function allows you to playback a Pattern (a musical phrase unit) from the Pattern track of the song by pressing specific keys on the keyboard. The RPS function can be set for each song. Since different phrases can be played back by pressing different keys, this function is especially effective when used during a live performance. The included disk contains a demo song that allows you to try out the RPS function. Here's how.

Song number: Filename (Song name)		Composer	
08: RPS_DEMO.SVQ	(Try RPS)	Tatsuya Senoh	Copyright © 1995 Roland Corporation

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1. Make sure that the cursor (underline) is located at the song number, and select "08:RPS_DEMO.SVQ (Try RPS)," either by rotating the Alpha-dial, or using the INC/DEC buttons or the numeric keys.
2. Press the ENTER button to finalize the song.
   When you finalize the song selection, the indicators of the RPS button and LOOP button will turn on.

3. Press the STOP/PLAY button to begin playing back the song.
   The first measure contains setup data to specify the Patch that will be used to play each musical part, and measures 2—8 contain the musical performance. The song is set to be played back continuously.
4. As you listen to the song, press various keys in the range of F2—C#3 to playback Patterns.
   *** To stop Pattern playback, press the C2 key.**
5. To stop song playback, press the STOP/PLAY button.

■ Using the RPS function to play various Patterns

In the above procedure, you used the RPS function to playback Patterns while playing back a Song. The included disk also contains 11 songs which consist only of Patterns for the RPS function. These songs will not playback when you press the STOP/PLAY button, but contain many different Patterns that you can use in a variety of playing situations. This section explains how to playback these Patterns. You may also use these Patterns to create your own original songs.

Song number: Filename (Song name)		Producer	
09 : SAMPLE01.SVQ	(Acid Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation
10 : SAMPLE02.SVQ	(Acid Swing Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation
11 : SAMPLE03.SVQ	(Dancehall Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation
12 : SAMPLE04.SVQ	(Euro Beat Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation
13 : SAMPLE05.SVQ	(Funk Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation
14 : SAMPLE06.SVQ	(Ground Beat Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation
15 : SAMPLE07.SVQ	(Hip Hop Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation
16 : SAMPLE08.SVQ	(House Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation
17 : SAMPLE09.SVQ	(Jazz Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation
18 : SAMPLE10.SVQ	(Lovers Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation
19 : SAMPLE11.SVQ	(Trance Set)	Mitsuru Sakaue, Kiyotaka Takiyama	Copyright © 1995 Roland Corporation

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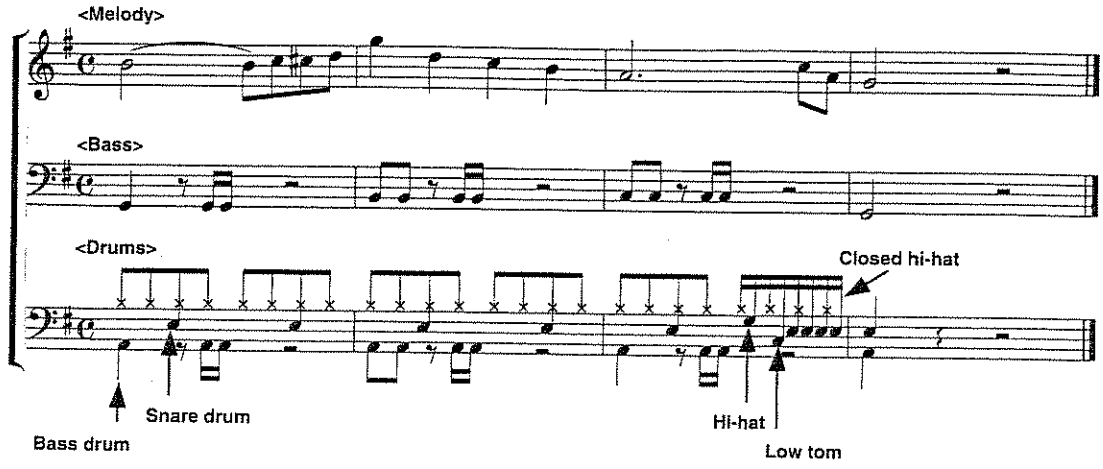
*** The demo song "RPS City" was created using the Patterns of "Trance Set."**

*** Each Pattern is created with the basic Performance settings in mind. (For more about Performances, refer to the next page.) This means that depending on the settings of the currently selected Performance, the volume balance or effects may differ significantly. To reset the Performance to the basic settings, use the Initialize function. (Refer to the operating manual.)**

1. Make sure that the PERFORM button indicator is lit.
2. Select the song for the musical genre you wish to use, and press the ENTER button.
   The indicators of the RPS button and the LOOP button will light.
3. Press the STOP/PLAY button.
   The song will not playback, but the Patches for use by the Patterns will be selected. By putting the XP-50 in song playback mode, you can synchronize the timing at which each Pattern will begin playback.
4. Press various keys to playback the Patterns.
   *** To interrupt Pattern playback, press the C2 key.**
5. When you finish, press the STOP/PLAY button to stop.

Record a song

Here's how to use the XP-50 to record a simple song. On the XP-50, the musical data for one song or piece is called a Song. As you record the music shown in the following score, you will learn about basic recording procedures.



■ Before you begin recording

● Recording methods

There are two ways to record; realtime recording and step recording. Each method has different advantages.

Realtime recording

Realtime recording is the method in which notes are recorded just as you play them on the keyboard. When you want every nuance of timing and dynamics in your playing to be recorded, use this method.

Step recording

Step recording is the method in which notes are specified one by one. This method is especially suitable when notes must be recorded precisely as printed in a written score. Alternatively, this method can also be used to record musical passages that would be difficult to play in a conventional way.

● Part order for recording

Multi-track recording allows you to record musical performances consisting of two or more instruments. Multi-track recording on the XP-50 is done by recording new parts while listening to the parts on previously-recorded Phrase tracks playback. Generally, multi-track recordings are made in the order of "drums → bass → accompaniment → melody." This order makes it easier to keep each part rhythmically correct, since you can record the accompaniment or melody while listening to the drums and bass.

● Select a Performance

If you wish to play using two or more Patches, select Performance mode. In Performance mode, Patches or Rhythm Sets are assigned to "slots" known as Parts. There are 16 Parts. The settings of the Performance determine which Patch or Rhythm Set is assigned to each Part. If we draw an analogy with real-world musicians, a Part would correspond to a musician, a Patch or Rhythm Set to an instrument, and a Performance would determine the band membership.

There are two types of Performance; layer and single. A layer Performance allows you to simultaneously play two or more Parts. A single Performance allows you to play only the specified Part. If you wish to record ensemble playing, select a single Performance.

In recording our sample song, we will use Part 1 to play the melody, Part 2 for the bass, and Part 10 for the rhythm. We will use Performance "PR-A: 12 Pop Set 1."

Now use the following procedure to enter Performance mode and select the appropriate Performance.

1. Press the PERFORM button to get the Performance mode Play display.
   The display will show the group, number, and name of the currently selected Performance

Group Number Name

```
PERFORM PR-A: 12 Pop Set 1        part=  1
PLAY                              center=C 4
```

2. Select the "PR-A: 12 Pop Set 1" Performance by rotating the Alpha-dial or using the INC/DEC buttons.

   *** You can also select Performances using the numeric keys. To do so, hold down the SHIFT button and press numeric key 1. This selects the Performance group PR-A. Next press the numeric keys 1 and then 2, and finally press the ENTER button. This selects Performance "PR-A: 12 Pop Set 1."**

■ Record the drums using realtime recording

It is difficult to record multiple percussion instruments using realtime recording. So, here we will use the Loop function that lets us record repeatedly over a specified area. We will select "MIX" as the recording mode so that each new pass will add notes to the previously recorded notes. Your playing will be recorded in an area known as a Phrase track. There are 16 Phrase tracks (1—16). In this example, we will record on the Phrase track numbered the same as the Part we are using; Phrase track 10. As a drum set, we will use the "PR-A: 2 PopDrumSet1" that is selected for the Performance.

1. Press the SEQUENCER button to get the Song Play display.
2. Select internal memory as the recording destination. Make sure that the cursor is located at the song number, and select "00:InternalSong" either by rotating the Alpha-dial to the left, or by pressing the DEC button.

   *** Songs are always recorded initially into internal memory. It is not possible to record a song directly to disk.**

3. Press the REC button to get the Standby display.

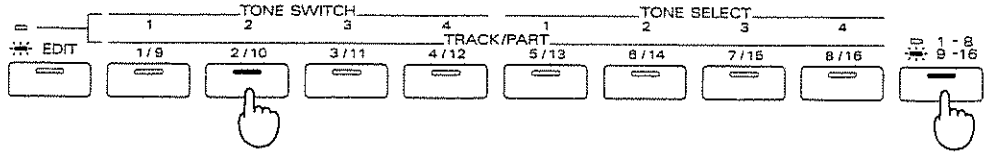
Recording destination track Recording mode Loop recording

```
TRACK 10↑Mode=      MIX|Loop=  4  part=10
[STBY]  ↓M=   1 |♩=120|B= 4/ 4|Wait Note
```

Measure location Tempo Time signature Recording start method

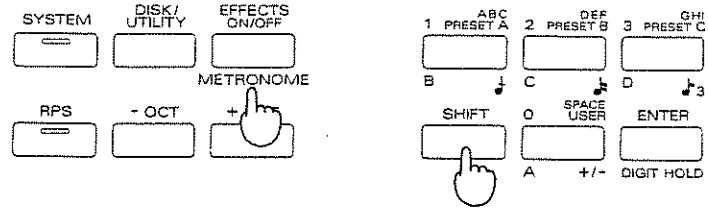
   *** To cancel recording, press the EXIT button or Rec button.**

4. Select phrase track 10 as the recording destination. Press the 1-8/9-16 button to make the button indicator light, and then press the Track 10 button.
   The Track 10 button indicator will begin blinking. When you select Phrase track 10, the identically-numbered Part 10 will be selected as the Part used for recording.

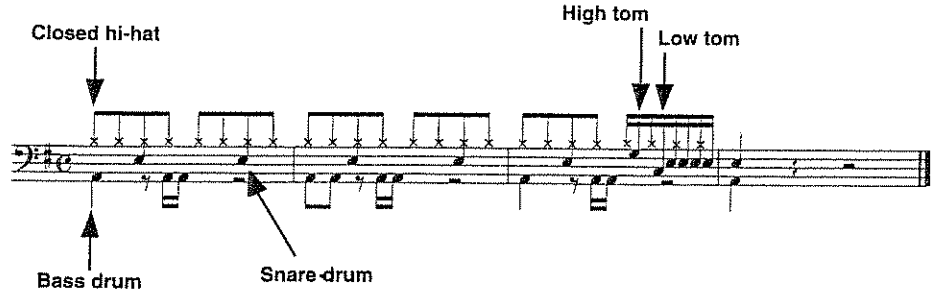


5. Make sure that the recording mode is set to "MIX."
6. Set the number of measures (4 measure) over which recording will repeat. Press the ▶ button to move the cursor to "Loop," and select "4" either by rotating the Alpha-dial to the right, or by pressing the INC button.
   When you specify the number of measures, the Loop button indicator will light.

7. Specify the measure at which recording will begin. In this example we will begin from the first measure, so the measure number will be 1.
8. Set the tempo. For this example, set a tempo of 70. Press the ▶ button to move the cursor to "♩=," and set this to "70" either by rotating the Alpha-dial to the left, or by pressing the DEC button.
   * **The tempo you set when you begin recording is recorded in the Tempo track. This means that when you playback the song from the beginning, it will always be played back with the tempo that you set here.**
9. Select the recording start method. In this example, we will select a recording start method where recording will begin when you press a key. Press the ▶ button to move the cursor to the lower right, and select "Wait Note" either by rotating the Alpha-dial to the right, or by pressing the INC button.
10. If you wish to play along with a metronome, hold down the SHIFT button and press the METRONOME button.
    * **To turn off the metronome, hold down the SHIFT button and press the METRONOME button once again.**



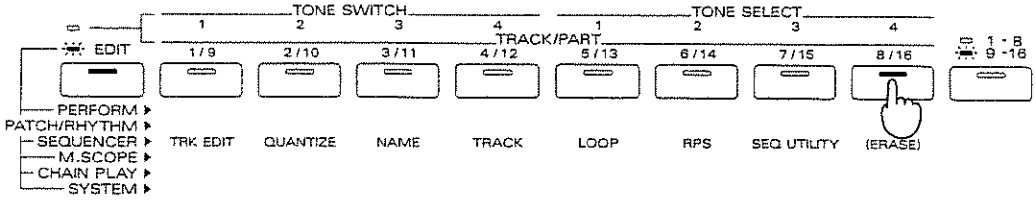
This completes the preparations for recording. Now let's record the following musical passage.



11. First press the C2 key to record the bass drum (Hybrid Kick1).
    Recording will begin when you press the C2 key.
12. When you finish recording the 4th measure, the song will return to measure 1, and the bass drum passage you just recorded will playback. While listening to the playback, record the snare drum (Natural SN2) by pressing the D2 key.
    * **If while recording you wish to verify which percussion instrument is assigned to each key, hold down the REC button and press a key. This will allow you to hear the percussion instrument assigned to that key without recording the note.**
13. In the same way, record the remaining percussion instruments using the G2 (Verb Tom Hi), F2 (Verb Tom Lo), and F#2 (Cl HiHat1) keys.

< Realtime erase >

If the notes were not recorded as you expected, use the Realtime Erase function to erase the wrong notes. To use the Realtime Erase function, press the EDIT button while in recording mode, and then press the (ERASE) button. When you press the button the Realtime Erase display will appear.




```
TRACK 10|Real Time Erase  [REC]:All Data
[ERASE] |M=   1 |♩=120|
```

Press the key corresponding to the percussion sound you wish to erase, and the notes will be erased as long as you continue pressing the key. If you wish to erase all the percussion instrument notes, press the REC button. Notes will be erased during the time that you hold down the REC button. When you finish erasing, press the EXIT button to return to the previous display.

14. When you finish recording all the percussion instrument notes, press the STOP/PLAY button to end the procedure.
15. Let's playback the musical passage you just recorded. Hold down the SHIFT button and press the BWD button to jump back to the beginning of measure 1. Then press the STOP/START button.

    *** If the timing of the recorded notes is slightly inaccurate, you can use the Quantize function to correct the timing. For details refer to the Operating Manual.**

■ View the recorded data

The notes you record on the sequencer are recorded as MIDI messages. Let's use the Microscope display to check the MIDI messages that were recorded on track 10.

1. While holding down the SHIFT button, press the BWD button to move to the beginning of the first measure of the song.
2. Press the M.SCOPE button to select Microscope display.

MIDI message — parameters of each MIDI message

```
TRACK 10|*Note(C 2)|Ch|Note|OnVel|Gate▶
M.SCOPE ↓  1-01-000|10|  36|  127|   96
```

Position (measure - beat - clock)

3. Press the ▲/▼ buttons to view the MIDI messages that were recorded. Pressing the ▼ button will move to the next MIDI message. Pressing the ▲ button will move to the previous MIDI message.

    *** If the display cannot show all the parameters of the MIDI message, a ▶ symbol will appear in the right edge of the display. This indicates that you can press the ▶ button to view the remaining parameters.**

    *** A " * " symbol displayed at the left of a MIDI message indicates that other MIDI messages are recorded at the same time location.**

■ Record the bass using step recording

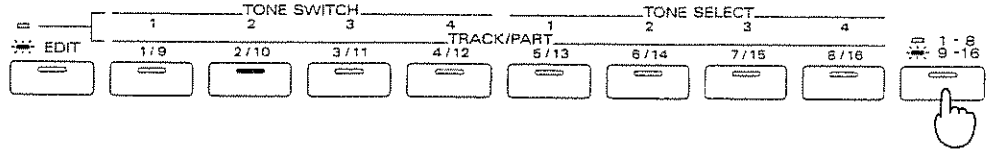
For the bass line, we will use the "Finger Bass" patch assigned to Part 2, and use step recording to record it on Phrase Track 2.

1. Press the PERFORM Button to get the Performance mode Play display.
2. Use the ◄ buttons to select Part 2 to be played by the keyboard.

the Part played by the keyboard

```
PERFORM PR-A: 12 Pop Set 1        part=  2
PLAY                             center=C 4
```

3. Press the M.SCOPE button to select Microscope display.
4. Return the song to the beginning of measure 1 (1-01-000). Hold down the SHIFT button and press the BWD button.
5. Select track 2 as the recording destination. Make sure that the EDIT button indicator is dark, and press the 1-8/9-16 button to select Phrase track 2.



6. Press the REC button to get the step recording display.

```
TRACK  2|        Note|Step|Gate| Velocity
[S.REC] |   1-01-000|   ♩| 80%|     REAL
```

7. Select the step time (note length) for the first note. The first note is a quarter note. Make sure that a "♩" is displayed for "Step."

   * **It is also possible to use the numeric keys to specify the step time. Each numeric key will enter the step time corresponding to the note symbol printed at the lower right of the numeric key. In this example, press numeric key 8 (♩) to enter a quarter note.**

8. Press the G2 key for the first note.

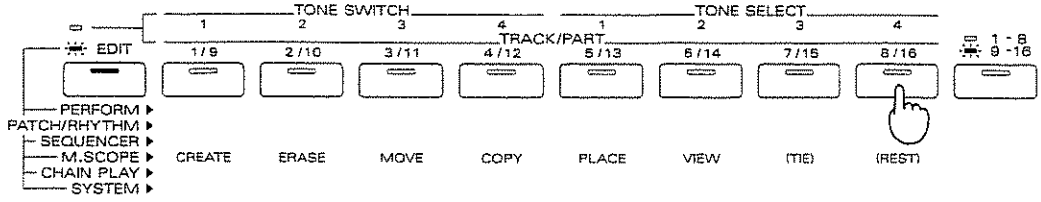
```
TRACK  2|  2| 43:G 2|Step|Gate| Velocity
[S.REC] |   1-01-000|   ♩| 80%|     REAL
```

When you release the key, the value will be finalized, and you can then enter the next note.

```
TRACK  2|        Note|Step|Gate| Velocity
[S.REC] |   1-02-000|   ♩| 80%|     REAL
```

   * **To correct a note you entered, press the BWD button to erase the previously-entered note, and input it once again.**

9. Next we will input an 8th note rest. Select an 8th note as the step time, and press the (REST) button.




```
TRACK  2|        Note|Step|Gate| Velocity
[S.REC] |   1-02-048|   ♪|  80%|     REAL
```

10. Next we enter two 16th notes. Select a 16th note as the step time, and press the G2 key twice.

```
TRACK  2|        Note|Step|Gate| Velocity
[S.REC] |   1-03-000|   𝅘𝅥𝅯|  80%|     REAL
```

11. Next we enter a half-note rest. Select a half note as the step time, and press the (REST) button.

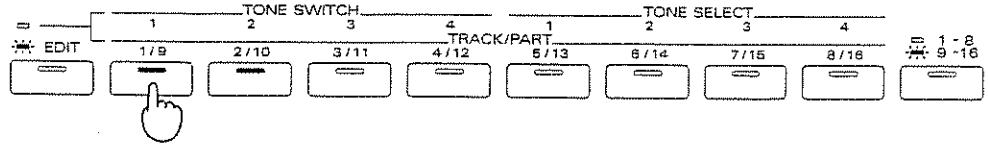
```
TRACK  2|        Note|Step|Gate| Velocity
[S.REC] |   2-01-000|   𝅗𝅥|  80%|     REAL
```

12. This completes the first measure. Record the second and following measures in the same way.
13. When you finish recording, press the STOP/PLAY button.
14. Playback the musical passage you just recorded. Hold down the SHIFT button and press the BWD button to jump back to the beginning of measure 1. Press the SEQUENCER button, and then the STOP/START button to begin playback.

■ Record the melody using realtime recording

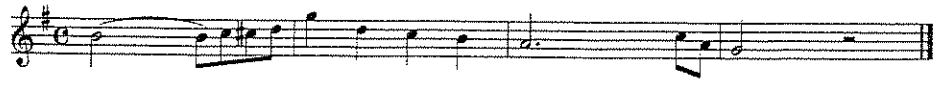
For the melody we will use the "64voicePiano" Patch assigned to Part 1, and record it on Phrase Track 1 using realtime recording. When recording the percussion instruments we used the Loop function, but since here we will be recording a musical passage on a single instrument, we will not use the Loop function. Since we will not be layering successive recorded passes, we will set the recording mode to "REPLACE." This is the recording mode to use when you simply wish to record your playing in the most basic way. In "REPLACE" recording, any previously-recorded material in that track will be erased by the new recording. In this example, we will select "Count In =1" as the recording start method, so that the metronome will give a one-measure count before recording begins.

1. Press the SEQUENCER button to select the Song Play display.
2. Press the REC button to get the Standby display.
3. Select Track 1 as the recording destination. Make sure that the 1-8/9-16 button indicator is dark, and then press the TRACK 1 button.



At this time, the TRACK 1 button and REC button indicators will blink, and the TRACK 2/10 button will light. The lit buttons indicate tracks that contain recorded material. Since the 1-8/9-16 button is dark, this means that track 2 contains recorded material.
If you select Phrase track 1, the identically-numbered Part 1 will be selected as the Part to use for recording.

4. Set the recording mode to "REPLACE." Press the ◀ button to move the cursor to "Mode," and select "REPLACE" either by rotating the Alpha-dial to the left, or by pressing the DEC button.
5. Turn off the Looping function that you used when recording the percussion instruments. Press the ▶ button to move the cursor to "Loop," and select "OFF" either by rotating the Alpha-dial to the left or by pressing the DEC button.
   When this is set "OFF" the LOOP button indicator will go off.
6. Select measure number 1 as the measure at which to begin recording. Press the ▶ button to move the cursor to "M=," and rotate the Alpha-dial or press the INC/DEC buttons to select "1."
7. Select "Count In=1" as the recording start method. Press the ▶ button to move the cursor to the lower right, and select "Count In=1" either by rotating the Alpha-dial to the left, or by pressing the DEC button.
8. Hold down the SHIFT button and press the METRONOME button to start the metronome.
9. Press the STOP/START button to begin recording. After the one-measure metronome count, play the keyboard.
   As you listen to the previously recorded percussion and bass, play along to record the melody.



10. When you finish recording, press the STOP/PLAY button.
11. Hold down the SHIFT button and press the METRONOME button to stop the metronome.

Our sample song has now been recorded. While holding down the SHIFT button, press the BWD button to return to the first measure of the song, and then press the STOP/PLAY button to listen to the song.

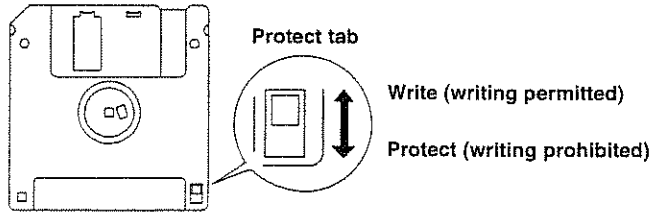
Save your new song

The song you just recorded will be lost if you turn the power off. If you wish to keep the song, you must save it to disk.

■ Format a disk

New disks or disks that have been used by another device must be formatted by the XP-50 before songs can be saved on them.

1. Check the disk.
   The XP-50 uses 2DD or 2HD 3.5 inch floppy disks. When you format a disk, all data that may have been on that disk will be lost. If you will be using a disk that has been used with another device, make sure that it does not contain data you wish to keep.
2. Set the protect tab of the disk to the Write position.



3. Insert the disk into the disk drive slot.
4. Press the DISK/UTILITY button.
   The function select display will appear.

```
UTIL|1:WRITE   2:LOAD    3:SAVE    4:SOUND
    |5:DISK
```

5. Press the ▶ button to make "5: DISK" blink, and press the ENTER button.
   The function select display for disk-related functions will appear.

```
UTIL|1:FORMAT 2:BACKUP 3:VERIFY 4:VOLUME
DISK|5:DELETE 6:RENAME 7:INFO
```

6. Make sure that "1:FORMAT" is blinking, and press the ENTER button.
   The Format execution display will appear.

```
DISK     |[                ]          [ENTER]
FORMAT   |                             [SHIFT]
```

7. Press the ENTER button to execute the format operation.
   While the format operation is taking place, the display will indicate "Formatting." When formatting is completed, the display will indicate "Complete.".
8. If you now wish to save your song, press the EXIT button twice to return to the UTIL display of step 4.
   If you wish to return to the song play display, press the EXIT button three times.

■ Save your song to disk

Now you can save your song to the disk you just formatted.

1. Press the ◄ buttons to make the UTIL display "3: SAVE" blink, and press the ENTER button.
   A display will appear allowing you to select the type of data to save.

```
UTIL|1:SONG    2:SMF-0   3:SMF-1   4:SOUND
SAVE|
```

2. Make sure that "1:SONG" is blinking, and press the ENTER button.
   The Save execution display will appear.

File name

```
SAVE      |[SONG_000 ].SVQ            [ENTER]
SONG      |(                          )[SHIFT]
```

Song name

3. Specify a filename (up to 8 characters). Press the ◄/► buttons to move the cursor to the location where you wish to enter a character, and rotate the Alpha-dial or press the INC/DEC buttons to select the desired character.
   * **An extension of ".SVQ" is automatically added to the filename, to indicate the type of data that the file contains. It is not possible to edit or delete this filename extension.**
   * **Since the filename is used to differentiate songs, you must specify it. The Song Name, however, may be omitted. You may find it useful to specify a filename that reminds you what type of song it contains, and to use the song name to be a record of the title of the song. It is not possible to input or modify the song name in this display. For details on how to assign a song name, refer to the Operating Manual.**
4. When you finish entering the filename, press the ENTER button to execute the save operation.
   While the song is being saved, the display will indicate "Saving." When saving is completed, the display will briefly indicate "COMPLETE" and will then return to the display of step 2.

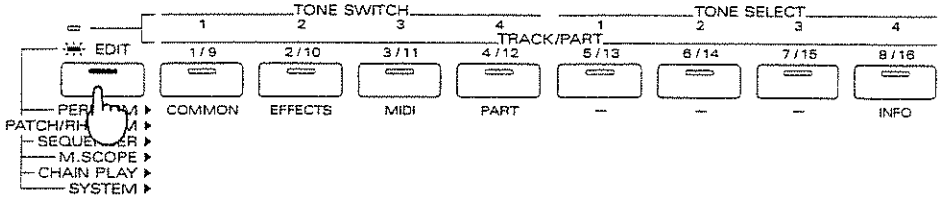
Your song has now been saved. Press the EXIT button 3 times to return to the Song Play display. As our final step, we will now create a Performance suitable for this song.

Create an appropriate Performance for the song

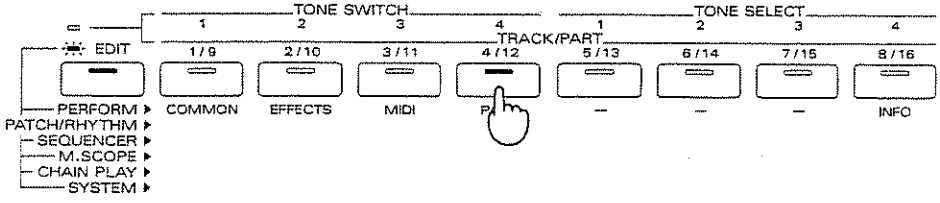
The sample song you recorded will playback correctly using the preset Performance. However the settings of that Performance may not necessarily be the most suitable for your song. This section will explain how you can modify the Performance to suit your song. Many different aspects of a Performance can be modified, but as an example, let's change the Patch that is selected for the melody. Then we will modify the name of the Performance and store the new settings.

■ Select a different Patch for the melody

1. Press the PERFORM button to select the Performance mode PLAY display.
2. Press the ◄ buttons to select Part 1.
3. Press the EDIT button to make the button indicator light.
   When the EDIT button indicator lights, the function buttons will change to the functions in each group printed below the buttons. Since Performance mode is currently selected, the function buttons will perform the functions printed in the PERFORM row.



4. Press the PART function button to make the button indicator blink.



   The Part 1 PATCH display will appear. If this display does not appear, use the ▲ buttons to get the correct display.

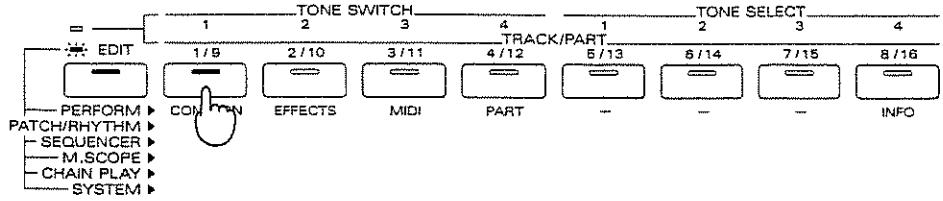
```
PART  1|  Group|Number
PATCH  ↓   USER|001(                )
```

5. Play the keyboard to hear the sounds as you select an appropriate Patch. In this display, you will select the group and number independently. Press the ◄/► buttons to select the desired item, and rotate the Alpha-dial or press the INC/DEC buttons to modify the value.
6. When you finish making settings, press the EXIT button.
   An asterisk " * " will appear at the right of the Performance group in the display. This indicates that the Performance settings have been modified.
7. Playback the song to check the settings. Press the STOP/START button to begin playback.

■ Assign a new name to the Performance

Let's go on and assign a name to the Performance. Since each Performance is already named, this means that you will be modifying the existing name.

1. Press the COMMON function button to make the indicator blink.



The PERFORM NAME display will appear. If this display does not appear, use the ▲ buttons to get the correct display.

```
PERFORM |[Pop Set 1     ]
NAME    ↓                          [SHIFT]
```

2. Press the ◀ / ▶ buttons to move the cursor to the location where you wish to modify the character, and rotate the Alpha-dial or press the INC/DEC buttons to select the desired character.
3. When you finish assigning the name, press the EXIT button.

■ Storing the Performance

The Performance settings that you modify are temporary. They will be lost if you turn the power off or select another Performance. If you wish to save the modified settings, you must overwrite one of the Performances in user memory.

* **Even if you overwrite the settings in memory, you can always use the Initialize function to restore the factory settings. For details refer to the Operating Manual.**

1. In Performance mode, press the DISK/UTILITY button to access the UTIL display.
2. Press the ◀ button to make "1 : WRITE" blink, and then press the ENTER button.
   A display will appear allowing you to write the Performance settings into memory.

```
PERFORM |Number                    [ENTER]
WRITE   |USER: 12(Ochestral)
```

writing destination Performance

3. Rotate the Alpha-dial or press the INC/DEC buttons to select the Performance number of the writing destination. In this example, select any Performance number you wish to overwrite.
4. Press the ENTER button to write your settings into the selected memory destination.
   The following display will appear. This display is telling you that Internal Write Protect is turned on. Internal Write Protect is a protective feature that can prevent the settings in user memory from being accidentally overwritten.

```
WRITE   |     Internal Write Protect= ON
PROTECT |
```

5. Rotate the Alpha-dial to the left or press the DEC button to turn Internal Write Protect OFF, and press the ENTER button to finalize the setting. Then press the ENTER button once again to execute the write operation.

* **Internal Write Protect will be automatically be turned ON when the power is turned off. If Internal Write Protect is already off when you follow the above procedure, the write operation will be executed in step 4.**

A Performance suited to your sample song has now been written into memory. When playing back your sample song, be sure to select this Performance.

Profiles

Here are career profiles of the composers or producers of the demo songs and patterns in the included disk.

Chong Lim

Chong Lim is a busy session keyboard player, arranger, producer and composer working mainly in the cities of Melbourne and Sydney, Australia. He has collaborated with many top international artists including Jermaine Jackson, Jenny Morris, Little River Band, The Eurogliders etc. He is also actively involved in the composition of soundtrack music for film and television.

Eric Persing

Eric Persing is one of the most in-demand session players and programmers in the Los Angeles area. Eric began working for Roland as a product specialist, first doing clinics and support, then gradually became more involved in product and sound design. Eric has worked with such artists as Michael Jackson, Chaka Khan, Larry Carlton, Marcus Miller, and Bon Jovi. His music and sounds can also be heard on many TV shows and commercials. Actively involved in film music, he has worked with top composers including Michel Columbier, Danny Elfman, and Bill Conti.

Mitsuru Sakaue

From his college days, Mitsuru Sakaue has been active as a keyboard player and arranger in studio and commercial music production. At present he is involved in production of commercials for TV and radio as a composer, arranger, keyboard player and computer music expert. His highly acclaimed musical abilities go beyond borders of musical genre. He is the chief director of the Ideos (Inc.) group of creative musical artists.

Kiyotaka Takiyama

Born in 1964 in Tokyo, Mr. Takiyama entered the Berkeley College of Music in 1986, majoring in theory, arrangement, and drum. While still in school he participated in both live and recording sessions with numerous musicians. Since his return to Japan he has continued to be involved in recording with many different artists, and has also done television commercial work. At present he continues to be active in both live performance and in recording.

Masashi Hirashita, Kazuko Hirashita

Masashi and Kazuko both started studying classical piano when they were in their infancy. Both went on to study composition. At the same time, they had started their own music careers as keyboardists and composers. Their work covers a wide spectrum of styles and activities, including pop, fusion and jazz music as well as many writing and producing jobs.

Naoki Matsuura

While living in the USA for 10 years, he started playing as a professional bass player. Mainly he was playing local live and studio sessions around New England area. As a freelancing session player, Naoki joined many sessions and gigs with Paquito De Rivera, Claudio Roditti, Tommy Campbell, Steve Hunt (currently with Alan Holdsworth) etc. He joined Tiger Okoshi's (JVC recording artist) band: Tiger's Baku. Since 1991 Naoki joined Roland as a musical director of SMF Music Data and Demo Song Productions.

Tatsuya Senoh

A Roland engineer who is a member of the XP-50 development team, and also the possessor of a deep understanding of music. The included disk contains demo songs created by Mr. Senoh that introduce the RPS function which he himself developed.

S. Nakamura

Shigekaz is a member of Roland's engineering team. While the brunt of his time has had to be devoted toward development of the company's sound generating hardware, he has also found time to create a significant amount of sound data and numerous demo songs (for the U-20, D-70, JV-80 and JD-990, among others.)

Information

When you need repair service, call your local Roland Service Station or the authorized Roland distributor in your country as shown below.

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Roland Music Workstation XP-50

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Roland®

GENERAL MIDI

MUSIC WORKSTATION

XP-50

OWNER'S MANUAL

This manual is divided into the following 12 chapters. Before you read this manual, we suggest that you first go through the Quick Start booklet.

Chapter 1. An overview of the XP-50

This chapter is a general overview of the XP-50, explaining how the sound source and sequencer sections are organized, and how memory is handled. Please be sure to read this chapter in order to understand the XP-50.

Chapter 2. Operational procedures

This chapter explains basic operation of the XP-50, and the procedures for selecting and creating Patches, Performances, and Rhythm Sets. Please be sure to read this chapter.

Chapter 3. Explanation of the sound source parameters

This chapter explains the function of each of the parameters that make up a Patch, Performance, or Rhythm Set, and the System parameters that determine how the entire XP-50 will operate. Read this chapter when you wish to understand how the parameters work.

Chapter 4. Recording and playing back

This chapter provides a detailed explanation of how to playback and record a song.

Chapter 5. Song edit

The process of editing or modifying a recorded song is called Song Editing. The XP-50 provides two types of song editing; Track edit and Microscope edit. This chapter explains these two types of song editing, and also explains the Quantize function that can be used to modify the timing of notes in a song. Read this chapter as necessary.

Chapter 6. Convenient sequencer functions

This chapter explains various convenient functions related to recording or editing a song, such as the Locate function and the Loop function. Read this chapter as necessary.

Chapter 7. Utility function

This chapter explains the Utility functions; storing Patch/Performance/Rhythm Set data, transferring data to and from disk, and transferring data to and from an external MIDI device, etc. Read this chapter as necessary.

Chapter 8. The RPS function

This chapter explains how to create an SEQ Set and how to playback using the RPS function. Read this chapter when you wish to use the RPS function.

Chapter 9. Chain play

The Chain Play function allows you to consecutively playback a set of songs from disk in the order that you specify. This chapter explains how to specify the order of the songs and how to play them back.

Chapter 10. GM mode

This chapter explains the procedures and parameters used when you use the XP-50 as a GM-compatible sound source. Read this chapter when you wish to playback commercially available GM score data.

Chapter 11. Using external MIDI devices

This chapter explains various ways in which external MIDI devices can be connected to the XP-50. Read this chapter as necessary.

Chapter 12. Supplementary material

This chapter contains a section on troubleshooting that you can refer to when the XP-50 does not function as you expect. There is also a list of error messages that you can refer to if an error message appears in the display. In addition, this chapter contains a list of parameters, a list of the factory settings, and an explanation of the XP-50's MIDI implementation.

Contents

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Chapter 9. Chain play

Chapter 10. GM mode

Chapter 11. Using external MIDI devices

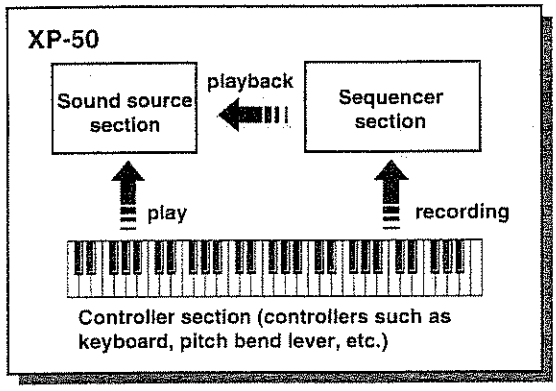
Chapter 12. Supplementary material

Chapter 1. An overview of the XP-50

How the XP-50 is organized

Basic organization

The XP-50 consists of a controller, a sound source, and a sequencer.



Controllers

Controllers include the keyboard, front panel sliders, and pedals connected to the rear panel. By operating these controllers you can produce sound or modify the sound.

Sound source

The sound source is the section that produces the sound. The XP-50s sound source produces sound in response to the instructions it receives from the controllers and sequencer. It can also produce sound in response to instructions (MIDI messages) it receives from external devices.

Sequencer

The sequencer is the section that records controller operations as MIDI messages, and can playback these messages. MIDI messages recorded in the sequencer can be transmitted from MIDI OUT to control external MIDI devices.

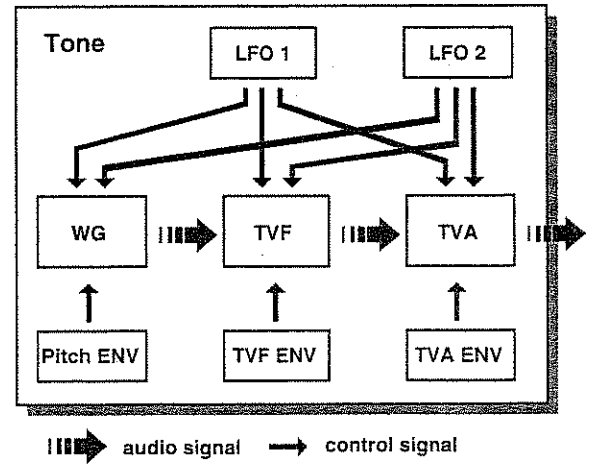
Units of sound

The sounds of the XP-50 consist of several different types of unit. The following paragraphs will introduce you to each different unit of sound.

Tones

A Tone is the smallest unit of sound. Each Tone consists of one sound, but when playing the XP-50 you will normally play a Patch, which consists of several Tones. In other words, Tones are the elements which make up a Patch.

The following diagram shows how Tones are organized.



WG (Wave Generator)

This section selects a waveform, and sets its pitch.

TVF (Time Variant Filter)

This section uses a filter to modify the frequency characteristics of the sound.

TVA (Time Variant Amplifier)

This section controls volume change and sets the stereo position.

ENV (Envelope)

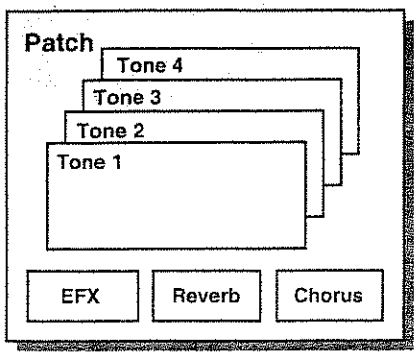
The envelope creates changes that occur over time. There is a separate envelope for the WG (pitch), TVF (filter), and TVA (volume). For example, if you wanted to modify the way in which the volume of the sound attacked and decayed, you would modify the TVA ENV to adjust the volume changes.

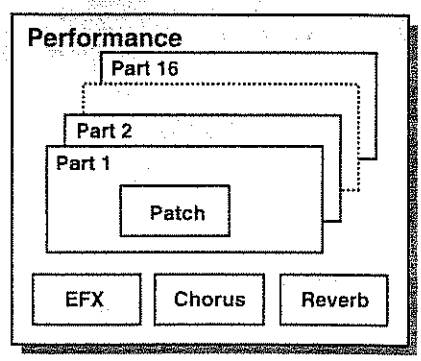
LFO (Low Frequency Oscillator)

The LFO creates cyclic changes (modulation). There are two LFOs, and either or both can be applied to the WG (pitch), TVF (filter), and TVA (volume). When the LFO is used to modify the pitch of the WG, vibrato results. When the LFO is used to modify the volume of the TVA, tremolo results.

Patches

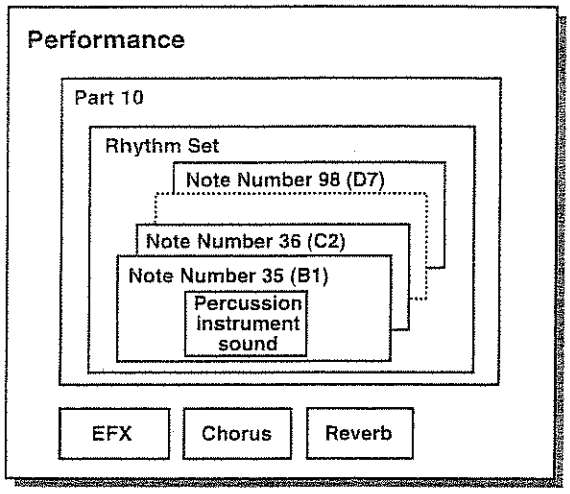
Patches are the unit of sound that you play during a performance. One Patch is created by combining up to 4 Tones. The way in which the four Tones are combined is determined by the Structure parameter.





Rhythm Set

A Rhythm Set is a collection of percussion instrument sounds (Rhythm Tones). Since percussion instruments are not normally used to play melodies, it is not necessary for them to be capable of playing a scale on the keyboard. Also, it is important to have as many possible varieties of percussion instrument available at once. For these reasons, each key (Note Number) of a Rhythm Set plays a different percussion instrument.



Part

A Part is a 'slot' which contains a Patch or Rhythm Set when the XP-50 is used as a multi-timbral sound source. You can think of a Part as being a musician, and the Patch or Rhythm Set as the instrument he is playing.

* ***A multi-timbral sound source is a sound source that is able to independently control more than one sound (instrument) at once. Each of the XP-50's 16 Parts can be controlled independently, and a Patch can be selected for each Part except Part 10. Part 10 is the drum Part, and has a Rhythm Set assigned to it.***

Performance

When using the XP-50 as a multi-timbral sound source (i.e., in Performance mode), you will specify the Patch or Rhythm Set assigned to each Part. These settings are stored as a Performance. You can think of a Performance as being the membership list of a band or ensemble, determining what instrument each musician will play.

Number of simultaneous voices

The XP-50 is able to produce up to 64 voices simultaneously. The following paragraphs discuss what this means, and what will happen when more than 64 simultaneous voices are requested from the XP-50.

Calculating the number of voices being used

The XP-50 is able to produce up to 64 simultaneous voices. However this number is not simply the number of notes being played, but depends on the number of Tones used in each Patch. If you are playing one Patch which uses 4 Tones, you will be able to play 16 simultaneous notes. If you are using the XP-50 in Performance mode to play an ensemble, count the total number of Tones used by all the Parts using the following formula.

(currently sounding notes) x (number of Tones used in the Patch being played)

How a Patch uses notes

When the XP-50 is requested to play more than 64 voices simultaneously, a currently-sounding note will be turned off to make room for the newly requested note. The note with the lowest priority will be turned off first. The order of priority is determined by the Voice Priority setting.

Voice Priority can be set either to Last or Loudest. When Last is selected, a newly requested note that exceeds the 64 voice limit will cause the first-played of the currently sounding notes to be turned off. When Loudest is selected, the quietest of the currently sounding notes will be turned off.

Normally you will set Voice Priority to Last.

Note priority in Performance mode

Since Performance mode is usually used to play an ensemble consisting of several Patches, it is important to decide which Parts take priority. Priority is specified by the Voice Reserve settings. When a note within a Patch needs to be turned off to make room for a new note, the Voice Priority setting of the Patch will apply.

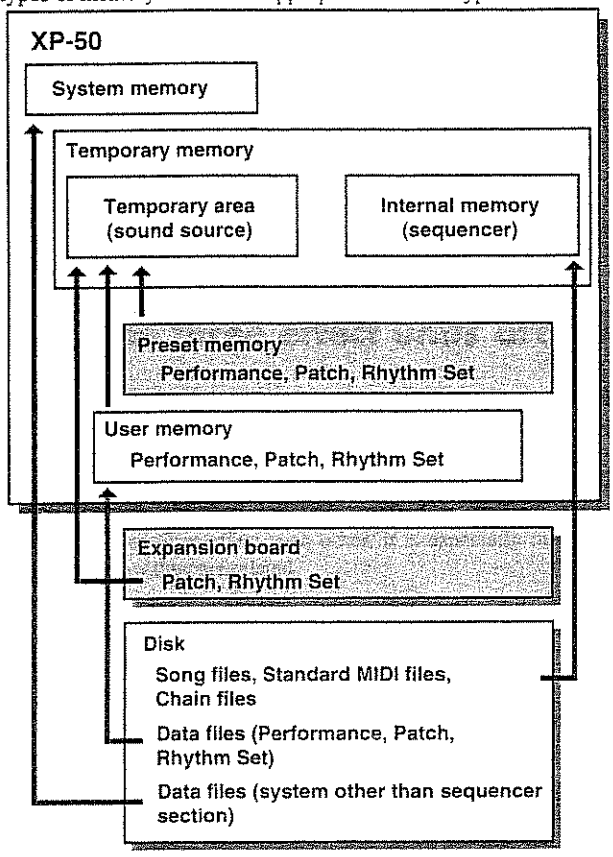
Voice Reserve

The XP-50 has a Voice Reserve function that lets you reserve a minimum number of notes that will always be available for each Part. For example if Voice Reserve is set to 10 for Part 16, Part 16 will always have 10 notes of sound-producing capacity available to it even if a total of more than 64 notes (total for all Parts) are being requested. When you make Voice Reserve settings, you need to take into account the number of notes you want to play on each Part as well as the number of Tones used by the selected Patch.

* ***It is not possible to make Voice Reserve settings that would cause the total of all Parts to be greater than 64 voices.***

Memory and data storage

The location where Patch and Performance settings etc. are stored is known as Memory. There are three types of memory; temporary memory, rewritable memory, and non-rewritable memory. These types of memory are used as appropriate for each type of data.



Temporary memory

Data can be stored temporarily in the Temporary Area (for the sound source) and Internal memory (for the sequencer).

Temporary area (sound source)

This is the area that holds data for the Performance/Patch/Rhythm Set you select using the front panel buttons, etc.

When you play the keyboard or playback the sequencer, sound is produced according to the data in the temporary area. When you modify a Performance/Patch/Rhythm Set, you are modifying not the data in that memory, but rather the data that has been called into the temporary area.

Settings in the temporary area are only temporary, and will be lost when the power is turned off or when you select another sound. If you wish to keep the settings you have modified in the temporary area, you must write them into rewritable memory.

Internal memory (sequencer)

This area is where the sequencer song (music data) is temporarily stored. It accommodates one song. When you record a song, it is recorded into internal memory. If you wish to edit a song that was saved on disk, you need to read the song into internal memory.

The song in internal memory will be lost when the power is turned off. If you wish to keep the song, you must save it to disk.

Rewritable memory

System memory

System memory stores the system parameter settings that determine how the XP-50 functions. When you modify these settings, the system memory settings are rewritten directly. These settings are preserved even when the power is turned off.

User memory

This memory contains data for 32 Performances, 128 Patches, and 2 Rhythm Sets.

Disk (sold separately: 2DD, 2HD)

A disk can contain the following four types of file.

* ***The three-letter symbol shown in parentheses () is a filename extension used by the system to tell different types of file apart. This extension will appear at the left of filenames shown in the display. It is not possible to modify the filename extension.***

Song file (.SVQ)

This file contains a song created on the XP-50.

Standard MIDI file (.MID)

Standard MIDI file is a format that allows performance data to be exchanged between many different musical applications. XP-50 song files can be saved as standard MIDI files. Also, the XP-50 can playback commercially available GM-compatible standard MIDI files.

Chain file (.SVC)

This file contains Chain Play settings.

Data file (.SVD)

This file contains a set of data for Patches, Performances, Rhythm Sets, and System settings (except for sequencer section settings). Loading a data file will rewrite all the settings in user memory.

Non-rewritable memory

Preset memory

Preset memory cannot be rewritten. However you may call settings from preset memory into the temporary area, modify them, and then store the modified data in rewritable memory.

Wave Expansion Board (sold separately: SR-JV80 series)

Up to four Wave Expansion Boards can be installed in the XP-50. Wave Expansion Boards contain Wave data. They also contain Patches and Rhythm Sets that use this Wave data, and these can be called directly into the temporary area and played.

* ***When playing a Patch or Rhythm Set that uses the Wave data from a Wave Expansion Board, the appropriate Wave Expansion Board must be installed in the XP-50 for the sound to play correctly. This is because in order to use the available memory most efficiently, Patches and Rhythm Sets do not actually contain Wave data, but only specify the Wave data that they need.***

< Installing a Wave Expansion Board >

To install a Wave Expansion Board (sold separately: SR-JV80 series), you will need to remove the bottom cover. For details refer to the instructions included with the Wave Expansion Board. Here we will give some precautions you should remember when installing a board into the XP-50.

There are four slots (A—D) into which a board can be installed. Slots A—D correspond to the Group you need to select in order to use a Wave/Patch/Rhythm Set from the Wave Expansion Board.

* ***Never install any board which has not been manufactured and/or approved by Roland.***
* ***The components on the board can be damaged by static electricity. Before you handle the board, touch a grounded metal object to discharge any static electricity which may be present in your body or clothing.***
* ***Hold the board only by the green edge, and do not touch the electrical contacts or the components mounted on the board.***
* ***Remove only the specified screws. Carefully handle the components as instructed.***
* ***Always turn the unit off and unplug the power cord before installing a board.***
* ***Be careful not to cut your hand on the opening into which the board is inserted.***
* ***Do not attempt to force the board into place. If it does not go in smoothly, remove it and try again.***
* ***When you finish installing the board, check to make sure that it is installed correctly.***

About the effects

The XP-50 contains three effect units, and each unit operates independently.

EFX (multi-effect)

EFX provides 40 different effects. Some of these consist of a single effect, while other consist of a combination of several effects.

Chorus

Chorus adds depth and spaciousness to the sound.

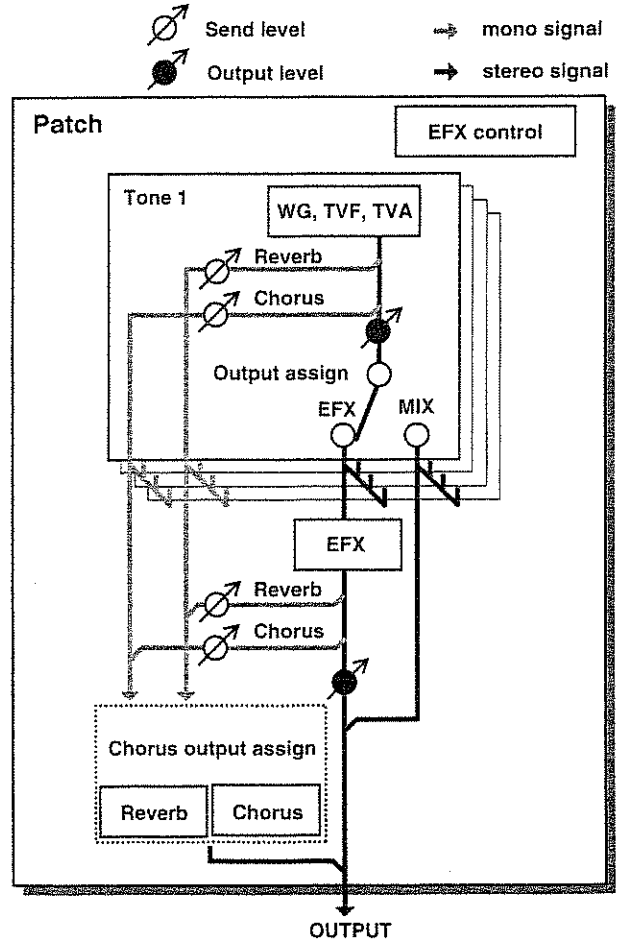
Reverb

Reverb adds the reverberation that is characteristic of a hall or auditorium.

How the three effect units are connected

The three effect units function differently depending on whether the XP-50 is in Patch mode or in Performance mode. The following paragraphs explain the signal flow and the function of the effect parameters in each mode. Since in Performance mode the Patch and Performance settings affect each other, it is especially important to understand how they are related.

EFX, Chorus, and Reverb in Patch mode



The EFX/Chorus/Reverb effects can be set for each Patch, and the same effects will apply to all Tones in the Patch.

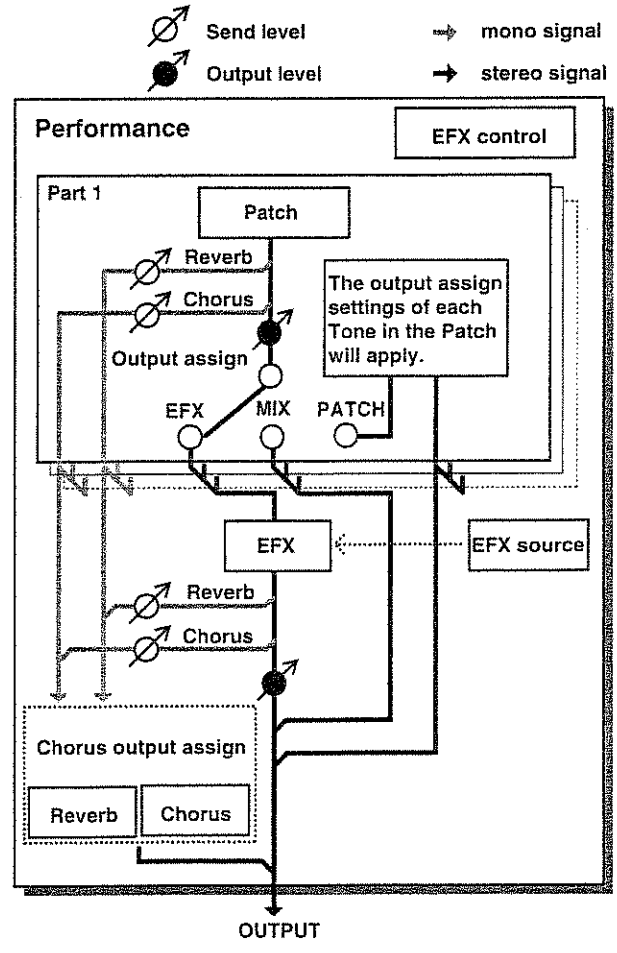
The Output Assign of each Tone determines whether or not EFX will be applied. If EFX is applied, the Reverb and Chorus effects can also be applied to the sound from EFX.

The amount of the Chorus effect is adjusted by the Chorus Send Level. The amount of the Reverb effect is adjusted by the Reverb Send Level.

The Chorus Output Assign setting determines how Chorus and Reverb are connected.

If you wish to use a specific controller to modify the EFX sound, you can set this using the EFX Control parameter.

EFX, Chorus, and Reverb in Performance mode



Reverb and Chorus

The Reverb and Chorus settings of the Patch assigned to each Part will be ignored; the Reverb and Chorus settings of the Performance will be used. This means that a given Patch will sound different depending on whether it is played in Patch mode or in Performance mode.

* ***The above explanation also applies to Part 10 if you read "Rhythm Set" instead of "Patch," and "percussion instrument" instead of "Tone." However since a Rhythm Set does not have Chorus and Reverb settings, the settings of the currently selected Performance will be used regardless of the mode in which you play the Rhythm Set.***

EFX

If you wish to use the output assign settings of the Patch, set the Output Assign of the Part to PATCH. Conversely, if you wish to override the output assign settings of the Patch, set the Output Assign of the Part to EFX or MIX.

The EFX Source setting determines whether EFX will use the settings of the Performance or the settings of one of the Patches assigned to a Part.

If you wish to use a specific controller to modify the EFX sound, make the appropriate settings for EFX Control. However these control settings also follow the EFX Source setting. This means that if you have specified Part 1 as the EFX Source, the EFX Control setting of the Patch assigned to Part 1 will be used.

* ***For Part 10, read "Rhythm Set" instead of "Patch," and "percussion instrument" instead of "Tone." However since a Rhythm Set does not have EFX settings, it is not possible to select Part 10 as the EFX Source.***

About the sequencer

A sequencer is a device that records a keyboard performance and controller movements as MIDI messages. When this data is played back, the recorded MIDI messages are transmitted to a sound source, causing it to produce sound. In other words, the sequencer plays the instrument instead of the musician.

In the sense in which a sequencer records a musical performance, it fills the same role as a tape recorder. However since a sequencer records not the 'sound' but rather the 'operations that cause the instrument to produce sound,' it has a number of advantages; sound quality is always first-generation no matter how many times the data is played back, changing the tempo will not affect the pitch, and very detailed editing is possible

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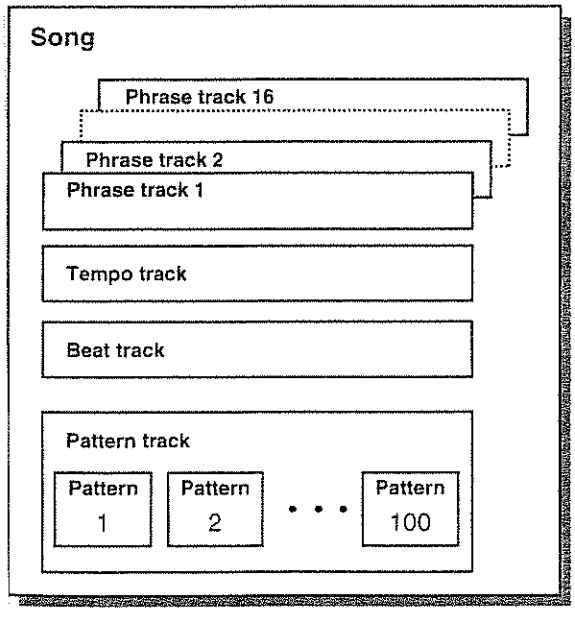
Songs

On the XP-50, "Song" refers to musical performance data for one song or composition. Musical performance data is saved on disk and read from disk in units of one Song.

* ***The internal memory of the XP-50 can accommodate 1 Song. The data in internal memory is temporary, and the Song will be lost when the power is turned off. If you wish to keep the Song, save it to disk.***
* ***It is possible to playback a Song directly from disk without loading it into internal memory. However if you wish to edit the Song or continue recording, you must first load the song into internal memory.***

How tracks are organized

Each section of a Song in which musical performance data is stored is called a Track. XP-50 Songs contain the following types of track.



Phrase tracks 1—16

Phrase tracks record the musical performance of an instrument. There are 16 Phrase tracks, and each track can record 16 channels of MIDI data. In other words, up to 16 tracks x 16 MIDI channels of data can be recorded.

Tempo track

The Tempo track is where changes in tempo for the Phrase tracks are recorded. Use the Tempo track when you want to change tempo during a song.

When a song is first recorded, the tempo setting at the time of recording will be stored at the beginning of the song as the Initial Tempo. When song playback starts back from the beginning, this means that the song will always be played back at this tempo.

In this way, the tempo of playback is determined by the settings in the Tempo track. If you modify the tempo during playback, the overall tempo will be adjusted by the setting you make.

Beat track

The Beat track records the time signature of each measure in the Phrase tracks. The time signature recorded here is used to manage the measure divisions of the Phrase tracks. Make settings for the Beat track when recording a new song, or when you want the time signature to change during a song.

Pattern track

The Pattern track is a track that can record musical passages separately from the Phrase tracks. Musical data in the Pattern track is handled as separate Patterns. Up to 100 Patterns can be created. Just as for each Phrase track, each Pattern can contain data for 16 MIDI channels.

Patterns can also be played back using the RPS function. The RPS function allows you to assign a specific key to each Pattern, and playback that Pattern by pressing the assigned key.

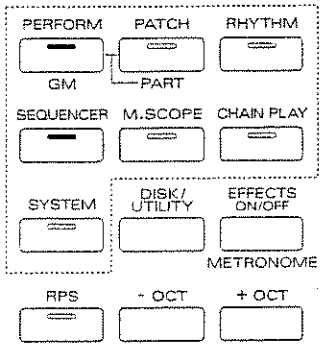
You can also record Pattern Call messages (messages that cause specified Patterns to be played back) in a Phrase track, to create a song by combining Patterns.

Chapter 2. Operational procedures

Switching modes

The XP-50 contains a large number of functions. In order to organize these functions for easy access, they are grouped into the following modes. The mode that is selected will affect the way in which the sound source operates, how data is shown in the display, and how the function buttons work.

Use the Mode buttons to select the mode. The indicator of the selected button will light, and the display will change according to the selected mode. To select GM mode, simultaneously press the SHIFT button and the PERFORM button.



* ***The selection of Patch mode / Performance mode / Rhythm Set mode / GM mode will determine how the sound source operates. Thus, one of these modes will always be selected.***
* ***The selection of Sequencer mode / Microscope mode / Chain Play mode will determine how the sequencer operates. Thus, one of these modes will always be selected.***
* ***In addition to these operation modes, there is also a Utility function mode, in which you can store Patch / Performance / Rhythm Set settings, save and load data to and from disk, and transmit data.***

Patch mode

This is the mode in which you play an individual Patch from the keyboard, or modify Patch settings. If the XP-50 is controlled by an external MIDI device in this mode, it will function only as a single-Patch sound source.

Performance mode

This is the mode in which the XP-50 will function as a multi-timbral sound source, and in which you can modify Performance settings. If the XP-50 is controlled by an external MIDI device in this mode, it will function as a multi-timbral sound source.

To modify the settings of a Patch assigned to a Part, hold down the PERFORM button and press the PATCH button.

Rhythm Set mode

In this mode you can play a Rhythm Set from the keyboard, and modify Rhythm Set settings. In this mode, the keyboard will play the Rhythm Set, but the XP-50 will function as a multi-timbral sound source. This means that the effect settings of the currently selected Performance will be used when you play the Rhythm Set. Rhythm Sets are assigned to Part number 10 of the Performance. If the XP-50 is controlled by an external MIDI device in this mode, it will function as a multi-timbral sound source.

GM mode

This is a special mode in which the XP-50 will function as a GM-compatible sound source. Select this mode when you wish to playback a GM score (music data created for a GM sound source).

Sequencer mode

In this mode you can record, playback and edit a Song. In this mode, recording is done by Realtime recording (the method in which your keyboard playing is recorded just as you play).

Microscope mode

In this mode you can create a Song by specifying each note individually, or make detailed edits in a Song.

Chain Play mode

In this mode you can successively playback two or more songs that you have specified as a Chain.

System mode

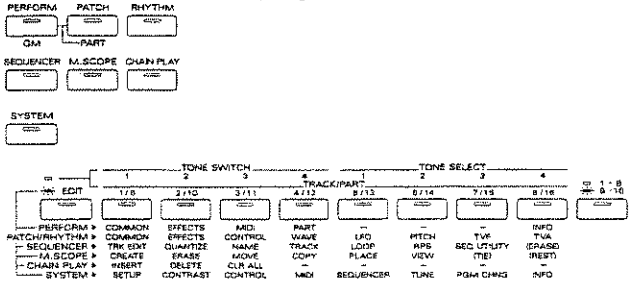
In this mode you can make settings that affect the overall operation of the XP-50, such as tuning, display contrast, and how MIDI messages are received.

* ***Some of the parameters in System mode are common to all Patches or all Performances. To select these parameters, press the SYSTEM button while you are in the corresponding mode (Patch or Performance).***

This section explains the basic operations you will use to operate the XP-50.

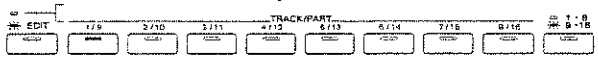
Function buttons

Function buttons are buttons that perform a variety of functions. The function they perform will depend on the current mode, and on whether the EDIT button is on (lit) or off (dark). The EDIT button will turn on or off each time you press it.



* ***The EDIT button switches the function of the function buttons, but pressing the EDIT button will not make the display change. If you wish to modify a setting, press the EDIT button to make the indicator light, and then press a function button to select the display group and switch the display. When you finish making settings, press the EXIT button or a mode button to switch the display.***

In Performance mode (EDIT button indicator is dark)

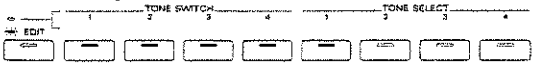


The function buttons will act as PART buttons that switch Parts on (lit) or off (dark). Since 16 Parts are being controlled using only 8 buttons, use the 1-8/9-16 button to select which set of Parts you are controlling. When the 1-8/9-16 button indicator is dark, you can switch Parts 1—8 on/off. When it is lit, you can switch Parts 9—16 on/off.

If the EDIT button indicator is turned off in the Part setting display, the function buttons will act as PART buttons that select the Part to be edited.

* ***The function of the Part on/off setting will depend on the condition of the RX and TX button indicators and on the setting of the Key Mode parameter (PERFORM: COMMON: PERFORM COMMON) (p.18).***

In Patch mode (EDIT button indicator is dark)

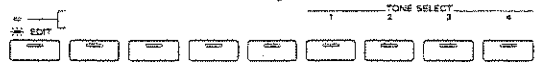


The function buttons will act as TONE SWITCH buttons and TONE SELECT buttons.

The TONE SWITCH buttons allow you to turn each Tone in the Patch on (lit) or off (dark). When a Tone is turned on, it can be heard.

Use the TONE SELECT buttons to select the Tone you wish to modify. To select a Tone to modify, turn off the EDIT button indicator in the Tone setting display. To select two or more Tones simultaneously, hold down one of the TONE SELECT buttons and press the other TONE SELECT button(s). In this case, the numbers of Tones other than the first-selected Tone will be displayed as * symbols.

In Rhythm Set mode (EDIT button indicator is dark)

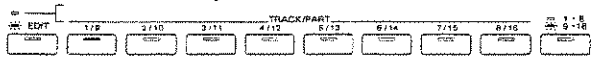


The function buttons (TONE SELECT section) will select the key shown in the display.

If the EDIT button indicator is turned off in the Rhythm Set setting display (the setting display for individual keys), the function buttons will select the key to be edited.

TONE SELECT 1: move to an octave lower key
TONE SELECT 2: move to the semitone below
TONE SELECT 3: move to the semitone above
TONE SELECT 4: move to an octave higher key

In Sequencer mode (EDIT button indicator is dark)



During playback or recording, the function buttons act as TRACK buttons to select whether or not each Phrase track will be played back. When the indicator of a Phrase track is turned on, that track can be played back. Since 16 Tracks are being controlled using only 8 buttons, use the 1-8/9-16 button to select which set of Tracks you are controlling. When the 1-8/9-16 button indicator is dark, you can switch Tracks 1—8 on/off. When it is lit, you can switch Tracks 9—16 on/off.

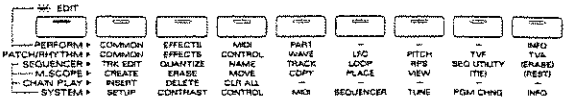
If the EDIT button indicator is turned off while preparing to record or while editing a song, the function buttons will act as TRACK buttons to select the Phrase track.

In Microscope mode (EDIT button indicator is dark)

The function buttons will act as TRACK buttons to select Phrase tracks shown in the display. When a Phrase track is turned on, that track will appear in the display.

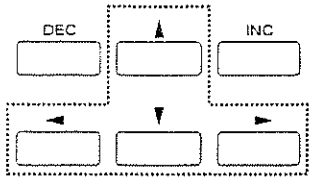
When the EDIT button indicator is lit

Each mode contains a large number of settable items, and these items are organized into groups. When the EDIT button indicator is lit, the function buttons are used to select display groups. The displays that appear will depend on the current mode. The groups that can be selected in each mode are printed on the front panel below the buttons.



Cursor buttons

The cursor buttons are used to move between display pages or to move the cursor.



Moving between display pages

The various displays are grouped by function button, and each group contains several display pages. Use the cursor buttons to move between these display pages and groups.

Moving between pages

An upward-pointing arrow shown in the display indicates that one or more pages exist before this page. A downward-pointing arrow shown in the display indicates that one or more pages exist after this page. Press the ▲ button to move to the previous page, or the ▼ button to move to the next page. Pressing ▲ button while holding the SHIFT button will jump to the first page. Pressing ▼ button while holding the SHIFT button will jump to the last page.

PERFORM	↑	Key Mode	Key Range
COMMON	↓	LAYER	OFF

Moving between groups

From one of the Play displays, hold down the SHIFT button and press the ▶ button to access the left-most function button group display.

In group displays that you select using the function buttons, you can hold down the SHIFT button and press the ◀ button to move to the next group (the group of the function button to the left), or hold down the SHIFT button and press the ▶ button to move to the previous group (the group of the function button to the right).

Whenever you are in any group display, you can move to another group even if the EDIT button indicator is dark. In other words, this procedure allows you to move to a different group without having to turn on the EDIT button indicator, and is a faster and more efficient way to get around.

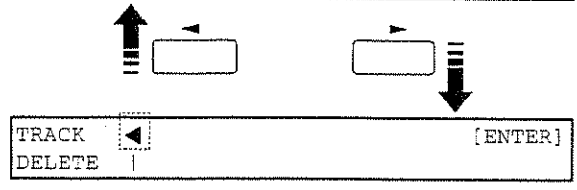
Moving the cursor (underline)

When two or more items are shown in a single display page, move the cursor (underline) to the item whose value you wish to set. Press the ◀ button to move the cursor to the left, or ▶ to move it to the right.

PERFORM	↑	Key Mode	Key Range
COMMON	↓	LAYER	OFF

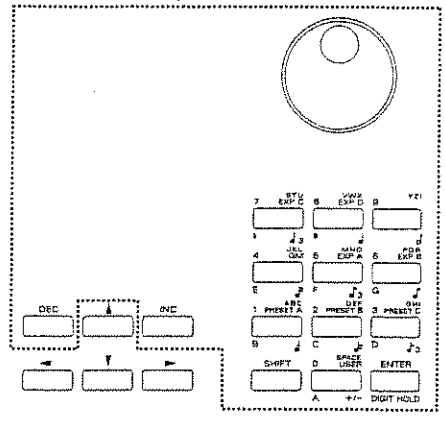
A ▶ symbol appearing in the upper right of the display indicates that there are other items in this page that the screen has no room to show. Press the ▶ button to see these items, and press the ◀ button to return to the previous display.

TRACK	Type	Target	Measure▶
EDIT	02:DELETE	TRK ALL	1for ALL



Modifying a value

To modify a value you can use the Alpha-dial, the INC/DEC buttons, or the Numeric Keys.



INC button / DEC button

To increase the value press the INC button, and to decrease the value press the DEC button. You can continuously increase (or decrease) the value by continuing to press the button. To make the value increase faster, hold down the INC button and then press the DEC button. To make the value decrease faster, hold the DEC button and then press the INC button.

If you press the INC button or DEC button while holding down the SHIFT button, the value will change in larger steps.

Alpha-dial

Rotating the Alpha-dial to the right will increase the value, and rotating it to the left will decrease the value. Holding down the SHIFT button as you rotate the Alpha-dial will make the value change in larger steps.

Numeric Keys

The Numeric Keys lets you directly specify a numerical value. When you enter the number, the value will blink. This indicates that the value has not yet been finalized. To finalize the value press the ENTER button. To reverse the sign of the number (+/-), hold down the SHIFT button and press the 0 button.

* ***Some numerical values do not require you to press the ENTER button to finalize the value.***

< Example 1: To enter a value of 38 >
Press the 3 button → press the 8 button → press the ENTER button
< Example 2: To enter a value of -60 >
While holding down the SHIFT button press the 0 button → press the 6 button → press the 0 button → press the ENTER button

* ***You can hold down the SHIFT button and press 0 anytime before pressing the ENTER button.***

Special functions of the Numeric Keys

When setting some items, the Numeric Keys is used to specify non-numerical settings. Some of them are explained below.

* ***For the procedure of using the Numeric Keys to enter the characters or symbols in a name, refer to the following section.***

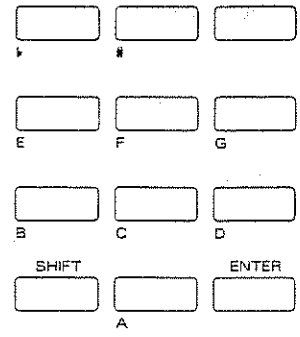
Performance / Patch / Rhythm Set group

In the PLAY displays of Performance mode / Patch mode / Rhythm Set mode, you can use the numeric keys to specify groups. To specify the group, hold down SHIFT and press the appropriate numeric key.

Numeric key	Group
SHIFT+0	USER (user)
SHIFT+1	PR-A (preset A)
SHIFT+2	PR-B (preset B)
SHIFT+3	PR-C (preset C)
SHIFT+4	GM (General MIDI)
SHIFT+5	XP-A (Wave Expansion Board A)
SHIFT+6	XP-B (Wave Expansion Board B)
SHIFT+7	XP-C (Wave Expansion Board C)
SHIFT+8	XP-D (Wave Expansion Board D)

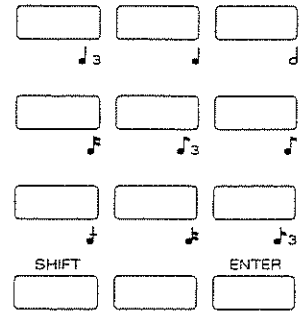
Note name

The Numeric Keys can be used to specify a note name in Microscope editing mode etc. The note names are printed at the lower left of each numeric key. Hold down SHIFT and press the appropriate numeric key for the desired note name.



Note value

The Numeric Keys can be used to specify a note value in step recording etc. The note values are printed at the lower right of each numeric key.



Undo (restoring the previous value)

If immediately after modifying a value you wish to restore it to the previous value, press the UNDO button. If you press UNDO button once again, the modified value will be recalled. The Undo function can be used while you are modifying sound source settings, while recording a song, and while editing a song. This function is a convenient way to cancel a change you make, or for comparing the sound before and after a change.

* ***When you execute an operation that involves rewriting large amounts of data (such as a song edit operation), the following message may be displayed. If are certain that you will not need to use the Undo function to restore the original data after executing the operation, press the ENTER button. To cancel the operation, press the EXIT button.***

```
Memory is low !! So you cannot undo.
Execute anyway ?   YES=[ENTER]:NO=[EXIT]
```

Assigning a name

The XP-50 allows you to assign a name to the following types of data. The procedure is the same for each type of data.

Patch, Performance, Rhythm Set, Song file, Chain file, Data file, Song, Standard MIDI file, Volume Label

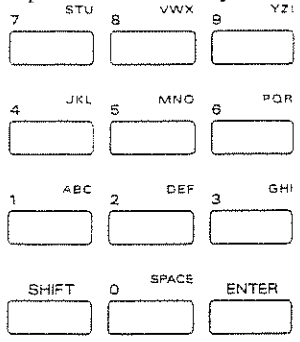
To assign a name, use the ◀/▶ buttons to move the cursor to the location where you wish to input a character. Then use the Alpha-dial or the INC/DEC buttons or the Numeric Keys to input a character.

Available characters/symbols: space, A—Z, a—z, 0—9, + - * / ! = ! ? < > ( ) [ ] { } : ; . , " ' ` # % & $ ¥ @ ^ _

* ***It is not possible to use lowercase characters or some symbols (+ * / = ! ? < > [ ] : ; . , " ¥ space) in filenames and in volume labels.***

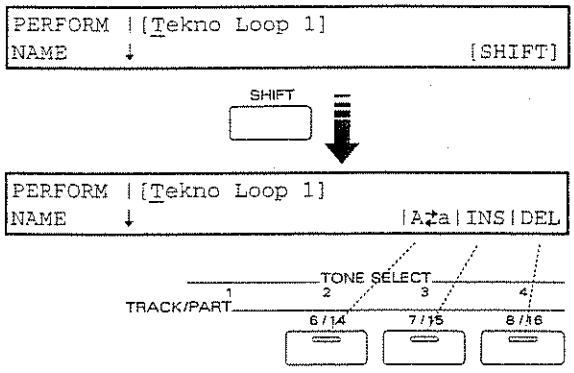
Using the Numeric Keys

The Numeric Keys can be used to specify the numerals/characters printed above each key. Each time you press a numeric key, the display will cycle through the numeral and characters printed above the key. To specify a lowercase character, hold down the SHIFT button as you press the numeric key.



Convenient functions

While you are holding down the SHIFT button, the screen will show three functions that are convenient when entering a name. To use each function, hold down the SHIFT button and press the appropriate function button.



A ⇄ a: switch between uppercase/lowercase characters
INS: insert a space at the cursor location
DEL: delete the character at the cursor location

* ***It is not possible to use lowercase characters or spaces in a filename or a volume label. Thus when entering these, you will not be able to switch between lower and upper-case characters, nor to enter spaces. If you attempt to enter a space, an underline character "_" will be input instead.***

The help function

Many of the parameters in the display are shown with abbreviated names. By using the Help function you can view the parameter names in their full spelling, and also check the range of available settings.

1. Move the cursor to the value of the parameter you wish to check.
2. The Help display will appear as long as you continue pressing the HELP button while holding down the SHIFT button.

Playing in Patch mode

Select a Patch

1. Press the PATCH button to get the Patch mode play display.

Patch (group, number, name)

```
PATCH     PR-A:001 64voicePiano
PLAY                          center=C 4
```

2. Use the Alpha-dial, the INC/DEC buttons, or the numeric keys to select a Patch.

If you use the Alpha-dial or the INC/DEC buttons to select a Patch, the Group will also change consecutively.

To specify the group using the Numeric Keys, hold down SHIFT and press the appropriate numeric key.

Numeric key	Group
SHIFT+0	USER (user)
SHIFT+1	PR-A (preset A)
SHIFT+2	PR-B (preset B)
SHIFT+3	PR-C (preset C)
SHIFT+4	GM (General MIDI)
SHIFT+5	XP-A (Wave Expansion Board A)
SHIFT+6	XP-B (Wave Expansion Board B)
SHIFT+7	XP-C (Wave Expansion Board C)
SHIFT+8	XP-D (Wave Expansion Board D)

* ***It is not possible to select a group for which the Wave Expansion Board has not been installed.***

Turning a Tone on/off

The Patch you have selected is a combination of up to four Tones. If you wish to hear only the sound of a specific Tone, or if you do not wish to use specific Tones, you can turn the unwanted Tones off.

* ***The on/off setting of each Tone is stored as part of the Patch data. If a Patch contains one or more Tones that are unnecessary, turn off those Tones and store the Patch. This will avoid using up the XP-50's simultaneous voice capability unnecessarily.***

1. Make sure that the EDIT button indicator is dark. If it is lit, press the EDIT button.

At this time, the on/off setting of each Tone in the displayed Patch will be shown by the indicators of the TONE SWITCH buttons. Those that are lit are on, and those that are dark are off.

2. Use the TONE SWITCH buttons to switch Tones on/off.

Playing in Performance mode

Select a Performance

1. Press the PERFORM button to get the Performance mode play display.

Performance (group, number, name) **Part number**

```
PERFORM  PR-A: 01 House Set      part= 1
PLAY                          center=C 4
```

2. Use the Alpha-dial, the INC/DEC buttons, or the numeric keys to select a Performance.

If you use the Alpha-dial or the INC/DEC buttons to select a Performance, the Group will also change consecutively. To specify the group using the Numeric Keys, hold down SHIFT and press the appropriate numeric key.

Numeric key	Group
SHIFT+0	USER (user)
SHIFT+1	PR-A (preset A)
SHIFT+2	PR-B (preset B)

< Performance types >

There are two types of Performance; single and layer. Use each type as appropriate for your needs.

Single: When you select a Single-type Performance, the Part number (part=1) will be shown in the upper right of the display. When a Single-type Performance is selected, the XP-50's keyboard will play the Part that is shown in the display. In other words, each Part will be handled as a separate sound source. Use this type of Performance when you use the sequencer to record an ensemble.

Layer: When you select a Layer-type Performance, the upper right of the display will indicate "LAYER." When a Layer-type Performance is selected, the XP-50's keyboard can play two or more Parts simultaneously. Depending on the Performance settings, you can play rich sounds that consist of two or more Patches, or play different Patches in different areas of the keyboard.

* ***The Key Mode parameter (PERFORM: COMMON: PERFORM COMMON) determines whether a Performance is a Single or Layer -type. This Key Mode parameter determines how the XP-50's keyboard will play the internal sound source. This parameter has no effect on how the XP-50's sound source is played from the built-in sequencer or from an external MIDI device.***

* ***The Local parameter (PERFORM: MIDI: MIDI) selects the Parts that will be sounded in a Layer-type Performance.***

Select the Part you wish to play

If a Single-type Performance is selected, use the ◀/▶ buttons to select the Part that will be played by the keyboard.

* ***The way in which effects apply to a Patch will depend on the Performance settings. This means that the same Patch will sound different when selected in Patch mode than when selected in Performance mode.***

Turning each Part on/off

There are 16 Parts, and each Part can be turned on/off using the function buttons. When you turn a Part on/off, the status of the RX button and TX button indicators and the Key Mode parameter (PERFORM: COMMON: PERFORM COMMON) of the currently selected Performance will determine how MIDI message reception and transmission will change, as explained below.

Normally, the RX button indicator will be lit. If you press one of these, only the indicator of the button you pressed will be lit. If you press both buttons simultaneously, both button indicators will be lit.

* ***If you have selected a Single-type Performance, you will be unable to use the function buttons to change on/off settings, since the settings of the Local switch and the Transmit switch are ignored for Single-type Performances. In this case, the function buttons will act to select the Part that will be played by the XP-50's keyboard.***

* ***To turn a Part on/off, turn off the EDIT button indicator.***

* ***In order to avoid problems such as failure to get any sound, you should normally leave all Parts turned on.***

* ***The on/off settings of each Part can be stored as part of the Performance settings.***

Both button indicators lit (Local switch)

The switches will determine for each Part whether or not the controller section will be connected to the internal sound source. If you turn a Part off with this setting, you will not be able to play that Part from the keyboard, or to record keyboard playing on the internal sequencer. However your keyboard operations will still be transmitted as MIDI messages from the MIDI OUT connector.

Use this setting when you wish to use the XP-50's keyboard to control only external sound sources.

RX button indicator lit (Receive switch)

The switches will determine for each Part whether or not it will receive MIDI messages. If this Receive switch is turned off for a Part, the Part can be played from the XP-50's keyboard, but cannot be played from the internal sequencer or from external MIDI devices.

Use this setting when you wish to mute specific Parts while playing back a song, etc.

TX button indicator lit (Transmit switch)

The switches will determine for each Part whether or not the XP-50's controller section will transmit MIDI messages. If you turn a Part off with this setting, your keyboard playing (MIDI messages) will not be transmitted from the MIDI OUT connector. However you will still be able to play that Part from the keyboard, and to record your keyboard playing on the internal sequencer.

Use this setting when you do not wish to control external sound sources from the XP-50.

1. Depending on the setting you wish to switch, turn on the RX button and/or TX button indicators.

2. Make sure that the EDIT button indicator is dark. If it is lit, press the EDIT button to turn it off.

At this time, the PART button indicators will indicate the on/off status of each Part. When the 1-8/9-16 button indicator is dark, the PART button indicators will indicate the status of Parts 1-8. When the 1-8/9-16 button indicator is lit, the PART button indicators will indicate the status of Parts 9-16. Lit is on, and dark is off.

3. Use the PART buttons to switch Parts on/off.

Playing in Rhythm Set mode

Select a Rhythm Set

1. Press the RHYTHM button to get the Rhythm set play display.

Rhythm Set (group, number, name)

```
RHYTHM    PR-C:001 JazzDrumSet2
PLAY           C 4(Bongo Hi     )center=C 4
```

Key number (name of the Rhythm Tone)

2. Use the Alpha-dial, the INC/DEC buttons, or the numeric keys to select a Rhythm Set.

If you use the Alpha-dial or the INC/DEC buttons to select a Rhythm Set, the Group will also change consecutively.

To specify the group using the Numeric Keys, hold down SHIFT and press the appropriate numeric key.

Numeric key	Group
SHIFT+0	USER (user)
SHIFT+1	PR-A (preset A)
SHIFT+2	PR-B (preset B)
SHIFT+3	PR-C (preset C)
SHIFT+4	GM (General MIDI)
SHIFT+5	XP-A (Wave Expansion Board A)
SHIFT+6	XP-B (Wave Expansion Board B)
SHIFT+7	XP-C (Wave Expansion Board C)
SHIFT+8	XP-D (Wave Expansion Board D)

* ***It is not possible to select a group for which the Wave Expansion Board has not been installed.***

When you play a key to sound a Rhythm Tone, the key (Note name) you pressed and its Rhythm Tone name (the same as the Wave it uses) will be displayed.

You can also use the TONE SELECT buttons to select the displayed key.

TONE SELECT 1: move to an octave lower key
TONE SELECT 2: move to the semitone below
TONE SELECT 3: move to the semitone above
TONE SELECT 4: move to an octave higher key

Turning effects on/off

The built-in effect units (EFX, Chorus, Reverb) can be turned on/off for the entire XP-50. When you wish to use only external effect devices and not the built-in effects, turn these settings off.

1. Press the EFFECTS ON/OFF button to get the following display.

```
EFFECTS  |      EFX|    Chorus|     Reverb
ON/OFF   |       ON|       ON|         ON
```

2. Move the cursor to the effect you wish to turn on/off, and use the Alpha-dial or the INC/DEC buttons to turn it on/off.

3. When you finish making settings, press the EFFECTS ON/OFF button or the EXIT button to return to the previous display.

Transposing the keyboard in octave units (the Octave Shift function)

The Octave Shift function transposes the pitch of the keyboard in units of 1 octave (maximum of +/-3 octaves). If you are playing a bass part from a printed score, you can use this function to raise the keyboard range so that you can play at the printed pitch.

Use the +OCT button/-OCT button to shift the keyboard.

The specified Octave Shift setting will be shown in the "center=C4" indication of each Play screen. For example if you press the +OCT button once to raise the keyboard one octave, the display will indicate "center=C5." This means that when you press the C4 key, the C5 note will sound.

* ***Octave Shift is part of the System settings. (However it does not appear in the System setting displays.) The settings you make will be maintained even if you select a different Performance / Patch / Rhythm Set, or turn the power off.***

Transposing the keyboard in semitone steps (the Transpose function)

The Transpose function transposes the pitch of the keyboard in units of a semitone (-5 -- +6 semitones). If you are playing from a printed score of a transposing instrument such as trumpet or clarinet, you can use this function to play at the pitch that is printed in the score.

1. While holding down the SHIFT button, press the RPS button.

The Transpose function will be turned on.

2. While holding down the SHIFT button, press the +OCT button or -OCT button to transpose the keyboard.

The specified Transpose setting will be added to the Octave Shift value. For example if you hold down the SHIFT button and press the +OCT button once to raise the keyboard a semitone, the display will indicate "center=C#4." This means that when you press the C4 key, the C#4 note will sound.

3. To turn off the Transpose function, hold down the SHIFT button and press the RPS button once again.

* ***If the RPS button indicator lights while you hold down the SHIFT button, this is an indication that the Transpose function is on.***
* ***Transpose can also be set in the KEYBOARD display (SYSTEM: CONTROL).***
* ***The setting you make will be maintained even if you select a different Performance / Patch / Rhythm Set, or turn the power off.***

Turning off "stuck" notes (the Panic function)

If for some reason a note played on the XP-50 keeps sounding and you are unable to stop it, use the Panic function.

To use the Panic function, simultaneously press the SHIFT button and the EXIT button.

There are two modes of operation, depending on how long you hold down the buttons.

Less than 1 second: MIDI messages for Note Off and Hold Off will be transmitted to all Parts (MIDI channels) that are receiving Note On / Hold On messages.

Longer than 1 second: MIDI messages for Volume (127), All Note Off, Pitch Bend (center), Channel Aftertouch (0), Modulation (0), and Hold 1 (0) will be transmitted to all Parts (MIDI channels).

Using the numeric keys to quickly select Patches/Performances/ Rhythm Sets (the Digit Hold function)

If the Digit Hold function is turned on, the 100's place and 10's place will be fixed when the numeric keys are used to select Patches, and only the 1's place will change. This means that the numeric keys will change only the 1's place, and it will not be necessary to press the ENTER button for each selection. The same applies when selecting Performances and Rhythm Sets.

To turn on the Digit Hold function, hold down the SHIFT button and press the ENTER button.

The numbers in the 100's place and 10's place will be displayed smaller, indicating that Digit Hold is on. When you enter a number from the numeric keys, the 1's place will change immediately without you having to press the ENTER button.

```
PATCH     PR-A:001 64voicePiano
PLAY                          center=C 4
```

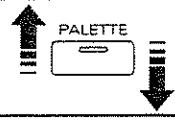
To turn off the Digit Hold function, hold down the SHIFT button and press the ENTER button once again.

The XP-50 allows you to make a large variety of settings. Each item that can be set is called a 'parameter.' The process of modifying the value of a parameter is called 'editing.'
This section explains the procedures you will use to edit parameters for Performances, Patches, and Rhythm Sets.

** **Details of what each parameter does are explained in chapter 3.***

<The Palette function>
The Palette function is used when you are editing a Tone or Part. If you are editing one of the Parts in a Performance, turning on the Palette function will cause the currently selected parameter value to be displayed for 8 Parts at once (Parts 1—8 or 9—16). If you are editing one of the Tones in a Part, turning on the Palette function will cause the currently selected parameter value to be displayed for all 4 Tones at once.
To use the Palette function, press the PALETTE button while you are editing a Part (or Tone). The button indicator will light, and the display will change. Press the PALETTE button once again to turn off the indicator and return to the previous display.

```
PART  1 |Channel|     Rx|     Tx| Local
MIDI    ↓       1|    ON|    ON|    ON
```




```
MIDI     |part= 1 PR-A:001(64voicePiano)▶
CHANNEL ↓  1|  2|  3|  4|  5|  6|  7|  8
```

Editing a Patch

Here's how to start with an existing Patch and edit it to create your own new Patch.

<Four tips for editing Patches>

Start with a Patch similar to what you want

When creating a new sound, it is difficult to end up with what you want by simply selecting just any Patch and modifying parameters at random. It is best to start with a Patch that sounds similar to what you have in mind.

Listen to the sound of each Tone

Each Patch consists of up to four Tones. Listen to each Tone individually and find out what role it plays in creating the overall sound. This will tell you which Tones you need to edit.

Check the Structure setting

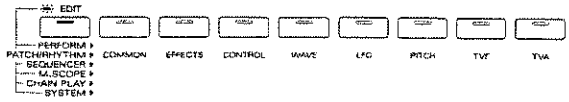
The Structure parameter (in the COMMON group) is an important parameter that determines how the four Tones are combined. Before you actually edit any of the Tones, be sure you understand how they work together.

Turn off the effects

The built-in effects of the XP-50 provide additional possibilities for creating sounds. The effects have a major impact on the sound, and turning off the effects will sometimes cause the sound to be heard quite differently. By turning off the effects, you will be able to hear the sound of the Patch itself, and will be better able to judge the results of the changes you make. In some cases, changing the effect settings may be enough to produce the sound you want.

---

1. After entering Patch mode, select the Patch you wish to start from.
2. Press the EDIT button to make the indicator light.
3. Use the function buttons to select the display group.
The button indicator of the selected display group will blink.



4. Use the ▲/▼ buttons to select a display page.
5. If you have selected a parameter which can be set independently for each Tone, the number of the Tone being modified will appear in the upper left of the display. If you wish to modify another Tone, press the EDIT button to temporarily turn off the indicator and use the TONE SELECT buttons (located in the row of function buttons) to select the desired Tone.

```
1---      ↑ Lower|  Upper|      Cross Fade
VELOCITY↓     1|    127|                 0
```

If you wish to simultaneously modify the same parameter for two or more Tones, hold down one of the TONE SELECT buttons and press another TONE SELECT button. An asterisk (*) in the display will indicate Tones other than the first-pressed Tone. If two or more Tones are selected, your editing will modify the parameter values of all selected Tones by the same amount. If you wish to set all selected Tones to the same value, increase (or decrease) the value all the way to the maximum (or minimum) and then select the desired value.

** **To switch Tones on/off, turn off the EDIT button indicator and then use the TONE SWITCH buttons located in the row of function buttons.***

6. Use the ◀/▶ buttons to move the cursor to the parameter you wish to modify.
7. Use the Alpha-dial, the INC/DEC buttons, or the Numeric Keys to modify the value.
8. If you wish to move to another display group, press the EDIT button to make the indicator light, and use the function buttons.

* ***You can also move to another display group by holding down the SHIFT button and using the ◀/▶ buttons. Since this can be done even when the EDIT button indicator is dark, it is a faster way to get around because you don't have to turn on the EDIT button indicator each time.***

9. Repeat steps 3—8.

10. When you finish making settings, press the EXIT button or the PATCH button.

An asterisk (*) will be displayed at the left of the Patch group. This indicates that Patch settings have been modified. If you wish to keep the modified settings, you must perform the Write operation explained below.

Storing a Patch that you modify (Write)

The modified settings you make are temporary, and will be lost if you turn the power off or select another Patch. If you have modified a Patch that is assigned to one of the Parts in the Performance, the modified settings will also be lost if you select a different Performance. If you wish to keep the modified settings, you must write them into User memory.

1. In Patch mode, press the UTILITY button.

The function select display will appear.

2. Use the ◀/▶ buttons to make "1: WRITE" blink. Then press the ENTER button.

The Patch Write display will appear.

```
PATCH    |Number          [COMPARE]/[ENTER]
WRITE    |USER:001(West Coast)
```

Patch into which the data will be written

3. Use the Alpha-dial or the INC/DEC buttons to specify the Patch number of the writing destination.

4. Press the ENTER button.

If Internal Write Protect is turned off, the specified writing destination Patch will be overwritten by your edited Patch.

5. If Internal Write Protect is turned on, the following display will appear. Change the ON setting to OFF, and press the ENTER button. Internal Write Protect will be turned off, and you will return to the display of step 2. Press the ENTER button once again and the selected Patch will be overwritten.

```
WRITE    |      Internal Write Protect= ON
PROTECT  |
```

* ***Internal Write Protect is automatically turned ON when the XP-50's power is turned on.***

<Checking the sound of the writing destination Patch (Compare)>

The Compare function lets you hear the sound of the Patch in the selected writing destination. Use this function to make sure that it is ok to overwrite the Patch with your newly edited Patch. In step 2 of the above procedure, press the COMPARE button and the PATCH COMPARE display will appear, allowing you to hear the selected Patch. It is also possible to select the writing destination from this display.

When you have decided on a writing destination, press the COMPARE button once again to return to the previous display.

* ***The Compare function works only in Patch Write operations; not in other writing operations.***

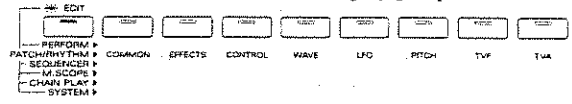
Editing a Rhythm Set

1. Enter Rhythm Set mode, and select the Rhythm Set you wish to start with.

2. Press the EDIT button to make the indicator light.

3. Use the function buttons to select a display group.

The button indicator of the selected display group will blink.



* ***Since Rhythm Sets do not have an LFO, it will not be possible to select the LFO group.***

4. Use the ▲/▼ buttons to select pages.

5. If you have selected a parameter display that can be set independently for each key, the key selected for editing will be shown in the display. To select a different key, play the desired key on the keyboard.

```
C 4      ↑          Gain|          Switch
WAVE     |            0|            ON
```

* ***If the EDIT button indicator is turned off, you can also use the TONE SELECT buttons (located in the row of function buttons) to select the displayed key.***

TONE SELECT 1: move to an octave lower key
TONE SELECT 2: move to the semitone below
TONE SELECT 3: move to the semitone above
TONE SELECT 4: move to an octave higher key

6. Use the ◀/▶ buttons to move the cursor to the parameter you wish to modify.

7. Use the Alpha-dial, the INC/DEC buttons, or the Numeric Keys to modify the value.

8. If you wish to move to another display group, press the EDIT button to make the indicator light, and use the function buttons to select the display group.

** You can also move to another display group by holding down the SHIFT button and using the ◀/▶ buttons. Since this can be done even when the EDIT button indicator is dark, it is a faster way to get around because you don't have to turn on the EDIT button indicator each time.*

9. Repeat steps 3—8.

10. When you finish making settings, press the EXIT button or the RHYTHM button.

An asterisk (*) will be displayed at the left of the Rhythm Set group. This indicates that Rhythm Set settings have been modified.

** The modified settings you make are temporary, and will be lost if you turn the power off or select another Rhythm Set or Performance. If you wish to keep the modified settings, you must write them into one of the Rhythm Sets in User memory. The Writing procedure is the same as when writing a Patch, except that you will press the UTILITY button while in Rhythm Set mode.*

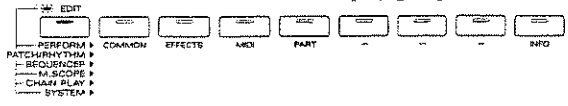
Editing a Performance

1. After selecting Performance mode, select the Performance you wish to start with.

2. Press the EDIT button to make the indicator light.

3. Use the function buttons to select a display group.

The button indicator of the selected display group will blink.



4. Use the ▲/▼ buttons to select pages.

5. If you have selected a parameter display that can be set independently for each Part, the number of the Part selected for editing will be shown in the display. To select a different Part, press the EDIT button to temporarily turn off the indicator, and use the PART buttons to select a Part.

```
PART  1 ↑Channel¦     Rx¦     Tx¦  Local
MIDI    ↓       1¦    ON¦    ON¦     ON
```

6. Use the ◀/▶ buttons to move the cursor to the parameter you wish to modify.

7. Use the Alpha-dial, INC/DEC buttons, or Numeric Keys to modify the value.

8. If you wish to move to another display group, press the EDIT button to turn on the indicator, and use the function buttons to select the display group.

** You can also move to another display group by holding down the SHIFT button and using the ◀/▶ buttons. Since this can be done even when the EDIT button indicator is dark, it is a faster way to get around because you don't have to turn on the EDIT button indicator each time.*

9. Repeat steps 3—8.

10. When you finish making settings, press the EXIT button or the PERFORM button.

An asterisk (*) will be displayed at the left of the Performance group. This indicates that Performance settings have been modified.

** The modified settings you make are temporary, and will be lost if you turn the power off or select another Performance. If you wish to keep the modified settings, you must write them into one of the Performances in User memory. The Writing procedure is the same as when writing a Patch, except that you will press the UTILITY button while in Performance mode.*

Modifying the Patch assigned to a Part in the Performance

When using Patches in Performance mode, some settings such as Effect settings will be affected by the settings of the Performance. If you wish to edit a Patch while hearing how it will sound in the Performance, use the following procedure.

1. While holding down the PERFORM button, press the PATCH button.

Both button indicators will light.

```
PART      PR-B:029 Noiz Bass      part= 1
PLAY                            center=C 4
```

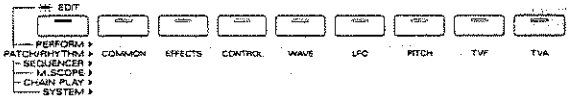
2. Use the ◀/▶ buttons to select the number of the Patch you wish to modify.

3. Press the EDIT button to make the button indicator light. Subsequent steps are the same as when modifying a Patch in Patch mode.

** The edited settings are temporary, and will be lost if you turn the power off or select another Performance. If you wish to keep the edited Patch settings, write them into a Patch in User memory. The procedure is the same as when writing Patch settings, except that you will be pressing the UTILITY button in the current mode.*

Chapter 3. Explanation of the sound source parameters

Patch parameters



COMMON group

This group contains parameters such as Patch Name and Structure that do not fit into any other group.

PATCH NAME

You can assign a name of up to 12 characters to the Patch.

PATCH CLOCK

Some parameters allow you to set a time value in terms of a note length which is determined by a tempo setting or tempo source you specify; Rate parameters (PATCH: LFO: LFO1/2), Time parameter (PATCH: WAVE: TONE DELAY), and some EFX parameters. This Patch Clock setting sets the tempo which can be used by these parameters.

* ***When using a Patch in Performance mode, the setting of this parameter will be ignored, and the setting of the PERFORM CLOCK display (PERFORM: COMMON) will be used instead.***

Source (Patch clock source)

Select the source of the Patch Clock.
PATCH: Synchronize to the Patch Tempo setting.
SEQUENCER: Synchronize to the tempo clock of the sequencer.

* ***The Patch Clock does not transmit clock messages from MIDI OUT connector.***

Tempo (Patch tempo)

Set the Patch Tempo setting.

PATCH COMMON

Level

Adjust the volume level of the Patch.

Pan

Adjust the stereo position of the Patch. A setting of L64 is far left, 0 is center, and R63 is far right.

Analog Feel (Analog feel depth)

Adjust the depth at which 1/f modulation is applied to the Patch.

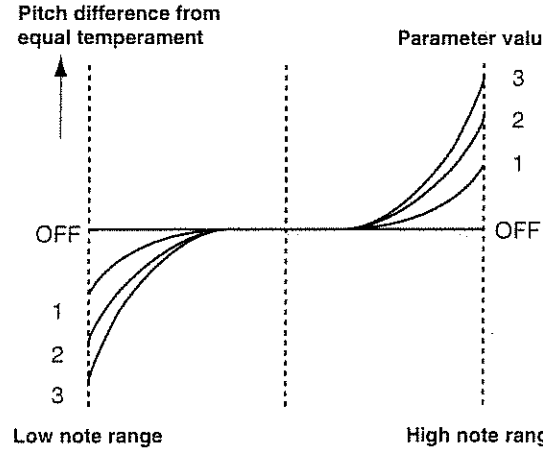
<1/f modulation>
"1/f" is a mathematical ratio that expresses the amount of "predictable randomness" occurring in natural sounds that the human ear finds pleasing, such as soft breezes or gentle brooks. The XP-50 is able to modulate the pitch and volume of sounds by this ratio to create the warmth characteristic of early analog synthesizers.

Octave (Octave shift)

Specify the transposition of the Patch when played on the keyboard, in units of one octave (-3—+3 octaves).

Stretch (Stretch tuning depth)

Select the stretch tuning curve. The selected curve will affect the way in which notes of a chord sound with each other. The diagram below shows the tuning curves which can be selected. In the "tuning curve," the horizontal axis represents the scale, and the vertical axis represents pitch difference relative to equal temperament. When OFF is selected for this parameter, the notes of the keyboard will be in mathematically equal temperament. With a setting of 3, the high and low note ranges will be stretched the most.



<Stretched tuning>
Acoustic pianos are normally tuned so that the high note range is a bit sharper and the low note range is a bit flatter than a mathematically calculated equal temperament (i.e., where each octave would be precisely double the frequency of the previous octave). This is done simply because pianos sound better when tuned this way.

Priority (Voice priority)

Specify which currently-sounding notes will take priority when notes are turned off to make room for newly-requested notes that would exceed the limit of 64 simultaneous voices.
LAST: Notes played later will take priority. When the 65th voice is requested, the first-played of the currently sounding notes will be turned off.
LOUDEST: Louder notes will take priority. When the 65th voice is requested, the softest of the currently sounding notes will be turned off.

VelRang (Velocity range switch)

Specify whether the Velocity Range setting (see following display) will be used or not. The Velocity Range setting will be used when the VelRange parameter is ON.

VELOCITY (Velocity range)

These parameters specify the range of velocities that will play the Tone. This can be used to make notes of different strengths play different Tones.

** To make Velocity Range settings, the Velocity Range Switch in the previous display must be turned ON.*

Lower (Velocity range lower)

Specify the lower velocity limit. Although it also depends on the Cross Fade settings, notes played softer than this limit will not sound the Tone, or will produce extremely quiet sounds.

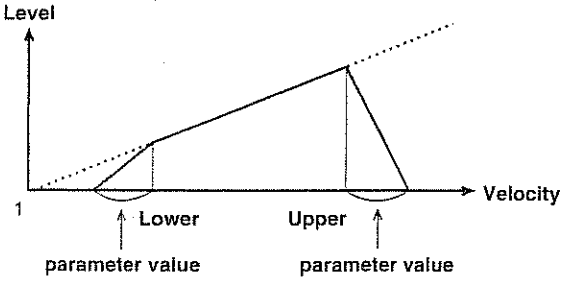
Upper (Velocity range upper)

Specify the upper velocity limit. Although it also depends on the Cross Fade settings, notes played more strongly than this limit will not sound the Tone, or will produce extremely quiet sounds.

** It is not possible to set Lower to a value greater than Upper, nor Upper to a value less than Lower. If you attempt to do so, the two values will change together.*

Cross Fade (Velocity cross fade)

Specify the way in which the volume of the Tone will change when the velocity of a note falls outside of the specified Velocity Range. Higher settings will result in a more gradual change in volume. If you do not want the Tone to sound at all for velocities outside the specified range, set this parameter to 0.



KEY RANG (Key range)

These parameters specify the range of notes that will play the Tone. This can be used to make notes in different areas of the keyboard play different Tones.

Lower (Key range lower)

Specify the lowest note that will play the Tone.

Upper (Key range upper)

Specify the highest note that will play the Tone.

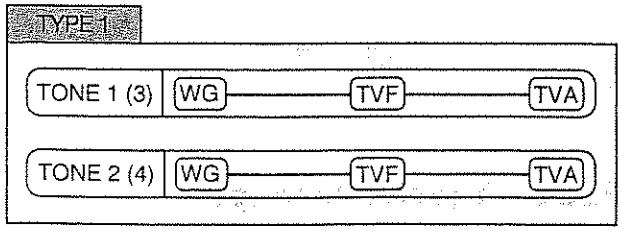
** It is not possible to set Lower to a value greater than Upper, nor Upper to a value less than Lower. If you attempt to do so, the two values will change together.*

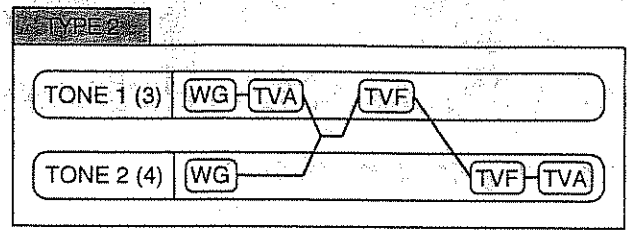
** If you have used Octave Shift (System) or the Transpose parameter (SYSTEM: CONTROL: KEYBOARD) to transpose the pitch of the XP-50's keyboard, the keyboard area specified by Key Range will also be shifted.*

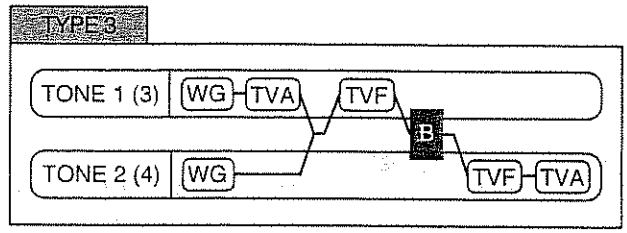
STRUCT (Structure)

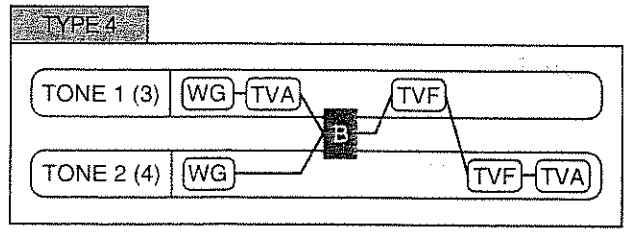
Type (Structure type)

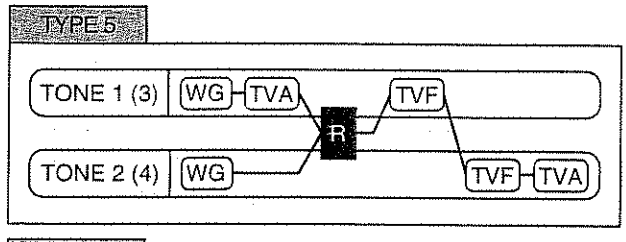
The Structure parameter determines how Tones 1 and 2 (and 3 and 4) are connected.

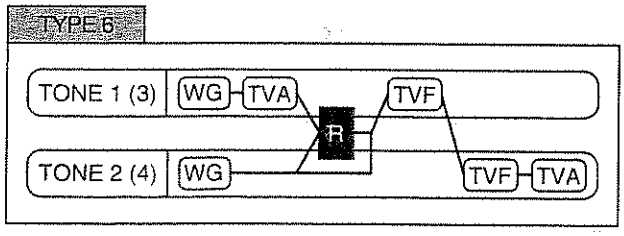


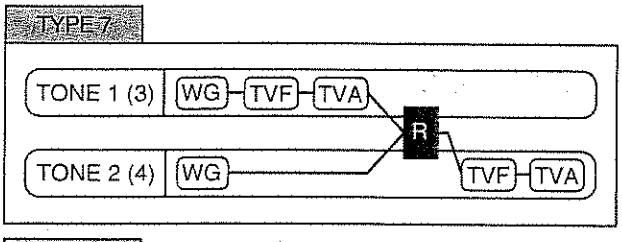


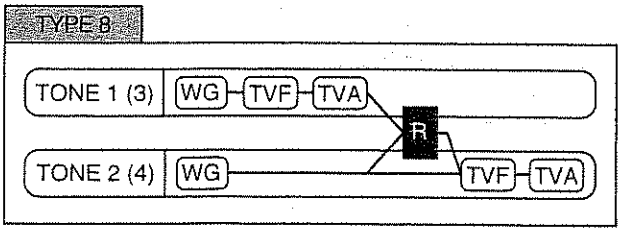


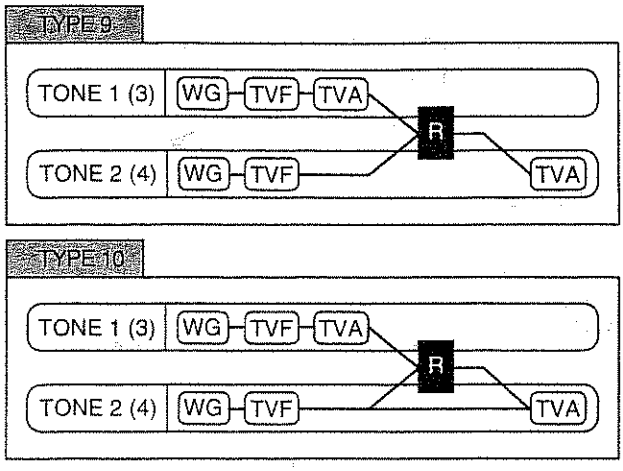












The display will graphically indicate the selected Structure. The symbols displayed have the following meanings.
W1 (WG1), W2 (WG2), F1 (TVF1), F2 (TVF2), A1 (TVA1), A2 (TVA2), B (booster), R (ring modulator)

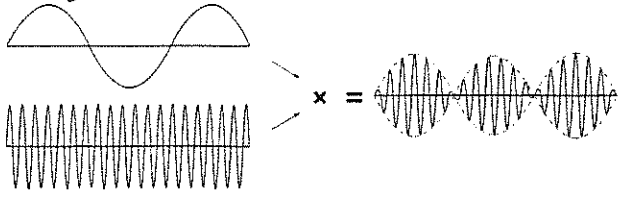
* ***If you select a Tone while in the Structure display, the Tone that is paired with the selected Tone will also be selected.***

* ***If a Structure 2—10 is selected, turning off one Tone will cause the other Tone to be connected in the simple order of WG/TVF/TVA.***

Booster (Booster gain)

If the Type parameter has been set to 3 or 4, you can adjust how strongly the Booster will function. The Booster amplifies the incoming signal, causing it to distort. This creates an effect similar to the distortion often used on an electric guitar.

<Ring modulator>
The Ring Modulator multiplies two Tones together, creating a new sound that includes overtones (inharmonic overtones) that were not present in either of the two original Tones. Since the pitch difference between the two Tones will change the overtone structure, the result will be an unpitched metallic sound. This is especially suitable for creating bells and other metallic sounds.



EFFECTS group

This group contains settings for the EFX/Chorus/Reverb effects used by a Patch.

* ***If an "X" mark is displayed at the right of the display name, the effect for that display has been turned off. Turn the corresponding effect on before you make settings (p.19).***

OUTPUT

These parameters specify how the output of each Tone will be sent to the effects.

* ***When the Type parameter (PATCH: COMMON: STRUCT) has a setting of 2—10, the outputs of Tones 1 (3) and 2 (4) will be combined with Tone 2 (4). This means that the setting for Tone 1 (3) will be ignored.***

Output Assign (Output assign / Output level)

Select whether or not the output of each Tone will be sent through EFX, and adjust the volume of each Tone.
MIX: Output the Tone to the OUTPUT jack without passing through EFX.
EFX: Output the Tone to the OUTPUT jack through EFX.

* ***If you select MIX, the settings in the PATCH EFX OUT display (PATCH: EFFECTS) will be ignored.***

Chorus (Chorus send level)

Adjust the amount of Chorus for each Tone.

Reverb (Reverb send level)

Adjust the amount of Reverb for each Tone.

PATCH EFX TYPE

Specify the Patch EFX.

Type (EFX type)

Select the type of EFX. For details refer to "EFX effect types" (p.**).

PATCH EFX PRM (Patch EFX parameters)

Set the various parameters of the selected EFX type. For details refer to "EFX" (p.45).

PATCH EFX OUT (Patch EFX output)

Specify the output settings for Tones whose Output Assign parameter (PATCH: EFFECTS: OUTPUT) is set to EFX.

* ***For Tones whose Output Assign parameter (PATCH: EFFECTS: OUTPUT) is set to MIX, the settings in this display will be ignored.***

Mix Out (EFX Output level)

Adjust the volume level of the original sound and the EFX sound.

Chorus (Chorus send level)

Adjust the amount of Chorus for the sound that passes through EFX.

Reverb (Reverb send level)

Adjust the amount of Reverb for the sound that passes through EFX.

PATCH EFX CTRL (Patch EFX control)

Use this setting when you wish to use a specific controller to control an EFX parameter. The EFX parameters available for control will depend on the selected EFX type. For details refer to "EFX effect types" (p.45). The upper line of the display will show the EFX parameters that can be controlled. For each EFX parameter, you can specify the EFX Control Source and the EFX Control Depth.

EFX Control source 1, 2

The following MIDI controllers can be used. If you wish to use a controller that will apply to all Patches, or a controller that cannot be directly specified here, select SYS-CTRL1 or SYS-CTRL2, and then select the controller using the Control 1/2 parameter (SYSTEM: CONTROL: SYS-CTRL ASSIGN).

OFF: controller not used
SYS-CTRL1: System controller (control 1)
SYS-CTRL2: System controller (control 2)
MODULATION: Modulation (MIDI controller number 1)
BREATH: Breath (MIDI controller number 2)
FOOT: Foot (MIDI controller number 4)
VOLUME: Volume (MIDI controller number 7)
PAN: Pan (MIDI controller number 10)
EXPRESSION: Expression (MIDI controller number 11)
BENDER: Pitch bend
AFTERTOUCH: Aftertouch

EFX Control Depth 1, 2

Adjust the amount of change that will occur in response to controller movements. Higher settings will result in greater change. Negative (-) settings will reverse the direction of change.

PATCH CHORUS

These parameters control the Chorus effect of the Patch.

Rate (Chorus rate)

Adjust the speed of modulation for the Chorus effect.

Depth (Chorus depth)

Adjust the depth of modulation for the Chorus effect.

Delay (Chorus pre delay)

Adjust the time delay after the original sound begins until the Chorus effect begins to apply. Higher settings result in a more spacious effect.

Fbk (Chorus feedback level)

Adjust the amount of sound from the Chorus output that is returned (fed back) to the Chorus. Higher settings result in a more intense effect.

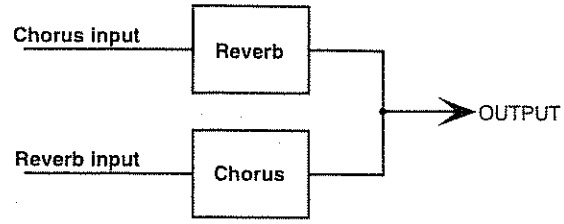
Level (Chorus level)

Adjust the volume of the Chorus effect.

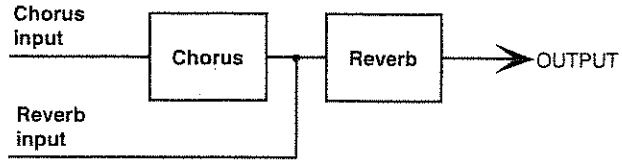
Out (Chorus output assign)

Select the way in which the Chorus and Reverb are connected.

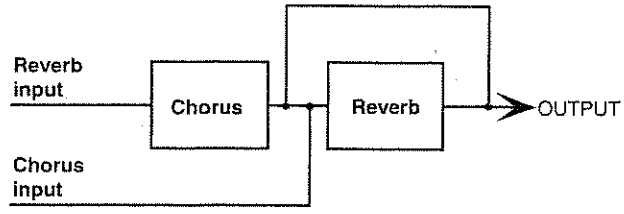
MIX: The Chorus sound and the Reverb sound are mixed.



REV: Apply reverb to the chorus sound.



M+R: Mix the chorus sound to which reverb is not applied and the chorus sound to which reverb is applied.



PATCH REVERB

These parameters control the Reverb effect of the Patch.

Type (Reverb/Delay type)

Select the type of Reverb effect.

ROOM1: dense reverb with short decay
ROOM2: sparse reverb with short decay
STAGE1: reverb with greater late reverberation
STAGE2: reverb with strong early reflections
HALL1: reverb with clear reverberance
HALL2: reverb with rich reverberance
DELAY: a conventional delay
PAN-DLY: a delay with echoes that move left and right

Time (Reverb/Delay time)

Adjust the time of reverberation. If you have selected DELAY or PAN-DLY, this parameter will adjust the time delay from the original sound until the first echo will sound.

Fbk (Delay feedback level)

Adjust the amount of delayed sound that is returned (fed back) to the delay. Higher values result in more delay repeats.

**** If you have selected any one of the Reverb types (ROOM1—HALL2), this parameter has no effect.***

HF Damp (Reverb/Delay HF damp)

Adjust the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want the high frequencies to be cut, set this parameter to BYPASS.

Level (Reverb/Delay level)

Adjust the volume of the reverberant (or delayed) sound.

CONTROL group

The parameters in this group determine how the controllers will function.

KEY MODE & BENDER (Key assign mode & Bender)

Assign (Key assign mode)

Specify how notes will be played. When playing a solo instrument Patch (such as sax or flute) it is effective to use a setting of SOLO.
POLY: Two or more notes can be played simultaneously.
SOLO: Only one note will sound at a time.

Legato (Solo legato switch)

Turn this parameter ON when you use Solo Legato, and OFF when you do not. Solo Legato is a function that works only when the Key Assign Mode is SOLO. When Solo Legato is ON, pressing a key while a previous key is already pressed will cause the note to change pitch to the pitch of the newly pressed key while continuing to sound. This is effective when you wish to simulate performance techniques such as a guitarist's hammering on and pulling off.

Bend Range

Specify the amount of pitch change that will occur when you move the Pitch Bend Lever. The left value specifies the pitch change that will occur when the lever is moved fully left. The right value specifies the pitch change that will occur when the lever is moved fully right. The left value has a range of -4—0 octaves, and the right value has a range of 0—1 octaves.

PORTAMENTO

Portamento is a function that causes the pitch to change smoothly from one note to the next played note. When the Key Assign Mode is SOLO, this is effective when simulating performance techniques such as a violinist's glissando.

Sw (Portamento switch)

Set this to ON when you wish to use Portamento.

Time (Portamento time)

Adjust the time over which the pitch will change to the new pitch.

Mode (Portamento mode)

Select the way in which Portamento will be applied.
NORMAL: Portamento will always be applied.
LEGATO: Portamento will be applied only for notes played legato (i.e., when you press the next key before releasing the previous key.

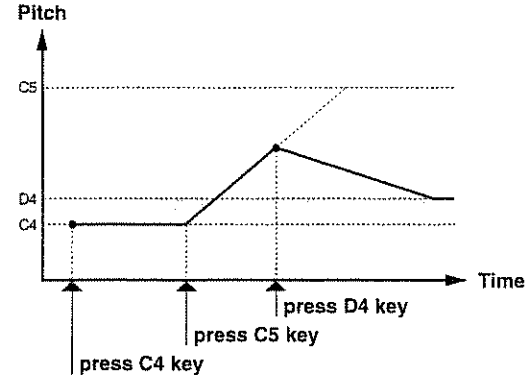
Type (Portamento type)

Select the way in which the pitch difference between the two notes will be related to the time of movement.
RATE: Time of movement will change in relation to the pitch difference.
TIME: Time of movement will be constant, regardless of the pitch difference.

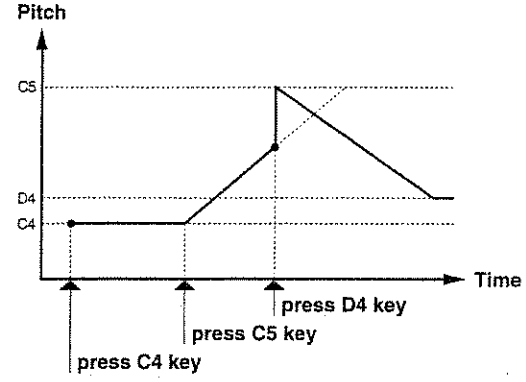
Start (Portamento start pitch)

Portamento will begin anew if you press another key during a pitch movement. This setting specifies how the new portamento will start.

PITCH: Pitch will begin changing when the new key is pressed.



NOTE: Pitch will begin changing from the destination of the current movement.



Rx SWITCH (Receive switch)

These parameters determine how Volume / Pan / Pitch Bend MIDI messages will be received by each Tone.

* ***In general, Volume messages control the volume, Pan messages control the stereo location, and Pitch Bend messages control the pitch of. However the XP-50 allows you to use these MIDI messages to control other parameters that you specify. Thus, if you are using a message to control another (i.e., a non-standard) parameter, you should turn off reception for that MIDI message. If reception is turned on, that MIDI message will control its standard function in addition to the special assignment you have made.***

Volume (Receive volume switch)

If you want Volume messages to be received, turn this parameter ON. If not, turn it OFF.

Pan (Receive pan control switch)

Specify how Pan messages will be received.
OFF: Not received.
CONT: Whenever a Pan message is received, it will immediately change the stereo location of the sound.
KEY-ON: The stereo location of the sound will be changed when the next note is played. If a Pan message is received while a note is sounding, the current stereo location will not change until the next note. In this case, the stereo location will change only for the note played later, and the currently sounding note will not move.

Bender (Receive pitch bend switch)

If you want Pitch Bend messages to be received, turn this parameter ON. If not, turn it OFF.

DAMPER

Specify how Hold 1 (sustain pedal) messages will be received by each Tone.

Hold-1 Rx Switch (Receive Hold 1 switch)

If you want Hold 1 messages to be received, turn this parameter ON. If not, turn it OFF.

Redamper (Redamper switch)

If a Hold 1 message is received during the time between a note-off (when you release the key) until when the sound disappears, the currently sounding sounds will be sustained if this Redamper setting is ON. If you use this function, you must also turn on the Receive Hold 1 switch.

PEAK & HOLD

Hold messages (Hold 1, Hold 2, Sostenuto, Soft) are used to sustain the sound. The XP-50 allows you to use these Hold messages to hold the values of specific parameters.

* ***If you use this function, you must also turn on the Receive Hold 1 switch for the Patch (previous screen).***
* ***If you select HOLD for the following parameters, you must also set the Hold parameter (SYSTEM: CONTROL: CONTROL SOURCE) to the type of Hold message being controlled.***
* ***If you select PEAK for the following parameters, you must also set the Peak parameter (SYSTEM: CONTROL: CONTROL SOURCE) to the type of Hold message being controlled.***

EfxCtrl (EFX control Peak/Hold)

Specify how Hold messages will affect the parameters you specify in the PATCH EFX CTRL display (PATCH: EFFECTS).

OFF: Parameter values will not be held even if Hold messages are received.

HOLD: Parameter values will be held when Hold messages are received.

PEAK: Parameter values will be held when Hold messages are received. However if a parameter value higher than the current one is received while Hold is still on, that new value will be held.

Ctrl 1 (Control 1 Peak/Hold)

Specify how Hold messages will affect the parameters controlled by Control Source 1 (Modulation: MIDI controller number 1). The settings are the same as for EFX Control.

Ctrl 2 (Control 2 Peak/Hold)

This parameter specifies the way in which Hold messages will control the parameter selected as Control Source 2 in the following display. The range of values is the same as for EFX control.

Ctrl 3 (Control 3 Peak/Hold)

This parameter specifies the way in which Hold messages will control the parameter selected as Control Source 3 in the following display. The range of values is the same as for EFX control.

CONTROL SOURCE

If you wish to use controllers to control a specific Tone parameter, select the controller in this display. Each Patch can have up to 3 control source assigned to it, but the function of control source 1 is fixed at Modulation (MIDI controller number 1).

Control 2 (Control source 2)

Assign one of the following controllers to Control Source 2. If you want to use a controller that will be common to all Patches, or to use a controller that is not available for selection here, first select SYS-CTRL 1 or SYS-CTRL 2 then set the Control 1/2 parameter (SYSTEM: CONTROL: SYS-CTRL SOURCE) to select the controller.

OFF: a controller will not be used
SYS-CTRL1: System controller (Control 1)
SYS-CTRL2: System controller (Control 2)
MODULATION: Modulation (MIDI controller number 1)
BREATH: Breath (MIDI controller number 2)
FOOT: Foot (MIDI controller number 4)
VOLUME: Volume (MIDI controller number 7)
PAN: Pan (MIDI controller number 10)
EXPRESSION: Expression (MIDI controller number 11)
BENDER: Pitch bend
AFTERTOUCH: Aftertouch
LFO1: LFO1 rate
LFO2: LFO2 rate
VELOCITY: Velocity
KEYFOLLOW: Key follow (adjust the parameter value depending on the keyboard location, relative to a standard value (0) at the C4 key)
PLAYMATE: Playmate (adjust the parameter value depending on the time length that the key is pressed)

Control 3 (Control source 3)

Assign a controller to Control Source 3. The controllers available for selection are the same as for Control Source 2.

CONTROL 1—3

Specify the parameters to be controlled by Control Sources 1—3 and the depth of each parameter. The upper line of the display will show the Control Source selected in the previous display.

Destination 1—4

Select the parameters to be controlled. Up to four parameters can be specified for each controller, and controlled simultaneously.

OFF: no control
PCH: WG Pitch
CUT: TVF Cutoff Frequency
RES: TVF Resonance
LEV: TVA Level
PAN: TVA Pan
MIX: Output level of Tone
CHO: Chorus Send level of Tone
REV: Reverb Send level of Tone
PL1: LFO1 depth of WG Pitch
PL2: LFO2 depth of WG Pitch
FL1: LFO1 depth of TVF Cutoff Frequency
FL2: LFO2 depth of TVF Cutoff Frequency
AL1: LFO1 depth of TVA Level
AL2: LFO2 depth of TVA Level
pL1: LFO1 depth of TVA Pan
pL2: LFO2 depth of TVA Pan
L1R: LFO1 rate
L2R: LFO2 rate

Depth 1—4

Adjust the amount of change that will occur in response to controller movement. Higher value will cause greater change. Negative (-) values will reverse the direction of the change. For LFO rates, negative (-) values will lengthen the period (causing slower modulation), and positive (+) values will shorten the period (causing faster modulation).

WAVE group

This group contains parameters related to the basic waveform (Wave) of the Tone.

WAVE

Group (Wave group)

Select the Group of the Wave.

INT-A, B: Internal A, B
EXP-A—D: Wave Expansion Boards A—D

** It is not possible to select a Group of a Wave Expansion Board that is not installed.*

Number (Wave number)

Select the Wave number. The name of the Wave will be displayed in parentheses ( ).

Gain (Wave gain)

Adjust the gain (volume boost) of the Wave. The setting range is -6—+12 dB, in steps of 6 dB. An increase of 6 dB doubles the gain. When using the Booster to distort the sound, it is effective to use the maximum Gain setting.

Switch (Tone switch)

When you wish to use the Tone, set this ON. When not using the Tone, set this OFF. In order to make best use of the available number of simultaneous voices, unused Tones should be turned off.

** When you use the TONE SWITCH buttons to turn Tones on/off, this is the parameter that is being set.*

FXM (Frequency cross modulation)

FXM is a function that uses frequency modulation to add new harmonic components to the sound. It can be used as a simple ring modulator in order to add a metallic flavor.

Switch (FXM switch)

When you wish to use FXM turn this ON. If not, turn it OFF.

Color (FXM color)

Select one of four ways in which FXM will use frequency modulation.

Depth (FXM depth)

Adjust the depth of the frequency modulation created by FXM.

TONE DELAY

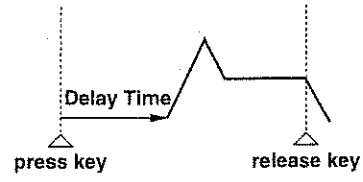
This parameter produces a time delay from the moment the key is pressed (or released) until when the Tone begins to sound. Since you can adjust the timing of each Tone, you can create effects in which pressing a single key produces two or more sounds at different times.

** If you do not wish to use Tone Delay, set Mode to NORMAL and Delay Time to 0.*

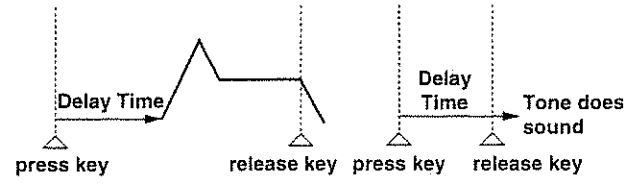
Mode (Tone delay mode)

Select the way in which the Tone will sound.

NORMAL: The Tone will sound after the specified Delay Time.



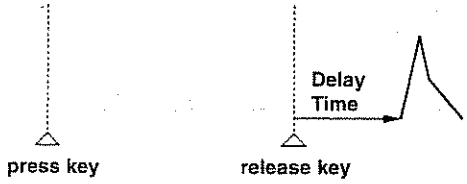
HOLD: If the key is pressed for longer than the specified Delay Time, the Tone will sound after the Delay Time. If the key is released earlier than the Delay Time, the Tone will not sound.



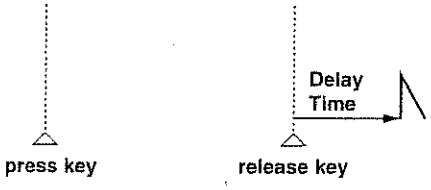
PLAYMATE: If 2 seconds or more pass before the next key is pressed, the Tone will sound after the Delay Time. If less than 2 seconds pass before the next key is pressed, that interval will become the Delay Time after which the Tone will sound.

CLOCK-SYNC: Synchronize the Delay Time to either the Patch Tempo (PATCH: COMMON: PATCH CLOCK), the Performance Tempo (PERFORM: COMMON: PERFORM CLOCK), or the tempo clock of the XP-50's sequencer.

KEY-OFF-N: The Tone will not sound while the key is being pressed, but will sound after the Delay Time when the key is released.



KEY-OFF-D: The Tone will not sound while the key is being pressed, but will sound after the Delay Time when the key is released. However for this setting, the TVA envelope of the Tone will begin when the key is pressed, so in most cases only the decay portion of the sound will be heard.



** If you have selected a Wave that is a decay-type sound (i.e., a sound that fades away naturally even if the key is not released), selecting KEY-OFF-N or KEY-OFF-D may result in no sound being heard.*

<When CLOCK-SYNC is selected>
When CLOCK-SYNC is selected, you must make additional settings for the tempo source you wish.
If you wish to use a fixed tempo in Patch mode (Patch Tempo), go to the PATCH CLOCK display (PATCH: COMMON), set the Source parameter to PATCH and set the Tempo parameter (in the same display) to the desired tempo. If you wish to use a fixed tempo in Performance mode (Performance Tempo), go to the PERFORM CLOCK display (PERFORM: COMMON), set the Source parameter to PERFORM, and set the Tempo parameter (in the same display) to the desired tempo.
If you wish to use the tempo clock of the sequencer when in Patch mode, set the Source parameter (PATCH: COMMON: PATCH CLOCK) to SEQUENCER. If you wish to use the tempo clock of the sequencer when in Performance mode, set the Source parameter (PERFORM: COMMON: PERFORM CLOCK) to SEQUENCER.

Time (Tone delay time)

Specify the time after when the Tone will sound when using Tone Delay.
If PLAYMATE has been selected in Tone Delay mode, a setting of 64 will mean that the delay time will be set to the interval between the previous Note On and the current Note On. A setting of 127 will result in a time that is twice as long as for a setting of 64, and a setting of 32 will result in a time that is 1/2 as long.
If the Tone Delay Mode is set to CLOCK-SYNC, the setting will be in quarter-note steps, and the corresponding note value symbol will also be displayed. This lets you specify the delay time in note lengths relative to the synchronization tempo.

** If the Type parameter (PATCH: COMMON: STRUCT) is set to a selection of 2—10, the outputs of Tone 1 (3) and 2 (4) will be combined into Tone 2 (4). This means that the settings of Tone 1 (3) will be ignored.*

LFO group

The LFO (Low Frequency Oscillator) creates cyclic change. Each Tone has two LFOs, and these can be used to apply change to the WG Pitch / TVF Cutoff Frequency / TVA Level / TVA Pan.

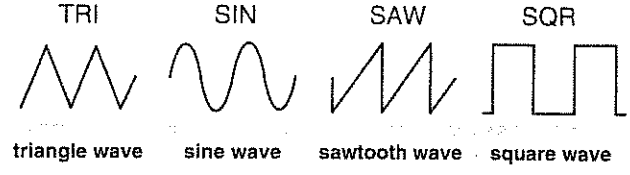
<How to use the LFO>
Applying LFO to the Pitch creates vibrato, applying it to TVF Cutoff Frequency creates wah, and applying it to TVA Level creates tremolo. When LFO is applied to the TVA Pan, the stereo location of the sound will change cyclically.
Depending on the settings, LFO can be used to cyclically exchange two Tones. For example if you wish to shift back and forth between Tones 1 and 2, select the same LFO settings for both, but make LFO Depth settings of opposite polarity (+/-) for their TVA Level settings.

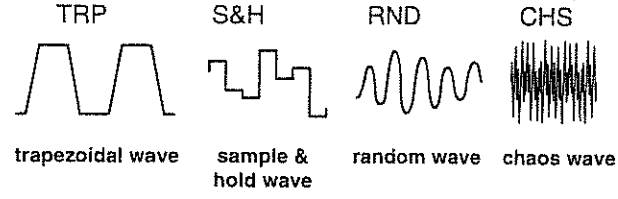
LFO1/LFO2

Since both LFOs have the same parameters, there are explained here together.

Form (LFO form)

Select the waveform of the LFO.





KeyTrigger (LFO key trigger)

If you want the phase of the LFO to be reset when you press a key (i.e., so that the LFO wave starts from the same place each time), turn this ON.

Rate (LFO rate)

Adjust the modulation rate of the LFO.

* ***If you have set the External Sync value to CLOCK, this parameter will indicate a note value in multiples of a quarter note, and the corresponding note value symbol will also be displayed. This allows you to set the LFO rate in terms of a note length in the synchronization tempo.***

* ***The Chaos waveform has no wavelength. When the Chaos waveform is selected, the Rate setting has no effect.***

ExtSync (LFO external sync)

Select how the LFO will be synchronized.

OFF: Unsynchronized

CLOCK: Synchronize the LFO to the Patch Tempo, Performance Tempo, or the tempo clock of the XP-50's sequencer.

<When CLOCK is selected>

When CLOCK is selected you need to make separate settings for the tempo source you wish.

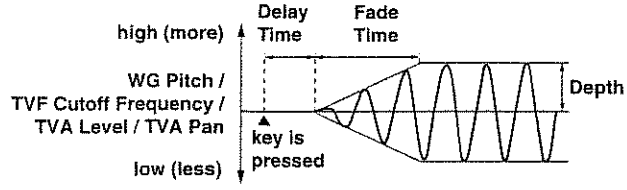
If you wish to use a fixed tempo in Patch mode (Patch Tempo), go to the PATCH CLOCK display (PATCH: COMMON), set the Source parameter to PATCH and set the Tempo parameter (in the same display) to the desired tempo. If you wish to use a fixed tempo in Performance mode (Performance Tempo), go to the PERFORM CLOCK display (PERFORM: COMMON), set the Source parameter to PERFORM, and set the Tempo parameter (in the same display) to the desired tempo.

If you wish to use the tempo clock of the sequencer when in Patch mode, set the Source parameter (PATCH: COMMON: PATCH CLOCK) to SEQUENCER. If you wish to use the tempo clock of the sequencer when in Performance mode, set the Source parameter (PERFORM: COMMON: PERFORM CLOCK) to SEQUENCER.

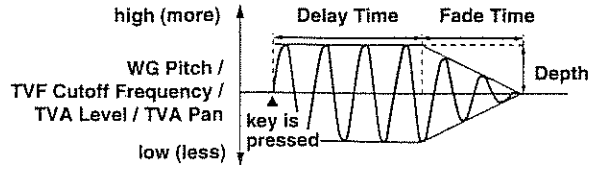
Mode (LFO fade mode)

Select how the LFO will be applied.

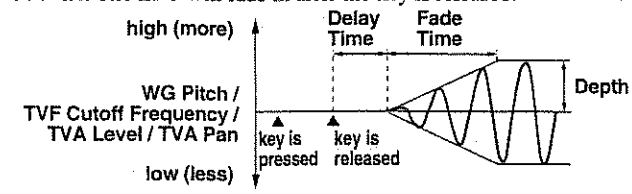
ON-IN: The LFO will fade in after the key is pressed.



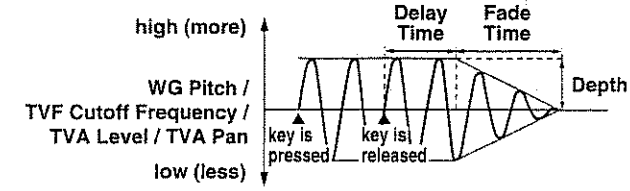
ON-OUT: The LFO will be immediately applied when the key is pressed, and will then fade out.



OFF-IN: The LFO will fade in after the key is released.



OFF-OUT: The LFO will be immediately applied when the key is pressed, and will begin fading out when the key is released.



Delay (LFO delay time)

Adjust the time from when the key is pressed (or released) until the LFO begins to take effect. (Refer to the diagrams for Fade Mode.)

Fade (LFO fade time)

Adjust the time over which the LFO rises to its full effect (or diminishes). (Refer to the diagrams for Fade Mode.)

Offset (LFO offset)

Adjust the basic value of the LFO waveform upward or downward.

LFO DEPTH 1:2

These parameters adjust the way in which the LFO affects each parameter. Two values are displayed for each parameter. The left one is for LFO1, and the right one is for LFO2.

Pitch (Pitch LFO depth 1, 2)

Adjust how much the LFO will affect the WG Pitch.

TVF (TVF LFO depth 1, 2)

Adjust how much the LFO will affect the TVF Cutoff Frequency.

TVA (TVA LFO depth 1, 2)

Adjust how much the LFO will affect the TVA Level.

Pan (Pan LFO depth 1, 2)

Adjust how much the LFO will affect the TVA Pan.

PITCH group

The parameters in this group affect the WG Pitch of each Tone.

PITCH

Specify the basic pitch of each Tone.

Coarse (Coarse tune)

Adjust the pitch in semitone steps (-4—+4 octaves).

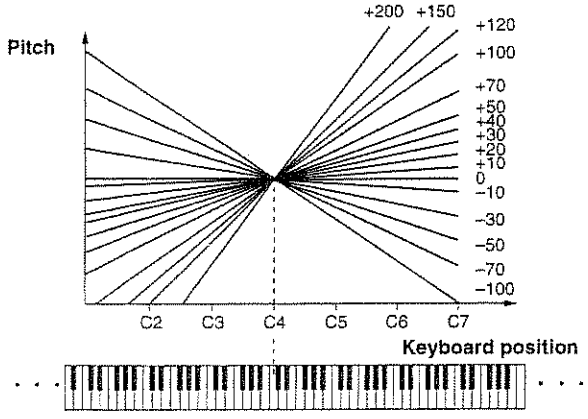
Fine (Fine tune)

Adjust the pitch in 1-cent steps (-50—+50 cents).

* ***One cent is 1/100th of a semitone.***

Random (Random pitch depth)
If you want the pitch of the Tone to change randomly each time the key is pressed, set the desired amount of pitch change here. If you do not want the pitch to change randomly, set this to 0. The value is in units of 1 cent.

Keyfollow (Pitch key follow)
This parameter sets the amount of pitch change that will occur when you move one octave on the keyboard. If you want the pitch to change 1 octave when the keyboard position rises 1 octave (as on normal keyboard instruments), set this parameter to +100. If you want the pitch to rise 2 octaves when the keyboard position rises 1 octave, set this parameter to +200. Negative (-) settings will make the pitch become lower as you play up the keyboard. If you want all keys of the keyboard to produce the same pitch, set this parameter to 0.



PCH ENVELOPE (Pitch envelope)
These parameters determine how the Pitch Envelope affects the pitch.

Envelope Depth (Pitch envelope depth)
Adjust the amount of the Pitch Envelope. Higher settings will result in greater change. Negative (-) settings will invert the direction of the envelope.

Velocity Sens (Pitch envelope velocity sensitivity)
Set this parameter when you want your keyboard playing dynamics to affect the amount of pitch change. For higher settings, there will be a greater difference between softly and strongly played notes. Negative (-) settings will invert the direction of change.

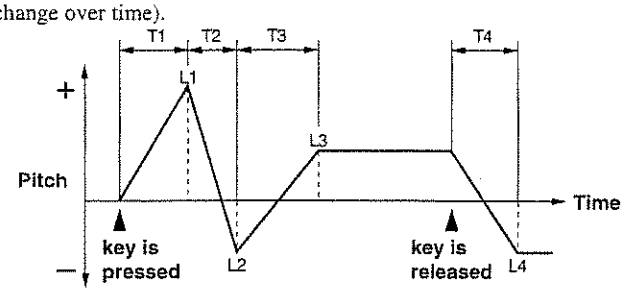
PCH TIME ENV (Pitch time envelope)
These parameters determine how keyboard playing dynamics will affect the times of the Pitch Envelope.

V-T1 (Pitch envelope time 1 velocity sensitivity)
Use this parameter when you want keyboard playing dynamics (velocity) to affect T1 (time) of the Pitch Envelope. For higher settings, there will be a greater difference between softly and strongly played notes. For positive (+) settings, keyboard velocity will speed up the T1 time. For negative (-) settings, keyboard velocity will slow down the T1 time.

V-T4 (Pitch envelope time 4 velocity sensitivity)
Use this parameter when you want keyboard playing dynamics (velocity) to affect T4 (time) of the Pitch Envelope. For higher settings, there will be a greater difference between softly and strongly played notes. For positive (+) settings, keyboard velocity will speed up the T4 time. For negative (-) settings, keyboard velocity will slow down the T4 time.

Time Keyfollow (Pitch envelope time key follow)
Use this parameter when you want the keyboard location of the note to affect the times (T1—T4) of the Pitch Envelope. Higher settings of this parameter will cause greater time change relative to the envelope time at middle C (C4). Positive (+) settings will cause the time change to become shorter for notes to the right of middle C. Negative (-) settings will cause the time change to become longer for notes to the right of middle C.

PCH ENVELOPE (Pitch envelope)
These parameters set the Pitch Envelope (the shape of the pitch change over time).



T1—4 (Pitch envelope time 1—4)
Set the times over which the pitch will change from one point to the next.

L1—L4 (Pitch envelope level 1—4)
Set the amount of pitch change (relative to the basic pitch) for each point.

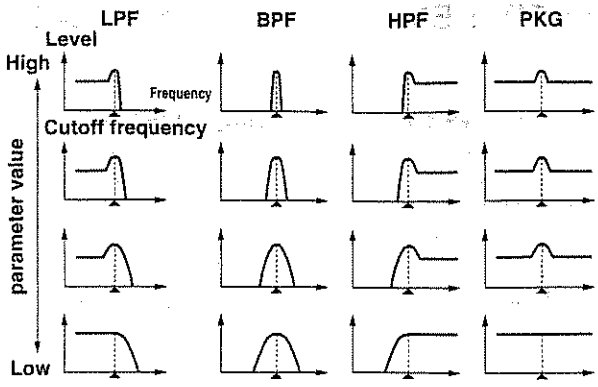
TVF group
The parameters in this group allow you to use the TVF (Time Variant Filter) to modify the frequency characteristics of the sound.

FILTER
These parameters are the TVF filter settings.

Type (Filter type)
Select the filter type.
OFF: filter not used.
LPF (Low Pass Filter): Cut the frequencies above the Cutoff Frequency. This is the most common type of filter used in synthesizers.
BPF (Band Pass Filter): Pass only the frequencies in the area of the Cutoff Frequency.
HPF (High Pass Filter): Cut the frequencies below the Cutoff Frequency.
PKG (Peaking Filter): Emphasize the frequencies in the area of the Cutoff Frequency.

Cut (Cutoff frequency)
Set the frequency of the filter.

Res (Resonance)
Emphasize the frequencies in the area of the Cutoff Frequency. For some settings, excessive levels can cause oscillation and distortion.



Keyfollow (Cutoff frequency key follow)

Use this parameter when you want the Cutoff Frequency to be affected by the keyboard position.

Higher values will result in greater change relative to middle C (C4). Positive (+) settings will make the Cutoff Frequency rise as you play further the right of the keyboard. Negative (-) settings will make the Cutoff Frequency fall.

EnvDepth (TVF envelope depth)

Adjust the depth of the TVF envelope. Higher settings will result in greater change. Negative (-) values will invert the envelope.

TVF VELOCITY

These parameters determine how keyboard velocity will affect TVF Envelope / Cutoff Frequency / Resonance.

V-Sens (TVF envelope velocity sensitivity)

Use this parameter when you want velocity to affect the TVF Envelope. Higher settings will result in a greater difference between strongly and softly played notes. Negative (-) settings will invert the effect.

V-Curve (TVF envelope velocity curve)

Select one of 7 types of curve with which velocity will affect the Cutoff Frequency. The curve is displayed graphically at the right of the value.

V-Resonance (Resonance velocity sensitivity)

Use this parameter when you want velocity to affect the Resonance. Higher settings will result in a greater difference between strongly and softly played notes. Negative (-) settings will invert the effect.

TVF TIME ENV (TVF time envelope)

These parameters determine how keyboard velocity will affect the times of the TVF envelope.

V-T1 (TVF envelope time 1 velocity sensitivity)

Use this parameter when you want velocity to affect T1 (time) of the TVF envelope. Higher settings will result in a greater difference between strongly and softly played notes. If you want higher keyboard velocities to speed up the T1 time, use positive (+) settings. To slow down the T1 time, use negative (-) settings.

V-T4 (TVF envelope time 4 velocity sensitivity)

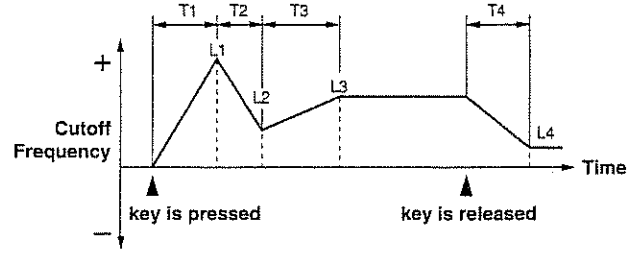
Use this parameter when you want Key Off Velocity (the speed at which you release a key) to affect T4 (time) of the TVF envelope. Higher settings will result in a greater difference between quickly and slowly released notes. If you want a quicker release to speed up the T4 time, use positive (+) settings. To slow down the T4 time, use negative (-) settings.

Time Keyfollow (TVF envelope time key follow)

Use this parameter when you want keyboard position to affect the times (T1—T4) of the TVF envelope. Higher settings will result in greater changes relative to middle C (C4). Positive (+) settings will result in shorter times as you play toward the right of the keyboard. Negative (-) settings will conversely result in longer times.

TVF ENVELOPE

These parameters set the TVF envelope (the way in which the cutoff frequency will change over time).



T1—T4 (TVF envelope time 1—4)

Set the times over which the cutoff frequency will move from one point to the next.

L1—L4 (TVF envelope level 1—4)

Set the cutoff frequency levels for each point, relative to the basic cutoff frequency.

TVA group

The TVA (Time Variant Amplifier) controls volume changes and stereo location.

TVA

Level

Adjust the basic volume of the Tone. Use this parameter to adjust the volume balance between Tones.

Pan

Adjust the pan (stereo location) of the Tone. L64 is full left, 0 is center, and R63 is full right.

V-Sens (TVA envelope velocity sensitivity)

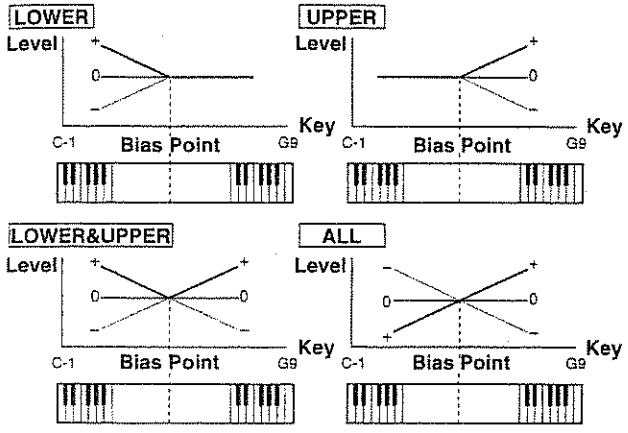
Use this parameter when you want keyboard velocity to affect the amount of change produced by the TVA envelope. Higher settings will result in a greater difference between strongly and softly played notes. Negative (-) settings will invert the effect.

V-Curve (TVA envelope velocity curve)

Select one of 7 curves that will determine how keyboard playing dynamics will affect the TVA envelope. The selected curve will be displayed at the right of the numerical value.

BIAS

Use the Bias parameter when you want keyboard position to affect the TVA level.



Bias (Bias level)

Adjust the angle of the volume change that will occur in the selected Bias Direction. Higher settings will result in greater change. Negative (-) values will invert the change.

Point (Bias point)

Select the key at which the volume will begin to change.

Direction (Bias direction)

Select the direction in which change will occur starting from the Bias Point.

LOWER: the range below the Bias Point
UPPER: the range above the Bias Point
LOWER&UPPER: the ranges both above and below the Bias Point
ALL: the entire keyboard will be biased at the angle determined by the Bias Level, relative to the Bias Point

PAN MODULATE

Use these parameters to affect the location of the TVA Pan.

Keyfollow (Pan key follow)

Use this parameter when you want the keyboard position to change the stereo location. Higher values will result in greater change relative to middle C (C4). Positive (+) settings will cause notes played toward the right of the keyboard to be panned right. Negative (-) settings will cause the opposite.

Random (Random pan depth)

Use this parameter when you want the stereo location to change randomly each time you press a key. Higher values will result in a greater width of change.

Alternate (Alternate pan depth)

Use this parameter when you want the stereo location to alternate between left and right each time you press a key. Higher values will result in a greater width of change. L or R values can be set, and this will reverse the left/right order of the panning. If you want to alternate the pan position of two Tones, set them to opposite L and R settings.

TVA TIME ENV (TVA time envelope)

These parameters determine how the keyboard will affect the time changes of the TVA envelope.

V-T1 (TVF envelope time 1 velocity sensitivity)

Use this parameter when you want velocity to affect T1 (time) of the TVA envelope. Higher settings will result in a greater difference between strongly and softly played notes. If you want higher velocities to speed up T1 time, use positive (+) values. If you want higher velocities to slow down T1 time, use negative (-) values.

V-T4 (TVA envelope time 4 velocity sensitivity)

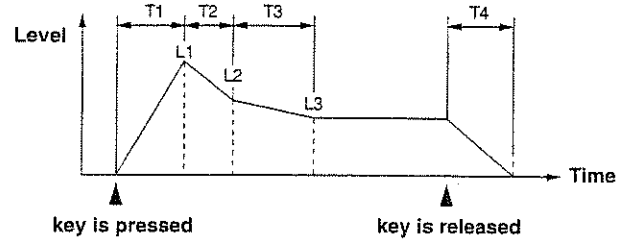
Use this parameter when you want Key Off Velocity (the speed at which you release a key) to affect T4 (time) of the TVA envelope. Higher settings will result in a greater difference between quickly and slowly released notes. If you want a quicker release to speed up the T4 time, use positive (+) settings. If you want a quicker release to slow down the T4 time, use negative (-) settings.

Time Keyfollow (TVA envelope time key follow)

Use this parameter when you want keyboard position to affect TVA envelope times (T1—T4). Higher values will result in a greater change relative to middle C (C4). Positive (+) settings will result in shorter times as you play toward the right of the keyboard. Negative (-) settings will result in longer times as you play toward the right of the keyboard.

TVA ENVELOPE (TVA envelope)

These parameters make settings for the TVA envelope (changes over time in the TVA level).

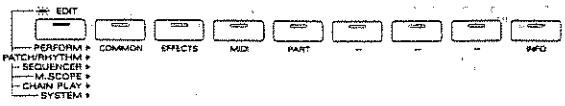


T1—T4 (TVA envelope 1—4)

Adjust the time over which the volume changes from one point to the next.

L1—L3 (TVA envelope 1—3)

Adjust the volume level of each point relative to the basic TVA level.



COMMON group

This group includes parameters that do not fit into other groups, such as Performance Name and Key Range.

PERFORM NAME

You can assign a name to the Performance of up to 12 characters.

PERFORM CLOCK

Some parameters allow you to set a time value in terms of a note length which is determined by a specified tempo; Rate parameters (PATCH: LFO: LFO1/2), Time parameter (PATCH: WAVE: TONE DELAY), and some EFX parameters. The specified tempo used by these parameters can be set for each Patch. However when a Patch is used in Performance mode, the Patch settings will be ignored, and the settings of this display will be used instead.

Source (Performance clock source)

Select the source of the Performance Clock.

PERFORM: Synchronize to the Performance Tempo setting.

SEQUENCER: Synchronize to the tempo clock of the sequencer.

* ***The Performance Clock does not transmit clock messages from MIDI OUT connector.***

Tempo (Performance tempo)

Set the Performance Tempo setting.

PERFORM COMMON

Key Mode

This parameter determines how the sound source will be played from the XP-50's keyboard.

LAYER: When you play the keyboard, all Parts whose Local parameter (PERFORM: MIDI: MIDI) is turned on will sound. Transmission of MIDI messages from the controller section to the internal sequencer will be determined by the Local parameter setting (PERFORM: MIDI: MIDI) of each Part. Transmission of MIDI messages from the controller section to external MIDI devices will be determined by the Tx parameter setting (PERFORM: MIDI: MIDI) of each Part.

SINGLE: When you play the keyboard, only the specified Part (the Part shown in the display) will sound. MIDI messages will be transmitted from the controller section to the internal sequencer and to external MIDI devices even if the Local parameter and Tx parameter settings for each Part (PERFORM: MIDI: MIDI) are turned off.

* ***If you have selected a Layer-type Performance, the upper right of the PERFORM PLAY display will indicate "LAYER." If you have selected a Single-type Performance, the number of the Part that can be played from the keyboard will be displayed.***

<Using LAYER>

If you want to play a combination of two or more Patches, select LAYER. However if you attempt to simultaneously play the Patches for all Parts, you will probably not be able to play very many simultaneous voices. When layering Patches, take into account the number of available voices, and turn off unnecessary Parts. By making Key Range settings for each Part, you can split Parts across the keyboard.

< Using Single-type Performances >

Select a Single-type Performance when recording an ensemble song on the sequencer.

Key Range (Key range switch)

This parameter determines whether or not the Key Range settings (next display) will be applied or not. If you want them to be applied, turn this ON.

KEY RANG (Key range)

Set the range in which each Part will sound. Use this when you wish to play different Patches in different areas of the keyboard.

Lower (Key range lower)

Set the lowest note that the Part will play.

Upper (Key range upper)

Set the highest note that the Part will play.

* ***If Key Range settings have been made for the Patch, only the notes for which the Key Range settings of the Patch and Performance overlap will play.***

* ***It is not possible to set Lower to a value greater than Upper, nor Upper to a value less than Lower. If you attempt to do so, both values will change together.***

* ***If you have used Octave Shift (System) or the Transpose parameter (SYSTEM: CONTROL: KEYBOARD) to transpose the pitch of the XP-50's keyboard, the keyboard area specified by Key Range will also be shifted.***

KEYBOARD

Octave Shift

This parameter adjusts the pitch of each Part in units of an octave (-3--+3 octaves).

EFFECTS group

This group contains settings for the EFX/Chorus/Reverb effects used by a Performance.

OUTPUT

Specify how each Part will be output.

Output Assign (Output assign / Output level)

Select whether the output of each Part will be sent through EFX, and adjust the volume level of each Part.

MIX: output to the OUTPUT jack without passing through EFX.

EFX: output to the OUTPUT jack through EFX.

PATCH: use the Output Assign settings (for each Tone) of the Patch assigned to each Part.

* *If you select MIX or EFX, the setting of the Output Assign parameter (PATCH: EFFECTS: OUTPUT) will be ignored.*

Chorus (Chorus send level)
Adjust the amount of Chorus that is applied to each Part.

Reverb (Reverb send level)
Adjust the amount of Reverb that is applied to each Part.

PERFORM EFX TYPE (EFX type)
These parameters set the Performance EFX.

* *If EFX Source has been set to use the EFX settings of the Patch assigned to one of the Parts, the Part number will be shown in the upper left of the display.*

```
part  2 ↑Type                    | Source
EFX TYPE↓01:STEREO-EQ            |PART  2
```

Type (EFX type)
Select the type of EFX. For details refer to "EFX effect types" (p.45).

* *If you have selected the EFX parameter settings of one of the Patches assigned to a Part as the EFX Source, the EFX Type of that Patch will be displayed.*

Source (EFX source)
Select the EFX parameter settings that will be used by the Performance. If you wish to use the EFX parameter settings of the Performance, select PERFORM. If you wish to use the EFX parameter settings of the Patch assigned to one of the Parts, select the Part number. Since the Rhythm Set does not have EFX parameter settings, it is not possible to select Part 10.

<When the EFX parameter settings of a Patch are selected>
When the EFX parameter settings of a Patch are selected, those settings will be displayed in the EFX parameter setting display of the Performance, and you will be able to modify them. If you wish to keep the Patch EFX parameter settings that you modify, rewrite the Patch settings. The modified Patch EFX parameter settings will be lost if you select a different Patch.

PERFORM EFX PRM (Performance EFX parameters)
The EFX parameters for the selected EFX Type will be displayed. For details refer to "EFX effect types" (p.45).

* *If EFX Source has been set to use the EFX parameter settings of the Patch assigned to one of the Parts, the Part number will be shown in the upper left of the display.*

PERFORM EFX OUT (Performance EFX output)
These parameters specify the output for the Part for which EFX was selected in Output Assign.

* *For Parts which have an Output Assign setting of MIX, the settings of this display will be ignored.*

* *For Parts which have an Output Assign setting of PATCH, the Output Assign settings of each Tone of the Patch will be used. In other words, the settings of this display will apply only to Tones for which EFX is selected.*

Mix Out (EFX Output level)
Adjust the volume of the direct sound and EFX sound.

Chorus (Chorus send level)
Adjust the amount of Chorus applied to the sound that passes through EFX.

Reverb (Reverb send level)
Adjust the amount of Reverb applied to the sound that passes through EFX.

PERFORM EFX CTRL (Performance EFX control)
Use this parameter when you wish to use a specific controller to control an EFX parameter. The types of EFX parameters available for control will depend on the EFX type. For details refer to "EFX effect types" (p.45).
The upper line of the display will show the EFX parameter to be controlled. For each EFX parameter you can specify the EFX Control Source and the EFX ControlDepth.

EFX control source 1, 2
The MIDI controllers that can be used are shown below. If you wish to use a controller that is common to all Patches, or a controller that cannot be selected here, first select SYS-CTRL1 or SYS-CTRL2, and then use the Control 1/2 parameter (SYSTEM: CONTROL: SYS-CTRL SOURCE) to select the controller.
OFF: a controller will not be used
SYS-CTRL1: System controller (Control 1)
SYS-CTRL2: System controller (Control 2)
MODULATION: Modulation (MIDI controller number 1)
BREATH: Breath (MIDI controller number 2)
FOOT: Foot (MIDI controller number 4)
VOLUME: Volume (MIDI controller number 7)
PAN: Pan (MIDI controller number 10)
EXPRESSION: Expression (MIDI controller number 11)
BENDER: Pitch bend
AFTERTOUCH: Aftertouch

EFX control Depth 1, 2
Adjust the amount of change that will occur in response to controller movement. Higher values will result in greater change. Negative (-) values will invert the direction of the change.

PERFORM CHORUS

Make settings for the Chorus effect of the Performance.

* ***In Performance mode, the Chorus settings of the Patches used by each Part will be ignored (except for the Send Level parameter).***

Rate (Chorus rate)

Adjust the speed of modulation for the chorus.

Depth (Chorus depth)

Adjust the depth of modulation for the chorus.

Delay (Chorus pre delay)

Adjust the time delay from when the direct sound begins until the chorus sound is heard. Higher values will create a more spacious sound.

Fbk (Chorus feedback level)

Adjust the amount of chorus sound that is returned (fed back) into the chorus. Higher values will create a more intense effect.

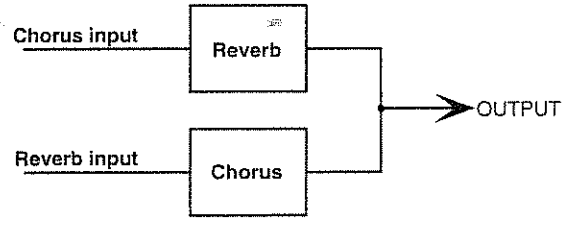
Level (Chorus level)

Adjust the volume level of the chorus sound.

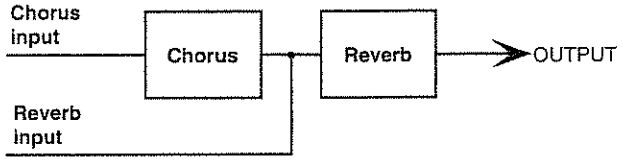
Out (Chorus output assign)

Select the way in which the chorus and reverb will be connected.

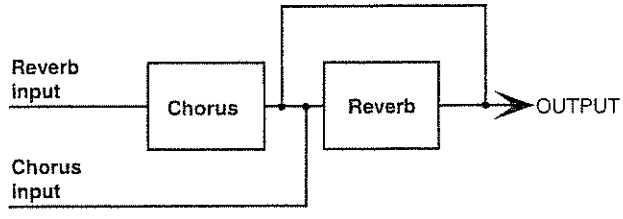
MIX: The chorus sound and the reverb sound will be mixed.



REV: Apply reverb to the chorus sound.



M+R: Mix the chorus sound to which reverb is not applied and the chorus sound to which reverb is applied.



PERFORM REVERB

Make settings for the Reverb effect of the Performance.

* ***In Performance mode, the Reverb settings of the Patches used by each Part will be ignored (except for the Send Level parameter).***

Type (Reverb/Delay type)

Select the type of Reverb effect.

ROOM1: dense reverb with short decay
ROOM2: sparse reverb with short decay
STAGE1: reverb with greater late reverberation
STAGE2: reverb with strong early reflections
HALL1: reverb with clear reverberance
HALL2: reverb with rich reverberance
DELAY: a conventional delay
PAN-DLY: a delay with echoes that move left and right

Time (Reverb/Delay time)

Adjust the time of reverberation. If you have selected DELAY or PAN-DLY, this parameter will adjust the time delay from the original sound until the first echo will sound.

Fbk (Delay feedback level)

Adjust the amount of delayed sound that is returned (fed back) to the delay. Higher values result in more delay repeats.

* ***If you have selected any one of the Reverb types (ROOM1—HALL2), this parameter has no effect.***

HF Damp (Reverb/Delay HF Damp)

Adjust the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want the high frequencies to be cut, set this parameter to BYPASS.

Level (Reverb/Delay level)

Adjust the volume of the reverberant (or delayed) sound.

MIDI group

MIDI

These parameters determine how each Part will transmit and receive MIDI messages.

Channel (MIDI channel)

Set the MIDI channel of each Part. Each Part will receive MIDI messages on this MIDI channel. Also, your keyboard playing (MIDI messages) will be transmitted on the MIDI channel of the Part selected for the keyboard.

* ***If this is set to the same channel as the Control Channel parameter (SYSTEM: MIDI: PERFORM MIDI), attempting to use MIDI messages (Program Change and Bank Select) from an external device to select Patches will select Performances instead. If you want to select Patches, change the Control Channel to a different setting.***

Rx (Receive switch)

Specify whether or not you want each Part to receive MIDI messages. When this is turned OFF, the Part will respond to the keyboard, but not to the internal sequencer nor to external MIDI devices.

Normally you will leave this ON, but you can turn it OFF when you do not want a specific Part to be playing during a song playback.

* ***This setting can be switched by turning on the RX button indicator and pressing the PART buttons.***

Tx (Transmit switch)

Specify whether or not you want each Part to transmit MIDI messages from the controller section. When this is turned OFF, the Part will respond to the keyboard, but the keyboard operations (MIDI messages) will not be transmitted from MIDI OUT connector.

Normally you will leave this ON, but you can turn it OFF when you do not want the XP-50 to control external sound sources.

* ***This setting can be switched by turning on the TX button indicator and pressing the PART buttons. However if the Key Mode parameter (PERFORM: COMMON: PERFORM COMMON) of the currently selected Performance is set to SINGLE, this setting cannot be switched.***

Local (Local switch)

Specify for each Part whether or not you want to disconnect the controller section from the internal sound source. If this is turned off, the keyboard will not play that Part, but your keyboard playing (MIDI messages) will still be transmitted from the MIDI OUT connector.

Normally you will leave this ON, but you can turn it OFF when you want to use the XP-50 only to control an external sound source.

* ***This setting can be switched by simultaneously pressing both the RX and the TX button to turn on both indicators, and then pressing the PART buttons. However if the Key Mode parameter (PERFORM: COMMON: PERFORM COMMON) of the currently selected Performance is set to SINGLE, this setting cannot be switched.***

RxSWITCH (Receive switch)

Specify whether each Part will receive certain MIDI messages or not.

Volume (Receive volume switch)

If you want the Part to receive Volume messages, turn this ON. If not, turn this OFF.

Hold-1 (Receive Hold 1 switch)

If you want the Part to receive Hold 1 messages, turn this ON. If not, turn this OFF.

Program Change (Receive program change switch)

If you want the Part to receive Program Change messages, turn this ON. If not, turn this OFF.

* ***If you want a Part to receive Program Change messages, you must also turn the Program Change parameter ON (SYSTEM: MIDI: RECEIVE).***

TRANSMIT (Transmit bank select)

BankSelectGroup (Transmit bank select group)

When you select a Performance, Bank Select and Program Change messages will be transmitted for the Patch or Rhythm Set assigned to each Part as determined by this setting.

PATCH: When you select a Performance, Bank Select messages and Program Change messages for the Patch / Rhythm Set that is assigned to each Part will not be transmitted.

BS1-7: When you select a Performance, Bank Select and Program Change messages will be transmitted for the Patch / Rhythm Set that is assigned to each Part. In this case, the Bank Select Number that is transmitted will be determined by the Bank Select Group (BS1--7) setting. In the BANK SEL GROUP display (SYSTEM: MIDI) you can set the Bank Select number for each Bank Select Group.

* ***Bank Select and Program Change messages will not be transmitted for Parts whose Tx parameter (PERFORM: MIDI: MIDI) is turned off.***

Transmit Volume

If you want Volume messages to also be transmitted when you select a Performance, specify the desired volume here. If you do not want Volume messages to be transmitted, set this to OFF.

PART group

PATCH

Select the Patch for each Part.

Group (Patch group)

Select the group of the Patch (or Rhythm Set for Part 10).

USER: User memory
PR-A—C: Preset memory A—C
GM: Preset memory GM
XP-A—D: Wave Expansion Board A—D

* ***It is not possible to select a group for a Wave Expansion Board that has not been installed.***

Number (Patch number)

Specify the number of the Patch. The Patch name will be displayed in parentheses ( ).

SETTING

Make volume, pan, and pitch settings for each Part.

Level

Adjust the volume of each Part. Use this parameter to adjust the volume balance between Parts.

Pan

Adjust the stereo location of the Part. L64 is full left, 0 is center, and R63 is full right.

Coarse (Coarse tune)

Adjust the pitch of the Part in semitone steps (-4—+4 octaves).

Fine (Fine tune)

Adjust the pitch of the Part in 1-cent steps (-50—+50 cents).

* ***One cent is 1/100th of a semitone.***

RESERVE (Voice reserve)

Voice Reserve

This setting determine how many voices will be reserved for each Part when more than 64 simultaneous voices are requested.

* ***It is not possible to make Voice Reserve settings that would cause the total of all Parts to be greater than 64 voices. The number of remaining voices available is indicated at the right of the parameter name (rest=). Keep this in mind as you make settings.***

INFO (information) group

INFO (Part information)

The displays in this group allow you to check various settings such as MIDI message reception status for each Part. This is convenient when you need to check that the sound source is responding correctly to messages from the keyboard, sequencer, or external MIDI controller.

Mod (Modulation)

Breath (Breath)

Foot (Foot)

Vol (Volume)

Pan (Pan)

Exp (Expression)

Hold (Hold)

Bend (Bender)

Aft (Aftertouch)

Sys1 (System controller 1)

The MIDI message specified as the Control 1 parameter (SYSTEM: CONTROL: SYS-CTRL SOURCE)

Sys2 (System controller 2)

The MIDI message specified as the Control 2 parameter (SYSTEM: CONTROL: SYS-CTRL SOURCE)

Voices (Voice)

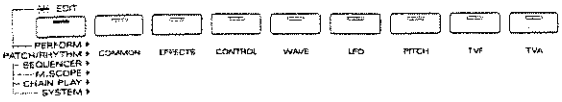
The number of voices used

< MIDI message transmission >

When you modify a value (other than Voice) in the INFO display, the MIDI message of the modified value will be transmitted to the internal sound source and to external MIDI devices. The way in which the message will be transmitted will depend on the settings of the currently selected Performance.

If you have selected a Single-type Performance, the MIDI message will be transmitted to the specified Part, and will simultaneously be transmitted to external MIDI devices on the MIDI channel of that Part.

If you have selected a Layer-type Performance, the MIDI message will be transmitted to all Parts whose Tx parameter (PERFORM: MIDI: MIDI) is turned on, and will also be transmitted to external MIDI devices on the MIDI channel of each of these Parts.



COMMON group

RHYTHM NAME (Rhythm set name)

You can assign a name of up to 12 characters to a Rhythm Set.

EFFECTS group

** Rhythm Sets use the effect settings of the Performance currently selected in Performance mode. You can modify the Performance effect settings from inside Rhythm Set mode, but they are not stored as Rhythm Set settings. If you wish to keep the effect settings, you need to store them as Performance settings.*

OUTPUT

Specify the output for each key.

Output Assign (Output assign / Output level)

For the output of each key, specify whether or not it will be sent through EFX, and adjust the volume level.

MIX: output to the OUTPUT jack without passing through EFX

EFX: output to the OUTPUT jack after passing through EFX

Chorus (Chorus send level)

Adjust the amount of Chorus for each key.

Reverb (Reverb send level)

Adjust the amount of Reverb for each key.

PERFORM EFX TYPE (Performance EFX type)

** If EFX Source has been set to use the EFX parameter settings of the Patch assigned to one of the Parts, the Part number will be shown in the upper left of the display.*

Type (EFX type)

Select the type of EFX. For details refer to "EFX effect types" (p.45).

** If you have selected the EFX parameter settings of one of the Patches assigned to a Part as the EFX Source, the EFX Type of that Patch will be displayed.*

Source (EFX Source)

Select the EFX parameter settings that will be used by the Performance. If you wish to use the EFX parameter settings of the Performance, select PERFORM. If you wish to use the EFX parameter settings of the Patch assigned to one of the Parts, select the Part number.

<When the EFX parameter settings of a Patch are selected>

When the EFX parameter settings of a Patch are selected, those settings will be displayed in the EFX parameter setting display of the Performance, and you will be able to modify them. If you wish to keep the Patch EFX parameter settings that you modify, rewrite the Patch settings. The modified Patch EFX parameter settings will be lost if you select a different Patch.

PERFORM EFX PRM (Performance EFX parameters)

The EFX parameters for the selected EFX Type will be displayed. For details refer to "EFX effect types" (p.45).

** If EFX Source has been set to use the EFX parameter settings of the Patch assigned to one of the Parts, the Part number will be shown in the upper left of the display.*

PERFORM EFX OUT (Performance EFX output)

These parameters specify the output for the keys for which EFX was selected in Output Assign.

** For keys which have an Output Assign setting of MIX, the settings of this display will be ignored.*

Mix Out (EFX output level)

Adjust the volume of the direct sound and EFX sound.

Chorus (Chorus send level)

Adjust the amount of Chorus applied to the sound that passes through EFX.

Reverb (Reverb send level)

Adjust the amount of Reverb applied to the sound that passes through EFX.

PERFORM EFX CTRL (Performance EFX control)

Use this parameter when you wish to use a specific controller to control an EFX parameter. The types of EFX parameters available for control will depend on the EFX type. For details refer to "EFX effect types" (p.45).

The upper line of the display will show the EFX parameter to be controlled. For each EFX parameter you can specify the EFX Control Source and the EFX Control Depth.

EFX Control source 1, 2

The MIDI controllers that can be used are shown below. If you wish to use a controller that is common to all Patches, or a controller that cannot be selected here, first select SYS-CTRL1 or SYS-CTRL2, and then use the Control 1/2 parameter (SYSTEM: CONTROL: SYS-CTRL SOURCE) to select the controller.

OFF: a controller will not be used

SYS-CTRL1: System controller (Control 1)

SYS-CTRL2: System controller (Control 2)

MODULATION: Modulation (MIDI controller number 1)

BREATH: Breath (MIDI controller number 2)
FOOT: Foot (MIDI controller number 4)
VOLUME: Volume (MIDI controller number 7)
PAN: Pan (MIDI controller number 10)
EXPRESSION: Expression (MIDI controller number 11)
BENDER: Pitch bend
AFTERTOUCH: Aftertouch

EFX Control depth 1, 2

Adjust the amount of change that will occur in response to controller movement. Higher values will result in greater change. Negative (-) values will invert the direction of the change.

PERFORM CHORUS

Make settings for the Chorus effect of the Performance.

* ***In Performance mode, the Chorus settings of the Patches used by each Part will be ignored (except for the Send Level parameter).***

Rate (Chorus rate)

Adjust the speed of modulation for the chorus.

Depth (Chorus depth)

Adjust the depth of modulation for the chorus.

Delay (Chorus pre delay)

Adjust the time delay from when the direct sound begins until the chorus sound is heard. Higher values will create a more spacious sound.

Fbk (Chorus feedback level)

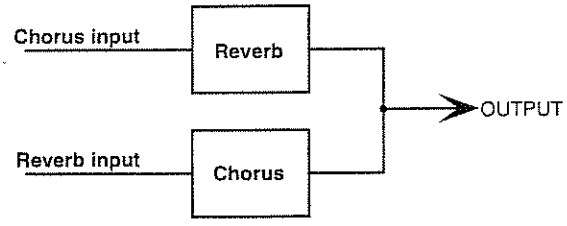
Adjust the amount of chorus sound that is returned (fed back) into the chorus. Higher values will create a more intense effect.

Level (Chorus level)

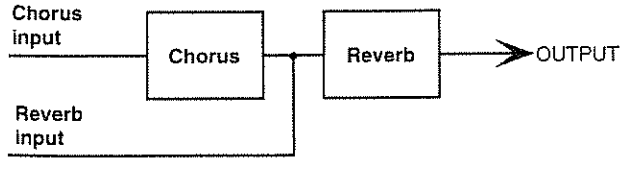
Adjust the volume level of the chorus sound.

Out (Chorus output assign)

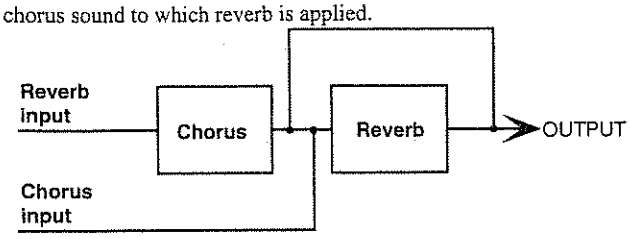
Select the way in which the chorus and reverb will be connected.
MIX: The chorus sound and the reverb sound will be mixed.



REV: Apply reverb to the chorus sound.



M+R: Mix the chorus sound to which reverb is not applied and the chorus sound to which reverb is applied.



PERFORM REVERB

Make settings for the Reverb effect of the Performance.

* ***In Performance mode, the Reverb settings of the Patches used by each Part will be ignored (except for the Send Level parameter).***

Type (Reverb/Delay type)

Select the type of Reverb effect.
ROOM1: dense reverb with short decay
ROOM2: sparse reverb with short decay
STAGE1: reverb with greater late reverberation
STAGE2: reverb with strong early reflections
HALL1: reverb with clear reverberance
HALL2: reverb with rich reverberance
DELAY: a conventional delay
PAN-DLY: a delay with echoes that move left and right

Time (Reverb/Delay time)

Adjust the time of the reverberation. If you have selected DELAY or PAN-DLY, this parameter will adjust the time delay from the original sound until the first echo will sound.

Fbk (Delay feedback level)

Adjust the amount of delayed sound that is returned (fed back) to the delay. Higher values result in more delay repeats.

* ***If you have selected any one of the Reverb types (ROOM1—HALL2), this parameter has no effect.***

HF Damp (Reverb/Delay HF damp)

Adjust the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want the high frequencies to be cut, set this parameter to BYPASS.

Level (Reverb/Delay level)

Adjust the volume of the reverberant (or delayed) sound.

CONTROL group

The parameters in this group determine how the controllers function and how instruments in a Rhythm Set will sound.

CONTROL

These parameters determine how each note is controlled.

Bend Range

Specify the amount of pitch change (in semitones) that will occur when the Pitch Bend Lever is moved (maximum +1 octave).

Env Mode (Envelope mode)

When a loop-type Wave is selected, it will normally continue to sound as long as the key is pressed. If you want it to decay naturally even if the key remains pressed, set this to NO-SUS.

** If a one-shot type Wave is selected, it will not sustain even if this parameter is set to SUSTAIN.*

Mute Group

The Mute Group function lets you specify that certain Rhythm Tones not be allowed to sound simultaneously. Taking the example of an acoustic drum set, it is obviously impossible for an open hi-hat and a closed hi-hat sound to occur simultaneously. To simulate this type of situation on the XP-50, set each hi-hat sound to the same Mute Group number.

Up to 31 Mute Groups can be used. If you do not want a Rhythm Tone to use a Mute Group, turn it OFF.

RxSWITCH (Receive switch)

These parameters determine how each key will receive Volume / Pan / Hold 1 MIDI messages.

Volume (Receive volume switch)

If you want Volume messages to be received, turn this parameter ON. If not, turn it OFF.

** In order for Volume messages to be received, the Volume parameter (PERFORM: MIDI: RxSWITCH) must also be turned ON for Part 10 of the currently selected Performance.*

Pan (Receive pan control switch)

Specify how Pan messages will be received.

OFF: Not received.

CONT: Whenever a Pan message is received, it will immediately change the stereo location of the sound.

KEY-ON: The stereo location of the sound will be changed when the next note is played. If a Pan message is received while a note is sounding, the current stereo location will not change until the next note. In this case, the stereo location will change only for the note played later, and the currently sounding note will not move.

Hold-1 (Receive Hold 1 switch)

If you want Hold 1 messages to be received, turn this parameter ON. If not, turn it OFF.

** In order for Hold 1 messages to be received, the Hold-1 parameter (PERFORM: MIDI: RxSWITCH) must also be turned ON for Part 10 of the currently selected Performance.*

WAVE group

Make settings for the basic waveform (Wave) of the Rhythm Tone assigned to each key.

WAVE

Group (Wave group)

Select the Group of the Wave.

INT-A, B: Internal A, B

EXP-A—D: Wave Expansion Boards A—D

** It is not possible to select a Group of a Wave Expansion Board that is not installed.*

Number (Wave number)

Select the Wave number. The name of the Wave will be displayed in parentheses ( ).

Gain (Wave gain)

Adjust the gain (volume boost) of the Wave. The setting range is -6—+12 dB, in steps of 6 dB. An increase of 6 dB doubles the gain.

Switch (Key switch)

Turn this ON for keys you wish to sound, and OFF for keys you do not wish to sound.

PITCH group

This group contains parameters that affect the pitch of the Rhythm Tone for each key.

PITCH

Specify the basic pitch for the Rhythm Tone.

Coarse (Coarse tune)

Select the key corresponding to the pitch at which you wish to sound the Rhythm Tone.

Fine (Fine tune)

Adjust the pitch in 1-cent steps (-50—+50 cents).

** One cent is 1/100th of a semitone.*

Random (Random pitch depth)

If you want the pitch to change randomly each time you press a key, specify the width of the change. If you do not want random pitch change, set this parameter to 0. The value is in units of 1 cent.

Env Depth (Pitch envelope depth)

Adjust the effect of the Pitch Envelope. Higher settings will result in greater change. Negative (-) settings will invert the envelope.

PCH VELOCITY

Specify how key velocity will change the effect of the Pitch Envelope.

Velocity Sens (Pitch envelope velocity sensitivity)

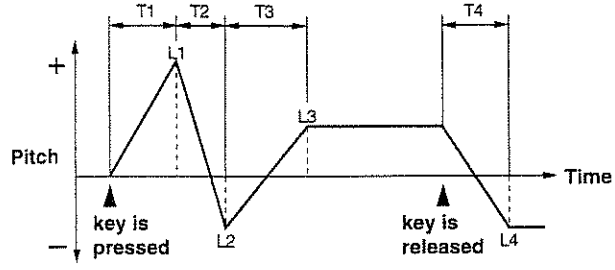
Use this parameter if you want key velocity to change the effect of the Pitch Envelope. Higher settings will result in a greater difference between strongly and softly played notes. Negative (-) settings will invert the change.

Velocity Time (Pitch envelope time velocity sensitivity)

Use this parameter if you want key velocity to change the overall time of the Pitch Envelope. Higher settings will result in a greater time difference between strongly and softly played notes. Negative (-) settings will invert the change.

PCH ENVELOPE

Make settings for the Pitch Envelope (changes in pitch over time).



T1—4 (Pitch envelope time 1—4)

Specify the time over which the pitch will change from one point to the next.

L1—4 (Pitch envelope level 1—4)

Specify the pitch change for each point relative to the basic pitch.

TVF group

The TVF (Time Variant Filter) uses a filter to modify the frequency characteristics of the sound.

FILTER

Make TVF filter settings.

Type (Filter type)

Select the filter type.

OFF: filter not used.

LPF (Low Pass Filter): Cut the frequencies above the Cutoff Frequency. This is the most common type of filter used in synthesizers.

BPF (Band Pass Filter): Pass only the frequencies in the area of the Cutoff Frequency.

HPF (High Pass Filter): Cut the frequencies below the Cutoff Frequency.

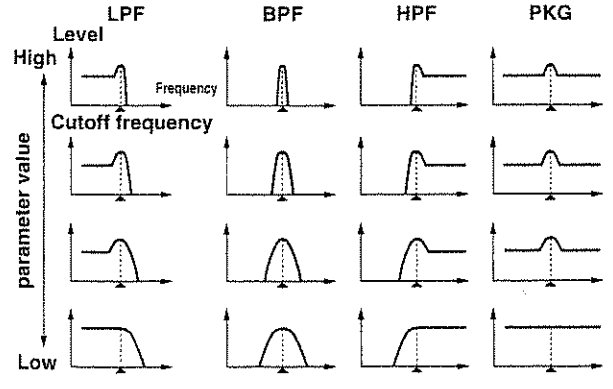
PKG (Peaking Filter): Emphasize the frequencies in the area of the Cutoff Frequency.

Cutoff (Cutoff frequency)

Set the basic frequency of the filter.

Resonance

Emphasize the frequencies in the area of the Cutoff Frequency. For some settings, excessive levels can cause oscillation and distortion.



Env Depth (TVF envelope depth)

Adjust the depth of the TVF envelope. Higher settings will result in greater change. Negative (-) values will invert the envelope.

TVF VELOCITY

V-Sens (TVF envelope velocity sensitivity)

Use this parameter when you want velocity to affect the TVF Envelope. Higher settings will result in a greater difference between strongly and softly played notes. Negative (-) settings will invert the effect.

V-Time (TVF envelope time velocity sensitivity)

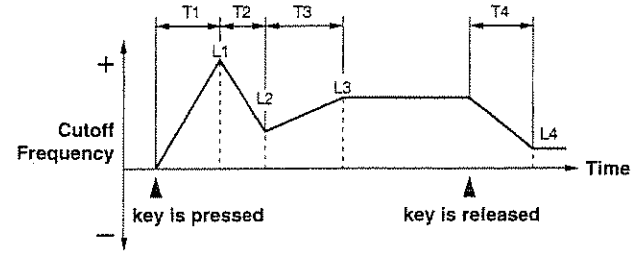
Use this parameter when you want velocity to affect the time of the TVF envelope. Higher settings will result in a greater time difference between strongly and softly played notes. Negative (-) settings will invert the effect.

V-Resonance (Resonance velocity sensitivity)

Use this parameter when you want velocity to affect the Resonance. Higher settings will result in a greater difference between strongly and softly played notes. Negative (-) settings will invert the effect.

TVF ENVELOPE

These parameters set the TVF envelope (the way in which the cutoff frequency will change over time).



T1—T4 (TVF envelope time 1—4)

Set the times over which the cutoff frequency will move from one point to the next.

L1—L4 (TVF envelope level 1—4)

Set the cutoff frequency levels for each point, relative to the basic cutoff frequency.

TVA group

The TVA (Time Variant Amplifier) controls volume changes and stereo location.

TVA

Level

Adjust the basic volume of the Rhythm Tone. Use this parameter to adjust the volume balance between Rhythm Tones.

Pan

Adjust the pan (stereo location) of the Rhythm Tone. L64 is full left, 0 is center, and R63 is full right.

Random (Random pan depth)

Use this parameter when you want the stereo location to change randomly each time you press a key. If you do not want the stereo location to change randomly, set this to 0.

Alternate (Alternate pan depth)

Use this parameter when you want the stereo location to alternate between left and right each time you press a key. Higher values will result in a greater width of change. L or R values can be set, and this will reverse the left/right order of the panning. If you want to alternate the pan position of two Rhythm Tones, set them to opposite L and R settings.

TVA VELOCITY

Specify how keyboard velocity will affect the time of the TVA envelope.

Velocity Sens (TVA envelope velocity sensitivity)

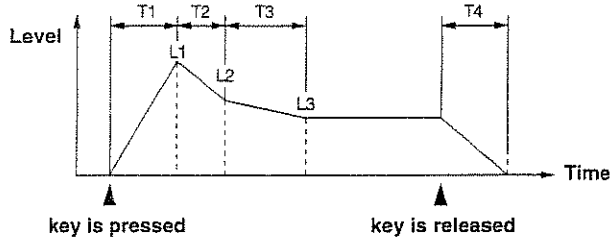
Use this parameter when you want velocity to affect the TVA Envelope. Higher settings will result in a greater difference between strongly and softly played notes. Negative (-) settings will invert the effect.

Velocity Time (TVA envelope time velocity sensitivity)

Use this parameter when you want velocity to affect the time of the TVA envelope. Higher settings will result in a greater time difference between strongly and softly played notes. Negative (-) settings will invert the effect.

TVA ENVELOPE

These parameters make settings for the TVA envelope (changes over time in the TVA level).



T1—T4 (TVA envelope time 1—4)

Adjust the time over which the volume changes from one point to the next.

L1—L3 (TVA envelope level 1—3)

Adjust the volume level of each point relative to the basic TVA level.

EFX effect types

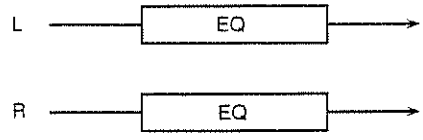
EFX provides 40 types of effect. Some of these consist of two different effects connected in series or parallel.

* ***Parameters marked with a sharp (#) can be controlled using a specified controller. Settings in the Patch or Performance EFX Control display (PATCH: EFFECTS: PATCH EFX CTRL or PERFORM: EFFECTS: PERFORM EFX CTRL) will determine how these parameters are controlled.***

The EFX control sources can be set for each Patch or Performance.

1: STEREO-EQ (Stereo equalizer)

This is a four-band stereo equalizer (low, mid x 2, high).



LowFreq (Low frequency)

Select the frequency of the low range (200 Hz/400 Hz).

LowGain (Low gain)

Adjust the gain of the low frequency.

Hi Freq (High frequency)

Select the frequency of the high range (4000 Hz/8000 Hz).

Hi Gain (High gain)

Adjust the gain of the high frequency.

P1 Freq (Peaking 1 frequency)

Adjust the frequency of Peaking 1 (mid range).

P1 Q (Peaking 1 Q)

This parameter adjusts the width of the area around the Peaking 1 Frequency that will be affected by the Gain setting. Higher values of Q will result in a narrower area being affected.

P1 Gain (Peaking 1 gain)

Adjust the gain for the area specified by the Peaking 1 Frequency and Q settings.

P2 Freq (Peaking 2 frequency)

Adjust the frequency of Peaking 2 (mid range).

P2 Q (Peaking 2 Q)

This parameter adjusts the width of the area around the Peaking 2 Frequency that will be affected by the Gain setting. Higher values of Q will result in a narrower area being affected.

P2 Gain (Peaking 2 gain)

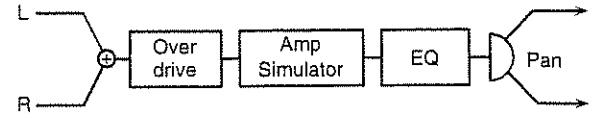
Adjust the gain for the area specified by the Peaking 2 Frequency and Q settings.

Level (Output level)

Adjust the output level.

2: OVERDRIVE

This effect creates a soft distortion similar to that produced by vacuum tube amplifiers.



Drive

Adjust the degree of distortion. The volume will change together with the degree of distortion.

Level (Output level)

Adjust the output level.

LowGain (Low gain)

Adjust the gain of the low frequency range.

Hi Gain (High gain)

Adjust the gain of the high frequency range.

Amp Type (Amp simulator type)

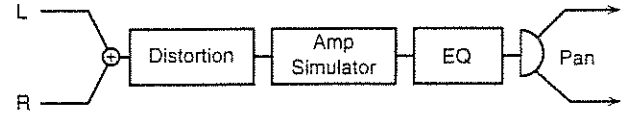
Select the type of guitar amp.
SMALL: small amp
BUILT-IN: single-unit type amp
2-STACK: large double stack amp
3-STACK: large triple stack amp

Pan (Output pan)

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

3: DISTORTION

This effect produces a more intense distortion than Overdrive.



Drive

Adjust the degree of distortion. The volume will change together with the degree of distortion.

Level (Output level)

Adjust the output level.

LowGain (Low gain)

Adjust the gain of the low frequency range.

Hi Gain (High gain)

Adjust the gain of the high frequency range.

Amp Type (Amp simulator type)

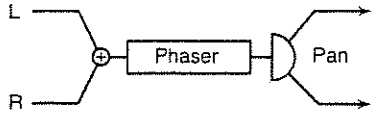
Select the type of guitar amp.
SMALL: small amp
BUILT-IN: single-unit type amp
2-STACK: large double stack amp
3-STACK: large triple stack amp

Pan (Output pan)

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

4: PHASER

A phaser adds a phase-shifted sound to the original sound, producing a twisting modulation that creates spaciousness and depth.



Manual

Adjust the basic frequency from which the sound will be modulated.

Rate

Adjust the frequency (period) of modulation.

Depth

Adjust the depth of modulation.

Res (Resonance)

Adjust the amount of emphasis added to the frequency range surrounding the basic frequency determined by the Manual setting.

Mix (Mix level)

Adjust the ratio with which the phase-shifted sound is combined with the direct sound.

Pan (Output pan)

Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

Level (Output level)

Adjust the output level.

5: SPECTRUM

Spectrum is a type of filter which modifies the timbre by boosting or cutting the level at specific frequencies. It is similar to an equalizer, but has 8 frequency points fixed at locations most suitable for adding character to the sound.

Band 1 (Band 1 gain)

Adjust the 250 Hz level.

Band 2 (Band 2 gain)

Adjust the 500 Hz level.

Band 3 (Band 3 gain)

Adjust the 1 kHz level.

Band 4 (Band 4 gain)

Adjust the 1250 Hz level.

Band 5 (Band 5 gain)

Adjust the 2000 Hz level.

Band 6 (Band 6 gain)

Adjust the 3150 Hz level.

Band 7 (Band 7 gain)

Adjust the 4000 Hz level.

Band 8 (Band 8 gain)

Adjust the 8000 Hz level.

Width (Band width)

Simultaneously adjust the width of the adjusted areas for all the frequency bands.

Pan (Output pan)

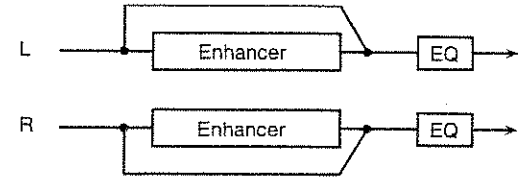
Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

Level (Output level)

Adjust the output level.

6: ENHANCER

The Enhancer controls the overtone structure of the high frequencies, adding sparkle and tightness to the sound.



Sens (Sensitivity)

Adjust the sensitivity of the enhancer.

Mix (Mix level)

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

LowGain (Low gain)

Adjust the gain of the low frequency range.

Hi Gain (High gain)

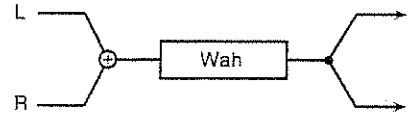
Adjust the gain of the high frequency range.

Level (Output level)

Adjust the output level.

7: AUTO-WAH

The Auto Wah cyclically controls a filter to create cyclic change in timbre.



Filter (Filter type)

Select the type of filter.
LPF: The wah effect will be applied over a wide frequency range.
BPF: The wah effect will be applied over a narrow frequency range.

Sens

Adjust the sensitivity with which the filter is controlled.

Manual

Adjust the center frequency from which the effect is applied.

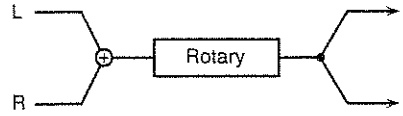
Peak
Adjust the amount of the wah effect that will occur in the area of the center frequency. Lower settings will cause the effect to be applied in a broad area around the center frequency. Higher settings will cause the effect to be applied in a more narrow range.

Rate
Adjust the frequency of the modulation.

Depth
Adjust the depth of the modulation.

Level (Output level)
Adjust the output level.

8: ROTARY
The Rotary effect simulates the sound of the rotary speakers often used with the electric organs of the past. Since the movement of the high range and low range rotors can be set independently, the unique type of modulation characteristic of these speakers can be simulated quite closely. This effect is most suitable for electric organ Patches.



LowSlow (Low frequency slow rate)
Adjust the slow speed (SLOW) of the low frequency rotor.

LowFast (Low frequency fast rate)
Adjust the fast speed (FAST) of the low frequency rotor.

LowAccl (Low frequency acceleration)
Adjust the time it takes the low frequency rotor to reach the newly selected speed when switching from fast to slow (or slow to fast) speed. Lower values will require longer times.

Low Lvl (Low frequency level)
Adjust the volume of the low frequency rotor.

Hi Slow (High frequency slow rate)
Adjust the slow speed (SLOW) of the high frequency rotor.

Hi Fast (High frequency fast rate)
Adjust the fast speed (FAST) of the high frequency rotor.

Hi Accl (High frequency acceleration)
Adjust the time it takes the high frequency rotor to reach the newly selected speed when switching from fast to slow (or slow to fast) speed. Lower values will require longer times.

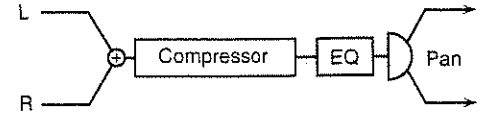
Hi Lvl (High frequency level)
Adjust the volume of the high frequency rotor.

Separation
Adjust the spatial dispersion of the sound.

Speed
Simultaneously switch the rotational speed of the low frequency rotor and high frequency rotor.
SLOW: Slow down the rotation to the specified speed (the Low Slow / Hi Slow values).
FAST: Speed up the rotation to the specified speed (the Low Fast / Hi Fast values).

Level (Output level)
Adjust the output level.

9: COMPRESSOR
The Compressor flattens out high levels and boosts low levels, smoothing out unevenness in volume.



Attack
Adjust the attack time of an input sound.

Sustain
Adjust the time over which low level sounds are boosted until they reach the specified volume.

Post Gain
Adjust the input gain.

LowGain
Adjust the low frequency gain.

Hi Gain
Adjust the high frequency gain.

Pan (Output pan)
Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

Level (Output level)
Adjust the output level.

10: LIMITER
The Limiter compresses signals that exceed a specified volume level, preventing distortion from occurring.

Thresh (Threshold level)
Adjust the volume at which compression will begin.

Ratio (Compression ratio)
Adjust the compression ratio.

Release (Release time)
Adjust the time from when the volume falls below the Threshold Level until compression is no longer applied.

Gain (Post gain)
Adjust the input gain.

LowGain
Adjust the low frequency gain.

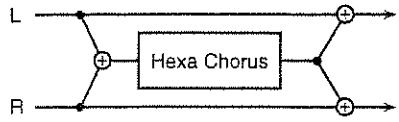
Hi Gain
Adjust the high frequency gain.

Pan (Output pan)
Adjust the stereo location of the output sound. L64 is far left, 0 is center, and 63R is far right.

Level (Output level)
Adjust the output level.

11: HEXA-CHORUS

Hexa-chorus uses a six-phase chorus (six layers of chorused sound) to give richness and spatial spread to the sound.



Pre Dly (Pre delay time)

Adjust the time delay from when the direct sound begins until the processed sound is heard.

Rate

Adjust the rate of modulation.

Depth

Adjust the depth of modulation.

Dly Dev (Pre delay deviation)

Pre Delay determines the time from when the direct sound begins until the processed sound is heard. Pre Delay Deviation adjusts the differences in Pre Delay between each chorus sound.

Dpt Dev (Depth deviation)

Adjust the difference in modulation depth between each chorus sound.

Pan Dev (Pan deviation)

Adjust the difference in stereo location between each chorus sound. With a setting of 0, all chorus sounds will be in the center. With a setting of 20, each chorus sound will be spaced at 30 degree intervals relative to the center.

Balance (Effect balance)

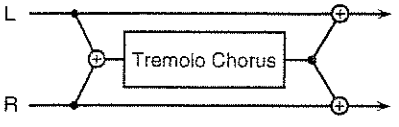
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)

Adjust the output level.

12: TREMOLO-CHORUS

Tremolo Chorus is a chorus effect with added Tremolo (cyclic modulation of volume).



Pre Dly (Pre delay time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

ChoRate (Chorus rate)

Adjust the modulation speed of the chorus effect.

Cho Dpt (Chorus depth)

Adjust the modulation depth of the chorus effect.

Phase (Tremolo phase)

Adjust the spread of the tremolo effect.

TrmRate (Tremolo rate)

Adjust the modulation speed of the tremolo effect.

Trm Sep (Tremolo separation)

Adjust the spread of the tremolo effect.

Balance (Effect balance)

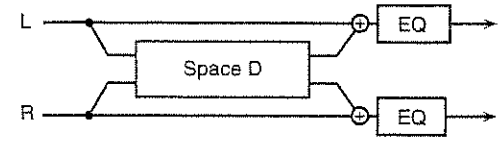
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)

Adjust the output level.

13: SPACE-D

Space-D is a multiple chorus that applies two-phase modulation in stereo. It gives no impression of modulation, but produces a transparent chorus effect.



Pre Dly (Pre delay time)

Adjust the time delay from when the direct sound begins until the processed sound is heard.

Rate

Adjust the rate of modulation.

Depth

Adjust the depth of modulation.

Phase

Adjust the spatial spread of the sound.

LowGain

Adjust the gain of the low frequency range.

Hi Gain

Adjust the gain of the high frequency range.

Balance (Effect balance)

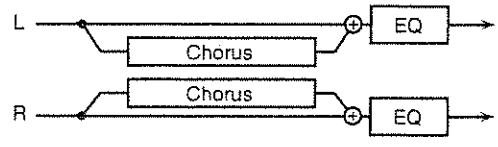
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)

Adjust the output level.

14: STEREO-CHORUS

This is a stereo chorus. A filter is provided so that you can adjust the timbre of the chorus sound.



Pre Dly (Pre delay time)

Adjust the time delay from when the direct sound begins until the processed sound is heard.

Rate

Adjust the rate of modulation.

Depth

Adjust the depth of modulation.

Phase

Adjust the spatial spread of the sound.

Filter (Filter type)
Select the type of filter.
LPF: cut the frequency range above the cutoff frequency
HPF: cut the frequency range below the cutoff frequency

Cutoff (Cutoff frequency)
Adjust the basic frequency of the filter.

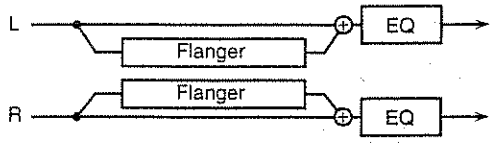
LowGain
Adjust the gain of the low frequency range.

Hi Gain
Adjust the gain of the high frequency range.

Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

15: STEREO-FLANGER
This is a stereo flanger. (The LFO has the same phase for left and right.) It produces a metallic resonance that rises and falls like a jet airplane taking off or landing. A filter is provided so that you can adjust the timbre of the flanged sound.



Pre Dly (Pre delay time)
Adjust the time delay from when the direct sound begins until the processed sound is heard.

Rate
Adjust the rate of modulation.

Depth
Adjust the depth of modulation.

Fbk (Feedback level)
Adjust the amount (%) of the processed sound that is returned (fed back) into the input. Positive (+) settings will return the sound in phase, and negative (-) settings will return the sound in reverse phase.

Phase
Adjust the spatial spread of the sound.

Filter Type
Select the type of filter.
OFF: a fileer will not be used
LPF: cut the frequency range above the cutoff frequency
HPF: cut the frequency range below the cutoff frequency

Cutoff (Cutoff frequency)
Adjust the basic frequency of the filter.

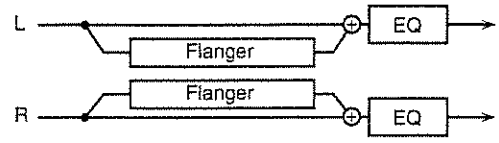
LowGain
Adjust the gain of the low frequency range.

Hi Gain
Adjust the gain of the high frequency range.

Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

16: STEP-FLANGER
The Step Flanger effect is a flanger in which the flanger pitch changes in steps. The speed at which the pitch changes can also be specified in terms of a note-value of a specified tempo.



Pre Dly (Pre delay time)
Adjust the time delay from when the direct sound begins until the processed sound is heard.

Rate
Adjust the rate of modulation.

Depth
Adjust the depth of modulation.

Fbk (Feedback level)
Adjust the amount (%) of the processed sound that is returned (fed back) into the input. Negative (-) settings will invert the phase.

Phase
Adjust the spatial spread of the sound.

Step Rate
Adjust the rate (period) of pitch change. This parameter can be set as a note-value of a specified tempo. In this case, specify the value of the desired note.

<When Step Rate is set as a note value>
As the specified tempo, you may use either the Patch Tempo, Performance Tempo, or the tempo clock of the XP-50's sequencer.
If you wish to use a fixed tempo in Patch mode (Patch Tempo), go to the PATCH CLOCK display (PATCH: COMMON), set the Source parameter to PATCH and set the Tempo parameter (in the same display) to the desired tempo. If you wish to use a fixed tempo in Performance mode (Performance Tempo), go to the PERFORM CLOCK display (PERFORM: COMMON), set the Source parameter to PERFORM, and set the Tempo parameter (in the same display) to the desired tempo.
If you wish to use the tempo clock of the sequencer when in Patch mode, set the Source parameter (PATCH: COMMON: PATCH CLOCK) to SEQUENCER. If you wish to use the tempo clock of the sequencer when in Performance mode, set the Source parameter (PERFORM: COMMON: PERFORM CLOCK) to SEQUENCER.

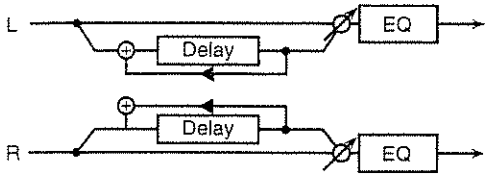
LowGain
Adjust the gain of the low frequency range.

Hi Gain
Adjust the gain of the high frequency range.

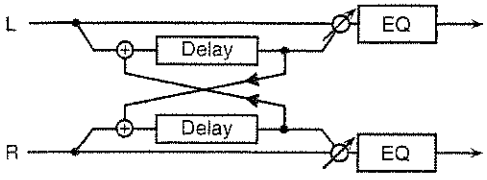
Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

17: STEREO-DELAY
This is a stereo delay.
When Feedback Mode is NORMAL:



When Feedback Mode is CROSS:



Delay L (Delay time left)
Adjust the time from the original sound until when the left delay sound is heard.

Delay R (Delay time right)
Adjust the time from the original sound until when the right delay sound is heard.

Fbk (Feedback level)
Adjust the proportion (%) of the processed sound that is fed back into the effect. Negative (-) settings will invert the phase.

Mode (Feedback mode)
Select the way in which processed sound is fed back into the effect.
NORMAL: The left delay sound will be fed back into the left delay, and the right delay sound into the right delay.
CROSS: The left delay sound will be fed back into the right delay, and the right delay sound into the left delay.

Phase L (Feedback phase left)
Select the phase of the left delay sound.
NORMAL: Phase is not changed.
INVERT: Phase is inverted.

Phase R (Feedback phase right)
Select the phase of the right delay sound.
NORMAL: Phase is not changed.
INVERT: Phase is inverted.

HF Damp
Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

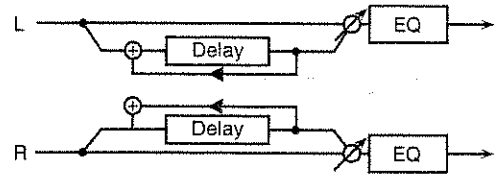
LowGain
Adjust the gain of the low frequency range.

Hi Gain
Adjust the gain of the high frequency range.

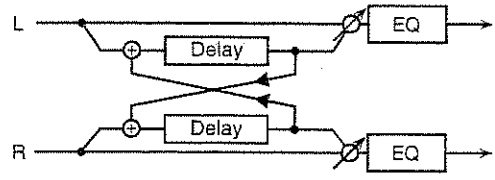
Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

18: MODULATION-DELAY
This effect adds modulation to the delayed sound, producing an effect similar to a flanger.
When Feedback Mode is NORMAL:



When Feedback Mode is CROSS:



Delay L (Delay time left)
Adjust the time from the original sound until when the left delay sound is heard.

Delay R (Delay time right)
Adjust the time from the original sound until when the right delay sound is heard.

Fbk (Feedback level)
Adjust the proportion (%) of the processed sound that is fed back into the effect. Negative (-) settings will invert the phase.

Mode (Feedback mode)
Select the way in which processed sound is fed back into the effect.
NORMAL: The left delay sound will be fed back into the left delay, and the right delay sound into the right delay.
CROSS: The left delay sound will be fed back into the right delay, and the right delay sound into the left delay.

Rate
Adjust the speed of the modulation.

Depth
Adjust the depth of the modulation.

Phase
Adjust the spatial spread of the sound.

HF Damp
Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

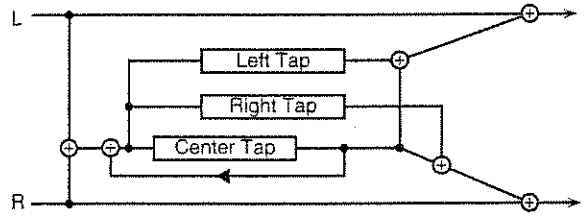
LowGain
Adjust the gain of the low frequency range.

Hi Gain
Adjust the gain of the high frequency range.

Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

19: TRIPLE-TAP-DELAY
The Triple Tap Delay produces three delay sounds; center, left and right. The center delay time can be specified as a note value of a specified tempo.



Delay C (Delay time center)
Delay L (Delay time left)
Delay R (Delay time right)
Adjust the time delay from the direct sound until when the delay sound is heard. This parameter can be set as a note-value of a specified tempo. In this case, specify the value of the desired note.

<When Delay Time is set as a note value>
As the specified tempo, you may use either the Patch Tempo, Performance Tempo, or the tempo clock of the XP-50's sequencer.
If you wish to use a fixed tempo in Patch mode (Patch Tempo), go to the PATCH CLOCK display (PATCH: COMMON), set the Source parameter to PATCH and set the Tempo parameter (in the same display) to the desired tempo. If you wish to use a fixed tempo in Performance mode (Performance Tempo), go to the PERFORM CLOCK display (PERFORM: COMMON), set the Source parameter to PERFORM, and set the Tempo parameter (in the same display) to the desired tempo.
If you wish to use the tempo clock of the sequencer when in Patch mode, set the Source parameter (PATCH: COMMON: PATCH CLOCK) to SEQUENCER. If you wish to use the tempo clock of the sequencer when in Performance mode, set the Source parameter (PERFORM: COMMON: PERFORM CLOCK) to SEQUENCER.

Fbk (Feedback level)
Adjust the proportion (%) of the processed sound that is fed back into the effect. Negative (-) settings will invert the phase.

Level C (Center level)
Level L (Left level)
Level R (Right level)
Adjust the volume of each delay sound.

HF Damp
Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

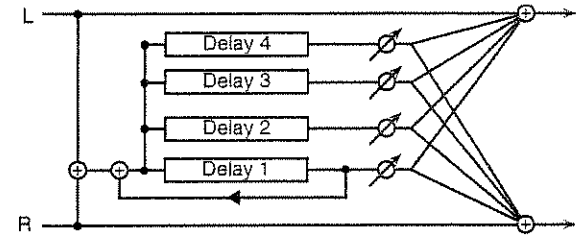
LowGain
Adjust the gain of the low frequency range.

Hi Gain
Adjust the gain of the high frequency range.

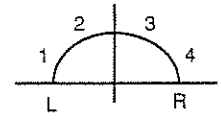
Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

20: QUADRUPLE-TAP-DELAY
The Quadruple Tap Delay has four delays. Each of the Delay Time parameters can be specified as a note length of the selected tempo.



The stereo location of each delay sound is as follows.



Delay 1 (Delay time 1)
Delay 2 (Delay time 2)
Delay 3 (Delay time 3)
Delay 4 (Delay time 4)
Adjust the time delay from the direct sound until when each delay sound is heard. These parameters can be set as a note-value of a specified tempo. In this case, specify the value of the desired note.

<When Delay Time is set as a note value>
As the specified tempo, you may use either the Patch Tempo, Performance Tempo, or the tempo clock of the XP-50's sequencer.
If you wish to use a fixed tempo in Patch mode (Patch Tempo), go to the PATCH CLOCK display (PATCH: COMMON), set the Source parameter to PATCH and set the Tempo parameter (in the same display) to the desired tempo. If you wish to use a fixed tempo in Performance mode (Performance Tempo), go to the PERFORM CLOCK display (PERFORM: COMMON), set the Source parameter to PERFORM, and set the Tempo parameter (in the same display) to the desired tempo.
If you wish to use the tempo clock of the sequencer when in Patch mode, set the Source parameter (PATCH: COMMON: PATCH CLOCK) to SEQUENCER. If you wish to use the tempo clock of the sequencer when in Performance mode, set the Source parameter (PERFORM: COMMON: PERFORM CLOCK) to SEQUENCER.

Level 1
Level 2
Level 3
Level 4
Adjust the volume of each delay sound.

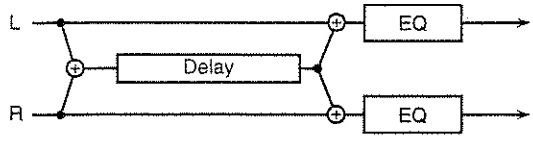
Fbk (Feedback level)
Adjust the proportion (%) of the processed sound that is fed back into the effect. Negative (-) settings will invert the phase.

HF Damp
Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

21: TIME-CONTROL-DELAY
This effect allows you to use a specified controller (the controller selected in EFX Control Source) to control the delay time and pitch in realtime. Lengthening the delay will lower the pitch, and shortening it will raise the pitch.



Delay (Delay time)
Adjust the time delay from the direct sound until when each delay sound is heard.

Accel (Acceleration)
This parameter adjusts the time over which the Delay Time will change from the current setting to a newly specified setting. The rate of change for the Delay Time directly affects the rate of pitch change.

Fbk (Feedback level)
Adjust the proportion (%) of the processed sound that is fed back into the effect. Negative (-) settings will invert the phase.

HF Damp
Adjust the frequency above which sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Pan (Output pan)
Adjust the stereo location of the processed sound. L64 is far left, 0 is center, and 63R is far right.

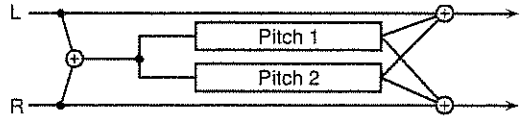
LowGain
Adjust the gain of the low frequency range.

Hi Gain
Adjust the gain of the high frequency range.

Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

22: 2VOICE-PITCH-SHIFTER
A Pitch Shifter shifts the pitch of the original sound. This 2-voice pitch shifter has two pitch shifters, and can add two pitch shifted sounds to the original sound.



CoarseA (Coarse pitch A)
Adjust the pitch of Pitch Shift A in semitone steps (-2—+1 octaves).

Fine A (Fine pitch A)
Make fine adjustments to the pitch of Pitch Shift A in 2-cent steps (-100—+100 cents).

** One cent is 1/100th of a semitone.*

Pan A (Output pan A)
Adjust the stereo location of the Pitch Shift A sound. L64 is far left, 0 is center, and 63R is far right.

PreDlyA (Pre delay time A)
Adjust the time delay from when the direct sound begins until the Pitch Shift A sound is heard.

CoarseB (Coarse pitch B)
Adjust the pitch of Pitch Shift B in semitone steps (-2—+1 octaves).

Fine B (Fine pitch B)
Make fine adjustments to the pitch of Pitch Shift B in 2-cent steps (-100—+100 cents).

Pan B (Output pan B)
Adjust the stereo location of the Pitch Shift B sound. L64 is far left, 0 is center, and 63R is far right.

PreDlyB (Pre delay time B)
Adjust the time delay from when the direct sound begins until the Pitch Shift A sound is heard.

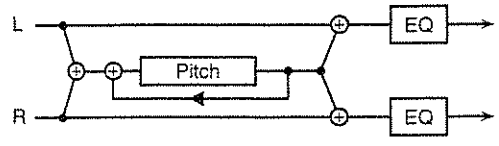
Mode (Pitch shifter mode)
Higher settings of this parameter will result in slower response, but steadier pitch.

Lvl Bal (Level balance)
Adjust the volume balance between the Pitch Shift A and Pitch Shift B sounds.

Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

23: FBK-PITCH-SHIFTER (Feedback pitch shifter)
This pitch shifter allows the pitch shifted sound to be fed back into the effect.



Coarse (Coarse pitch)
Adjust the pitch of the pitch shifted sound in semitone steps (-2—+1 octaves).

Fine (Fine pitch)
Make fine adjustments to the pitch of the pitch shifted sound in 2-cent steps (-100—+100 cents).

Fbk (Feedback level)
Adjust the proportion (%) of the processed sound that is fed back into the effect. Negative (-) settings will invert the phase.

Pre Dly (Pre delay time)
Adjust the time delay from when the direct sound begins until the pitch shifted sound is heard.

Mode (Pitch shifter mode)
Higher settings of this parameter will result in slower response, but steadier pitch.

Pan (Output pan)
Adjust the stereo location of the pitch shifted sound. L64 is far left, 0 is center, and 63R is far right.

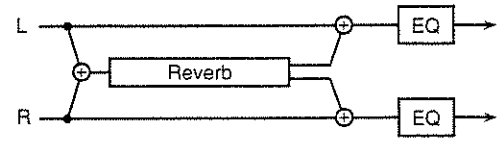
LowGain
Adjust the gain of the low frequency range.

Hi Gain
Adjust the gain of the high frequency range.

Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

24: REVERB
The Reverb effect adds reverberation to the sound, simulating an acoustic space.



Type (Reverb type)
Select the type of Reverb effect.
ROOM1: dense reverb with short decay
ROOM2: sparse reverb with short decay
STAGE1: reverb with greater late reverberation
STAGE2: reverb with strong early reflections
HALL1: reverb with clear reverberance
HALL2: reverb with rich reverberance

Pre Dly (Pre delay time)
Adjust the time delay from when the direct sound begins until the reverb sound is heard.

Time (Reverb time)
Adjust the time length of reverberation.

HF Damp
Adjust the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want the high frequencies to be cut, set this parameter to BYPASS.

LowGain
Adjust the gain of the low frequency range.

Hi Gain
Adjust the gain of the high frequency range.

Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

25: GATE-REVERB
Gate Reverb is a special type of reverb in which the reverberant sound is cut off before its natural length.

Type (Gate reverb type)
Select the type of reverb.
NORMAL: conventional gate reverb
REVERSE:backwards reverb
SWEEP1: the reverberant sound moves from right to left
SWEEP2: the reverberant sound moves from left to right

Pre Dly (Pre delay time)
Adjust the time delay from when the direct sound begins until the reverb sound is heard.

Gate Time
Adjust the time from when the reverb is heard until when it disappears.

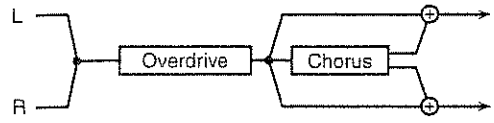
LowGain
Adjust the gain of the low frequency range.

Hi Gain
Adjust the gain of the high frequency range.

Balance (Effect balance)
Adjust the volume balance between the direct sound and the processed sound.

Level (Output level)
Adjust the output level.

26: OVERDRIVE→CHORUS
This effect connects an overdrive and a chorus in series.



Drive
Adjust the degree of overdrive distortion. The volume will change together with the degree of distortion.

Pan (Output pan)
Adjust the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.

Pre Dly (Pre delay time)
Adjust the time delay from when the direct sound begins until the chorus sound is heard.

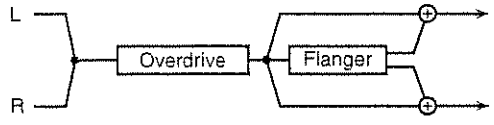
Rate
Adjust the modulation speed of the chorus effect.

Depth
Adjust the modulation depth of the chorus effect.

Balance (Chorus balance)
Adjust the volume balance between the overdrive sound that is sent through the chorus and the overdrive sound that is not sent through the chorus. With a setting of "D100: 0E," only the overdrive sound will be output. With a setting of "D0: 100E," only the overdrive sound that is sent through the chorus will be output.

Level (Output level)
Adjust the output level.

27: OVERDRIVE→FLANGER
This effect connects an overdrive and a flanger in series.



Drive
Adjust the degree of overdrive distortion. The volume will change together with the degree of distortion.

Pan (Output pan)
Adjust the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.

Pre Dly (Pre delay time)
Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Rate
Adjust the modulation speed of the flanger effect.

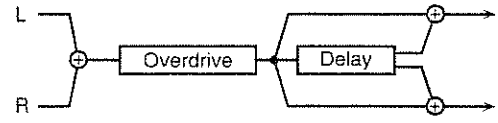
Depth
Adjust the modulation depth of the flanger effect.

Fbk (Feedback level)
Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Balance (Flanger balance)
Adjust the volume balance between the overdrive sound that is sent through the flanger and the overdrive sound that is not sent through the flanger. With a setting of "D100: 0E," only the overdrive sound will be output. With a setting of "D0: 100E," only the overdrive sound that is sent through the flanger will be output.

Level (Output level)
Adjust the output level.

28: OVERDRIVE→DELAY
This effect connects an overdrive and a delay in series.



Drive
Adjust the degree of overdrive distortion. The volume will change together with the degree of distortion.

Pan (Output pan)
Adjust the stereo location of the overdrive sound. L64 is far left, 0 is center, and 63R is far right.

Delay (Delay time)
Adjust the time delay from when the direct sound begins until the delay sound is heard.

Fbk (Feedback level)
Adjust the proportion (%) of the delay sound that is fed back into the effect. Negative (-) settings will invert the phase.

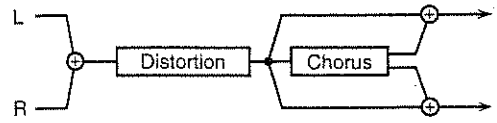
HF Damp
Adjust the frequency above which delayed sound fed back to the effect will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Balance (Delay balance)
Adjust the volume balance between the overdrive sound that is sent through the delay and the overdrive sound that is not sent through the delay. With a setting of "D100: 0E," only the overdrive sound will be output. With a setting of "D0: 100E," only the overdrive sound that is sent through the delay will be output.

Level (Output level)
Adjust the output level.

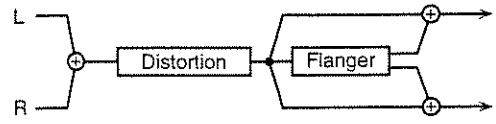
29: DISTORTION→CHORUS

This effect connects a distortion and a chorus in series. The parameters are the same as for "26: OVERDRIVE→CHORUS."



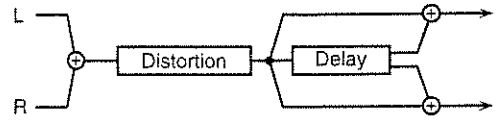
30: DISTORTION→FLANGER

This effect connects a distortion and a flanger in series. The parameters are the same as for "27: OVERDRIVE→FLANGER."



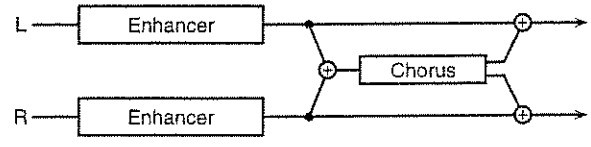
31: DISTORTION→DELAY

This effect connects a distortion and a delay in series. The parameters are the same as for "28: OVERDRIVE→DELAY."



32: ENHANCER→CHORUS

This effect connects an enhancer and a chorus in series.



Sens

Adjust the sensitivity of the enhancer.

Mix (Mix level)

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Pre Dly (Pre delay time)

Adjust the time delay from when the direct sound begins until the chorus sound is heard.

Rate

Adjust the modulation speed of the chorus effect.

Depth

Adjust the modulation depth of the chorus effect.

Balance (Chorus balance)

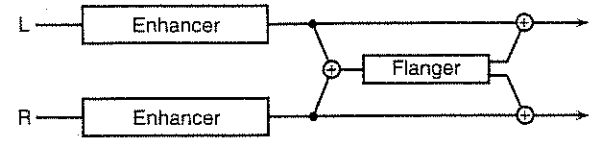
Adjust the volume balance between the enhancer sound that is sent through the chorus and the enhancer sound that is not sent through the chorus. With a setting of "D100: 0E," only the enhancer sound will be output. With a setting of "D0: 100E," only the enhancer sound that is sent through the chorus will be output.

Level (Output level)

Adjust the output level.

33: ENHANCER→FLANGER

This effect connects an enhancer and a flanger in series.



Sens

Adjust the sensitivity of the enhancer.

Mix (Mix level)

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Pre Dly (Pre delay time)

Adjust the time delay from when the direct sound begins until the flanger sound is heard.

Rate

Adjust the modulation speed of the flanger effect.

Depth

Adjust the modulation depth of the flanger effect.

Fbk (Feedback level)

Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Balance (Flanger balance)

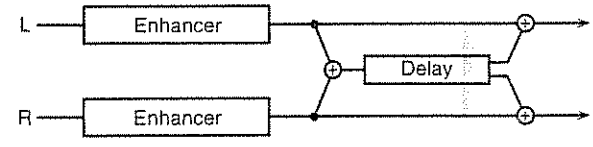
Adjust the volume balance between the enhancer sound that is sent through the flanger and the enhancer sound that is not sent through the flanger. With a setting of "D100: 0E," only the enhancer sound will be output. With a setting of "D0: 100E," only the enhancer sound that is sent through the flanger will be output.

Level (Output level)

Adjust the output level.

34: ENHANCER→DELAY

This effect connects an enhancer and a delay in series.



Sens

Adjust the sensitivity of the enhancer.

Mix (Mix level)

Adjust the ratio with which the overtones generated by the enhancer are combined with the direct sound.

Delay (Delay time)

Adjust the time delay from when the direct sound begins until the delay sound is heard.

Fbk (Feedback level)

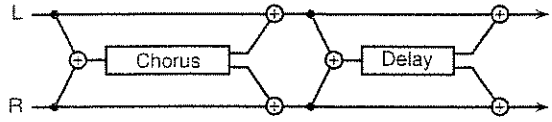
Adjust the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.

HF Damp
Adjust the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the delay feedback, set this parameter to BYPASS.

Balance (Delay balance)
Adjust the volume balance between the enhancer sound that is sent through the delay and the enhancer sound that is not sent through the delay. With a setting of "D100: 0E," only the enhancer sound will be output. With a setting of "D0: 100E," only the enhancer sound that is sent through the delay will be output.

Level (Output level)
Adjust the output level.

35: CHORUS→DELAY
This effect connects a chorus and a delay unit in series.



Cho Dly (Chorus pre delay time)
Adjust the time delay from when the direct sound begins until the chorus sound is heard.

ChoRate (Chorus rate)
Adjust the modulation speed of the chorus effect.

Cho Dpt (Chorus depth)
Adjust the modulation depth of the chorus effect.

Cho Bal (Chorus balance)
Adjust the volume balance between the direct sound and the chorus sound. With a setting of "D100: 0E," only the direct sound will be output. With a setting of "D0: 100E," only the chorus sound will be output.

Delay (Delay time)
Adjust the time delay from when the direct sound begins until the delay sound is heard.

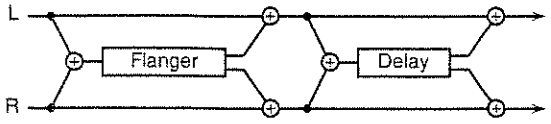
Dly Fbk (Delay feedback level)
Adjust the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.

HF Damp
Adjust the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the feedback, set this parameter to BYPASS.

Delay Balance
Adjust the volume balance between the chorus sound that is sent through the delay and the chorus sound that is not sent through the delay. With a setting of "D100: 0E," only the chorus sound will be output. With a setting of "D0: 100E," only the chorus sound that is sent through the delay will be output.

Level (Output level)
Adjust the output level.

36: FLANGER→DELAY
This effect connects a flanger and a delay in series.



Flg Dly (Flanger pre delay time)
Adjust the time delay from when the direct sound begins until the flanger sound is heard.

FlgRate (Flanger rate)
Adjust the modulation speed of the flanger effect.

Flg Dpt (Flanger depth)
Adjust the modulation depth of the flanger effect.

Flg Fbk (Flanger feedback level)
Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

Flg Bal (Flanger balance)
Adjust the volume balance between the direct sound and the flanger sound. With a setting of "D100: 0E," only the direct sound will be output. With a setting of "D0: 100E," only the flanger sound will be output.

Delay (Delay time)
Adjust the time delay from when the direct sound begins until the delay sound is heard.

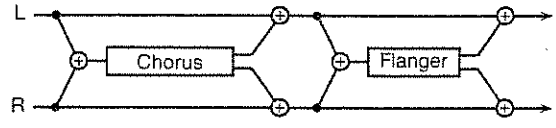
Dly Fbk (Delay feedback level)
Adjust the proportion (%) of the delay sound that is fed back into the delay input. Negative (-) settings will invert the phase.

HF Damp
Adjust the frequency above which delayed sound fed back to the delay input will be cut. If you do not want to cut the high frequencies of the delay feedback, set this parameter to BYPASS.

Delay Balance
Adjust the volume balance between the flanger sound that is sent through the delay and the flanger sound that is not sent through the delay. With a setting of "D100: 0E," only the flanger sound will be output. With a setting of "D0: 100E," only the flanger sound that is sent through the delay will be output.

Level (Output level)
Adjust the output level.

37: CHORUS→FLANGER
This effect connects a chorus and a flanger in series.



Cho Dly (Chorus pre delay time)
Adjust the time delay from when the direct sound begins until the chorus sound is heard.

ChoRate (Chorus rate)
Adjust the modulation speed of the chorus effect.

Cho Dpt (Chorus depth)
Adjust the modulation depth of the chorus effect.

Cho Bal (Chorus balance)
Adjust the volume balance between the direct sound and the chorus sound. With a setting of "D100: 0E," only the direct sound will be output. With a setting of "D0: 100E," only the chorus sound will be output.

Flg Dly (Flanger pre delay time)
Adjust the time delay from when the direct sound begins until the flanger sound is heard.

FlgRate (Flanger rate)
Adjust the modulation speed of the flanger effect.

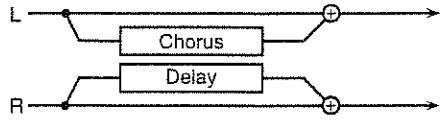
Flg Dpt (Flanger depth)
Adjust the modulation depth of the flanger effect.

Flg Fbk (Flanger feedback level)
Adjust the proportion (%) of the flanger sound that is fed back into the effect. Negative (-) settings will invert the phase.

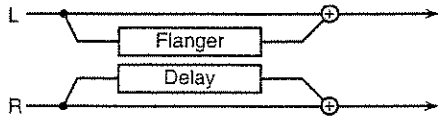
Flanger balance
Adjust the volume balance between the chorus sound and the chorus sound that is passed through the flanger. With a setting of "D100: 0E," only the chorus sound will be output. With a setting of "D0: 100E," only the chorus sound that passes through the flanger will be output.

Level (Output level)
Adjust the output level.

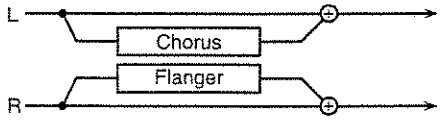
38: CHORUS/DELAY
This effect connects a chorus and a delay in parallel. The parameters are the same as for "35: CHORUS→DELAY." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the delay sound.

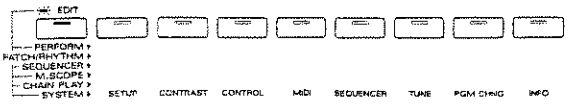


39: FLANGER/DELAY
This effect connects a flanger and a delay in parallel. The parameters are the same as for "36: FLANGER→DELAY." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the delay sound.



40: CHORUS/FLANGER
This effect connects a chorus and a flanger in parallel. The parameters are the same as for "37: CHORUS→FLANGER." However, the Delay Balance parameter adjusts the volume balance between the direct sound and the flanger sound.





SETUP group

SYSTEM SETUP

Patch Remain (Patch remain switch)

If you want currently-sounding notes to be turned off when a new Patch (Rhythm Set) is selected, set this parameter OFF.

Power Up Mode

Select the condition that the XP-50 will be in when the power is turned on.

LAST-SET: The XP-50 will be in the condition it was in when power was last turned off.

DEFAULT: The XP-50 will be ready to play Patch "USER:001."

CONTRAST group

CONTRAST (LCD contrast)

LCD Contrast

Adjust the contrast (brightness) of the display.

CONTROL group

These parameters determine how the controllers will work.

KEYBOARD

Transpose (Transpose switch/value)

If you wish to transpose the range of the keyboard, turn this switch ON and set the desired amount of transposition (in semitone steps).

* ***The transposed note name will be shown in the lower right of the Performance / Patch / Rhythm Set play display.***
* ***To turn the switch on/off while you are in a play display, hold down the SHIFT button and press the RPS button.***
* ***To modify the value while you are in a play display, hold down the SHIFT button and use the +OCT/-OCT buttons.***

Sens (Keyboard sensitivity)

Select the keyboard sensitivity.

LIGHT: light

MEDIUM: normal

HEAVY: heavy

Vel (Keyboard velocity)

Specify the velocity value that will be transmitted when you play the keyboard. If you want the actual keyboard velocity to be transmitted, set this to REAL. If you want a fixed velocity value to be transmitted regardless of how you play, specify the desired value.

After (Aftertouch sens)

Specify the Aftertouch sensitivity. Higher values will allow Aftertouch to be applied more easily. Normally you should leave this set to 100.

PEDAL 1/2 ASSIGN

Assign the function of the pedals connected to the PEDAL 1 and PEDAL 2 jacks.

Assign (Pedal 1/2 assign)

Select the function controlled by the pedal.

CC00—95: A MIDI controller number 0—95 (except for 0, 32, 6 and 38)

BEND: Pitch bend

AFTERTOUCH: Aftertouch

PROG-UP: Each time the pedal is pressed, the next Performance number or Patch number will be selected.

PROG-DOWN: Each time the pedal is pressed, the previous Performance number or Patch number will be selected.

START/STOP: Each time the pedal is pressed, the sequencer will alternate between playback and stop.

PUNCH-I/O: Each time the pedal is pressed, the sequencer will alternate between starting and stopping manual punch in recording.

TAP-TEMPO: Tap Tempo (you specify a tempo by the interval at which you press the pedal).

Output (Pedal 1/2 output)

Select the sound source(s) (the internal sound source and/or external sound sources connected to MIDI OUT connector) which will be controlled by the pedals.

OFF: Neither will be controlled.

INT: Only the internal sound source will be controlled.

MIDI: Only external sound sources will be controlled.

BOTH: Both the internal sound source and external sound sources will be controlled.

Polarity (Pedal 1/2 polarity)

This parameter switches the polarity of the pedals. On some pedals, the electrical signal output by the pedal when it is pressed or released is the opposite of other pedals. If your pedal has an effect opposite of what you expect, set this parameter to REVERSE. If you are using a Roland pedal (that has no polarity switch), set this parameter to STANDARD.

C1/2 ASSIGN (C1/2 slider assign)

These parameters set the functions controlled by the C1 and C2 sliders.

Assign (C1/2 slider assign)

Select the function controlled by each slider.

CC00—95: A MIDI controller number 0—95 (except for 0, 32, 6 and 38)

BEND: Pitch bend

AFTERTOUCH: Aftertouch

Output (C1/C2 slider output)

Select the sound source(s) (the internal sound source and/or external sound sources connected to MIDI OUT connector) which will be controlled by the sliders.

OFF: Neither will be controlled.

INT: Only the internal sound source will be controlled.

MIDI: Only external sound sources will be controlled.

BOTH: Both the internal sound source and external sound sources will be controlled.

HOLD PEDAL

Set the function of the pedal connected to the HOLD PEDAL jack.

Output (Pedal output)

Select the sound source(s) (the internal sound source and/or external sound sources connected to MIDI OUT connector) which will be controlled by the pedal.

OFF: Neither will be controlled.
INT: Only the internal sound source will be controlled.
MIDI: Only external sound sources will be controlled.
BOTH: Both the internal sound source and external sound sources will be controlled.

Polarity (Pedal polarity)

This parameter switches the polarity of the Hold pedal. On some pedals, the electrical signal output by the pedal when it is pressed or released is the opposite of other pedals. If your pedal has an effect opposite of what you expect, set this parameter to REVERSE. If you are using a Roland pedal (that has no polarity switch), set this parameter to STANDARD.

SYS-CTRL ASSIGN (System control assign)

Control 1/2 (System control assign 1/2)

These settings allow you to choose two controllers for common use when controlling the parameters of a Patch or Performance. The settings in each Patch (or Performance) will determine whether the two controllers you choose here will actually be used. You will also need to specify for each Patch (or Performance) the parameters that will be controlled.

CC00—95: A MIDI controller number 0—95 (except for 0, 32, 6 and 38)
BEND: Pitch bend
AFTERTOUCH: Aftertouch

* ***To use the selected controllers, you need to make System settings and Patch/Performance settings so that the MIDI messages transmitted by the selected controllers will be received.***

* ***For many control change messages, the function performed by each number is defined in the MIDI specification. These settings allow you to use control change messages without regard to their officially defined function, so please be aware of what you are doing.***

CONTROL SOURCE

Select the type of MIDI message that will be used to control each of the following functions.

Hold (Hold control source)

Select the type of pedal message that will be used to hold the current parameter values.

OFF: not used
HOLD-1: Hold 1 (controller number 64)
SOST: Sostenuto (controller number 66)
SOFT: Soft pedal (controller number 67)
HOLD-2: Hold 2 (controller number 69)

Peak (Peak control source)

Select the type of pedal message that will used to hold the highest received parameter values.

OFF: not used
HOLD-1: Hold 1 (controller number 64)
SOST: Sostenuto (controller number 66)
SOFT: Soft pedal (controller number 67)
HOLD-2: Hold 2 (controller number 69)

Volume (Volume control source)

Specify whether or not Expression messages (controller number 11) will affect the volume of a Patch or Part as well as Volume messages (controller number 7).

VOLUME: Only Volume messages and not Expression messages will affect the volume.
VOL&EXP: Both Volume messages and Expression messages will affect the volume.

Aftertouch (Aftertouch control source)

Specify the type(s) of aftertouch message that will affect the internal sound source.

CHANNEL: Channel pressure (the aftertouch that applies equally to all keys)
POLY: Polyphonic key pressure (the aftertouch that applies independently to each key)
CH&POLY: Channel pressure and Polyphonic key pressure

* ***The XP-50's keyboard is not able to transmit Polyphonic Key Pressure messages.***

MIDI group

These parameters determine MIDI channel settings and how exclusive data is handled.

* ***The first display of the MIDI group will be different depending on the mode you were in when you pressed the SYSTEM button (Patch mode / Performance mode / GM mode).***

PERFORM MIDI (Performance MIDI)

Make MIDI settings for Performance mode. To make these settings, press the SYSTEM button when you are in Performance mode, and then press the MIDI button located in the row of function buttons.

Control Channel (Performance control channel)

Select the receive channel used for selecting Performances via MIDI (Program Change and Bank Select messages). If you do not wish to use MIDI messages to select Performances, turn this OFF. If you set this to the same channel as the receive channel of a Part, Performance selection will take priority and it will not be possible to select Patches on that Part via MIDI.

* ***The MIDI Receive Channel of each Part is set independently for each Performance.***

Local (Local switch)

Specify whether or not the controller section will be connected to the internal sound source (all Parts). Normally you will leave this ON, but if you wish to use the XP-50's keyboard and controllers to control only external sound sources, turn this OFF.

* ***If you want the keyboard controller section to be disconnected only from a specific Part or Parts, use the Local parameter (PERFORM: MIDI: MIDI).***

Remote (Remote keyboard switch)

Turn this parameter on when you want to use an external MIDI keyboard in place of the XP-50's keyboard. In this case, the transmit channel of the external MIDI keyboard can be set to any channel. Normally you will leave this parameter off.

PATCH MIDI

Make MIDI settings for Patch mode. To make these settings, press the SYSTEM button when you are in Patch mode, and then press the MIDI button located in the row of function buttons.

Rx-Ch (Patch mode receive channel)

Select the channel on which MIDI messages will be received in Patch mode.

Tx-Ch (Patch mode transmit channel)

This parameter selects the transmit channel for MIDI messages in Patch mode. If you do not want to transmit MIDI messages to external MIDI devices, turn this parameter off. If you want the transmit channel to always match the Patch Mode Receive Channel, set this parameter to Rx-Ch.

Local (Local switch)

Specify whether or not the controller section will be connected to the internal sound source (all Parts). Normally you will leave this ON, but if you wish to use the XP-50's keyboard and controllers to control only external sound sources, turn this OFF.

Remote (Remote keyboard switch)

Turn this parameter on when you want to use an external MIDI keyboard in place of the XP-50's keyboard. In this case, the transmit channel of the external MIDI keyboard can be set to any channel. Normally you will leave this parameter off.

GM MODE MIDI

Make MIDI settings for GM mode. To make these settings, press the SYSTEM button when you are in GM mode, and then press the MIDI button located in the row of function buttons.

Local (Local switch)

Specify whether or not the controller section will be connected to the internal sound source (all Parts). Normally you will leave this ON, but if you wish to use the XP-50's keyboard and controllers to control only external sound sources, turn this OFF.

RECEIVE MIDI

Select whether or not to receive MIDI messages to select Patches, Rhythm Sets, or Performances.

Program Change (Receive program change switch)

If you want Program Change messages to be received, turn this ON. If not, turn it OFF.

Bank Select (Receive bank select switch)

If you want Bank Select messages to be received, turn this ON. If not, turn it OFF.

TRANSMIT MIDI

Specify how MIDI messages will be transmitted.

Program (Transmit program change switch)

If you want Program Change messages to be transmitted, turn this ON. If not, turn it OFF.

Bank Sel (Transmit bank select switch)

If you want Bank Select messages to be transmitted, turn this ON. If not, turn it OFF.

Active Sensing (Transmit active sensing switch)

If you want Active Sensing messages to be transmitted, turn this ON. If not, turn it OFF.

SYS-EXC MIDI (Exclusive MIDI)

Specify how Exclusive messages will be transmitted and received.

Unit# (Exclusive unit number)

When you want to transmit or receive Exclusive messages, set this parameter to match the Unit number (device ID number) of the other MIDI device.

Rx.Exc. (Receive exclusive switch)

If you want Exclusive messages to be received, turn this ON. If not, turn it OFF.

Tx.Edit (Transmit edit data switch)

If you want Exclusive messages to be transmitted for each change you make while editing a Patch, Performance, or Rhythm Set, turn this ON. If not, turn it OFF.

Rx.GM (Receive GM exclusive switch)

If you want GM-related Exclusive messages to be received, turn this ON. If not, turn it OFF.

* ***For details on the GM MIDI messages, refer to chapter 10.***

BANK-SEL GROUP (Bank select group)

Each Performance has a Bank Select Group setting (PERFORM: MIDI: TRANSMIT). The Bank Select Group parameter of each Performance specifies how Bank Select messages are transmitted when the Performance is selected.

Here, you can specify the actual Bank Select Number that is transmitted for each of the BS1—7 selections that were made in Performance mode.

Number (Bank select group number)

Select the Bank select group you wish to set. The contents of each BS number are determined by the following settings for Switch, MSB and LSB.

Switch (Back select transmit switch)

If you want the selected Bank select group to transmit its assigned Bank Select number, turn this ON. If you do not want the selected BS number to transmit a Bank Select message, turn this OFF.

MSB (Bank select MSB)

Specify the MSB of the Bank Select number transmitted by the selected BS number.

LSB (Bank select LSB)

Specify the LSB of the Bank Select number transmitted by the selected BS number.

SEQUENCER group (Sequencer-related settings)

Here are the metronome and MIDI settings for the sequencer.

SEQ MODE (Sequencer mode)

Make synchronization and metronome settings for the sequencer.

** The Sync Mode parameter can be set by pressing the SYSTEM button while in Sequencer mode.*

SyncMode (Sync mode)

Select how the XP-50's internal sequencer will operate and transmit/receive MIDI clock messages.

INT: The internal sequencer will operate using the internal tempo clock, and will also transmit MIDI clock messages. If MIDI clock messages are received from an external device they will be ignored.

SLAVE: The internal sequencer will synchronize to external MIDI clock messages. The internal sequencer will not operate when external MIDI clock messages are not being received.

REMOTE: Essentially the same as INT. However Start/Stop messages from an external MIDI device will start/stop playback of the internal sequencer.

SyncOut (Transmit sync message switch)

If you want synchronization-related MIDI messages (Timing Clock, Start, Continue, Stop) to be transmitted, turn this ON. If not, turn it OFF.

Thru (Soft thru switch)

Soft Thru is a function that re-transmits all messages received at MIDI IN connector from MIDI OUT connector without modifying them in any way. Normally you will leave this OFF, but when using an external sequencer you should turn it ON.

Metronome (Metronome mode/level)

When you wish to hear the metronome, turn this ON and set the volume.

** You can also turn the metronome on/off from the front panel by holding down the SHIFT button and pressing the METRONOME button.*

SEQ REC SWITCH (Sequencer recording switch)

Select the types of MIDI messages that the sequencer will record.

** The SEQ REC SWITCH display will appear when you press the SYSTEM button while in Sequencer mode.*

Ch (Record filter channel)

Select the MIDI channels that will be recorded from an external MIDI device. Normally you will set this to ALL (record messages of all MIDI channels). However if you wish to record messages only of a specific MIDI channel, select the desired channel.

PAft (Record filter polyphonic aftertouch)

If you wish to record Polyphonic Aftertouch, turn this ON. If not, turn it OFF.

C.C (Record filter control change)

If you wish to record the MSBs of Control Change messages, turn this ON. If not, turn it OFF.

P.C (Record filter program change)

If you wish to record Program Change messages, turn this ON. If not, turn it OFF.

C.After (Record filter channel aftertouch)

If you wish to record Channel Aftertouch messages, turn this ON. If not, turn it OFF.

Bend (Record filter pitch bend)

If you wish to record Pitch Bend messages, turn this ON. If not, turn it OFF.

Exc (Record filter exclusive)

If you wish to record Exclusive messages, turn this ON. If not, turn it OFF.

MICROSCOPE

** The MICROSCOPE display will appear when you press the SYSTEM button while in Microscope mode.*

Auto Calculate Check Sum (Auto calculate check sum switch)

Roland exclusive messages include a check sum at the end of the data so that the receiving device can check whether the message was received correctly. If you would like the check sum to be calculated automatically when you create or edit an exclusive message in Microscope mode, turn this parameter on.

** Automatic check sum calculation is possible only for Roland type IV exclusive messages, not for exclusive messages of other manufacturers.*

TUNE group

Parameters in this group adjust the tuning of the internal sound source, or change the temperament of the keyboard.

** The SCALE display of TUNE group will be different depending on the mode you were in when you pressed the SYSTEM botton.*

TUNE

Master (Master tune)

This parameter tunes the internal sound source. The displayed value indicates the pitch (frequency) of the A4 key.

Key Shift

Adjust the pitch of the internal sound source in semitone steps.

Scale Tune (Scale tune switch)

Turn this ON when you wish to play a scale other than equal temperament. You can specify one scale for Patch mode and one scale for Performance mode / GM mode. To set the tuning of each note in the scale, use the following SCALE display.

** The selected scale is used even for MIDI messages received from an external MIDI device.*

PATCH SCALE
KEY SCALE

If you wish to define a scale for use in Patch mode, press the SYSTEM button while in Patch mode, and then press the TUNE function button to access the PATCH SCALE display. If you wish to define a scale for use in Performance mode / GM mode, press the SYSTEM button while in Performance mode, and then press the TUNE function button to access the KEY SCALE display. To make settings for another Part, use the cursor buttons to select the desired Part.

Define a scale by specifying how much the pitch will differ from the equal tempered pitch (in steps of 1 cent). In Patch mode there are separate screens for the white keys and black keys, and the settings for one octave (C--G) will determine the tuning for all octaves. In Performance mode / GM mode, you can make settings for each key in each Part.

** One cent is 1/100th of a semitone.*

<Equal temperament (A)>
This temperament divides the octave into 12 equal steps, and is the temperament most frequently used today, especially in western music. When the Scale Tune Switch is OFF, this temperament will be used.

<Just intonation (B)>
The primary triads sound more beautiful in just intonation than in equal temperament. However, this applies only in one key, and chords will be discordant if you play in a different key.

<Arabian-type scale (C)>
Compared with equal temperament, the E and B are half a semitone low, and C#, F# and G# are half a semitone high. This scale has neutral third intervals (intervals between a major third and minor third) between G—B, C—E, F—G#, A#—C#, and D#—F#. On the XP-50, you can use an Arabian-type scale in tonics of G, C and F.

Note	A	B (tonic C)	C
C	0	0	-6
C#	0	-8	+45
D	0	+4	-2
D#	0	+16	-12
E	0	-14	-51
F	0	-2	-8
F#	0	-10	+43
G	0	+2	-4
G#	0	+14	+47
A	0	-16	0
A#	0	+14	-10
B	0	-12	-49

PGM CNG (Program change) group

TRANSMIT P.C (Transmit program change)

When you want to transmit MIDI messages (Program Change and Bank Select) to select sounds on an external MIDI device, make settings in this display and then press the ENTER button.

Channel (Transmit MIDI channel)

Select the channel on which the MIDI message will be transmitted.

P.C# (Transmit program change)

Select the Program Number you wish to transmit.

Bnk-MSB (Transmit bank select MSB)

Select the MSB (control number 0) of the Bank Select number you wish to transmit.

Bnk-LSB (Transmit bank select LSB)

Select the LSB (control number 32) of the Bank Select number you wish to transmit.

INFO (Information) group

INFO EXP (Information expansion board)

This allows you to check the names of the expansion boards installed in each group A—D.

BATTERY CHECK

The XP-50 contains a battery that backs up the data in internal memory. This display allows you to check the battery voltage. If the display indicates OK, there is sufficient battery voltage. If the display indicates LOW, the battery voltage has run down. Contact your nearby Roland service station to have the battery replaced.

Chapter 4. Recording and playing back

Quick Play and Pattern Playback

Playing back a song using Quick Play

The XP-50 is able to directly playback songs from disk without loading them into internal memory. This is called the Quick Play function.

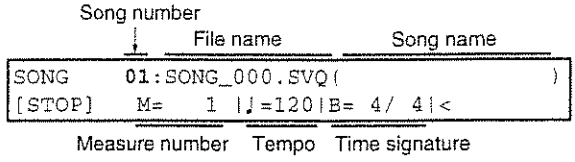
* ***The Quick Play function can be used only with songs that were created on the XP-50 (filename extension .SVQ) and with SMF (Standard MIDI file) data (filename extension .MID).***

* ***A song recorded in internal memory (the internal song) can also be played back using the same procedure as for Quick Play.***

Procedure

1. Insert the disk that contains the song into the disk drive.

2. Press the SEQUENCER button to select the Song Play display.



3. Move the cursor to the song number, and select the number of the Song you wish to playback. Then press the ENTER button.

* ***The song number corresponds to the alphabetical order of the file names. However the song in internal memory (the internal song) is song number 00.***

* ***The song number will not be finalized until you press the ENTER button.***

4. Press the STOP/PLAY button to begin playback.

When the song ends, playback will stop automatically. To interrupt playback, press the STOP/PLAY button.

* ***If you interrupt song playback and wish to return to the beginning of the song, hold down the SHIFT key and press the BWD button. If while playing back a song you wish to interrupt playback and jump to the end of the song, hold down the SHIFT key and press the FWD button.***

* ***There may be a time interval before playback begins if the beginning of the song contains setup data or if the song uses the RPS function.***

* ***If you have interrupted song playback, a "+" may be displayed at the right of the measure number. This indicates that the song is stopped in the middle of a measure.***

Muting part of the playback (1)

If you wish to silence specific instruments during playback, you can mute the appropriate Phrase track.

* ***It is not possible to use this procedure to mute Phrase tracks when Quick Playing a Standard MIDI File. Refer to the section "Muting part of the playback (2)" below.***

Procedure

1. Make sure that the EDIT button indicator is dark.

2. Press the desired TRACK buttons to switch the corresponding Phrase tracks between Playback (indicator lit) or Mute (indicator dark).

To switch settings for a Phrase track 1—8, turn off the 1-8/9-16 button indicator and press the appropriate TRACK button. To switch settings for a Phrase track 9—16, turn on the 1-8/9-16 button indicator and press the appropriate TRACK Button.

Muting part of the playback (2)

If you wish to silence specific instruments during Quick Play of a Standard MIDI File, use the following procedure to turn off the appropriate Part(s).

* ***This setting can be saved as part of the Performance settings.***

Procedure

1. Press the PERFORM button to access the Performance mode Play display.

2. Make sure the EDIT button indicator is dark.

3. Press the RX button to make the button indicator light.

4. Press a PART button to turn the desired Part(s) on (indicator lit) or off (indicator dark).

To turn off a Part 1—8, turn off the 1-8/9-16 button indicator and press the appropriate PART button. To turn off a Part 9—16, turn on the 1-8/9-16 button indicator and press the appropriate PART Button.

Muting the Tempo track

If the song changes tempo during playback, these tempo changes are recorded in the Tempo track. If you want to playback the song without tempo changes, use the following procedure to mute the Tempo track.

Procedure

1. Make sure that the EDIT button indicator is dark.
2. Press the TEMPO/BEAT TRACK button to turn off the indicator.

To cancel muting, press the TEMPO/BEAT TRACK button once again to make the indicator light.

Register songs for playback

If there are other songs that you want to playback in succession, you can reserve up to 3 songs even while the current song is playing.

Procedure

1. Make sure that a song is playing.
2. Move the cursor to the song number, and select the number of a song you wish to register. Then press the ENTER button to finalize the selection.

When you finalize the selection, the registered song numbers will appear in the display in the order you selected them. When the currently-selected song finishes playing back, the registered songs will playback in the order you selected them.

```
SONG     01:SONG_000.SVQ(                )
[PLAY]    M=    1 |♩=120|B= 4/ 4|<00 03 06
                                  ↑  ↑  ↑
                          Reserved 1 | Reserved 3
                              Reserved 2
```

* ***If you wish to cancel a song you registered, press the EXIT button. Each time you press the EXIT Button, the last-registered will be cancelled.***
* ***If you press the STOP/PLAY button instead of the ENTER button, the song currently playing back will stop, and the song you just registered will begin playing back. At this time, the previously-registered songs will be cancelled.***

Change the tempo (1)

When playing back a song, you can use the following procedure to change the tempo. You can even change the tempo during playback.

* ***If the song was recorded on the XP-50, the tempo value with which the song was recorded will be recorded in the beginning of the Tempo track. In other words, this tempo value will be the initial tempo of the song. When you playback the song from the beginning, it will always be played back at the initial tempo. If after modifying the tempo you want to restore the initial tempo, hold down the SHIFT button and press the TEMPO/BEAT TRACK button.***
* ***The tempo can be modified in a range from 1/2 to twice the initial tempo.***

Procedure

1. Make sure that the Song Play display is selected.
2. Move the cursor to ♩=, and use the Alpha-dial, INC/DEC buttons, or numeric keys to modify the tempo.

Change the tempo (2)

You can also use the Tap Tempo function to set the tempo to the rhythm at which you press a pedal.

Procedure

1. Connect a separately sold pedal switch (DP-2, etc.) to the PEDAL 1 or PEDAL 2 jack.
2. Set the Assign parameter (SYSTEM: CONTROL: PEDAL 1/2 ASSIGN) to "102:TAP-TEMPO."
3. Press the pedal three or more times at regular intervals, and the tempo will be set to the interval at which you pressed the pedal.

Playing back a Pattern

In addition to the Phrase tracks, songs also contain a Pattern track. Patterns are a unit of musical data which can be handled separately from Phrase tracks. To playback Patterns, use the following procedure.

* ***It is not possible to Quick Play a Pattern. To playback a Pattern, the song containing that Pattern must be loaded into internal memory.***

Procedure

1. In order to load the song into internal memory, press the DISK/UTILITY button to get the Utility menu display.
2. Move the cursor to "2:LOAD" and press the ENTER button.
3. Move the cursor to "1:SONG" and press the ENTER button.
4. Select a song, and press the ENTER button.

When the song has been loaded, the display will briefly indicate "COMPLETE" and you will then return to the Song play display.

5. Press the PATTERN button to make the button indicator light.

The Pattern Play display will appear.

```
          Pattern number
                ↓      Song name
PATTERN  001(                  )
[STOP]    M=    1 |♩=120|B= 4/ 4|<
```

6. Move the cursor to the Pattern number, and select the Pattern you wish to playback.

* ***It is not possible to select a Pattern while a song is playing back.***

7. Press the STOP/PLAY button to playback the Pattern.

When it finishes playing back, playback will stop automatically. To interrupt Pattern playback, press the STOP/PLAY button.

* ***It is not possible to playback Patterns that contain no data.***

8. When you finish playing back Patterns, press the PATTERN button or the EXIT button to turn off the button indicator and return to the Song Play display.

MIDI Update function

When you move to a different measure number and resume playback, it may sometimes happen that the correct Patches are not selected, or that pitch bend or other controller data has been left "hanging," etc. This is because the data in the intervening measures has not been sent to the internal sound source. In such cases, use the MIDI Update function. The MIDI Update function transmits all data (except for Note data) in the skipped measures to the sound source, ensuring that the sound source is correctly set for playback to resume from the new location.

Procedure

1. Make sure that Song playback is stopped.
2. While holding down the SHIFT button, press the STOP/PLAY button.

While processing is taking place, the display will indicate "MIDI Update!!," and when processing is completed this display will disappear.

Before you begin recording

This section explains various things that you need to understand about recording methods and preparations for recording.

Recording methods

There are two methods of recording; realtime recording and step recording.

Realtime recording

Realtime Recording is the recording method in which your keyboard playing and panel controller movements are recorded just as they occur. When using realtime recording to record a Phrase track or a Pattern of the Pattern track, you can select from the following types of realtime recording.

Replace recording

If the recording destination already contains data, it will be replaced (erased) by the newly recorded data. Normally you will use this method.

Mix recording

If the recording destination already contains data, the newly recorded data will be added to (mixed with) the previous data. By using this method in conjunction with Loop recording, you can repeatedly record over a specified area without erasing the previous data. This is a handy way to build up a phrase of rhythm instruments.

Auto punch-in recording

This method performs Replace recording only in a previously-specified area. This is convenient when you wish to re-record only a specified area.

Manual punch-in recording

This method performs Replace recording only in the area you specify by pressing a pedal switch. This is convenient when you wish to re-record only a specified area.

Step recording

Step recording is the method in which individual notes are input one by one. Use this method when you need to input notes at a precise timing, as when entering percussion or bass parts. This is also the method you will use to assign Patterns for playback (by inputting Pattern Call data into a Phrase track).

< About Patterns >

The Pattern track handles musical data in units called Patterns. The phrases played back by the RPS function are Patterns recorded in the Pattern track. Patterns are normally handled separately from Phrase tracks, but you can assign specific Patterns to be played back by a Phrase track. Such assignments are done in Step recording. In cases such as percussion or bass in which identical phrases are repeated frequently in a song, you can repeatedly assign the appropriate Pattern to a Phrase track to create a song efficiently. In this case, the Phrase track contains only the Pattern numbers (Pattern Call messages) that refer to the desired Pattern, and not the actual data of the Pattern. This means that the same Pattern can be used any number of times with negligible increase in the amount of memory used.

Another way to use Patterns is as scratch-pads to store musical ideas that occur to you.

Select a Performance

Before you record a song, select the Performance you wish to use for recording. When recording an ensemble-type song that will use two or more Patches, select a single-type Performance. If you wish to use only one Patch, you may either select a single-type Performance, or select a Patch in Patch mode.

When recording an ensemble-type song

Each Phrase track can record two or more independent Parts (MIDI channels). This means that by using Mix recording to successively combine the recordings for two or more Parts, you can create an ensemble recording using just 1 Phrase track. However if you record in this way, it will be more complicated if you later need to re-record or modify just part of the song. Normally, it is easiest to record each Part on its own Phrase track, so that Part numbers correspond to Phrase track numbers.

When using a layer-type Performance

"Layer" refers to Performance settings in which two or more Parts sound when you play the keyboard. If you use a layer-type Performance while recording, the recorded data will contain all data necessary to play the parts that are being sounded. If each Part is receiving a different MIDI channel, the recording will contain parallel streams of data that differ only in their MIDI channels. This is a waste of memory. In order to avoid this, select the same MIDI channel (PERFORM: MIDI: MIDI) for all Parts that are to be played simultaneously from the keyboard.

Erasing the song from internal memory (Initialize)

When you record a song, the data is stored in internal memory. If internal memory contains a song you wish to keep, you must save that song to disk.

If internal memory already contains a song when you wish to record a new song, use the following procedure to erase the song from internal memory.

Procedure

1. Press the SEQUENCER button to get the Song Play display.
2. Press the EDIT button to make the button indicator light, and then press the SEQ UTILITY function button.
3. Select the SONG INIT display.
4. Press the ENTER button to erase the song from internal memory.

After the song has been erased, the Song Play display will appear.

Realtime recording

Realtime recording is the recording method in which your keyboard playing and the movements you make with the panel controllers are recorded just as you perform them.

Set the time signature

When recording a new song, use the Micro edit function to input the time signature into the beginning of the Beat track.

* ***The initial value of the time signature is 4/4. If you wish to record your song in 4/4 time, there is no need to use the following procedure to set the time signature. However if you use the following procedure to set another time signature, that setting will be maintained until the power is turned off.***

Procedure

1. Press the SEQUENCER button to get the Song Play display.
2. Move the cursor to the Song Number, and select "00:InternalSong."
3. Press the M.SCOPE button to access the Microscope display.
4. Make sure that the EDIT button indicator is dark, and press the TEMPO/BEAT TRACK button to select the Beat track.

Each time you press the TEMPO/BEAT TRACK button, the selection will cycle between the Tempo track, the Beat track, and the Phrase track.

5. Move the cursor to "Beat," and set the denominator and numerator of the time signature.
6. Press the TEMPO/BEAT TRACK button to return to the Phrase track display.

Record on a Phrase track

Here's how to record your keyboard playing on a Phrase track.

Procedure

1. Press the SEQUENCER button to get the Song Play display.
2. If you wish to continue recording a song that is stored on disk, select that song.
3. Press the REC button.

The Recording Standby display will appear, and the REC button indicator will blink.

the Part used for recording

```
TRACK  1↑MODE=      MIX|Loop=OFF  part= 1
[STBY]  ↓M=   1 |♩=120|B= 4/ 4|CountIn=1
```

If you have selected a song that is stored on disk, the following display will appear. Press the ENTER button to load the song into internal memory.

```
This song is not Internal Song.
Load anyway ?       YES=[ENTER]:NO=[EXIT]
```

* ***To cancel song loading, press the EXIT button.***

4. Use the TRACK buttons to select the recording destination Phrase track.

To record on a Phrase track 1—8, turn off the 1-8/9-16 button indicator and use the TRACK buttons to select the track. To record on a Phrase track 9—16, turn on the 1-8/9-16 button indicator and use the TRACK buttons to select the track.

When you select a Phrase track, the correspondingly-numbered Part will be selected as the Part used for recording.

* ***If you wish to record using a Part of a different number than the number of the Phrase track, use the following procedure to select the Part.***
* ***To interrupt recording, press the EXIT button or the REC button to return to the Song Play display.***

5. Make recording settings (refer to the next section below).
6. If you wish to listen to the metronome while you record, hold down the SHIFT button and press the METRONOME button.

To turn off the metronome sound, hold down the SHIFT button and press the METRONOME button once again.

7. When you complete preparations for recording, begin recording using the selected recording starting method.

When recording begins, the REC button indicator will blink. The first beat will blink red, and other beats will blink green.

8. When you finish recording, press the STOP/PLAY button.

Make settings for recording

In the Recording Standby display you can make various settings related to recording. There are four Recording Standby displays, and you can use the ▲/▼ buttons to move between them.

Main display

```
TRACK  1↑MODE= REPLACE|Loop=OFF  part= 1
[STBY]  ↓M=   1 |♩=120|B= 4/ 4|CountIn=1
```

Mode (Recording mode)

Select the way in which recording will take place.

REPLACE (Replace recording): When you first record a track, you will normally use Replace recording. If the recording destination track already contains data, the newly recorded data will replace (erase) the old data. The data that will be replaced will depend on the settings in the SEQ REC SWITCH display (SYSTEM: SEQUENCER).

MIX (Mix recording): If a track already contains data, the newly recorded data will be mixed (combined) with the previous data.

A.PUNCH (Auto punch-in recording): Using this method of recording, you can playback a song, and Replace Record only in the previously-specified area of the song. To specify the area of the song in which recording will take place, make settings in the Punch Point display. In this case when you start recording, the song will begin playing back. When the previously specified area of the song is reached, recording will begin, allowing you to re-record the data.

M.PUNCH (Manual punch-in recording): Using this method of recording, you can Replace Record only in the area of the song that you specify. In this case when you start recording, the song will begin playing back. When you press the pedal, the sequencer will change from playback mode to recording mode. When you press the pedal once again, the sequencer will change from recording mode back to playback mode. By pressing the pedal you can cycle between playback and recording.

* ***When using manual punch-in recording, you need to connect a separately sold pedal switch (DP-2, etc.) to the PEDAL 1 or PEDAL 2 jack. You also need to set the Assign parameter (SYSTEM: CONTROL: PEDAL 1/2 ASSIGN) to "101: PUNCH-I/O."***

Loop (Loop mode)

If you wish to record repeatedly over a specific area, set the Loop Mode to a setting other than OFF. When this is set to a setting other than OFF, the LOOP button indicator will light, and recording will take place repeatedly over the specified area.

OFF: Loop Recording will not be used.

P: Loop Recording will take place in the area specified by the Loop Position (p.87).

1, 2, 4, 8, 6: Loop Recording will take place from the current measure for the specified number of measures.

ALL: Loop Recording will take place from the beginning to the end of the track.

M= (Measure)

Specify the number of the measure at which recording will begin.

♩= (Tempo)

Specify the tempo. The tempo you set when recording for the first time will be automatically stored in the beginning of the Beat track as the initial tempo of the song. When you playback the song from the beginning, this initial tempo will always be used.

CountIn (Count in)

Specify the way in which recording will begin.

0: Recording will begin immediately when you press the STOP/PLAY button.

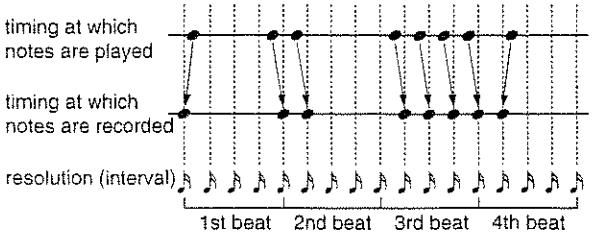
1, 2: When you press the STOP/PLAY button, playback will begin 1 measure (or 2 measures) earlier, and when the starting location is reached, recording will begin.

Wait Note: Recording will begin when you either play a note or press the Hold pedal.

The Quantize display

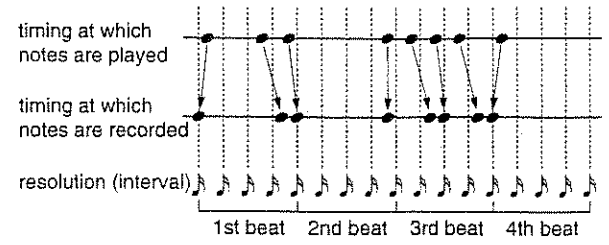
Quantize is a function that adjusts recorded notes to the nearest timing interval of a specified resolution (step). There are two types of quantization. When recording parts such as drums or bass, for which it is important that each note be precisely on the desired beat, use Grid Quantize. If you want your playing to be recorded with a shuffle or swing rhythm, use Shuffle Quantize.

GRID (with settings of Resolution=♪ and Strength=100%)



The timing at which you play the note will be adjusted to the nearest interval of the specified resolution.

SHUFFLE (with settings of Resolution=♪ and Rate=75)



* ***When you use Grid Quantize, the timing of each note in your performance will be precise, but the result may sound somewhat sterile or mechanical. When you want a part to retain the human feel of your playing, use quantization either with a finer resolution, or set the Strength to as low as possible a value.***

* ***Quantize does not adjust the timing of data other than Note messages (Note-on and Note-off). For example if you recorded controller movements along with your keyboard playing, quantization can cause the keyboard playing to no longer be in synchronization with the controller movements. To avoid such problems, data other than Note messages is best recorded later using Mix recording.***

* ***Quantize can also be applied after recording.***

Type (Quantization type)

Select the type of quantization.

OFF: Quantization will not be applied.

GRID: Grid Quantization will be applied.

SHUFFLE: Shuffle Quantization will be applied.

Resolution

Specify the quantization time interval (as a note value). The available note values differ between Grid Quantization and Shuffle Quantization.

Strength (Grid quantize strength)

This parameter is used when Grid Quantization is selected. It specifies how much the notes will be moved (corrected) toward the timing intervals specified by the Resolution parameter. If you want notes to be moved all the way to the nearest unit of the specified Resolution, set a Strength of 100%. As this value is lowered, notes will be moved (corrected) less from their original timing. With a setting of 0%, the note locations will not be changed at all.

Rate (Shuffle quantize rate)

This parameter is used when Shuffle Quantization is selected. It specifies the distance by which an down-beat specified by the Resolution parameter will be separated from the following up-beat. With a setting of 50%, the timing of the up-beat note will be exactly between the down-beat and the following down-beat. With a setting of 0%, the up-beat note will be moved to the same timing as the previous downbeat. With a setting of 100%, it will be moved to the same timing as the following down-beat.

P.IN/OUT display

Here you can set the area in which auto punch-in recording will take place. The Punch In Point parameter sets the location at which recording will begin, and the Punch Out Point parameter sets the location at which recording will end. For both parameters, specify the measure-beat-clock location.

* ***You can also use Locate points to specify the area for recording (p.87).***
* ***If you are not using Auto Punch In Recording, this display will not appear.***

Patch/Part select display

This display is where you select the Patch or Part used for recording. (The display will differ depending on the currently selected mode of the internal sound source.) In Performance mode and GM mode, use the ◀/▶ buttons to select the Part (MIDI channel) to use for recording. If you wish to select another Patch, you can also use the Alpha-dial, INC/DEC buttons or numeric keys.

* ***If you select another Patch in this screen, the Bank Select number and Program number of that Patch will be automatically recorded during recording. However if the Control Channel parameter (SYSTEM: MIDI: PERFORM) has the same setting as the MIDI channel as the specified Part, be aware that this will cause a different Performance to be selected.***

Recording in the Pattern track

To record your playing in a Pattern, press the PATTERN TRACK button to make the indicator light, and then select the desired recording destination Pattern number. The rest of the procedure is the same as when recording a Phrase track. Make time signature settings, and continue with the recording procedure.

* ***Patterns do not have a Beat track, but you can specify a time signature for your reference while recording. Only one time signature can be specified. It is not possible to change time signatures in the middle of a Pattern (as is possible in the middle of a Phrase track).***
* ***Since Patterns do not have a Tempo track, it is not possible to change the tempo in the middle of a Pattern, nor will the tempo setting made when recording be remembered as the initial tempo. When a Pattern is played back, it will always playback at the currently displayed tempo.***

Recording tempo changes

If you want the tempo to change within a song, you can record tempo changes in the Tempo track.

To record tempo changes in the Tempo track, and press the TEMPO/BEAT TRACK button to select the Tempo track. The rest of the procedure is the same as when recording on a Phrase track. However the Tempo track cannot record data other than tempo changes, so the recording standby display will contain only the settings for Measure, Tempo, and Count In.

When recording, you can specify the tempo in the same way as during playback. If you wish to gradually change the tempo, use the Alpha-dial or the INC/DEC buttons.

Deleting unwanted data while you listen to playback (Realtime erase)

The Realtime Erase function allows you to erase unwanted data during Mix recording. For example when using the Loop function to Mix Record rhythm instruments, you can use the Realtime Erase function to erase a specific rhythm instrument.

Procedure

1. During Mix Recording, press the EDIT button to make the indicator light.
2. Press the ERASE function button to get the Realtime Erase display.

```
TRACK  1|Real Time Erase  [REC]:All Data
[ERASE] |M=   1 |♩=100|
```

3. Use the following procedure to erase unwanted data.

To erase all data recorded in the track (except for Pattern Call messages), press the REC button. As long as you continue pressing the REC button, all data recorded in that track will be erased.

To erase notes of a specific key, press that key. As long as you continue pressing the key, all notes of the corresponding note number will be erased.

To erase notes of a specific keyboard area, press the top and bottom keys of the desired area. As long as you continue pressing the keys, all notes in that area will be erased.

* ***If you have selected a specific MIDI channel for the Channel parameter (SYSTEM: SEQUENCER: SEQ REC SWITCH), only the data of that MIDI channel will be erased.***

4. When you finish, press the EXIT button to return to the previous Mix recording mode.

Step recording

Step Recording is the recording method in which notes are input one by one. In step recording you can also assign Patterns to a Phrase track. Other MIDI messages can be entered later using the Micro Edit function.

Select the Part you wish to record

If you will be using a single-type Performance to create an ensemble recording, select the Part you wish to record before you begin recording. If you will be using a layer-type Performance, there is no need to select the Part.

Procedure

1. Press the PERFORM button to select the Performance mode PLAY display.
2. Use the ◀ / ▶ buttons to select the Part.

Input notes into the Phrase track

If you are creating a new song

If you are creating a new song, input the time signature at the beginning of the Beat track, and the initial tempo at the beginning of the Tempo track.

* ***The time signature is initially 4/4. If you wish to record your song in 4/4 there is no need to use the following procedure to set the time signature. However if you use the following procedure to modify the time signature, it will be preserved until the power is turned off.***

Procedure

1. Press the SEQUENCER button to get the Song Play display.
2. Move the cursor to the song number, and select "00:InternalSong."
3. Press the M.SCOPE button to get the Microscope display.
4. Make sure that the EDIT button indicator is dark, and press the TEMPO/BEAT TRACK button to select the Tempo track.

Each time you press the TEMPO/BEAT TRACK button, you will cycle between Tempo track, Beat track, and Phrase tracks.

5. Move the cursor to "Tempo," and input the tempo.
6. Press the TEMPO/BEAT TRACK button to select the Beat track.
7. Move the cursor to "Beat," and set the denominator and numerator of the time signature.
8. Press the TEMPO/BEAT TRACK button to return to the Phrase track display.

Inputting notes

Procedure

1. Make sure that the EDIT button indicator is dark, and use the TRACK buttons to select the recording destination Phrase track.

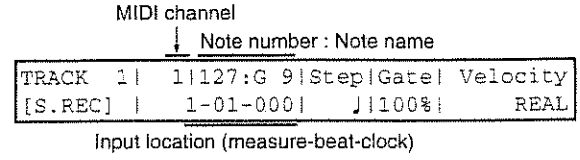
To record on a Phrase track 1—8, turn off the 1-8/9-16 button indicator and use the TRACK buttons to select the track. To record on a Phrase track 9—16, turn on the 1-8/9-16 button indicator and use the TRACK buttons to select the track.

2. Press the REC button to get the Step Recording display.

* ***To cancel recording, press the EXIT button.***

3. As necessary, set the Step Time, Gate Time Ratio, and Velocity (refer to the following explanations).
4. Press the key you wish to input.

When you release the key, the note will be input, and the next note can then be input.



* ***You can modify the displayed values as long as you continue holding the key.***

5. Repeat steps 3 and 4 to input notes.

The Step Time, Gate Time Ratio, and Velocity values of the previously input note will be maintained. If you are satisfied with the existing settings for the next note you wish to input, it is not necessary to change them.

6. When you finish entering notes, press the STOP/PLAY button.

Settings for step recording

When you use Step Recording, make the following setting as necessary for the notes you wish to input.

Step (Step time)

Specify the length of the note (the distance between one Note-on to the next Note-on) as a note value.

Gate (Gate time ratio)

Specify the time from note-on to note-off (gate time) as a percentage of the Step Time. To enter staccato notes, set smaller values. To enter tenuto (legato) notes, set larger values. A value of about 80% is appropriate for normal notes.

Velocity

Specify the force of the sound. If you want to input notes at a fixed velocity regardless of how strongly you press the key, specify the desired value. If you want to specify the velocity of each note by the force with which you actually press the key on the keyboard, set this parameter to "REAL."

Inputting various types of notes

Inputting chords

To input a chord, press all the notes in the desired chord and then release them simultaneously. Since the chord will not be input until all notes have been released, you are free to change the notes in the chord as long as at least one key remains pressed.

* ***When you press two or more notes simultaneously, an asterisk "*" will appear at the left of the MIDI channel. This symbol will also be displayed when you later use Microscope mode to view the chord, to indicate that the current location contains two or more notes.***

Inputting rests

Set the Step Time parameter to the length of the desired rest, and press the REST function button.

Inputting ties

Input the first note of the tie, and then press the TIE function button.

Inputting a whole note

Input a half-note, and press the TIE function button.

Inputting a dotted note

First input an undotted note. Then set the Step Time to half the value of the previously input note, and press the TIE function button.

For example to input a dotted half note, first input a half note. Then set the Step Time to a quarter note, and press the TIE function button.

If you input the wrong data

Press the BWD button, and the data that was entered immediately before will be erased. At this time, the erased note will be sounded for your confirmation.

Inputting notes into a Pattern

Before inputting notes into a new Pattern, first enter the time signature of the Pattern.

* ***Patterns do not have a Beat track, but you can specify a time signature for your reference while recording. Only one time signature can be specified. It is not possible to change time signatures in the middle of a Pattern (as is possible in the middle of a Phrase track).***

* ***Since Patterns are always played back at the current tempo, they do not have an initial tempo setting as the Phrase tracks do.***

Procedure

1. Press the SEQUENCER button to get the Song Play display.
2. Move the cursor to the song number, and select "00:InternalSong."
3. Make sure that the EDIT button indicator is dark.
4. Press the PATTERN TRACK button to make the button indicator light, and select the recording destination Pattern number.
5. Press the M.SCOPE button to get the Microscope display.
6. Press the TEMPO/BEAT TRACK button to select the time signature setting display.
7. Specify the denominator and numerator of the time signature.
8. Press the TEMPO/BEAT TRACK button to return to the Pattern display.
9. Press the REC button to get the Step Recording display.

* ***To cancel recording, press the EXIT button.***

10. The rest of the procedure is the same as when inputting notes into a Phrase track.
11. When you finish inputting notes, press the STOP/PLAY button.

Assigning a Pattern to a Phrase track

If you are creating a new song

If you are creating a new song, input the time signature at the beginning of the Beat track, and the initial tempo at the beginning of the Tempo track.

* ***The time signature is initially 4/4. If you wish to record your song in 4/4 there is no need to use the following procedure to set the time signature. However if you use the following procedure to modify the time signature, it will be preserved until the power is turned off.***

Procedure

1. Press the SEQUENCER button to get the Song Play display.
2. Move the cursor to the song number, and select "00:InternalSong."
3. Press the M.SCOPE button to get the Microscope display.
4. Make sure that the EDIT button indicator is dark, and press the TEMPO/BEAT TRACK button to select the Tempo track.

Each time you press the TEMPO/BEAT TRACK button, you will cycle through the Tempo track, Beat track, and Phrase tracks.

5. Move the cursor to "Tempo" and input the tempo.
6. Press the TEMPO/BEAT TRACK button to select the Beat track.
7. Move the cursor to "Beat" and specify the denominator and numerator of the time signature.
8. Press the TEMPO/BEAT TRACK button to return to the Phrase track display.

Assigning the Pattern

* ***When you assign a Pattern to a Phrase track and play it back, the time signature of the Pattern will be ignored, and the time signature of the Beat track will be used. When assigning a Pattern, select a Pattern whose time signature matches the time signature of the Beat track. If the time signatures are different, the lengths of the measures will not match, and playback may become skewed.***

Procedure

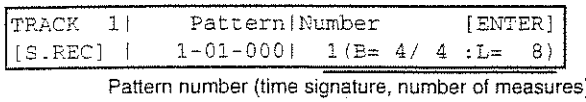
1. Make sure that the EDIT button indicator is dark, and then press a TRACK button to select the recording destination Phrase track.

To record on a Phrase track 1—8, turn off the 1-8/9-16 button indicator and use the TRACK buttons to select the track. To record on a Phrase track 9—16, turn on the 1-8/9-16 button indicator and use the TRACK buttons to select the track.

2. Press the REC button to get the Step Recording display.

* ***To cancel recording, press the EXIT button.***

3. Press the PATTERN TRACK button to make the button indicator light.



Pattern number (time signature, number of measures)

4. Select the Pattern number that you wish to assign to the track, and press the ENTER button.

A Pattern Call message will be input into the Phrase track, and the input location will advance by the number of measures in that Pattern. You may now assign the next Pattern if desired.

5. Use the same procedure to input the Pattern you want to playback next.

* ***If you wish to enter notes after entering a Pattern, press the PATTERN TRACK button to make the button indicator go off, and press keys on the keyboard to enter notes.***

6. When you finish inputting, press the STOP/PLAY button.

If you input the wrong data

Press the BWD button and the Pattern Call message that was just input will be erased.

Chapter 5. Song edit

Track edit

Track edit allows you to apply various operations to specified areas of data.

* ***Track editing cannot be done on a song that is stored on disk. The song must first be loaded into internal memory before track editing can be done.If internal memory already contains another song that you wish to keep, you must first save it to disk.***

Procedure

1. Press the SEQUENCER button to get the Song Play display.

2. Move the cursor to the song number, and select the song you wish to Track Edit.

3. Press the EDIT button to make the button indicator light.

4. Press the TRK EDIT function button.

At this time the TRK EDIT Button indicator will blink, and the editing display will appear.

If you have selected a song on disk for Track Editing, the following display will appear. Press the ENTER button to load the song into internal memory.

```
This Song is not Internal Song.
Load anyway ?      YES=[ENTER]:NO=[EXIT]
```

* ***If you decide not to load the song, press the EXIT button.***

5. Move the cursor to Type, and select the editing function you wish to use. For details on each editing function, refer to "Track edit functions" on the following pages.

* ***When you press the TRK EDIT button, the cursor will move to Type regardless of its previous location.***

6. Make parameter settings.

* ***For details of how to set the Measure parameter, refer to "Specifying the area."***

7. Press the ENTER button to execute the editing function.

* ***The last parameter setting display will include an indication of ENTER, but you can press the ENTER button in any previous display as well to execute the editing function.***

8. Press the EXIT button to return to the Sequencer mode Play display.

Specifying the editing area

The Measure parameter specifies the area that will be affected by the editing operation. You can specify the area using either measure numbers or Locate points.

* ***Of the track editing functions, the setting procedure differs slightly for "3:COPY" and "4:INSERT." For details refer to "Track edit functions."***

Using measure numbers to specify the editing area

The area to be affected by the editing operation can be specified as "from measure 'N' for 'M' measures." For example if you specified "from measure 5 for 6 measures," the edited area would start at the beginning of measure 5 and extend to the end of measure 10.

Procedure

1. Move the cursor to the start measure, and input the measure at which you want to start editing.

```
TRACK   |Type       | Target|    Measure▶
EDIT    |01:ERASE   |TRK ALL|    1for9999
```

Start measure

Measure length

2. Move the cursor to the measure length, and input the number of measures (from the start measure) that you wish to edit.

* ***If you set measure length to ALL, the area for editing will extend from measure 1 to the last measure.***

Using Locate points to specify the editing area

The area to be affected by the editing operation can be specified using Locate points. For example if you specified "from LOC1 to LOC2" (LOC1: LOC2), the editing area would extend until immediately before LOC2. In other words, LOC2 would not be included.

* ***For details on how to set Location points, refer to p.87.***

Procedure

1. Press the LOCATE button to make the button indicator light.

2. Move the cursor to the start position, and enter the Locate number at which you want editing to begin.

Locate position

```
TRACK   |Type       | Target|    1-01-000▶
EDIT    |01:ERASE   |TRK ALL|    LOC0:LOC9
```

Start location

End location

3. Move the cursor to the end location, and specify the Locate number at which you want editing to end.

4. To return to the method of setting the editing area by measure, press the LOCATE Button to turn off the button indicator.

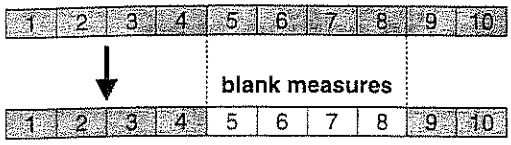
Track editing functions

Track Edit provides 13 types of editing function.

01: ERASE

This function erases portions of song data. Use this function to erase data that you have input by mistake.

Example: If you Erase from measure 5 to measure 8



Target (Target track)

Select the track(s) from which data will be erased.

TRK ALL: All Phrase tracks, the Beat track, and the Tempo track
TRK 1—16: The specified Phrase track
TRK T: The Tempo track
PTN 001—100: The specified Pattern

Measure

Specify the area from which data will be erased.

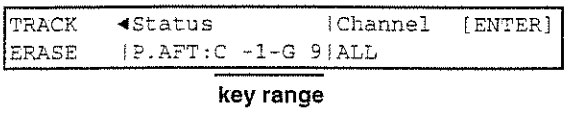
Status (Target status)

Select the MIDI status you wish to erase.

ALL: All of the following types of MIDI message
NOTE: Note On and Note Off
P.AFT: Polyphonic Aftertouch
C.C: Control Change
PROG: Program Change
C.AFT: Channel Aftertouch
BEND: Pitch Bend
EXC: Exclusive
TUNE: Tune Request
PTN: Pattern Call

* ***If the Target parameter is set to TRK T, the Status parameter will not be available.***

* ***For NOTE and P.AFT you can also specify the key range by pressing keys on the XP-50's keyboard.***



Channel (Target channel)

Select the MIDI channel of the data to be erased.

ALL: All MIDI channels
1—16: The specified MIDI channel

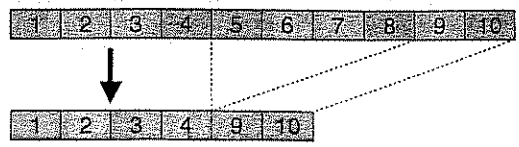
* ***If you set the Target parameter to TRK T, the Channel parameter will not be available.***

* ***If the Status parameter is set to EXC, TUNE, or PTN, the Channel parameter will not be available.***

02: DELETE

This function deletes a portion of the song data, and moves subsequent data up to fill the gap.

Example: If you Delete from measure 5 to measure 8



Measures 5–8 of the original data will disappear, and measures 9 and 10 will be moved forward.

Target (Target track)

Select the track(s) from which data will be deleted.

TRK ALL: All Phrase tracks, the Beat track, and the Tempo track
TRK 1—16: The specified Phrase track
TRK T: The Tempo track
PTN 001—100: The specified Pattern

Measure

Specify the area which will be deleted.

03: COPY

This function copies portions of song data. It is a convenient function to use when you want to repeat the same phrase several times in a song. You can copy Patterns to a Phrase track, or conversely copy data from a Phrase track to a Pattern.

Source (Source track)

Select the copy source track(s).

TRK ALL: All Phrase tracks, the Beat track, and the Tempo track
TRK 1—16: The specified Phrase track
TRK T: The Tempo track
PTN 001—100: The specified Pattern

Dest (Destination track)

Select the copy destination track(s).

TRK ALL: The data of each track will be copied to the same track as the copy source.
TRK 1—16: The specified Phrase track
TRK T: The Tempo track
PTN 001—100: The specified Pattern

* ***If you set the Source parameter to TRK ALL, the Dest parameter can be set either TRK ALL or PTN 001—100. If you select PTN 001—100, the data from the Phrase tracks will be merged as it is copied.***

* ***If you set the Source parameter to TRK T, the Dest parameter will be fixed at TRK T.***

Measure (Measure / Destination measure)

Specify the range of measures from which the data will be copied (Measure), and the measure location in the destination to which the data will be copied (Destination measure).

```
TRACK  ◄          Measure|   Mode|Times►
COPY   |  1for9999→  1|REPLACE|     1
```

Measure Destination measure

** If you want the copy destination to be the last measure, set Destination Measure to END.*

Mode (Copy mode)

MIX: Combine the data from the copy source with the existing data in the copy destination.

REPLACE: If the Ch parameter is set to ALL, all data in the copy destination will be overwritten by the copy source data. If the Ch parameter is set to 1—16, and the copy destination contains MIDI data of the same channels as the copy source, only those channels of data will be overwritten.

Times (Copy times)

Specify the number of times that the data will be copied to the copy destination.

Status (Target status)

Select the MIDI status you wish to copy.

ALL: All of the following types of MIDI message.
NOTE: Note On and Note Off
P.AFT: Polyphonic Aftertouch
C.C: Control Change
PROG: Program Change
C.AFT: Channel Aftertouch
BEND: Pitch Bend
EXC: Exclusive
TUNE: Tune Request
PTN: Pattern Call

** If the Source parameter is set to TRK T, the Status parameter will not be available.*

** For NOTE and P.AFT you can also specify the key range by pressing keys on the XP-50's keyboard.*

Channel (Target channel)

Select the MIDI channel of the data you wish to copy.

ALL: All MIDI channels
1—16: The specified MIDI channel

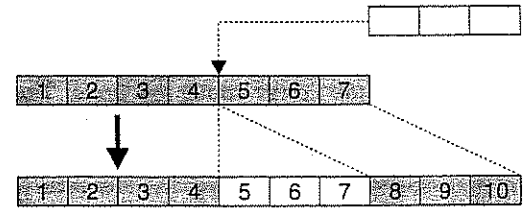
** If the Source parameter is set to TRK T, the Channel parameter will not be available.*

** If the Status parameter is set to EXC, TUNE, or PTN, the Channel parameter will not be available.*

04: INSERT (Insert measure)

This function inserts blank measures into the specified location of a song.

Example: If you Insert 3 blank measures at measure 5



Target (Target track)

Select the track(s) into which blank measures will be inserted.

TRK ALL: All Phrase tracks, the Beat track, and the Tempo track
TRK 1—16: The specified Phrase track
TRK T: The Tempo track
PTN 001—100: The specified Pattern

Measure (Start measure / Insert measure)

Start Measure specifies the location at which measures will be inserted. Insert Measure specifies the number of measures that will be inserted.

```
TRACK   |Type        | Target|     Measure►
EDIT    |04:INSERT   |TRK ALL|     1for9999
```

Start measure
Insert measure

Beat (Insert measure beat)

If you have set the Target parameter to TRK ALL, you also need to specify the time signature of the blank measures that will be inserted. For other settings of Target, the currently specified time signature will be used, and Beat cannot be specified.

05: TRNSPOS (Transpose)

This function transposes the pitch of the Note Number data in a Phrase track or a Pattern, over a range of +/-99 semitones. You can use this function when you wish to transpose instruments or modulate from one key to another in a song.

Target (Target track)

Select the track(s) which will be transposed.

TRK ALL: All Phrase tracks
TRK 1—16: The specified Phrase track
PTN 001—100: The specified Pattern

Measure

Specify the area of measures which will be transposed.

Bias (Transpose bias)

Specify the amount of transposition in semitone steps. With a setting of 0, there will be no transposition.

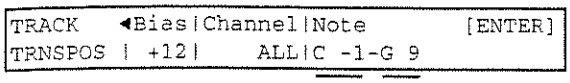
Channel (Target channel)

Specify the MIDI channel(s) to be transposed.

ALL: All MIDI channels
1—16: The specified MIDI channel

Note (Note range)

Specify the range of note numbers that will be transposed. This parameter can also be set by pressing keys on the XP-50's keyboard.



* ***It is not possible to set the Lower above the Upper, nor the Upper below the Lower value. If you attempt to do so, both values will change together.***

06: CHG VEL (Change velocity)

This function modifies the velocity of note data in a Phrase track or a Pattern.

* ***If the conversion would result in a a velocity value of less than 1 (or greater than 127), the value will be limited to 1 (or 127).***

Target (Target track)

Select the track whose velocity data you wish to modify.
TRK ALL: All Phrase tracks
TRK 1—16: The specified Phrase track
PTN 001—100: The specified Pattern

Measure

Specify the area of measures in which velocity data will be modified.

Bias (Velocity bias)

Set this parameter if you wish to add a fixed amount to all velocities. For example if you want a velocity of 70 to be converted to 90, set this parameter to 20.

Magnify (Velocity magnify)

Set this parameter if you wish to increase or decrease variations in velocity. With a setting of 100%, velocity values will not change. Settings greater than 100% will result in greater velocity variation. Settings less than 100% will result in less velocity variation. For example if you want to "compress" velocity variation by 1/2, set this parameter to 50%. If you want to "expand" velocity variation to twice the current variation, set this parameter to 200%. With a setting of 0%, all velocity values will be set to 64.

Ch (Target channel)

Specify the MIDI channel(s) of the data for which velocity will be modified.
ALL: All MIDI channels
1—16: The specified MIDI channel

Note (Note range)

Specify the range of note numbers for which velocity will be modified. This parameter can also be set by pressing keys on the XP-50's keyboard.

* ***It is not possible to set the Lower above the Upper, nor the Upper below the Lower value. If you attempt to do so, both values will change together.***

07: CHG CH (Change MIDI channel)

This function converts data of a specified MIDI channel in a Phrase track or Pattern into a different MIDI channel.

* ***If the selected Phrase track or Pattern already contains data of the same MIDI channel as the channel to which data is being converted, the converted data will be combined with the existing data.***

Target (Target track)

Select the track in which you want to change the MIDI channel of the data.
TRK ALL: All Phrase tracks
TRK 1—16: The specified Phrase track
PTN 1—100: The specified Pattern

Measure

Specify the area of measures in which the MIDI channel will be changed.

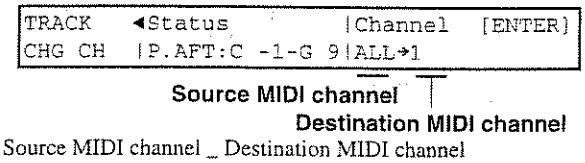
Status (Target status)

Select the MIDI status for which you wish to change the channel.
ALL: All of the following types of MIDI message
NOTE: Note On and Note Off
P.AFT: Polyphonic Aftertouch
C.C: Control Change
PROG: Program Change
C.AFT: Channel Aftertouch
BEND: Pitch Bend

* ***For NOTE and P.AFT you can also specify the key range by pressing keys on the XP-50's keyboard.***

Channel (Source MIDI channel / Destination MIDI channel)

The Source MIDI Channel setting specifies the data whose channel will be converted. The Destination MIDI Channel setting specifies the channel to which the data will be converted.



Source MIDI channel _ Destination MIDI channel
ALL: All MIDI channels
1—16: The specified MIDI channel

* ***It is not possible to select ALL as the Destination MIDI Channel.***

08: CHG GT (Change gate time)

This function modifies the gate time (the time from note-on to note-off) of note messages recorded in a Phrase track or Pattern.

* ***If the conversion would result in a gate time of less than 1 (or greater than 65535), the resulting value will be limited to 1 (or 65535).***

Target (Target track)
Select the track whose gate times you wish to modify.
TRK ALL: All Phrase tracks
TRK 1—16: The specified Phrase track
PTN 001—100: The specified Pattern

Measure
Specify the area of measures in which gate time will be modified.

Bias (Gate time bias)
Set this parameter if you wish to add a fixed amount to all gate times. For example if you want a gate time of 90 to be converted to 60, set this parameter to -30.

Magnify (Gate time magnify)
Set this parameter if you wish to increase or decrease gate times by a specified ratio. With a setting of 100%, there will be no change. Settings greater than 100% will lengthen the gate times, and settings less than 100% will shorten the gate times. For example if you want the gate times to be halved, set this parameter to 50%. If you want the gate times to be doubled, set this parameter to 200%.

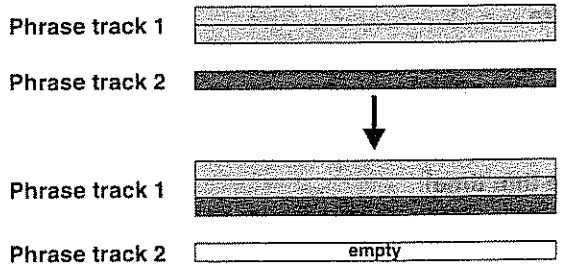
Ch (Target channel)
Specify the MIDI channel(s) of the data for which gate time will be modified.
ALL: All MIDI channels
1—16: The specified MIDI channel

Note (Note range)
Specify the range of note numbers for which gate time will be modified. This parameter can also be set by pressing keys on the XP-50's keyboard.

* ***It is not possible to set the Lower above the Upper, nor the Upper below the Lower value. If you attempt to do so, both values will change together.***

09: MERGE

This function merges (combines) the data of two Phrase tracks into one of the tracks. The data in the other track will be erased. The same function can be applied to Patterns as well.
Example If you Merge Phrase tracks 1 and 2 into track 1



Source (Source track)
Select one of the tracks to be merged. When the operation is completed, this track will be erased.
TRK 1—16: The specified Phrase track
PTN 001—100: The specified Pattern

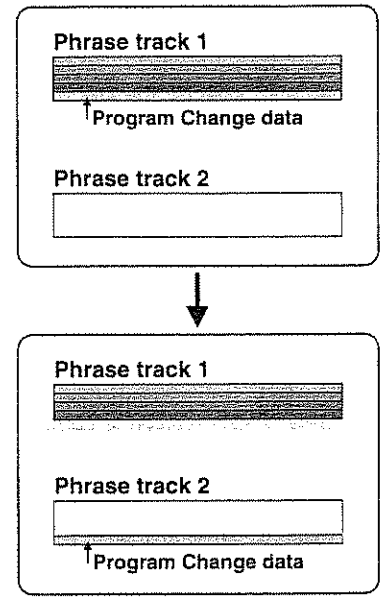
Destination (Destination track)
Select the other track to be merged.
TRK 1—16: The specified Phrase track
PTN 1—100: The specified Pattern

* ***If the two tracks or patterns to be merged contain data of identical MIDI channels, the data will be combined.***

* ***It is not possible to set the Source and Destination parameters to the same setting.***

10: EXTRACT

This function extracts part of the data from a Phrase track or a Pattern, and moves it to the same location in another Phrase track or Pattern.
Example: If you Extract the Program Change data from Phrase track 1 into Phrase track 2



Source (Source track)
Select the track from which data will be extracted.
TRK 1—16: The specified Phrase track
PTN 001—100: The specified Pattern

Destination (Destination track)
Select the track into which the data will be moved.
TRK 1—16: The specified Phrase track
PTN 001—100: The specified Pattern

* ***It is not possible to set the Source and Destination parameters to the same setting.***

Measure
Specify the area of measures from which data will be extracted.

Mode (Extract mode)

MIX: The extracted data will be mixed with the data at the destination.
REPLACE: If the Ch parameter is set to ALL, all of the data at the destination will be replaced by the extracted data. If the Ch parameter is set to 1—16, only the data of the same channel as the extracted data will be replaced, and data of other channels at the destination will remain.

Status (Target status)

Select the MIDI status you wish to extract.
ALL: All of the following types of MIDI message
NOTE: Note On and Note Off
P.AFT: Polyphonic Aftertouch
C.C: Control Change
PROG: Program Change
C.AFT: Channel Aftertouch
BEND: Pitch Bend
EXC: Exclusive
TUNE: Tune Request
PTN: Pattern Call

* ***For NOTE and P.AFT you can also specify the key range by pressing keys on the XP-50's keyboard.***

Channel (Target channel)

Select the MIDI channel(s) of the data to be extracted.
ALL: All MIDI channels
1—16: The specified MIDI channel

* ***If the Status parameter is set to EXC, TUNE, or PTN, the Channel parameter will not be available.***

11: SHIFT (Shift clock)

This function shifts the timing of data backward or forward in time, in steps of 1 clock. Data that would be moved to a point earlier than the beginning of the song when this function is executed will be moved to the beginning of the song. If data would be moved to a point beyond the end of the song, new measures will be created automatically as needed. The time signature of the newly created measures will be the same as the time signature of the measure immediately preceding the new measures.

Target (Target track)

Select the track(s) in which data will be shifted in time.
TRK ALL: All Phrase tracks, the Beat track, and the Tempo track
TRK 1—16: The specified Phrase track
TRK T: The Tempo track
PTN 001—100: The specified Pattern

Measure

Specify the area of measures which will be shifted in time.

Bias (Clock bias)

Specify the number of clocks that the data will be shifted in time.

Status (Target status)

Select the MIDI status which you wish to shift in time.
ALL: All of the following types of MIDI message
NOTE: Note On and Note Off
P.AFT: Polyphonic Aftertouch
C.C: Control Change
PROG: Program Change
C.AFT: Channel Aftertouch
BEND: Pitch Bend
EXC: Exclusive
TUNE: Tune Request
PTN: Pattern Call

* ***If the Target parameter is set to TRK T, the Status parameter will not be available.***

* ***For NOTE and P.AFT you can also specify the key range by pressing keys on the XP-50's keyboard.***

Channel (Target channel)

Specify the MIDI channel(s) of the data which will be shifted in time.
ALL: All MIDI channels
1—16: The specified MIDI channel

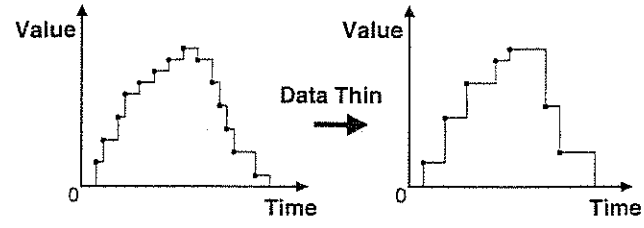
* ***If the Target parameter is set to TRK T, the Channel parameter will not be available.***

* ***If the Status parameter is set to EXC, TUNE, or PTN, the Channel parameter will not be available.***

12: THIN (Data thin)

Continuously variable controllers such as aftertouch, pitch bend, and expression tend to create unexpectedly large amounts of data when operated. The Data Thin function can be used to thin out such data to an extent that will reduce the amount of data, yet not be obtrusive.

* ***The tempo and the way in which the data changes will determine how much data can be thinned out before it becomes noticeable, and it is difficult to give a general rule of thumb. Try various different settings.***



Target (Target track)

Select the track(s) in which data will be thinned.
TRK ALL: All Phrase tracks, the Beat track, and the Tempo track
TRK 1—16: The specified Phrase track
PTN 1—100: The specified Pattern

Measure

Specify the area of measures in which data will be thinned.

V (Data thin value)

Specify how much the data will be thinned. If you are thinning data in which rapid changes occur, use higher settings for this parameter.

T (Data thin time)

Specify the time interval at which the data will be thinned. If you are thinning data that changes gradually, use higher settings for this parameter.

Status (Target status)

Select the MIDI status which will be thinned.
ALL: All of the following types of MIDI message
P.AFT: Polyphonic Aftertouch
C.C: Control Change
C.AFT: Channel Aftertouch
BEND: Pitch Bend

* ***For NOTE and P.AFT you can specify the key range by pressing keys on the XP-50's keyboard.***

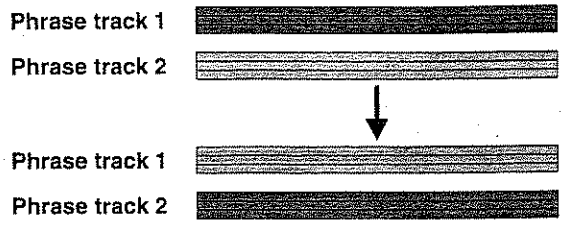
Channel (Target channel)

Specify the MIDI channel(s) of the data which will be thinned.
ALL: All MIDI channels
1—16: The specified MIDI channel

13: XCHANGE (Exchange)

This function exchanges data between two Phrase tracks or Patterns. You may also exchange data between a Phrase track and a Pattern.

Example If you exchange Phrase tracks 1 and 2



Target (Target track)

Select the tracks whose data will be exchanged.

TRK 1—16: The specified Phrase track

PTN 1—100: The specified Pattern

** It is not possible to set both the Target tracks to the same setting.*

Quantization

Realtime Quantization was discussed in chapter 4, but the XP-50 is also able to quantize song data that has already been recorded.
Quantization adjusts only the timing at which notes were pressed and released, and does not affect the timing of other data. This means that depending on the type of data, the timing may become skewed. Non-keyboard data such as bender data is best recorded afterward, using mix recording, etc.
The XP-50 has a preview function that allows you to playback the results of a Quantize operation while you are still setting the parameters (i.e., even before the operation is executed). This will help you to make the most appropriate Quantize settings.

* ***The Quantize function is not able to directly modify song stored on disk. You must first load the song into internal memory, and then apply the Quantize function.***

If internal memory already contains a song that you wish to keep, you must save it to disk beforehand.

Procedure

1. Press the SEQUENCER button to get the Song Play display.
2. Move the cursor to the song number, and select the song you wish to quantize.
3. Press the EDIT button to make the button indicator light.
4. Press the QUANTIZE function button.

At this time, the QUANTIZE Button indicator will blink, and the Quantize display will appear.
If you selected a song that is stored on disk, the following display will appear. Press the ENTER button to load the song into internal memory.

```
This Song is not Internal Song.
Load anyway ?       YES=[ENTER]:NO=[EXIT]
```

* ***If you decide not to load the song, press the EXIT button.***

5. Move the cursor to the Type parameter, and select the type of quantization; "1:GRID," "2:SHUFFLE," or "3:GROOVE."

```
QUANTIZE|Type       |Resolution|Strength▶
        |1:GRID     |          ♪|     100%
```

Type (Type of quantization)

* ***When you press the QUANTIZE button, the cursor will move to the Type parameter regardless of where it previously was.***

6. Make parameter settings.

* ***For details of how to specify the range of measures, refer to "Specifying the editing area" (p.73).***
* ***You can listen to the results of the quantize operation while you are still setting the parameters. For details, refer to "The Preview function" (p.82).***

7. Press the ENTER button to execute the quantize operation.
8. Press the EXIT button to return to the Sequencer mode Play display.

Grid quantize

In the same way as you can during realtime recording, Grid Quantize can also be used on a song that is already recorded. Grid Quantize is a type of quantization that moves notes to (or toward) the nearest interval of the specified note value.

Grid Quantize parameters

Resolution (Grid quantize resolution)

Specify the quantization time interval (as a note value).

Strength (Grid quantize strength)

This parameter specifies how greatly the note timing will be corrected toward the interval you specified for the Resolution parameter. With a setting of 100%, the note will be moved all the way to the nearest timing interval of the Resolution setting. Lower values will cause the note to be moved less further toward the nearest timing interval. With a setting of 0%, the note timing will not be changed at all.

Measure

Specify the range of measures which will be quantized.

Channel (Target channel)

Specify the MIDI channel(s) of the data which will be quantized.
ALL: All MIDI channels
1—16: The specified MIDI channel

Note (Note range)

Specify the range of note numbers which will be quantized. This parameter can also be set by pressing keys on the XP-50's keyboard.

Target (Target track)

Select the Phrase track or Pattern which will be quantized.
TRACK: The specified Phrase track(s)
When TRACK is selected, you can specify for each Phrase track whether or not it will be quantized. A "○" symbol indicates tracks which will be quantized, and an "_" symbol indicates tracks which will not be quantized. To switch the setting of each track, turn off the EDIT button indicator, and press the appropriate TRACK button. To switch a Phrase track 1—8, turn off the 1-8/9-16 button indicator. To switch a Phrase track 9—16, turn on the 1-8/9-16 button indicator.

```
QUANTAIZE◀ Target|1    5    9    13[ENTER]
GRID       | TRACK|○○○○ ○○○○ ○○○○ ○○○○
```

* ***If you wish to select all Phrase tracks, hold down the SHIFT button and press the 1-8/9-16 button. To cancel the selection of all tracks, press this button combination once again.***

PTN 001—100: The specified Pattern of the Pattern track

Shuffle quantize

As you can during realtime recording, you can also use Shuffle Quantize on a song that is already recorded. Shuffle Quantize is a type of quantization that gives a "swing" feel to the music.

Shuffle Quantize parameters

Resolution (Shuffle quantize reso lution)

Specify the quantization time interval (as a note value). You can select 8th notes or 16th notes.

Rate (Shuffle quantize rate)

This parameter is for use with Shuffle Quantize. It specifies the distance by which an down-beat specified by the Resolution parameter will be separated from the following up-beat. With a setting of 50%, the timing of the up-beat note will be exactly between the down-beat and the following down-beat. With a setting of 0%, the timing of the up-beat note will be moved to the same timing as the previous down-beat. With a setting of 100%, the timing of the offbeat note will be moved to the same timing as the following down-beat.

Measure

Specify the range of measures which will be quantized.

Channel (Target channel)

Specify the MIDI channel(s) of the data which will be quantized.
ALL: All MIDI channels
1—16: The specified MIDI channel

Note (Note range)

Specify the range of note numbers which will be quantized. This parameter can also be set by pressing keys on the XP-50's keyboard.

Target (Target track)

Select the Phrase track(s) or Pattern whose data will be quantized.
TRACK: The specified Phrase track(s)
When TRACK is selected, you can specify for each Phrase track whether or not it will be quantized. A "O" symbol indicates Phrase tracks which will be quantized, and an "_" symbol indicates tracks which will not be quantized. To switch the setting of each track, turn off the EDIT button indicator, and press the corresponding TRACK button. To select a Phrase track 1—8, turn off the 1-8/9-16 button indicator. To select a Phrase track 9—16, turn on the 1-8/9-16 button indicator.

** If you wish to select all Phrase tracks, hold down the SHIFT button and press the 1-8/9-16 button. To cancel the selection of all tracks, press this button combination once again.*

PTN 001—100: The specified Pattern

Groove quantize

The XP-50 provides 90 types of quantize template. These templates contain various types of quantize settings, allowing you to apply various types of rhythmic "feel" to your song.

** The templates are for a 4/4 time signature. They will not produce the desired results on data of other time signatures.*

Groove Quantize parameters

Template (Groove quantize template)

Specify the number of the template you wish to use.

** For details on the settings of each template, refer to the Groove Quantize Template List (p.128).*

Mode (Groove quantize mode)

CLOCK: Use only the note message timings of the template
CLK&VEL: Use the note message timings and velocities of the template

Measure

Specify the range of measures which will be quantized.

Channel (Target channel)

Specify the MIDI channel(s) of the data which will be quantized.
ALL: All MIDI channels
1—16: The specified MIDI channel

Note (Note range)

Specify the range of note numbers which will be quantized. This parameter can also be set by pressing keys on the XP-50's keyboard.

Target (Target track)

Select the track(s) or Pattern whose data will be quantized.
TRACK: The specified Phrase track(s)
If TRACK is selected, you can specify for each Phrase track whether or not it will be quantized. A "O" symbol indicates tracks which will be quantized, and an "_" symbol indicates tracks which will not be quantized. To switch the setting of each track, turn off the EDIT button indicator, and press the corresponding TRACK button. To select a Phrase track 1—8, turn off the 1-8/9-16 button indicator. To select a Phrase track 9—16, turn on the 1-8/9-16 button indicator.

** If you wish to select all Phrase tracks, hold down the SHIFT button and press the 1-8/9-16 button. To cancel the selection of all tracks, press this button combination once again.*

PTN 001—100: The specified Pattern

< The Preview function >

The Preview function allows you to hear the results of the Quantize operation while you are still making parameter settings; i.e., before you execute the operation.

* ***It is not possible to audition Patterns which are assigned to a track.***

Procedure

1. Make sure that you are making quantize parameter settings.

2. Press the STOP/PLAY button.

If you have selected Grid Quantize or Shuffle Quantize, the two measures starting with the current measure will playback repeatedly. If you have selected Groove Quantize, four measures will playback repeatedly.

3. You can modify parameter settings while listening to the preview playback, and the playback will change to use the new settings.

The following parameters can be modified while using the Preview function.

Grid Quantize: the Resolution and Strength parameters
Shuffle Quantize: the Resolution and Rate parameters
Groove Quantize: the Template and Mode parameters

4. Press the STOP/PLAY button once again, and playback will stop.

* ***While making quantize parameter settings, you can also press the SHIFT + STOP/PLAY button to playback in the normal way. However unlike when using the Preview function, modifying the parameters in this case will have no effect on the playback.***

The type of editing in which you modify individual messages of the recorded data is called Microscope editing.

** It is not possible to directly do Microscope editing on a song that is stored on disk. The song must first be loaded into internal memory before you can Microscope edit it.If a different song that you wish to keep is already in internal memory, be sure to save it before you begin.*

Viewing the recorded messages

Procedure

1. Press the SEQUENCER button to get the Song Play display.

2. Move the cursor to the song number, and select the song you wish to Microscope edit.

3. Press the M.SCOPE button to get the Microscope display.

If you have selected a song that is stored on disk, the following display will appear. Press the ENTER button to load the song into internal memory.

```
This Song is not Internal Song.
Load anyway ?       YES=[ENTER]:NO=[EXIT]
```

** If you decide not to load the song, press the EXIT button.*

4. Select the track you wish to view.

First press the EDIT button to turn off the indicator.

If you wish to select a Phrase track 1—8, turn off the 1-8/9-16 button indicator and press the appropriate TRACK button. To select a Phrase track 9—16, turn on the 1-8/9-16 button indicator and press the appropriate TRACK button.

To select a Pattern from the Pattern track, press the PATTERN TRACK button and input the Pattern number. To select the Tempo track or Beat track, press the TEMPO/BEAT TRACK Button. Each time you press the TEMPO/BEAT TRACK Button, you will cycle between the Tempo track, the Beat track, and the Phrase tracks.

5. Use the ▲ / ▼ buttons to successively view the messages.

symbol indicates that other MIDI messages exist at the same location

message **parameters**

```
TRACK  1|* Note(G 9)|Ch|Note|OnVel|Gate►
M.SCOPE ↓   1-01-000| 1| 127|  127|65535
```

location (measure-beat-clock)

** When the cursor has been moved to the Clock position, you can also move through the messages by rotating the Alpha-dial or by pressing the INC/DEC buttons.*

** If you wish to move through the displayed messages in steps of a measure, move the cursor to the measure (or beat), and rotate the Alpha-dial or press the INC/DEC buttons. You can also move in steps of a measure by pressing the BWD/FWD buttons.*

** If you want to display a clock position which does not contain a message, move the cursor to the clock, and use the numeric keys to specify the location.*

Selecting the types of message for viewing

You can select the types of message that will appear in the display. By setting the display to show only the type of data you are interested in, you can find and modify data more efficiently.

Procedure

1. Make the EDIT button indicator light.

2. Press the VIEW function button. At this time the VIEW button indicator will blink, and the View Filter display will appear.

3. Turn on the types of message you wish to view.

Set the Channel parameter to select the MIDI channels you wish to view. If this is set to ALL, messages of all MIDI channels will be displayed. If this is set to 1—16, only messages of the specified MIDI channel will be displayed. Viewing can be turned on/off for the following types of message.

Note (Note On and Note Off)
P.Aft (Polyphonic Aftertouch)
C.C (Control Change)
Prog (Program Change)
C.Aft (Channel Aftertouch)
P.Bend (Pitch Bend)
Exclusive
Pattern (Pattern Call)

4. Press the EXIT button to return to the Microscope display.

Modifying the parameters of messages recorded in a Phrase track or Pattern

In a Phrase track or Pattern, you can modify the parameters of the following 9 types of message. However it is not possible to change the type of the message itself, such as changing a Control Change message into a Pitch Bend message.

Note
Ch (MIDI channel)
Note (Note number)
OnVel (Note on velocity)
Gate (Gate time)
Off Velocity (Note off velocity)

P.Aft (Polyphonic Aftertouch)
Ch (MIDI channel)
Note (Note number)
Value

CtrlChange (Control change)
Ch (MIDI channel)
CC# (Controller number)
Value

ProgChange (Program change)
Ch (MIDI channel)
PC# (Program change number)

Ch After (Channel aftertouch)
Ch (MIDI channel)
Value

Pitch Bend
Ch (MIDI channel)
Value

Exclusive
Exclusive data

Tune (Tune request)

Pattern (Pattern call)
Number (Pattern number)

Modifying messages other than Exclusive messages

Procedure

1. Display the message you wish to modify.

2. Move the cursor to the parameter you wish to modify, and modify the value.

* ***For Note messages and Polyphonic Aftertouch messages, you can also specify the note number by pressing SHIFT + numeric keys or by pressing a note on the XP-50's keyboard.***

* ***The Velocity or Note off velocity of a note can also be specified from the XP-50's keyboard.***

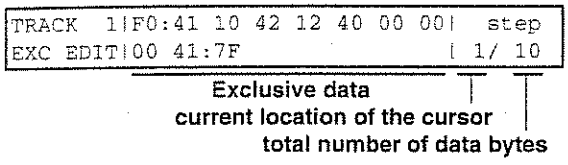
Modifying Exclusive messages

Procedure

1. Display the exclusive message you wish to edit.

2. Move the cursor to the exclusive data you wish to modify.

When you press the ▶ button to move the cursor to the exclusive data, the editing display will appear.



By pressing SHIFT + ◀ / ▶ buttons, you can make the cursor jump to the beginning or end of the exclusive data.

3. Use the numeric keys to enter data values.

To enter A—F, hold the SHIFT button and use numeric keys 0—5.
To insert a new data byte, move the cursor to the desired location, and press the CREATE function button. An initial value of 00 will be inserted, and you can modify this to the desired value.
To delete a data byte, move the cursor to the location of the data to be deleted, and press the ERASE function button.

* ***To cancel exclusive data editing, press the EXIT button.***

4. When you finish modifying the data, press the ENTER button to finalize all the values.

Alternatively, if you press the ◀ button to move the cursor to the Location area (measure-beat-clock), all values will be finalized and you will return to the previous display.

* ***If the Auto Calc Check Sum parameter (SYSTEM: SEQUENCER: MICROSCOPE) is ON, and if the message is a Roland Type IV exclusive message, the XP-50 will automatically calculate the check sum when you finalize all values and return to the previous display.***

Modifying Tempo Change data

The Tempo track contains Tempo Change data that determines the tempo of the song. Here's how to modify this Tempo Change data.

Tempo (Tempo change)
This data specifies the tempo.

Procedure

1. Display the Tempo Change data that you wish to modify.

2. Set the value.

* ***The modified Tempo Change will set the tempo from that location. If you want to speed up or slow down the overall tempo of the entire song, change the playback tempo in the Play display or the Recording display, and then save the song.***

Modifying the parameters of messages recorded in the Beat track

In the Beat track, the parameters of the following two messages can be modified.

BeatChange (Beat change)
Beat
Specify the time signature.

Key Sign (Key signature)
This specifies whether black keys will be displayed as sharps (#) or as flats (♭). Make the setting appropriate to the key of your song.

* ***This setting affects only the display. It has absolutely no effect on input procedures.***

Scale
This specifies the scale.
Key
This specifies the key.

Procedure

1. Display the message whose parameters you wish to modify.

2. Move the cursor to the parameter you wish to modify, and set the value.

Inserting a message

Procedure

1. Display the location (measure-beat-clock) at which you wish to insert a message.

2. Make the EDIT button indicator light, and then press the CREATE function button.
At this time, the CREATE Button indicator will blink.

3. Select the type of message you wish to insert.

** For the types of message that can be inserted, refer to the explanation below.*

4. Press the ENTER button to insert the new message.

5. The inserted message will contain the default data values. Change the data values as desired.

Messages that can be inserted into a Phrase track or Pattern

** You can also use the numeric keys to select the type of data.*

Button	Message
9	NOTE (Note On and Note Off)
SHIFT+0	POLY-AFTER (Polyphonic Aftertouch)
SHIFT+1	CONTROL-CHANGE
SHIFT+2	PROGRAM-CHANGE
SHIFT+3	CHANNEL-AFTER (Channel Aftertouch)
SHIFT+4	PITCH-BEND
SHIFT+6	TUNE (Tune Request)
PATTERN	PATTERN (Pattern Call)
SHIFT+5	EXCLUSIVE (DEFAULT)
-----	EXCLUSIVE (GM ON)
-----	EXCLUSIVE (GM OFF)

** It is not possible to select GM ON and GM OFF messages using the numeric keys.*

< Pattern Call messages >
Pattern Call messages are messages that call Patterns recorded in the XP-50's sequencer. In Microscope edit mode, you can insert a Pattern Call message into a Phrase track so that when playback reaches that point in the song, the corresponding Pattern will start playing back.
This is a convenient way to add (for example) recurring drum fill-ins or guitar riffs to a song.
Phrases that recur frequently in a song (such as drum or bass parts) can be recorded as a Pattern, and called by a Pattern Call message. This allows you to create songs more efficiently, and also is a way of saving memory.

** When using Pattern Call messages to playback Patterns, be aware that each Phrase track is able to playback only 1 Pattern at a time. If two or more Pattern Call messages are placed in the same Phrase track at the same location, only the last Pattern Call message will take effect.*

** If the inserted Pattern extends beyond the last measure of the song, playback will end at the last measure.*

Messages that can be inserted into the Tempo track

In the Tempo track, you can press the CREATE button to insert a Tempo (Tempo change) message.

Messages that can be inserted into the Beat track

BEAT (Beat)
KEY-SIGNATURE (Key signature)

Erasing a message

Procedure

1. Display the message you wish to erase.

2. Make the EDIT button indicator light, and then press the ERASE function button to erase the message.
While erasing a messages, the ERASE Button indicator will blink.

** It is not possible to erase the Tempo Change data located at the beginning of the Tempo track.*

** It is not possible to erase the Beat Change or Key Signature data located at the beginning of the Beat track.*

** It is not possible to erase the Beat data of the pattern.*

Moving a message

Procedure

1. Display the message you wish to move.

2. Make the EDIT button indicator light, and then press the MOVE function button.
At this time the MOVE Button indicator will blink.

3. Input the desired new location of the message.

4. Press the ENTER button to move the data.

** It is not possible to move the Tempo Change data located at the beginning of the Tempo track.*

** It is not possible to move the Beat Change or Key Signature data located at the beginning of the Beat track.*

** It is not possible to move the Beat data of the pattern.*

Copying and placing a message

You can copy a message to a temporary "clipboard" inside the XP-50 and then place it into a desired location as many times as you want. This is convenient when you wish to use the same data several times.

Copying a message

Procedure

1. Display the message you wish to copy.
2. Make the EDIT button indicator light, and then press the COPY function button.

While a message is being copied, the COPY Button indicator will blink.

Placing data

Procedure

1. Display the location where you want to place the previously copied data.
2. Make the EDIT button indicator light, and then press the PLACE function button.

While a message is being placed, the PLACE button indicator will blink.

Chapter 6. Convenient sequencer functions

The Locate function

Locate marks are markers that indicate a position (measure-beat-clock) in the song. They are a convenient way to specify the areas for Auto Punch In recording, the Loop function, or for track editing etc. Eight different Locate points (1--8) can be set for each song. These Locate point positions are saved together with the song data. In addition to this, Locate point 0 is automatically set to the position where recording began, and locate point 9 to the position where recording ended.

* ***In order to use the Locate function, the song must be loaded into internal memory.***
* ***The Locate function can be used only when the display shows a measure number or an indication of position (measure-beat-clock).***

Setting a Locate mark

Procedure

1. At the location where you wish to set a Locate mark, press SHIFT + LOCATE. The current location will be displayed as the Locate position.

```
LOCATE  ↑Locate Number
SET     !LOC1(   1-01-000)←   1-01-000
```

Locate mark number — initial value — Locate position (measure-beat-clock)

* ***If you press the SHIFT + LOCATE buttons during song playback, the location of the song at that time will be the position of the Locate mark.***

2. Input a Locate mark number (1—8).
3. Press the ENTER button to set the Locate mark.

You will return to the previous display.

* ***To cancel, press the EXIT button.***

Jumping to a Locate mark

Procedure

1. Make sure that the sequencer is stopped.
2. Press the LOCATE button to get the following Locate Jump display.

```
LOCATE  !Locate Number
JUMP    ↓LOC1(   1-01-000)
```

Locate mark number — Locate position (measure-beat-clock)

3. Select a Locate mark number, and press the ENTER button.

When you press the ENTER button, you will jump to the location of the specified Locate mark.

* ***It is not possible to jump to a Locate mark during playback or recording.***

Using Locate marks to specify Loop areas or Punch points

Procedure

1. Make sure that the sequencer is stopped.
2. Go to either the Loop Position display or the Punch Point display.
3. Move the cursor to the parameter that you want to set using a Locate mark.
4. Press the LOCATE button to access the Locate Jump display.
5. Select the desired Locate mark number, and press the ENTER button.

The location of the specified Locate mark will be set as the Loop Position or the Punch Point.

The Loop function

The Loop function allows you to repeatedly playback or record a specified section (the Loop area). It is convenient to use the Loop function when realtime-recording a drum part, or when using the Realtime Erase function.

Setting the Loop area

The Loop area can be set independently for each song, and is preserved as part of the data when a song is saved.

* ***In order to make Loop settings for a song, you must load the song into internal memory.***

Procedure

1. Press the SEQUENCER button to access the Song Play display.
2. Move the cursor to the song number, and select the song for which you want to set the Loop area.
3. Press the EDIT button to make the button indicator light.

4. Press the LOOP function button, and the following Loop setting display will appear.

At this time, the LOOP button indicator will blink.

If you have selected a song that is stored on disk, the following display will appear. Press the ENTER button to load the song into internal memory.

```
This Song is not Internal Song.
Load anyway ?       YES=[ENTER]:NO=[EXIT]
```

** If you decide not to load the song, press the EXIT button.*

5. Set the parameters.

** You can also use Locate marks to set the loop area (the Start and End parameters).*

6. Press the EXIT button to return to the song play display.

Loop parameters

Repeat

Specify how the loop will be repeated.

INFINIT: The loop area will be repeated until you press the STOP/PLAY button.

1/2/3: The loop area will be repeated 1/2/3 times.

Start

Specify the location at which the loop will start.

End

Specify the location at which the loop will end.

** It is not possible to change the loop area while a song is playing back.*

Loop playback

Here's how to repeatedly playback the loop area you specified.

Procedure

1. Press the SEQUENCER button to access the Song Play display.
2. Press the LOOP button to make the button indicator light.
3. Press the STOP/PLAY button to start playback.
4. To stop playback, press the STOP/PLAY button once again.

** If you save the song when the LOOP button is turned on, this setting will be stored as part of the song data.*

Loop recording

You can repeatedly record over the specified loop area. For details, refer to the quick start.

Naming a song

You can assign a new name to a song, or modify the existing name. The song name is separate from the file name.

** In order to assign a song name, you must load the song into internal memory.*

Procedure

1. Press the SEQUENCER button.
2. Move the cursor to the song number, and select the song to which you want to assign a song name.
3. Make the EDIT button indicator light.
4. Press the NAME function button.

At this time, the NAME button indicator will blink, and the Song Name display will appear.

If you have selected a song stored on disk, the following display will appear. Press the ENTER button to load the song into internal memory.

```
This Song is not Internal Song.
Load anyway ?       YES=[ENTER]:NO=[EXIT]
```

** If you decide not to load the song, press the EXIT button.*

5. Move the cursor to the location where you want to input a character, and input the desired character.

** Some commercially available SMF data contains a Copyright information. When such SMF data is loaded, the copyright indication will be displayed below the song name, and it will not be possible to modify the song name.*

6. When you finish entering the song name, press the EXIT button to return to the song play display.

Phrase track data and settings

You can check the data contents or modify the assignment settings for each Phrase track.

** In order to view Phrase track information, you must load the song into internal memory.*

Procedure

1. Press the SEQUENCER button to access the Song Play display.
2. Move the cursor to the song number, and select the song containing the Phrase track whose data or settings you want to check or modify.
3. Make the EDIT button indicator light.
4. Press the TRACK function button.

At this time the TRACK button indicator will blink, and a display will appear allowing you to check or modify the Phrase track data.
If you have selected a song that is stored on disk, the following display will appear. Press the ENTER button to load the song into internal memory.

```
This Song is not Internal Song.
Load anyway ?       YES=[ENTER]:NO=[EXIT]
```

** If you decide not to load the song, press the EXIT button.*

5. Turn off the EDIT button indicator, and press a TRACK button to select the Phrase track.

If you wish to select a Phrase track 1—8, turn off the 1-8/9-16 button indicator and press the appropriate TRACK button. To select a Phrase track 9—16, turn on the 1-8/9-16 button indicator and press the appropriate TRACK button.

6. You can check the status of each track, and modify the settings.

** Refer to the explanations below.*

7. Press the EXIT button to return to the song play display.

** It is not possible to monitor track data or change Track Info settings during song playback or recording.*

TRACK INFO (Track information)

Output Assign (Track output assign)

Specify how the data of the selected track will playback.
INT: The data will be transmitted to the XP-50's internal sound source.
MIDI: The data will be transmitted to external MIDI devices via the MIDI OUT connector.
BOTH: The data will be transmitted to both of the above destinations.

Track Status

Specify whether the selected track will be muted (MUTE) or will playback (PLAY).

** If the display indicates EMPTY, the selected track contains no data, and cannot be set to MUTE or PLAY.*

TRACK MONITOR

Here you can check whether the selected Phrase track contains data or not. A "*" symbol indicates that data exists, and a "-" symbol indicates that data does not exist. The following types of data can be monitored.
Ch: MIDI channel 1—16 messages
Ex: System Exclusive messages
Ptn: Pattern Call messages

** If you wish to view information for another track, turn off the EDIT button indicator, and press a TRACK Button to select the track.*

Other functions

In addition to the functions that have been explained, there are also functions that allow you to initialize the internal memory, delete unnecessary data from a song, and calculate the playback time of a song, etc.

** In order to use these functions, you must load the song into internal memory.*

Procedure

1. Press the SEQUENCER button to access the Song Play display.
2. Move the cursor to the song number, and select the song for which you want to execute the function.
3. Make the EDIT button indicator light.
4. Press the SEQ UTILITY function button.

At this time, the SEQ UTILITY button indicator will blink.
If you have selected a song that is stored on disk, the following display will appear. Press the ENTER button to load the song into internal memory.

```
This Song is not Internal Song.
Load anyway ?       YES=[ENTER]:NO=[EXIT]
```

** If you decide not to load the song, press the EXIT button.*

5. Use the ▲ / ▼ buttons to select the display for the function you wish to use.
6. Press the ENTER button to execute the function.

For details on the functions available, refer to the explanations below.

7. Press the EXIT button to return to the song play display.

SONG INIT (Song initialize)

This function initializes the song that is in internal memory. Use this before newly recording a song, etc.

DATA REDUCE

As track editing operations are repeated, internal memory may come to contain more and more data that is no longer related to song playback. This function inspects internal memory, and finds and deletes any such unnecessary data.

TIME FIT

This function calculates the playback time of the song, and allows you to modify Tempo track data so that the song will playback in the specified time.

```
TIME FIT↑     Measure|          Time[ENTER]
          |   1for9999|00°00'00"→00°00'00"
```

Current time Fit time

Measure

Specify the area of measures for which the playback time will be calculated, or for which the Tempo track data will be modified.

** For details on setting the Measure parameter, refer to "Setting the editing area" in Track Edit.*

Time (Current time / Fit time)

Current Time indicates the playback time for the specified area at the current tempo. The Fit time parameter allows you to specify a new playback time for the specified area.

Procedure

1. To calculate the Current Time, set the Measure parameter.
2. To modify the playback time of the area specified by Measure, enter the desired time and press the ENTER button.

Chapter 7. Utility functions

Utility function procedures

The Utility functions allow you to store Patch / Performance / Rhythm Set settings, to save and load data to and from disk, and to transmit data, etc.

Procedure

1. Press the DISK/UTILITY button to access the Utility menu display.

```
UTIL|1:WRITE  2:LOAD   3:SAVE   4:SOUND
    |5:DISK
```

2. Press the ◀ / ▶ buttons to make the desired function blink, and press the ENTER button to access the display for that function.

* ***You can also access the desired function display by using the numeric keys or function buttons to specify the number of the function.***

* ***If you select "4: SOUND" or "5: DISK" the sound menu display or disk menu display will appear. There you will again select the desired menu item.***

3. If there are parameters that need to be set, make parameter settings.

4. Press the ENTER button to execute the function. When the operation is completed, the display will briefly indicate "COMPLETE".

* ***If you decide to cancel the operation, press the EXIT button.***

5. Press the EXIT button to return to the display of the mode you started from.

* ***Depending on the function that you executed, you may need to press the EXIT button several times to return to the previous mode.***

1: WRITE

This operation writes Patch, Performance or Rhythm Set settings into user memory. The type of data that will be written will depend on the mode you were in when you pressed the UTILITY button.

< Internal write protect >

An Internal Write Protect setting is provided to prevent the settings in user memory from being overwritten accidentally. When rewriting user memory settings, you need to turn off Internal Write Protect. If you attempt to write data when Internal Write Protect is on, the following display will appear.

```
WRITE    |     Internal Write Protect= ON
PROTECT  |
```

Change the displayed ON to OFF and press the ENTER button to turn Internal Write Protect off. Press the ENTER button once again, and the data will be written into user memory.

Once you turn Internal Write Protect off, it will remain off until the XP-50's power is turned off.

When you press the UTILITY button in Performance mode

PERFORM WRITE (Performance write)

The settings of the Performance in the temporary area will be written into user memory.

```
PERFORM |Number                          [ENTER]
WRITE   |USER: 01(Tekno loop 1)
```

writing destination Performance (group, number, name)

When you press the UTILITY button in Patch mode

PATCH WRITE

The settings of the Patch in the temporary area will be written into user memory.

```
PATCH   |Number          [COMPARE]/[ENTER]
WRITE   |USER:001(West Coast  )
```

writing destination Patch (group, number, name)

< The Compare function >

The Compare function allows you to play the Patch currently occupying the writing destination, so that you can check whether you really want to overwrite it. To play the Patch of the writing destination, press the COMPARE button to access the PATCH COMPARE display. You can select the writing destination Patch in this display as well. After selecting the writing destination Patch, press the EXIT button to return to the previous display.

```
PATCH   |Number                        [COMPARE]
COMPARE |USER:001(West Coast  )
```

writing destination Patch (group, number, name)

* ***Please be aware that when the Compare function is used to play a Patch, it may sound slightly different than when it is played normally.***

When you press the UTILITY button in Rhythm Set mode

RHYTHM WRITE (Rhythm Set write)

The settings of the Rhythm Set in the temporary area will be written into user memory.

```
RHYTHM  |Number                          [ENTER]
WRITE   |USER:001(HouseDrumSet)
```

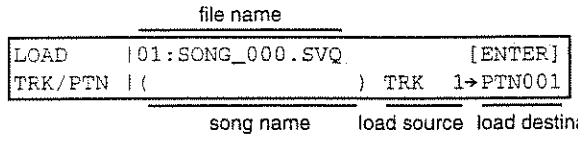
writing destination Rhythm Set (group, number, name)

2: LOAD

This function loads Song data, Data files, or S-MRC Song data from disk into the XP-50.

1: SONG: Load a song created by the XP-50 or a SMF from disk into internal memory.

2: TRACK: Load a specified Phrase track or Pattern from a song on disk into a specified Phrase track or Pattern of the song in internal memory.



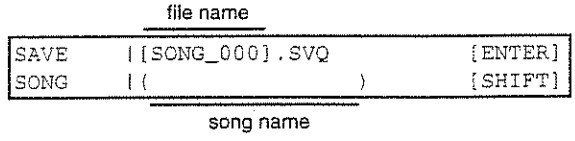
3: S-MRC: Load S-MRC format song data (created on the MC-50, etc.) from disk into internal memory.

4: SOUND: Load Patches, Performances, and Rhythm Sets into user memory, and System data (except for the sequencer parameter group) into system memory.

3: SAVE

This function saves a song or data file to a disk file with the name you specify. Songs can also be converted into Standard MIDI File (SMF) format as they are saved.

1: SONG: Save as XP-50 song data (filename extension .SVQ).



2: SMF-0: Save as SMF Format 0 song data (filename extension .MID). In this format, one phrase track contains the entire song.

3: SMF-1: Save as SMF Format 1 song data (filename extension .MID). In this format, the song consists of one or more phrase tracks.

4: SOUND: Save Patches, Performances, Rhythm Sets, and System data (except for the sequencer parameter group) as a data file (filename extension .SVD).

* ***Data files contain an entire set of parameter settings for the sound source. It is not possible to save individual Patches or Performances to disk.***

* ***If the SMF data that was loaded into internal memory contains a copyright notice, it will not be possible to re-save that song in SMF format.***

< Song names and filenames >

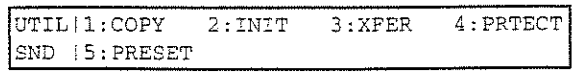
XP-50 songs and SMF files have a song name in addition to the filename. The filename is used to distinguish the file on disk, and must be specified before the file can be saved. You will find it easier to manage your data if you use filenames that indicate the type of song, and use the song name to name the song.

* ***In this display it is not possible to set or modify the song name. To set or modify the song name, refer to p.88.***

4: SOUND

Here you can perform various operations related to the sound source section, such as copying or initializing Patches / Performances / Rhythm Sets, or resetting the XP-50 to the factory settings.

* ***If you select "4: SOUND" in the Utility menu display, the Sound menu display will appear. Select the function you wish to execute.***



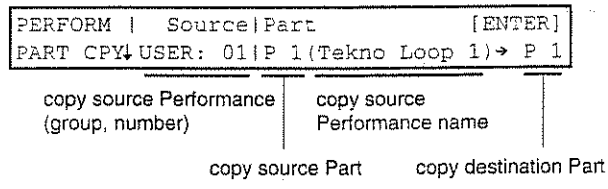
1: COPY

This function copies data from a Patch, Performance or Rhythm Set into the temporary area. The type of data that will be copied will depend on the mode you were in when you pressed the UTILITY button.

When you select Copy from Performance mode

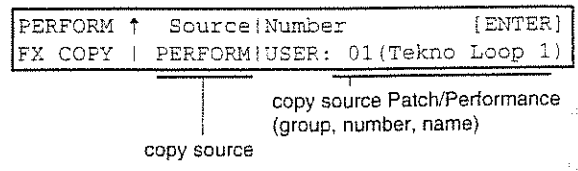
PERFORM PART CPY (Performance part copy)

Part settings of a Performance will be copied to a Part of the Performance in the temporary area.



PERFORM FX CPY (Performance effect copy)

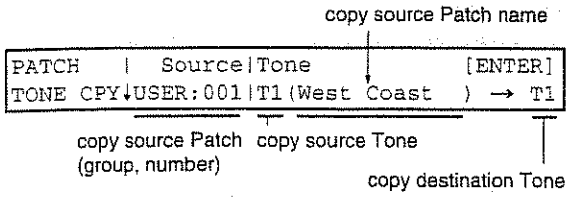
Effect settings of a Performance or Patch will be copied to the Performance in the temporary area.



When you select Copy from Patch mode

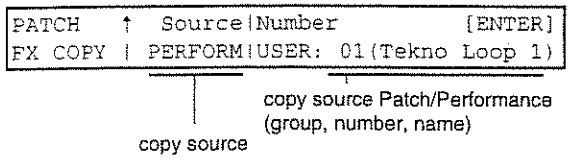
PATCH TONE CPY (Patch tone copy)

Tone settings from a Patch will be copied to a Tone of the Patch in the temporary area.



PATCH FX COPY (Patch effect copy)

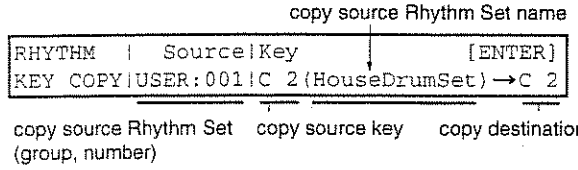
Effect settings from a Patch or Performance will be copied to the Patch in the temporary area.



When you select Copy from Rhythm Set mode

RHYTHM KEY COPY

Settings for an individual key in a Rhythm Set will be copied to a key of the Rhythm Set in the temporary area.



** The copy source and copy destination Key parameters can also be set by pressing a key on the keyboard.*

2: INIT (Initialize)

This function initializes parameters of the Patch, Performance, or Rhythm Set data in the temporary area. "Initialize" means to reset Patch, Performance, or Rhythm Set settings to a standard value or to the factory settings.

There are two ways to initialize the data.

DEFAULT: Set the data in the temporary area to a set of standard values.

PRESET: Set the data in the temporary area to the factory settings. For example if the temporary area contains the modified Patch USER:001, this selection would restore the USER:001 settings that were made at the factory.

The type of data will depend on the mode you were in when you pressed the UTILITY button.

When you select Initialize from Performance mode

PERFORM INIT (Performance initialize)

Initialize the settings of the Performance in the temporary area.

When you press the UTILITY button in Patch mode

PATCH INIT (Patch initialize)

Initialize the settings of the Patch in the temporary area.

When you select Initialize from Rhythm Set mode

RHYTHM KEY INIT (Rhythm key initialize)

Initialize only the settings of the specified key of the Rhythm Set in the temporary area. You can also specify the key to be initialized by pressing the keyboard.

RHYTHM SET INIT (Rhythm set initialize)

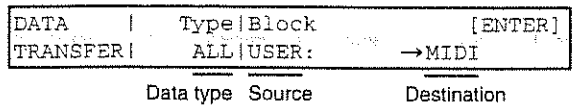
Initialize the settings of the entire Rhythm Set in the temporary area.

3: XFER (Data transfer)

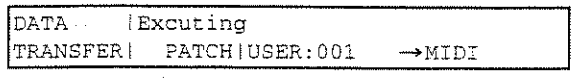
Using this function, Patch / Performance / Rhythm Set / System (except for the sequencer parameter group) data that is in XP-50's memory or stored on disk can be transmitted to an external MIDI device or recorded in the song that is in internal memory.

Transmitting data to an external MIDI device

The process of transmitting sound source data to an external MIDI device is called Bulk Dump.



** While data is being transmitted, the following display will appear.*



** To cancel data transmission, press the EXIT button.*

Type (Data type)

Specify the type of data to be transmitted.

ALL: Performance, Patch, and Rhythm Set

PERFORM: Performance

PATCH: Patch

RHYTHM: Rhythm Set

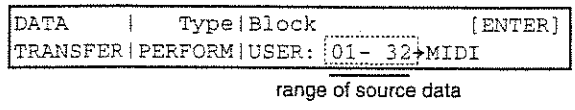
SYSTEM: System (other than sequencer section)

Source

Specify the source of the data to be transmitted.

USER: Transmit the data from user memory

** If you set the Type parameter to PERFORM, PATCH, or RHYTHM, and set the Source parameter to USER, you can also specify the range of data to be transmitted.*



** If the Type parameter is set to SYSTEM, only USER can be selected.*

TEMP: Transmit the data from the temporary area

** If the Type parameter is set to PERFORM and the Source parameter is set to TEMP, select either "-PATCH" or "+PATCH". If you wish to transmit only Performance data, select "-PATCH". If you wish to also transmit the settings of the Patch / Rhythm Set assigned to each Part of the Performance, select "+PATCH".*

CTRL: Transmit messages for Performance bank select, Performance program change, and Volume and Pan messages for the Parts whose Rx parameter (PERFORM: MIDI: MIDI) is turned ON.

** CTRL can be selected only from Performance mode when the Type parameter is set to PERFORM.*

Destination

Set the transmission destination to MIDI.

Transmitting sound source data to the internal song

You can transmit sound source data to the song currently in internal memory. This data can be vecorded either to a Phrase track or to a Pattern. By recording this data ahead of the musical data in a song, you can make sure that the song will be played back using the correct Patch and Performance data.

Type (Data type)

Specify the type of data to be transmitted.
ALL: Performance, Patch, and Rhythm Set
PERFORM: Performance
PATCH: Patch
RHYTHM: Rhythm Set
SYSTEM: System (other than sequencer section)

Source

Specify the source of the data to be transmitted.
USER: Transmit the data from user memory

** If you set the Type parameter to PERFORM, PATCH, or RHYTHM, and set the Source parameter to USER, you can also specify the range of the data to be transmitted.*

** If the Type parameter is set to ALL, it will not be possible to select USER.*

** If you have set the Type parameter to SYSTEM, the Source parameter will be fixed at USER.*

TEMP: Transmit the data from the temporary area

** If the Type parameter is set to PERFORM and the Source parameter is set to TEMP, select either "-PATCH" or "+PATCH." If you wish to transmit only Performance data, select "-PATCH." If you wish to also transmit the settings of the Patch / Rhythm Set assigned to each Part of the Performance, select "+PATCH."*

CTRL: Transmit messages for Performance bank select, Performance program change, and Volume and Pan messages for the Parts whose Rx parameter (PERFORM: MIDI: MIDI) is turned ON.

** CTRL can be selected only from Performance mode when the Type parameter is set to PERFORM.*

Destination

Set the destination to SEQ.

Target (Target track)

Specify the Phrase track or Pattern to which the data will be sent.

Measure

Specify the location from which the data will begin to be recorded.

Transmitting data to user memory

You can transmit Preset data, Expansion Board data, or data from disk to the user memory.

Type (Data type)

Specify the type of data to be transmitted.
ALL: Performance, Patch, and Rhythm Set
PERFORM: Performance
PATCH: Patch
RHYTHM: Rhythm Set
SYSTEM: System (other than sequencer section)

Source

Specify the source of the data to be transmitted.
USER: Data from user memory will be transmitted

** If the Type parameter is set to PERFORM, PATCH, or RHYTHM, you can also specify the range of data to be transmitted.*

** If the Type parameter is set to ALL, it will not be possible to select USER.*

PR-A, B, C: Preset A/B/C data will be transmitted

** PR-C can be selected only if the Type parameter is set to PATCH or RHYTHM.*

GM: GM data will be transmitted.

** GM can be selected only if the Type parameter is set to PATCH or RHYTHM.*

XP-A, B, C, D: Data from an Expansion Board will be transmitted.

** XP-A—XP-D can be selected only if the corresponding Expansion Board is installed.*

DISK: Performance / Patch / Rhythm Set / System (except for sequencer section) data stored on disk will be transmitted.

** If the Type parameter is set to SYSTEM, the Source parameter will be fixed at DISK.*

Destination

Set the transmission destination to USER.

** If the Type parameter has been set to PERFORM, PATCH, or RHYTHM, specify the number of the transmission destination.*

4: PRTECT (Protect)

The write protect settings prevent internal memory from being rewritten, so that important data will not be accidentally lost.

Internal (Internal write protect)

The Internal write Protect setting prevents the Write operation from rewriting user memory. When this setting is ON, the data cannot be rewritten. When this is OFF, the data can be rewritten. When the XP-50's power is turned on, this setting is always turned ON, so you will need to turn it OFF before rewriting user memory settings. It is also possible to turn this setting OFF as part of the Write procedure.

Exclusive (Exclusive protect)

The Exclusive Protect setting prevents System Exclusive messages received from an external MIDI device from rewriting user memory settings. When this setting is ON, the data cannot be rewritten. When this is OFF, the data can be rewritten by an incoming exclusive message, even if the Internal Protect setting is ON.

5: PRESET

This function resets the entire XP-50 to the factory settings.

FACTORY PRESET

To reset the XP-50 to the factory settings, press the ENTER button.

5: DISK

Here are the disk-related functions such as formatting a disk or creating a backup disk. Before executing these functions, insert the appropriate disk into the disk drive.

* ***When you select "5: DISK" in the Utility menu display, the following disk menu will appear. Select the function you wish to execute.***

```
UTIL|1:FORMAT 2:BACKUP 3:VERIFY 4:VOLUME
DISK|5:DELETE 6:RENAME 7:INFO
```

1: FORMAT

Before a newly purchased disk or a disk that has been used on another device can be used in the XP-50, it must be formatted by the XP-50. When formatting the disk, you may assign a volume name to the disk.

Volume name

```
DISK    |[           ]          [ENTER]
FORMAT  |                      [SHIFT]
```

When formatting is completed, the display will indicate "Complete" at the right of the volume name.

2: BACKUP

The backup operation creates a complete copy of all data recorded on a disk on another disk. It is a good idea to make backup copies of disk which contain important data, so that you will not lose the data even if one of the disks should be damaged for some reason.

* ***The backup operation uses the internal memory area occupied by the song, and will therefore erase the song data. If you wish to keep the song data currently in internal memory, save it to disk beforehand.***

Procedure

1. In the disk menu display, select "2: BACKUP."

The following display will appear.

```
DISK    |Clear  Internal Song for BACKUP.
BACKUP  |                          [ENTER]
```

2. If you are sure that it is ok to erase the song in internal memory, press the ENTER button.

The following display will appear.

```
DISK    |Insert Source Disk.
BACKUP  |                          [ENTER]
```

* ***To cancel the operation, press the EXIT button.***

3. Insert the backup source disk into the disk drive, and press the ENTER button.

Data from the disk will be loaded into internal memory.

4. After a while, the following display will appear. When this display appears, remove the backup source disk.

```
DISK    |Insert Destination Disk.
BACKUP  |                          [ENTER]
```

5. Insert the backup destination disk into the disk drive, and press the ENTER button.

Data will be written to the backup destination disk.

6. Repeat steps 3--5. However you will not need to press the ENTER button each time you exchange disks. When the backup operation is completed the following display will appear.

```
DISK    |Backup  Complete.
BACKUP  |              Continue = [ENTER]
```

7. If you wish to continue making backups, press the ENTER button. To quit, press the EXIT button.

3: VERIFY

If a disk becomes scratched or damaged in some way, song data or sound data files it contains will no longer be readable, and functions such as Quick Playback or Chain Play will be interrupted. To avoid such problems, this function checks all the song data on disk to make sure that it is still readable.

When you press the ENTER button, the XP-50 will test each song on the disk to see whether it can be read correctly. If the disk is ok, the display will indicate "Complete." If a problem is found, the display will indicate "Error."

* ***The song data will not be read into internal memory.***

4: VOLUME (Change volume name)

You can modify the volume name that was assigned when the disk was formatted.

5: DELETE

You can delete unwanted Song files, Chain files, or Data files etc. from disk.

Type (File type)

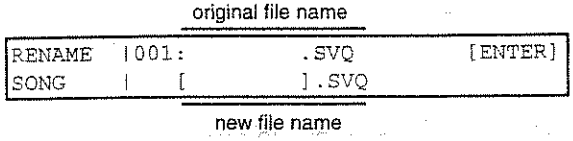
SONG: Delete a song created on the XP-50 or a SMF

FILE: Delete a Chain file or a Data file

* ***Be aware that if you delete important files from a system disk such as the SUPER-MRC system disk, the system disk may become unusable.***

6: RENAME

You can modify the name of an individual file.

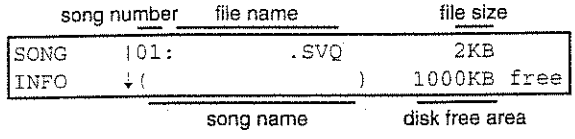


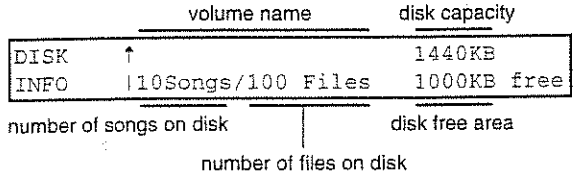
* ***It is not possible to modify the filename extension.***

* ***Be aware that if you modify the file names of a system disk such as the SUPER-MRC system disk, the system disk may become unusable.***

7: INFO (Song information)

This function displays the number of songs and sound data files on the disk, the free area of the disk, and the song file names.





Chapter 8. The RPS function

RPS (Realtime Phrase Sequence) is a function that lets you playback Patterns from a song's Pattern track by pressing specified keys on the keyboard.
For example if you wanted to play a drum part, you might record a fill-in phrase in a Pattern, and then register that Pattern in the RPS function so that you could play the fill-in by simply pressing one key.
In order to use the RPS function, you create a SEQ set by assigning a Pattern for each key and specifying how the Pattern will be played back.

Assigning a SEQ set to each key

SEQ sets can be created for each song, and are saved as part of the song data when the song is saved.

* ***In order to make SEQ settings for a song, you must load the song into internal memory.***

Procedure

1. Press the SEQUENCER button to access the Song Play display.
2. Move the cursor to the song number, and select the song for which you want to make SEQ set settings.
3. Make the RPS button indicator light.
4. Make the EDIT button indicator light.
5. Press the RPS function button.

At this time, the RPS button indicator will blink, and the following display will appear. If a different page is displayed, press the ▲ button.

```
PHRASE  |                    Trigger Quantize
SEQUENCE↓                               REAL
```

If you have selected a song that was stored on disk, the following display will appear. Press the ENTER button to load the song into internal memory.

```
This Song is not Internal Song.
Load anyway ?      YES=[ENTER]:NO=[EXIT]
```

* ***If you decide not to load the song, press the EXIT button.***

6. Make settings for the Trigger Quantize parameters common to all the SEQ sets.
7. Press the ▼ button.

note

```
C 1     ↑  Play Pattern|    Playback Mode
SEQ SET |          001|              LOOP
```

8. Select the key (note) for which you want to make SEQ set settings.

* ***You can assign a SEQ set to any note from C-1 to G9. To select a note that is outside the range of the XP-50's keyboard, turn ON the Remote parameter (SYSTEM: MIDI: MIDI), and transmit a note message from an external device to make the note selection.***

9. Make settings for each parameter.
10. When you finish making SEQ settings, press the EXIT button to return to the Sequencer mode Play display.

* ***If the RPS button is turned on when you save a song, this setting will also be saved as part of the song data.***

RPS function parameters

PHRASE SEQUENCE

Trigger Quantize (RPS trigger quantize)

Select the way in which the Pattern will be played back.
REAL: When the key is pressed, the Pattern will begin playing back immediately.
BEAT: While a song is playing back, when the key is pressed in the middle of a beat, the Pattern will begin playing back from the beginning of the next beat.
MEASURE: While a song is playing back, when the key is pressed in the middle of a measure, the Pattern will begin playing back from the beginning of the next measure.

* ***If a song is not currently playing back, Pattern playback will begin immediately when you press a key, regardless of the playback method that is selected.***

SEQ SET

Play Pattern (RPS pattern number)

Select the Pattern that will be played back. If you select STOP, that key will stop playback of the Patterns being played back by the RPS function. Keys to which a SEQ set is not assigned should be left in the OFF setting.

Playback Mode (RPS playback mode)

Specify how the Pattern will be played back.
LOOP1: The Pattern will continue repeating as long as the key remains pressed.
ONCE: The Pattern will playback once when the key is pressed.
LOOP2: The Pattern will begin playback when the key is pressed, and will continue repeating. To stop playback, either press the key once again, or press a key that was turned OFF for the Play Pattern parameter.

Using the RPS function

When you press the RPS button to turn on the indicator, the RPS function will be turned on. The keyboard will now function as specified by the SEQ set settings.
The RPS function allows you to have up to 8 Patterns playing simultaneously, and can also be used while using the Quick Play function.

Procedure

1. Press the SEQUENCER button.
2. Press the RPS button to make the button indicator light.

3. Press the STOP/START button to playback the song.

4. Press a key to which a Pattern is assigned, and that Pattern will playback.

* ***If you playback Patterns without playing back a song, there will be no synchronization between Patterns.***

* ***If you press the RPS button while a Pattern is playing back, the RPS function will be turned off, but the currently-playing Patterns will not stop.***

< Hints for using the RPS function >

Record only Note messages in a Pattern that will be used with the RPS function

If a Pattern contains messages other than Note messages, notes may be delayed. Messages other than Note messages are best recorded on a Phrase track.

Decide which keys to assign Patterns to

Keys for which the Play Pattern parameter (SEQUENCER: RPS: SEQ SET) is turned OFF will play normally. If you will be using the keyboard only to play Patterns with the RPS function, it does not matter which keys you assign Patterns to. However if you wish to also play the keyboard normally, you need to consider which range of keys to use for the RPS function.

Since the keys to which Patterns are assigned cannot be checked while you are playing, it is a good idea to decide your key assignments as appropriate for the way that you use Patterns. For the demo songs on the included disk which use the RPS function, key assignments are as follows.

Pattern stop	: C2
Drum Patterns	: F2 and above white keys
Bass Patterns	: F#2 and above black keys
Drum fill-in	: C3 and above
Melody and accompaniment	: F3 and above

Using an external MIDI keyboard for Pattern playback using the RPS function

If you wish to use an external MIDI keyboard to playback Patterns using the RPS function and use the XP-50's keyboard to play normally, set the Remote parameter (SYSTEM: MIDI: MIDI) to ON. Also, you need to make settings so that RPS function Pattern playback will be triggered by keys outside of the range of the XP-50's keyboard. Set the external keyboard to a key range that will allow it to trigger the RPS Patterns.

Chapter 9. Chain play

Chain Play is a function that successively Quick Plays songs from disk in an order you specify. Since the Chain Play function can read not only songs but also data files, it can be used to load data into sound sources in preparation for song playback.
A chain can also use songs and data files from two or more disks, allowing you to consecutively playback large numbers of songs.

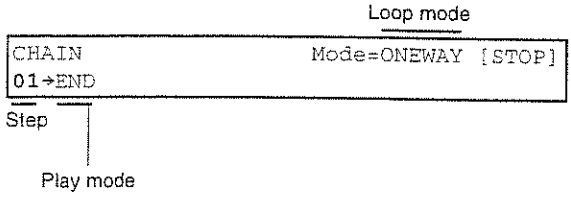
Creating a chain

To use the Chain Play function, you must create a Chain to specify the order in which the songs or data files will be read. Each Chain can specify the playback order of up to 98 song or data files (98 steps).

Procedure

1. Insert a disk containing song or sound data into the disk drive.

2. Press the CHAIN PLAY button to access the Chain Play setting display.



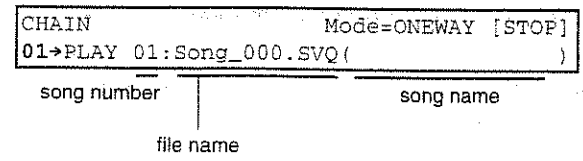
3. Make sure that the cursor is located at the Mode parameter, and set the Loop mode of the chain to specify how the chain will be played back.
ONEWAY: Playback the chain only once
REPEAT: Playback the chain repeatedly

4. Move the cursor to Play Mode, and specify how the song will start or whether to read a data file.
PLAY: Playback the song data automatically
WAIT: Playback the song data when the STOP/PLAY button is pressed
LOAD: Load the data file immediately

* ***END indicates that the selected step is the last step. It is not possible for you to select END.***

* ***When LOAD is selected, only data files can be read. To playback a song, select PLAY or WAIT.***

5. Move the cursor to the Song Number, and select the song to be played back or the data file to be loaded.



6. Press the FWD button to advance to the next step.
To return to the previous step, press the BWD button.

To insert a new step

Press the INSERT Button.
Steps following the currently displayed step will move back, and a new step will be inserted. The settings of the currently displayed step will be copied to the new step.

To delete a step

Press the DELETE Button.
The currently displayed step will be deleted.

To erase all settings of the entire chain

Press the CLR ALL button, and then press the ENTER button.
All settings of the chain will be erased.

7. Repeat steps 4—6 to create the chain.

* ***To create a chain that uses songs or data files from two or more disks, exchange disks as you create the chain.***

Saving a chain to disk

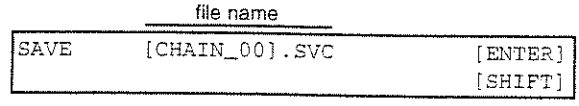
The chain you created will be lost if you turn the power off. If you wish to keep the chain, give it a name and save it to disk as a Chain File.

Procedure

1. While still in Chain Play mode, press the DISK/UTILITY button.
The Utility function select display will appear.

2. Select "3:SAVE."
A display will appear in which you can select the type of file to be saved.

3. Select "1:CHAIN."
The Chain file save display will appear.



4. Assign a name (filename) to the chain file.

* ***It is not possible to modify the filename extension (.SVC).***

5. Press the ENTER button to save the file.

* ***Two or more chain files may be saved on a single disk.***

Chain play

If you create a chain file containing the songs in your stage set, you can play them back in the appropriate order simply by pressing the STOP/PLAY button. Songs will be quick-played, so they can be played back without leaving gaps between them.

Loading a chain file

Procedure

1. Insert the disk containing the chain file into the disk drive.
2. Make sure that you are in Chain Play mode, and press the DISK/UTILITY button.

The Utility function select display will appear.

3. Select "2: LOAD."

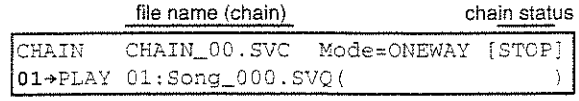
A display will appear, allowing you to select the type of file to load.

4. Select "1: CHAIN."

The chain file load display will appear.

5. Select the chain file you wish to load.
6. Press the ENTER button to load the chain file.

Playing back a chain file



STOP : stopped
PLAY : playing
WAIT : waiting
ERROR: the currently inserted disk does not contain the song to be played back

* ***During chain play, it is not possible to select Sequencer mode or Microscope mode. Also, it is not possible to modify chain settings other than the Loop Mode of the chain.***

Procedure

1. Press the STOP/PLAY button to begin chain play.

If the play mode of step 1 is set to WAIT, playback will not begin until you press the STOP/PLAY button once again. If the step mode is LOAD, the data file will be loaded immediately.

2. To stop chain play, press the STOP/PLAY button.

If the Loop mode is set to ONEWAY, playback will stop automatically when chain playback reaches the end of the chain. If it is set to REPEAT, press the STOP/PLAY button to stop chain play.

* ***If you press the STOP/PLAY button while a data file is being read, chain play will stop when reading is completed.***
* ***Even if the Sync Mode parameter (SYSTEM: SEQUENCER: SEQ MODE) is set to REMOTE or SLAVE, it is not possible to start/stop Chain Play from an external MIDI device. The following messages also are not received during Chain Play; Continue, Song Position Pointer, Song Select, and Timing Clock.***
* ***When a single chain contains songs or data files from two or more disks, if the currently inserted disk does not contain the specified data, the song number will be displayed as "***" and the chain status will be displayed as "ERROR." In this case, you must insert the required disk.***
* ***If you press the FWD button during song playback, playback will be interrupted and the operation specified for the next step will be executed. If you press the BWD button, playback will be interrupted and the operation specified for the current step will be re-executed from the beginning.***

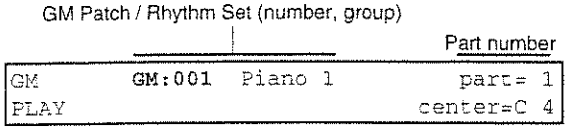
Chapter 10. GM mode

About GM mode

The XP-50 has a GM mode that provides a convenient way to playback or create GM score data. You can not only playback commercially available GM score data, but can also modify various parameter settings for richer possibilities of musical expression.

Entering GM mode

GM mode causes the XG-50's sound source to be GM compatible. In a sense, GM mode is like a special Performance in which a GM system Rhythm Set is assigned to Part 10, and GM system Patches are assigned to the other Parts. However it is not possible to store GM mode settings in user memory.



Procedure

Hold down the SHIFT button and press the PERFORM button to get the GM mode Play display.

When you enter GM mode, the sound source will be initialized to the basic GM system settings.

* ***The GM mode Play display will show the GM Patch / GM Rhythm Set assigned to each Part. To switch Parts, use the ◀ / ▶ buttons.***

Initializing GM mode

In order to correctly playback a GM score, the sound source must be initialized to the basic GM system settings.

The XP-50's GM mode will be initialized in the following situations.

- When the XP-50 is switched to GM mode
- When it receives a GM System On message from an external MIDI device
- When a GM System On message occurs in the song data it is playing back
- When the power is turned on
- When you execute the GM Initialize function (p.101)

< GM System On message >

This MIDI message tells a GM-compatible sound source to initialize itself to the basic GM settings.

---

* ***When GM Initialize is executed, all previous GM mode settings will be lost.***
* ***If the Rx.GM parameter (SYSTEM: MIDI: SYS-EXC MIDI) is turned OFF, GM System On messages will not be received.***

Playing back a GM score

When the XP-50 is in GM mode it will be able to correctly playback a GM score. However the XP-50 provides many extended features that are not defined in the GM system specification, and if you create music data that uses these extended features, your song may not playback correctly on other GM-compatible sound sources.

* ***The XP-50 is not compatible with the GS format (a standard format for multi-timbral sound sources that was created by Roland), and music data bearing the GS logo (GS Music Data) may not playback correctly on the XP-50.***
* ***The beginning of a GM score normally contains a GM System On message. This means that if you playback a GM score from the middle of the song, the XP-50 may not switch itself to GM mode and the GM score may not be played back correctly. When playing back a GM score, it is a good idea to manually set the XP-50 to GM mode.***

Muting a specific Part

When you switch to GM mode, all Parts will be set to receive MIDI messages. If you want a specific Part to not sound, turn off the Receive Switch for that Part.

Procedure

1. Make sure that the EDIT button indicator is dark.
2. Press the PART button to turn the Part on (indicator lit) or off (indicator dark).

To switch a Part 1--8, turn off the 1-8/9-16 button indicator and press the appropriate Part button. To switch a Part 9--16, turn on the 1-8/9-16 button indicator and press the appropriate Part button.

Convenient functions in GM mode (GM Utility)

In GM mode, the Utility functions allow you to copy effect settings, initialize GM mode, and transmit GM mode settings.

Procedure

1. In GM mode, press the DISK/UTILITY button.
The Utility menu display will appear.

2. Select "4:SOUND" and press the ENTER button.
The Disk menu display will appear.

3. Select the function that you wish to execute.

* ***By selecting "5: PRESET" you can execute factory preset initialization. The procedure is the same as when executing factory preset initialization from other modes.***

* ***To cancel the operation, press the EXIT button.***

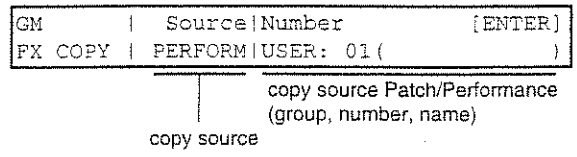
4. Make parameter settings.

5. Press the ENTER button to execute the operation.

6. Press the EXIT button to return to the desired display.

Copy effect settings (1: COPY)

This function copies effect settings from a Patch or Performance to the GM mode.



Initialize GM mode (2: INIT)

There are two ways to initialize.

GM-ON: Initialize the GM mode settings using a GM System On message.

DEFAULT: Initialize the GM mode settings to the factory settings.

Transmitting GM mode settings (3: XFER)

It is not possible to store GM mode settings in user memory. If you wish to keep your GM mode settings, you can transmit them as a MIDI message to the sequencer or to an external MIDI device.

The following GM mode settings for each Part are transmitted.

Program number of the GM Patch
Volume (control number 7)
Pan (control number 10)
Reverb send level (control number 91)
Chorus send level (control number 93)
Pitch bend sensitivity
Fine tune
Coarse tune

* ***If you do not want the settings of a specific Part to be transmitted, turn off the Receive switch for that Part.***

Transmitting to an external MIDI device

Set the transmit destination to "MIDI". Then prepare the external MIDI device to record data, and press the ENTER button.

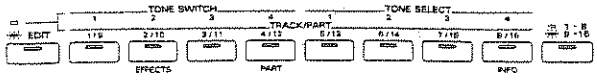
Recording data to the internal sequencer

Before you begin, load the desired song into internal memory. In this display, set the transmit destination to "SEQ". Then move to the following display, specify the transmit destination and transmit location (measure - beat - clock), and press the ENTER button.

* ***If you wish to record the GM mode settings as the initial settings of the song, create a 1-measure blank at the beginning of the song, and record the data in this measure. If you record the data without creating a blank measure for it, the timing of the musical data may be affected.***

GM mode parameters

In GM mode the following parameters can be modified. You can modify settings such as effect, pan, and level to personalize the playback of a GM score to your liking.



** When GM mode is initialized (p.**), all these settings will be lost.*

EFFECTS group

Make settings for the EFX/Chorus/Reverb effects used in GM mode.

OUTPUT

Make settings to specify how each Part will be output.

Output Assign (Output assign / Output level)

When the Output Assign parameter is set to MIX, the output of each Part will be sent to the OUTPUT jacks without passing through EFX. If this parameter is set to EFX, the output will be passed through EFX. If PATCH is selected, the output assign settings of the GM Patch assigned to the Part will be used.
The Output Level parameter adjusts the volume of each Part.

Chorus (Chorus send level)

Adjust the amount of chorus for each Part.

Reverb (Reverb send level)

Adjust the amount of reverb for each Part.

GM EFX TYPE (EFX type)

Specify the type of EFX that will be used in GM mode.

Type (EFX type)

Select the type of EFX. For details refer to "EFX effect types" (p.**).

GM EFX PRM (GM EFX parameters)

Make parameter settings for the EFX type selected by the Type parameter. For details refer to "EFX effect types" (p.**).

GM EFX OUT (GM EFX output)

Specify the output routing for Parts whose Output Assign is set to EFX.

** The settings in this display have no effect on Parts whose Output Assign is set to MIX.*

Mix Out (EFX output level)

Adjust the volume balance of the direct sound and the EFX sound.

Chorus (Chorus send level)

Adjust the amount of chorus applied to the sound that passed through EFX.

Reverb (Reverb send level)

Adjust the amount of reverb applied to the sound that passed through EFX.

GM CHORUS

Make settings for the chorus effect used in GM mode.

** In GM mode, the chorus effect settings for the GM Patch assigned to each Part will be ignored (except for the Send Level parameter).*

Rate (Chorus rate)

Adjust the speed of modulation for the chorus sound.

Depth (Chorus depth)

Adjust the depth of modulation for the chorus sound.

Delay (Chorus pre delay)

Adjust the time delay from the original sound until when the chorus sound is heard. Higher settings will create a more spacious sound.

Fbk (Chorus feedback level)

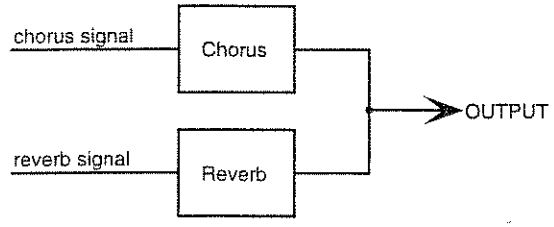
Adjust the amount of sound from the chorus that is returned (fed back) to the input of the chorus. Higher settings will result in a more intense effect.

Level (Chorus level)

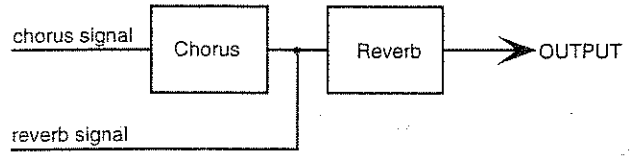
Adjust the volume of the chorus sound.

Out (Chorus output assign)

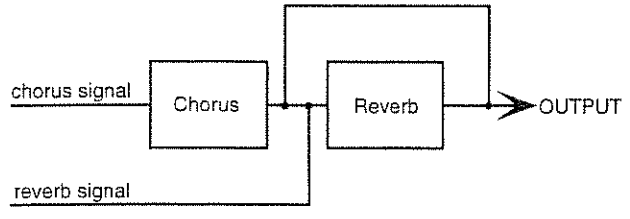
Select the way in which the chorus and reverb will be connected.
MIX: The chorus sound and reverb sound will be mixed.



REV: Reverb will be applied to the chorus sound.



M+R: The chorus sound without reverb and the chorus sound with reverb will be mixed.



GM REVERB

Make GM mode reverb settings.

** In GM mode, the reverb effect settings for the GM Patch assigned to each Part will be ignored (except for the Send Level parameter).*

Type (Reverb/delay type)
Select the type of Reverb effect.
ROOM1: dense reverb with short decay
ROOM2: sparse reverb with short decay
STAGE1: reverb with greater late reverberation
STAGE2: reverb with strong early reflections
HALL1: reverb with clear reverberance
HALL2: reverb with rich reverberance
DELAY: a conventional delay
PAN-DLY: a delay with echoes that move left and right

Time (Reverb/delay time)
Adjust the time of reverberation. If the Type parameter is set to DELAY or PAN-DLY, this parameter will adjust the time delay from the original sound until when the first echo will sound.

Fbk (Delay feedback)
Adjust the amount of delayed sound that is returned (fed back) to the delay. Higher values result in more delay repeats.

** If you have selected any one of the Reverb types (ROOM1—HALL2), this parameter has no effect.*

HF Damp (Reverb/delay HF damp)
Adjust the frequency above which the reverberant sound will be cut. As the frequency is set lower, more of the high frequencies will be cut, resulting in a softer and more muted reverberance. If you do not want the high frequencies to be cut, set this parameter to BYPASS.

Level (Reverb/delay reverb level)
Adjust the volume of the reverberant (or delayed) sound.

< About effects for GM-compatible sound sources >
Most GM-compatible sound sources provide effects such as reverb and chorus, but the use of effects is not included in the GM System Level 1 guidelines. This means that song data created for the XP-50's GM mode that uses EFX / Reverb / Chorus may not playback correctly on other GM-compatible sound sources.

PART group

PATCH
Select the GM Patch assigned to each Part.

Number (GM Patch number)
Select the number (001—128) of the GM Patch.

** In GM mode it is not possible to select USER or PRESET A/B/C Patches.*

SETTING
Make settings for the volume, pan, and pitch of each Part.

Volume
Adjust the volume of each Part.

Pan
Adjust the stereo position of each Part. L64 is full left, 0 is center, and 63R is full right.

** If you modify the settings of the Volume parameter or Pan parameter, they will be reflected in the following INFO group displays.*

Coarse (Coarse tune)
Adjust the pitch of each Part in semitone steps (-4—+4 octaves).

Fine (Fine tune)
Make fine adjustments in 1-cent steps to the pitch specified in Coarse Tune. (-50—+50 cents)

** 1 cent is 1/100th of a semitone.*

INFO (Information) group

In this display you can check the receive status of various types of MIDI message for each Part. This is a convenient way to check that the sound source is responding correctly to messages from the keyboard, sequencer, or external MIDI controllers.
For items other than Voice, you may modify the values. When you do so, a MIDI message will be transmitted, and can be recorded on the sequencer, etc.

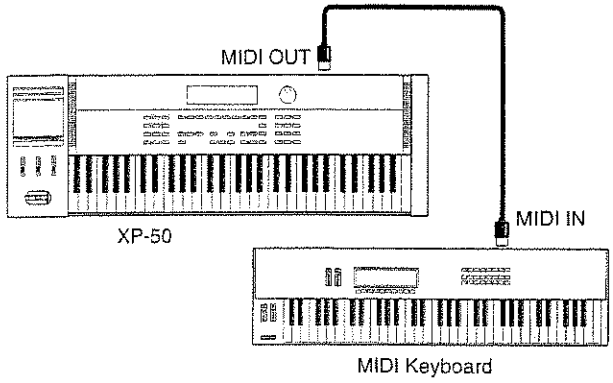
Mod (Modulation)
Breath (Breath)
Foot (Foot)
Vol (Volume)
Pan (Pan)
Exp (Expression)
Hold (Hold)
Bend (Bender)
Aftertouch (Aftertouch)
Voices (Voice)
The number of voices used.

Chapter 11. Using external MIDI devices

Using the XP-50 to control external MIDI devices

Procedure

1. Use a MIDI cable to connect the MIDI OUT connector of the XP-50 to the MIDI IN connector of the external MIDI device.



2. Set the XP-50's transmit channel to match the external MIDI device's receive channel.

The transmit channel is determined by the following parameters.

· Patch mode

Tx-Ch parameter (SYSTEM: MIDI: PATCH MIDI)

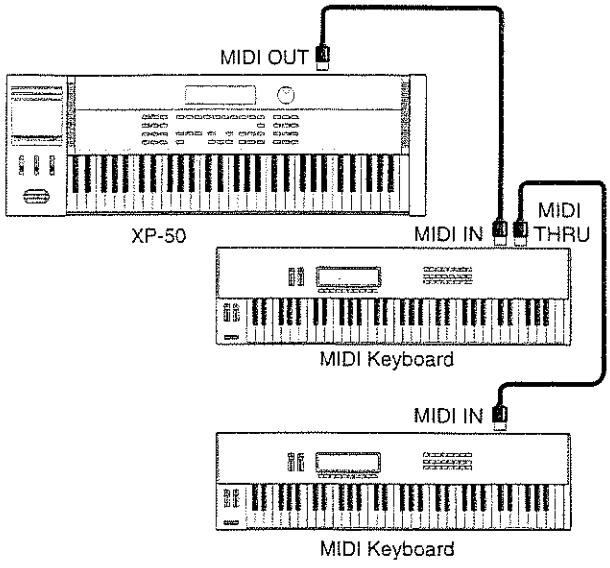
· Performance mode

Channel parameter (PERFORM: MIDI: MIDI)

Turn the Tx parameter (PERFORM: MIDI: MIDI) to ON.

3. If you want to play only the sound source of the external MIDI device, set the Local parameter (SYSTEM: MIDI: PATCH MIDI) / (SYSTEM: MIDI: PERFORM MIDI) to OFF.

If you wish to connect two or more external MIDI devices, use the MIDI THRU connector of the external MIDI device.

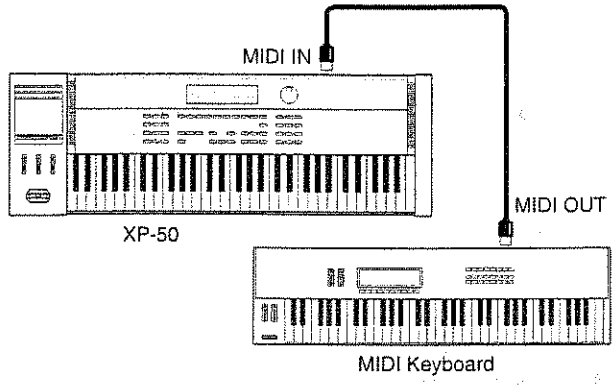


* *If you "daisy-chain" three or more MIDI devices using IN → THRU → IN → THRU ..., the MIDI signal may become garbled, and data errors may occur. In such cases, use a MIDI Thru Box. MIDI Thru Boxes are devices that allow a single stream of MIDI data to be sent to a large number of MIDI devices without causing data errors.*

Playing the XP-50's sound source from an external MIDI device

Procedure

1. Use a MIDI cable to connect the external MIDI device's MIDI OUT connector to the XP-50's MIDI IN connector.



2. Set the XP-50's receive channel to match the external MIDI device's transmit channel.

The receive channel is determined by the following parameters.

- Patch mode

Rx-Ch parameter (SYSTEM: MIDI: PATCH MIDI)

- Performance mode

Channel parameter (PERFORM: MIDI: MIDI)

Turn the Rx parameter (PERFORM: MIDI: MIDI) to ON.

Selecting XP-50 sounds from an external MIDI device

By transmitting Bank Select messages (controller number 0 and 32) and Program Change messages from the external MIDI device to the XP-50, you can select Patches, Performances, or Rhythm Sets. In other words, when you select sounds on an external MIDI keyboard, the corresponding MIDI message will be transmitted to the XP-50, causing the XP-50 to select the appropriate Patch, etc.

* ***If the XP-50 receives only Program Change messages without receiving Bank Select messages, it will select sounds only from the currently selected group such as PR-A or USER.***

Selecting Patches

The MIDI messages transmitted by the external MIDI device will be received by the XP-50 to select Patches as shown in the following table.

Bank MSB	Bank LSB	PC#	Patch group	Patch number
80	0	0—127	User	1—128
81	0	0—127	Preset A	1—128
81	1	0—127	Preset B	1—128
81	2	0—127	Preset C	1—128
81	3	0—127	Preset D (GM)	1—128
84	0	0—127	Wave Expansion Board A	1—128
84	1	0—127	Wave Expansion Board A	129—256
84	2	0—127	Wave Expansion Board B	1—128
84	3	0—127	Wave Expansion Board B	129—256
84	4	0—127	Wave Expansion Board C	1—128
84	5	0—127	Wave Expansion Board C	129—256
84	6	0—127	Wave Expansion Board D	1—128
84	7	0—127	Wave Expansion Board D	129—256

Bank: value of the Bank Select message

PC#: Program number

Example Selecting PR-B Patch number 10 from an external MIDI device

Transmit data to the XP-50 in the following order. (Values are in decimal.)

Controller number 0 (Bank Select MSB button), value 81

Controller number 32 (Bank Select LSB button), value 1

Program number 9

Selecting Performances

The MIDI messages transmitted by the external MIDI device will be received by the XP-50 to select Performances as shown in the following table.

Bank MSB	Bank LSB	PC#	Performance group	Performance number
80	0	0—31	User	1—32
81	0	0—31	Preset A	1—32
81	1	0—31	Preset B	1—32

Bank: value of the Bank Select message

PC#: Program number

In order to select a Performance, the MIDI channel of the transmitting device must match the XP-50's Control Channel parameter (SYSTEM: MIDI: PERFORM MIDI). In order to select the Patch or Rhythm Set of a Part, the transmit channel must match the receive channel of the Part. However if the Control Channel parameter and the receive channel of a Part have the same setting, the Control Channel parameter setting will take priority so that messages received on this channel will select Performances.

Selecting Rhythm Sets

The MIDI messages transmitted by the external MIDI device will be received by the XP-50 to select Rhythm Sets as shown in the following table.

Bank MSB	Bank LSB	PC#	Rhythm set group	Rhythm set number
80	0	0, 1	User	1, 2
81	0	0, 1	Preset A	1, 2
81	1	0, 1	Preset B	1, 2
81	2	0, 1	Preset C	1, 2
81	3	0, 1	Preset D (GM)	1, 2
84	0	0—127	Wave Expansion Board A	1—128
84	1	0—127	Wave Expansion Board A	129—256
84	2	0—127	Wave Expansion Board B	1—128
84	3	0—127	Wave Expansion Board B	129—256
84	4	0—127	Wave Expansion Board C	1—128
84	5	0—127	Wave Expansion Board C	129—256
84	6	0—127	Wave Expansion Board D	1—128
84	7	0—127	Wave Expansion Board D	129—256

Bank: value of the Bank Select message

PC#: Program number

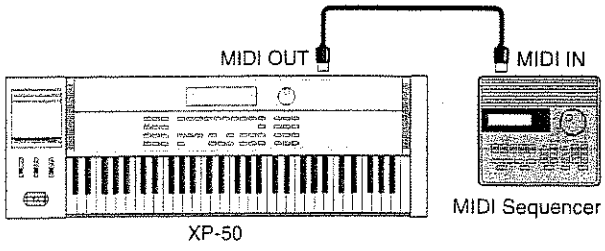
In order to select Rhythm Sets, the MIDI channel of the transmitting device must match the receive channel of Part 10 of the Performance. When the XP-50 is shipped, Part 10 is set to MIDI channel 10.

Synchronizing an external sequencer to the XP-50's sequencer

You can synchronize an external sequencer to the MIDI Clock messages transmitted by the XP-50 so that both sequencers will playback together.

Procedure

1. Use a MIDI cable to connect the XP-50's MIDI OUT connector to the MIDI IN connector of the external sequencer.



2. Press the SEQUENCER button to move to the Song Play display.

3. Set the SyncMode parameter (SYSTEM: SEQUENCER: SEQ MODE) to INTERNAL then set the SyncOut parameter (SYSTEM: SEQUENCER: SEQ MODE) to ON.

4. Set the external sequencer to synchronize to the XP-50's sequencer.

5. When you press the STOP/PLAY button, the XP-50's sequencer and the external sequencer will simultaneously begin playback.

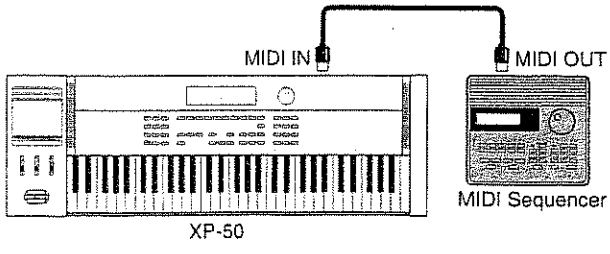
6. When you press the STOP/PLAY button once again, both sequencers will stop playback.

Synchronizing the XP-50's sequencer to an external sequencer

You can synchronize the XP-50's sequencer to the MIDI Clock messages transmitted by an external sequencer so that both sequencers will playback together.

Procedure

1. Use a MIDI cable to connect the external sequencer's MIDI OUT connector to the MIDI IN connector of the XP-50.



2. Press the SEQUENCER button to move to the Song Play display.

3. Set the SyncMode parameter (SYSTEM: SEQUENCER: SEQ MODE) to SLAVE.

4. Set the external sequencer so that it will transmit MIDI Clock messages.

5. When you start playback on the external sequencer, the XP-50's sequencer will begin playback.
When playback ends on the external sequencer, the XP-50's sequencer will also stop playback.

* ***If you want only to control song playback start/stop from an external sequencer and do not want the XP-50 to synchronize to incoming MIDI Clock messages, set the Sync Mode parameter (SYSTEM: SEQUENCER: SEQ MODE) to REMOTE.***

* ***When Song Select message 0 is received from an external sequencer, the song in internal memory (song number 0) will be selected. When Song Select message 1 is received, the first song recorded on disk (song number 1) will be selected.***

* ***When a Song Position Pointer message is received from an external sequencer, the current position of the song in internal memory will change accordingly.***

Recording a song from an external sequencer into the XP-50 sequencer

A song recorded on an external sequencer can be recorded into the XP-50 sequencer using the following procedure.

Procedure

1. Use a MIDI cable to connect the XP-50's MIDI IN connector to the MIDI OUT connector of the external sequencer.

2. Press the SEQUENCER button to move to the Song Play display.

3. Set the SyncMode parameter (SYSTEM: SEQUENCER: SEQ MODE) to SLAVE.

4. Set the external sequencer so that it will transmit MIDI Clock messages.

5. Press the REC button and set the parameters.

6. When you playback the song on the external sequencer, the XP-50 sequencer will begin recording.
When the external sequencer finishes playing back the song, the XP-50 sequencer will stop recording.

Chapter 12. Supplementary material

Troubleshooting

If the XP-50 does not produce sound, or if it does not function the way you expect, first check the following points. If this does not help you resolve the problem, contact your dealer or a nearby Roland service station.

Unfortunately, it may be impossible to restove the contents of data stored on disk once it has been corrupted. Roland assumes no liability concerning such loss of data.

No sound when you play the keyboard

→The power is turned off on the XP-50 or connected equipment.
→The XP-50's master volume slider is turned down.
→The volume of the connected amp/mixer is turned down.
→The audio cables are not connected correctly.
→An audio cable is broken.
→When a layer-type Performance is selected, the Local switch of the Part is turned off.
Set the Local parameter (PERFORM: MIDI: MIDI) to ON.
→The Local switch of the System is turned OFF.
Performance mode: Set the Local parameter (SYSTEM: MIDI: PERFORM MIDI) to ON.
Patch mode: Set the Local parameter (SYSTEM: MIDI: PATCH MIDI) to ON.
GM mode: Set the Local parameter (SYSTEM: MIDI: GM MIDI) to ON.
→All Tones in the Patch are turned off.
Press the TONE SWITCH buttons to make the indicators light.
→If a specific area of the keyboard does not make sound, check the Key Range settings of the Patch and Performance. If either of the Key Range settings has been made, there will be sound only in the area permitted by both Key Range settings.
Check the Key Range displays for both Patch and Performance (PATCH: COMMON and PERFORM: COMMON).
→Messages such as Volume or Expression have been received during song playback, from pedal movements, or from an external device, lowering the volume.
Use the Panic function to raise the volume.
If you are in Performance mode, access the INFO display (PERFORM: INFO) to check the settings of the Volume message (Vol) and Expression message (Exp) parameters, and make the appropriate settings.
→The selected Patch or Rhythm Set uses waves from a Wave Expansion Board, but the necessary Wave Expansion Board is not installed.

Pitch is incorrect

→Tuning of the XP-50 is incorrect.
Check the Master parameter (SYSTEM: TUNE: TUNE).
→The pitch has been affected by Pitch Bend messages received from a song playback, pedal operations, or external MIDI devices.
Use the Panic function to reset the original values.
If you are in Performance mode, access the INFO display (PERFORM: INFO) to check the settings of the Pitch Bend Message parameter (Bend), and make the appropriate settings.

Effects do not apply

→The EFX, Chorus, or Reverb effect switches are turned off.
To check these settings, press the EFFECTS ON/OFF button.

No sound when a song is played back

→The Phrase tracks are muted.
→The Receive switch of the Performance is turned off.
Set the Rx parameter (PERFORM: MIDI: MIDI) to ON.

Song does not playback correctly

→The song is being played back from the middle.
If you move the measure location and playback a song, the data in the intervening measures has not been sent to the internal sound source, so resuming playback may result in incorrect sound. In order to transit the changes in the intervening measures to the sound source so that playback will be correct, hold down the SHIFT button and press the START/STOP button (MIDI update).
→A GS-format song is being played back.
The XP-50 is compatible with the GM system, but not with the GS format.

Cannot record a song

→When a layer-type Performance is selected, the Local switch of the Part is turned off.
Set the Local parameter (PERFORM: MIDI: MIDI) to ON.
→The Local switch of the System settings is turned off.
Performance mode: Set the Local parameter (SYSTEM: MIDI: PERFORM MIDI) to ON.
Patch mode: Set the Local parameter (SYSTEM: MIDI: PATCH MIDI) to ON.
GM mode: Set the Local parameter (SYSTEM: MIDI: GM MIDI) to ON.

Sequencer does not work

→The SyncMode parameter (SYSTEM: SEQUENCER: SEQ MODE) is set to "SLAVE".

Pattern does not playback

→A Pattern Call message is recorded in a Pattern.
Pattern Call messages recorded in a Pattern are ignored. This means that if that Pattern is played back, the Patterns referenced by Pattern Call messages inside that Pattern will not playback.

Error messages

If there has been a mistake in operation, or if the XP-50 is unable to continue processing as you directed, an error message will appear in the display. Take the appropriate action for the displayed error message. This section gives the error messages in alphabetical order.
Unfortunately, it may be impossible to restove the contents of data stored on disk once it has been corrupted. Roland assumes no liability concerning such loss of data.

Battery Low

Situation: The internal backup battery that is preserving the contents of user memory has run down.
Action: Consult your dealer or a nearby Roland service station to have the battery replaced.

Chain Step Over

Situation: Up to 98 songs can be registered in a chain. It is not possible to register more songs than this.

Check Sum Error

Situation: The check sum of a received Exclusive message was incorrect.
Action: Try re-transmitting the Exclusive message.

Disk Full

Situation: There is insufficient space available on the disk to save the data.
Action: Either insert a different disk, or delete unnecessary data and try the operation once again.

Disk I/O Error

Situation: It is possible that the disk has been scratched or otherwise damaged, or that the disk drive is malfunctioning.
Action: If the disk has been damaged, do not use that disk. If the disk drive is malfunctioning, it can possibly damage data on the disk. Test the disk drive by inserting another disk that does not contain important data. If the same error message appears repeatedly, consult your dealer or a nearby Roland service station.

Data not Found

Situation: Since data was not found at the specified location, the operation could not be executed.
Action: Specify the correct location.

Disk not Ready

Situation: A disk is not inserted in the disk drive.
Action: Insert a disk.

Disk Write Protected

Situation: Since the write protect tab of the disk is in the Protect position, data cannot be written to the disk.
Action: Set the write protect tab of the disk to the Write Permit position, and try the operation again.

File Format Error

Situation: The XP-50 cannot handle this file.

File I/O Error

Situation: It was not possible to save/load a file (not a song).
Action: Try the operation once again. If the same message appears, that file has been damaged. Delete the damaged file.

File Name Duplicate

Situation: A file of the same name exists on the disk.
Action: Use a different file name.

File Name Format Error

Situation: A filename has not been assigned.
Action: Assign a filename.

File not Found

Situation: The specified file was not found.
Action: Insert the disk that contains the specified file, and try the operation once again.

Master Disk

Situation: This disk is a Master disk. Master disks cannot be formatted or used to save data.

Memory Full

Situation: Internal memory is full, and operation cannot be continued.
Action: If you wish to continue operation, delete unwanted data.

MIDI Communication Error

Situation: A problem has occurred with the MIDI cable connections.
Action: Check that MIDI cables are not broken or pulled out.

Next Song Queue Full

Situation: Up to 3 songs can be reserved for Quick Play. If 3 songs have already been reserved, no more can be reserved.

No Track Selected

Situation: No Phrase track has been selected for quantization, so the operation cannot be executed.
Action: Specify the Phrase track(s) you want to quantize, and repeat the operation.

Position Error

Situation: An inappropriate specified area.
Action: Specify the correct area.

Receive Data Error

Situation: A MIDI message was received incorrectly.
Action: If the same error message is displayed repeatedly, there is a problem with the MIDI messages that are being transmitted to the XP-50.

Same Track Pattern Selected

Situation: The same Phrase Track or Pattern is selected.
Action: Select a different Phrase Track or Pattern.

Song Data Format Error

Situation: The song file is damaged, or the disk drive may be malfunctioning.
Action: If the song file is damaged, do not use that song. If the disk drive is malfunctioning, it may damage disks that are inserted. Test the disk drive by inserting another disk that does not contain important data. If the same error message appears repeatedly, consult your dealer or a nearby Roland service station.

Song I/O Error

Situation: The song could not be saved/loaded.
Action: Try the operation once again. If the same message appears, that song may be damaged, and should be erased.

Unformatted Disk

Situation: This disk cannot be used by the XP-50.
Action: Format the disk on the XP-50.

User Memory Damaged

Situation: The data in user memory has been lost.
Action: Use the Factor Preset function (UTILITY: SOUND: PRESET: FACTORY PRESET) to initialize the memory to the factory settings.

User Memory Write Protected

Situation 1: The Internal parameter (UTILITY: SOUND: PROTECT: WRITE PROTECT) is turned ON.
Action 1: Turn the Internal parameter OFF.
Situation 2: The Exclusive parameter (UTILITY: SOUND: PROTECT: WRITE PROTECT) is turned ON, and Exclusive messages cannot be received.
Action 2: Turn the Exclusive parameter OFF.

Volume Name Format Error

Situation: It is not possible to assign a blank volume name.
Action: Specify a character or symbol.

You Cannot Copy This Message

Situation: The specified data cannot be copied.

You Cannot Delete End of Step

Situation: The "END" step cannot be deleted.

You Cannot Erase This Message

Situation: The specified data cannot be erased.

You Cannot Move This Message

Situation: The specified data cannot be moved.

You Cannot Save This Song as an SMF

Situation: This song contains a copyright notice. Songs that contain a copyright notice cannot be saved as a Standard MIDI File.
Action: Save the data as a XP-50 song.

You Cannot UNDO!!

Situation: The last-executed operation cannot be undone using the Undo function.

Quick reference of procedures

The XP-50 has a large number of functions. This section gives the procedures for using some of the frequently-used functions. For functions that are used simply by setting the applicable parameter, only the "Parameter name (mode: display group: display)" is listed.

* *Panel buttons are indicated by [ ].*
* *"[A] + [B]" indicates that you are to hold down [A] and press [B].*

Patch mode

Selecting the Patch mode Play display

Press [PATCH].

Selecting a Patch

Use the Alpha-dial, INC/DEC buttons, or numeric keys to select.

Using the numeric keys to select the Patch group

Press [SHIFT] + numeric keys.

Selecting Patches using the Digit Hold function

1. Press [SHIFT] + [ENTER] (turn on the Digit Hold function)
2. Use the numeric keys to specify the number of the one's place.

* *To turn off the Digit Hold function, press [SHIFT] + [ENTER] once again.*

Transposing the keyboard by octave

Press [-OCT] or [+OCT].

Transposing the keyboard in semitone steps

Transpose on/off: press [SHIFT] + [RPS]
Lower the keyboard: press [SHIFT] + [-OCT]
Raise the keyboard: press [SHIFT] + [+OCT]

Modifying a Patch (basic procedure)

1. Make the [EDIT] button indicator light.
2. Use the function buttons to select the display group.
3. Use ▲ / ▼ to select the desired display page.
4. Turn off the [EDIT] button indicator.
5. Use [TONE SELECT] (function buttons) to select the Tone
6. Use ◀ / ▶ to select a parameter.
7. Use the Alpha-dial, [INC] [DEC], or the numeric keys to modify the value.

* *If you wish to move to a different parameter group, turn on the [EDIT] indicator.*

Changing the Patch assigned to a Performance

1. Press [PERFORM] + [PATCH].
2. Use ◀ / ▶ to select a Part.
3. Use the Alpha-dial, [INC] [DEC], or the numeric keys to select a Patch. The rest is the same as for the basic procedure listed above.

Simultaneously modifying the values of two or more Tones

In a Tone setting display, hold down the [TONE SELECT] (function button) for one Tone, and press the button(s) for the other Tone(s) you want to edit.

Adjusting the volume of a Patch

Level parameter (PATCH: COMMON: PATCH COMMON)

Adjusting the pan position of a Patch

Pan parameter (PATCH: COMMON: PATCH COMMON)

Performance mode

Selecting the Performance mode Play display

Press [PERFORM].

Selecting a Part to play from the keyboard (for a single-type Performance)

Use ◀ / ▶.

Changing the Patch / Rhythm Set assigned to a Part

1. Press [PERFORM] + [PATCH].
2. Use ◀ / ▶ to select a Part.
3. Use the Alpha-dial, [INC] [DEC], or the numeric keys to select a Patch or Rhythm Set.

Using the numeric keys to select the Performance / Patch / Rhythm Set group

Press [SHIFT] + numeric keys.

Selecting Performances using the Digit Hold function

1. Press [SHIFT] + [ENTER] (turn on the Digit Hold function)
2. Use the numeric keys to specify the number of the one's place.

* *To turn off the Digit Hold function, press [SHIFT] + [ENTER] once again.*

Modifying a Performance (basic procedure)

1. Make the [EDIT] indicator light.
2. Use the function buttons to select the display group.
3. Use ▲ / ▼ to select the desired display page.
4. Turn off the [EDIT] button indicator.
5. Use [PART] (function buttons) to select the Tone
6. Use ◀ / ▶ to select a parameter.
7. Use the Alpha-dial, [INC] [DEC], or the numeric keys to modify the value.

* *If you wish to move to a different parameter group, turn on the [EDIT] indicator.*

Adjusting the volume of a Part

1. Turn on the [EDIT] indicator.
2. Press [PART].
3. Use ▲ / ▼ to select the PART SETTING display.
4. Set the Level parameter.

Adjusting the pan position of a Part

1. Turn on the [EDIT] indicator.
2. Press [PART].
3. Use ▲ / ▼ to select the PART SETTING display.
4. Set the Pan parameter.

Modifying a Rhythm Set (basic procedure)

1. Press [PERFORM] + [PATCH].
2. Use ◀ / ▶ to select Part 10.
3. Use the Alpha-dial, [INC] [DEC], or the numeric keys to select a Rhythm Set.
4. Make the [EDIT] indicator light.
5. Use the function buttons to select the parameter group.
6. Use ▲ / ▼ to select the desired display page.
7. Use ◀ / ▶ to select a parameter.
8. Use the keyboard to select a rhythm instrument.
9. Use the Alpha-dial, [INC] [DEC], or the numeric keys to modify the value.

Controller settings

Changing the range of the Pitch Bend lever (for each Patch)

Bend Range parameter (PATCH: CONTROL: KEY MODE & BENDER)

Selecting the MIDI messages controlled by the C1/2 sliders

Assign parameter (SYSTEM: CONTROL: C1/2 ASSIGN)

Reversing the polarity of PEDAL 1/2 (when using a pedal of another manufacturer whose polarity is reversed)

Polarity parameter (SYSTEM: CONTROL: PEDAL 1/2 ASSIGN)

Controlling Patch parameters with a slider or pedal

You can specify up to three control sources (MIDI messages used for control). However control source 1 is fixed at "modulation". For each control source, you can specify up to four control destinations (parameters to be controlled).

1. Specify the MIDI message to be controlled by each controller (C1/2, PEDAL 1/2) (see above).
2. Select the control source.
Control 2/3 parameter (PATCH: CONTROL: CONTROL SOURCE)
3. Specify the control destination (the parameter to be controlled).
Control Destination parameter (PATCH: CONTROL: CONTROL 1/2/3)

** If you do not need to set different control sources for each Patch, set the Control 2/3 parameters (PATCH: CONTROL: CONTROL SOURCE) to "SYS-CTRL1" or "SYS-CTRL", and set the Control 1/2 parameters (SYSTEM: CONTROL: SYS-CTRL ASSIGN) to the MIDI messages that you wish to use for control.*

Adjusting the keyboard response

Sens parameter (SYSTEM: CONTROL: KEYBOARD)

Set the keyboard to produce a fixed velocity

Vel parameter (SYSTEM: CONTROL: KEYBOARD)

Playback

Using Quick Play

1. Insert the disk.
2. Press [SEQUENCER].
3. Select a song.
4. Press [STOP/PLAY] to begin playback.

Muting playback of a specific Phrase track

** When Quick Playing a SMF song, this procedure cannot be used to mute a track.*

1. Turn off the [EDIT] indicator.
2. Turn off the [TRACK] indicator (function button) of the track you wish to mute.

Loading a song from disk into internal memory

1. Press [UTILITY].
2. Select "2: LOAD".
3. Select "1: SONG".
4. Select a song.
5. Press [ENTER].

Playing back a Pattern

1. Load a song from disk into internal memory (refer to previous item).
2. Press [SEQUENCER].
3. Press [PATTERN TRACK].
4. Select the Pattern number.
5. Press [STOP/PLAY] to begin playback.

Using the MIDI Update function (transmitting the messages of a song up to the current location)

While the song is stopped, press [SHIFT] + [STOP/PLAY].

Successively playback songs from disk in a specified order (Chain Play)

1. Press [CHAIN PLAY].
2. Select the Loop mode (ONEWAY or REPEAT).
3. Move the cursor to "END" and change it to "PLAY".
4. Use ◀ / ▶ to move the cursor to the right, and select a song.
5. Press [FWD] to move to the next step.
6. Repeat steps 3--5.
7. When you finish making settings, press [SHIFT] + [BWD] to return to the first step.
8. Press [STOP/PLAY] to playback.

Recording

Changing the time signature

1. Press [M.SCOPE].
2. Turn off the [EDIT] indicator.
3. Press [TEMPO/BEAT TRACK] to select the Beat track.
4. Move to the measure whose time signature you wish to modify.
5. Move the cursor to "Beat", and set the numerator and denominator of the time signature.

Realtime recording (Replace)

1. Press [SEQUENCE].
2. Turn on the [REC] indicator.
3. Use the [TRACK] (function buttons) to select the track you wish to record.
4. Make settings for recording.

Mode=REPLACE, Loop=OFF, M= measure at which to begin recording, ♩=tempo, CountIn= method with which to start recording

** **Make quantize settings as desired.***

5. Start recording using the method you specified in CountIn.
6. When you finish recording, press [STOP/PLAY].

Realtime recording (Mix+Loop)

1. Press [SEQUENCE].
2. Turn on the [REC] indicator.
3. Use the [TRACK] (function buttons) to select the track you wish to record.
4. Make settings for recording.

Mode=MIX, Loop= the number of measures to loop, M= measure at which to begin recording, ♩=tempo, CountIn= method with which to start recording

** **Make quantize settings as desired.***

5. Start recording using the method you specified in CountIn.
6. When you finish recording, press [STOP/PLAY].

< Erasing recorded notes during recording (Realtime Erase) >

1. Turn on the [EDIT] indicator.
2. Press [(ERASE)] (function button), and erase notes using the following procedure.

To erase notes of a specific key, hold down that key. Notes will continue to be erased as long as you hold down the key.

To erase notes in a specific range of keys, hold down the bottom and top key in that range. Notes will continue to be erased as long as you hold down the keys.

To erase all data (except for Pattern Call messages), hold down [REC]. Data will continue to be erased as long as you hold down the button.

Realtime recording the changes in tempo

1. Press [SEQUENCE].
2. Turn on the [REC] indicator.
3. Press the [TEMPO/BEAT TRACK] button to select the Tempo track.
4. Make settings for recording.

M= measure at which to begin recording, ♩= initial tempo, CountIn= 0

5. Press [STOP/PLAY] to start recording.
6. Use the Alpha-dial, [INC] [DEC], or the numeric keys to change the tempo.
7. When you finish recording, press [STOP/PLAY].

Step recording (inputting notes)

1. Press [M.SCOPE].
2. Turn off the [EDIT] indicator.
3. Use the [TRACK] (function buttons) to select the phrase track you wish to record.
4. Press [REC] to get the Step Recording display.
5. Make settings for Step Time, Gate Time Ratio, and Velocity.
6. Press and release the note you wish to input.
7. Repeat steps 5—6.
8. When you finish inputting notes, press [STOP/START].

Inputting chords: Press each of the notes in the chord, and release them simultaneously.

Inputting rests: Select a note length of the same length as the desired rest, and press [REST] (function button).

Inputting ties: Input the first note of the tie, and press [TIE] (function button).

Inputting dotted notes: First input the undotted note. Then select a note length of half the previous note, and press [TIE] (function button).

Deleting the last-input note: Press [BWD].

Step recording (assigning a Pattern to a Phrase track)

1. Press [M.SCOPE].
2. Turn off the [EDIT] indicator.
3. Use [TRACK] (function button) to select the track to which you want to assign a Pattern.
4. Press [REC].
5. Press [PATTERN TRACK].
6. Select the desired Pattern number, and press [ENTER].
7. Repeat step 6.
8. When you finish assigning Patterns, press [STOP/START].

Recording on the Pattern track

1. Press [SEQUENCER].
2. Turn off the [EDIT] indicator.
3. Press [PATTERN TRACK].
4. Select a Pattern number.

The rest of the procedure is the same as when recording on a Phrase track.

Turning the metronome on/off

Press [SHIFT] + [METRONOME].

Adjusting the volume of the metronome

Metronome parameter (SYSTEM: SEQUENCER: SEQ MODE)

Initializing a song from internal memory

1. Press [SEQUENCER].
2. Turn on the [EDIT] indicator.
3. Press [SEQ UTILITY].
4. Press [ENTER].

Preventing specific MIDI messages from being recorded

SEQ REC SWITCH display (SYSTEM: SEQUENCER)

The RPS function

Making settings for the RPS function

1. Load a song containing Patterns into internal memory.
2. Turn on the [RPS] indicator.
3. Press [SEQUENCER].
4. Turn on the [EDIT] indicator.
5. Press [RPS] (function button).
6. Select the PHRASE SEQUENCE display, and specify how the Pattern will be synchronized to the song.
7. Select the SEQ SET display.
8. Press the key to which you want to assign the Pattern, and specify the Pattern to be played back and the playback method.

** RPS settings are saved as part of the song data.*

Using the RPS function

1. Press [SEQUENCER].
2. Turn on the [RPS] indicator.
3. Press a key to which a Pattern has been assigned.

** If you have specified that Pattern playback be synchronized to the song, you must playback the song.*

Saving and loading data

** After completing these procedures, press [UTILITY] to return to the Play display.*

Formatting a disk

1. Press [UTILITY].
2. Select "5: DISK".
3. Select "1: FORMAT".
4. Press [ENTER].

** If desired, you can assign a volume name in the display of step 4.*

Saving Patch settings

1. In Patch mode, press [UTILITY].
2. Select "1: WRITE".
3. Specify the writing destination.
4. Press [ENTER].

If a message of "Internal Write Protect=ON" appears, change it to "OFF" and press [ENTER] twice.

** If you wish to hear the sound of the Patch in the selected writing destination, press [COMPARE]. Press it once again to return to the previous display.*

Saving Performance settings

1. In Performance mode, press [UTILITY].
2. Select "1: WRITE".
3. Specify the writing destination.
4. Press [ENTER].

If a message of "Internal Write Protect=ON" appears, change it to "OFF" and press [ENTER] twice.

Saving Rhythm Set settings

1. In Rhythm Set mode, press [UTILITY].
2. Select "1: WRITE".
3. Specify the writing destination.
4. Press [ENTER].

If a message of "Internal Write Protect=ON" appears, change it to "OFF" and press [ENTER] twice.

Saving user memory settings and system settings (except for sequencer-related settings) to disk as a unit

1. Press [UTILITY].
2. Select "3: SAVE".
3. Select "4: SOUND".
4. Assign a filename.
5. Press [ENTER].

Saving a song to disk

1. Press [UTILITY].
2. Select "3: SAVE".
3. Select "1: SONG".
4. Assign a filename.
5. Press [ENTER].

* ***If the display asks "Overwrite?", a song file of the same name already exists on disk. If you wish to overwrite the old file, press [ENTER]. If you wish to save the file with a different name, press [EXIT] to cancel the procedure, assign a different filename, and press [ENTER] once again.***

Copying a disk

* ***It is necessary to erase the data in internal memory in order to execute this procedure. If internal memory contains important data, be sure to save it to disk before you begin.***

1. Press [UTILITY].
2. Select "5: DISK".
3. Select "2: BACKUP".
4. When the display indicates "Clear Internal Song for BACKUP" press [ENTER].
5. When the display indicates "Insert Destination Disk" insert the copy source disk and press [ENTER].
6. When the display indicates "Insert Source Disk" insert the copy destination disk and press [ENTER].
7. Repeat steps 5--6.

When the disk has been copied, the display will indicate "Backup Complete".

Deleting a file from disk

1. Press [UTILITY].
2. Select "5: DISK".
3. Select "5: DELETE".
4. Select the file type (SONG or FILE).
5. Select the file that you wish to delete.
6. Press [ENTER].

Checking the free area of a disk, etc.

1. Press [UTILITY].
2. Select "5: DISK".
3. Select "7: INFO".
4. Press ▼ to access the DISK INFO display.

Microscope edit

Modifying the value of a message

1. Press [M.SCOPE].
2. Display the message that you wish to modify.
3. Modify the displayed value.

Inserting a message

1. Press [M.SCOPE].
2. Specify the location at which the message will be inserted.

* ***Move the cursor to the measure to specify the measure, to the beat to specify the beat, and to the clock to specify the clock. To specify a clock location where no message currently exists, use the numeric keys.***

3. Turn on the [EDIT] indicator.
4. Press [CREATE].
5. Specify the message and press [ENTER].

Deleting a message

1. Press [M.SCOPE].
2. Display the MIDI message that you wish to delete.
3. Turn on the [EDIT] indicator.
4. Press [ERASE].

Moving a message

1. Press [M.SCOPE].
2. Display the MIDI message that you wish to move.
3. Turn on the [EDIT] indicator.
4. Press [MOVE].
5. Input the new location for the message.
6. Press [ENTER].

Copying a message

1. Display the message that you wish to copy.
2. Press [COPY] to copy the message to a temporary buffer.
3. Move to the location where you wish to copy the message.
4. Press [PLACE].

Controlling external MIDI devices

Changing the transmit channel for Patch mode

Tx-Ch parameter (SYSTEM: MIDI: PATCH MIDI)

Changing the transmit channel for Performance mode (for each Part)

Channel parameter (PERFORM: MIDI: MIDI)

* ***Keyboard and controller movements (MIDI messages) from the controller section are transmitted differently depending on whether a single-type Performance or a layer-type Performance is selected. If a single-type Performance is selected, MIDI messages will be transmitted on the MIDI channel of the Part that is being played by the keyboard. If a layer-type Performance is selected, MIDI messages will be transmitted on the MIDI channel of the Parts whose Tx parameter (PERFORM: MIDI: MIDI) is turned ON.***

Turning off transmission of Program Change / Bank Select MIDI messages (System)

TRANSMIT MIDI display (SYSTEM: MIDI)

Transmitting Bank Select messages for the Patch assigned to a specific Part when a Performance is selected

1. Set the Bank Select Group parameter (PERFORM: MIDI: TRANSMIT) to the desired Bank Select Group number (BS1--7).
2. In the BANK SEL GROUP display (SYSTEM: MIDI: BANK SEL GROUP), select the Bank Select Group that you specified in step 1.
3. Turn the Switch parameter ON, and specify the MSB and LSB.

Controlling the XP-50 from an external MIDI device

Changing the receive channel on which Performances will be selected

Control Channel parameter (SYSTEM: MIDI: PERFORM MIDI)

Changing the receive channel of a Part (Performance mode)

Channel parameter (PERFORM: MIDI: MIDI)

Changing the receive channel (Patch mode)

Rx-Ch parameter (SYSTEM: MIDI: PATCH MIDI)

Turning off reception of Program Change / Bank Select MIDI messages (System mode)

RECEIVE MIDI display (SYSTEM: MIDI)

Turning reception of Volume / Hold 1 / Program Change MIDI messages ON/OFF for each Part (Performance mode)

PART Rx SWITCH display (PERFORM: MIDI)

Turning reception of Volume / Pan / Hold 1 / Redamper MIDI messages ON/OFF for each Tone (Patch mode)

Rx SWITCH/DAMPER display (PATCH: CONTROL)

Checking the MIDI message reception status (Performance mode)

PART INFO display (PERFORM: INFO)

Other

Using the Panic function

Press [SHIFT] + [PANIC].

Adjusting the tuning

Master parameter (SYSTEM: TUNE: TUNE)

Adjusting the display contrast

LCD Contrast parameter (SYSTEM: CONTRAST)

Restoring the temporary Performance / Patch / Rhythm Set to the factory setting

1. Select a Performance, Patch, or Rhythm Set.
2. Press [UTILITY].
3. Select "4: SOUND".
4. Select "2: INIT".
5. Select "PRESET".
6. Press [ENTER].

Restoring the XP-50 to the factory settings

1. Select a Performance, Patch, or Rhythm Set.
2. Press [UTILITY].
3. Select "4: SOUND".
4. Select "5: PRESET".
6. Press [ENTER].

Patch Paramaters

**** Parameters that can be set independently for each Tone are indicated by "T."***

COMMON Group (p.23)

Display	Parameter		Value	
PATCH NAME	——	Patch name	ASCII Characters (max. 12)	
PATCH CLOCK	Source	Patch clock source	PATCH, SEQUENCER	
	Tempo	Patch tempo	20—250	
PATCH COMMON	Level	Level	0—127	
	Pan	Pan	L64—0—63R	
	Analog Feel	Analog feel depth	0—127	
	Octave	Octave shift	-3—0—+3	
	Stretch	Stretch tune depth	OFF, 1, 2, 3	
	Priority	Voice priority	LAST, LOUDEST	
	VelRang	Velocity range switch	OFF, ON	
VELOCITY	Lower	Velocity range lower	1—Upper	T
	Upper	Velocity range upper	Lower—127	T
	Cross Fade	Velocity cross fade	0—127	T
KEY RANG	Lower	Key range lower	C-1—Upper	T
	Upper	Key range upper	Lower—G9	T
STRUCT	Type	Structure type	1—10	T
	Booster	Booster gain	0, +6, +12, +18 dB	T

EFFECTS Group (p.25)

Display	Parameter		Value	
OUTPUT	Output Assign	Output assign	MIX, EFX	T
		Output level	0—127	T
	Chorus	Chorus send level	0—127	T
	Reverb	Reverb send level	0—127	T
PATCH EFX TYPE	Type	EFX type	*1	
PATCH EFX PRM	*1	Patch EFX parameter		
PATCH EFX OUT	Mix Out	EFX output level	0—127	
	Chorus	Chorus send level	0—127	
	Reverb	Reverb send level	0—127	
PATCH EFX CTRL	——	EFX control source1, 2	*2	
	——	EFX control depth1, 2	-63—+63	
PATCH CHORUS	Rate	Chorus rate	0—127	
	Depth	Chorus depth	0—127	
	Delay	Chorus pre delay	0—127	
	Fbk	Chorus feedback level	0—127	
	Level	Chorus level	0—127	
	Out	Chorus output assign	MIX, REV, M+R	
PATCH REVERB	Type	Reverb/Delay type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2, DELAY, PAN-DLY	
	Time	Reverb/Delay time	0—127	
	Fbk	Delay feedback level	0—127	
	HF Damp	Reverb/Delay HF damp	*3	
	Level	Reverb/Delay level	0—127	

*1: Refer to EFX parameters.
*2: OFF, SYS-CTRL1, SYS-CTRL2, MODULATION, BREATH, FOOT, VOLUME, PAN, EXPRESSION, BENDER, AFTERTOUCH
*3: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

CONTROL Group (p.27)

Display	Parameter		Value	
KEY MODE&BENDER	Assign	Key assign mode	POLY, SOLO	
	Legato	Solo legato switch	OFF, ON	
	Bend Range	Bend range down	-48—0 semitone	
		Bend range up	0—+12 semitone	
PORTAMENT	Sw	Portament switch	OFF, ON	
	Time	Portament time	0—127	
	Mode	Portament mode	NORMAL, LEGATO	
	Type	Portament type	RATE, TIME	
	Start	Portament start pitch	PITCH, NOTE	
RxSWITCH	Volume	Receive volume switch	OFF, ON	T
	Pan	Receive pan control switch	OFF, CONT, KEY-ON	T
	Bender	Receive pitch bend switch	OFF, ON	T
DAMPER	Hold-1 RxSwitch	Receive hold-1 switch	OFF, ON	T
	Redamper	Redamper switch	OFF, ON	T

PEAK&HOLD	EfxCtrl	EFX control peak/hold	OFF, HOLD, PEAK	
	Ctrl 1	Control1 peak/hold	OFF, HOLD, PEAK	
	Ctrl 2	Control2 peak/hold	OFF, HOLD, PEAK	
	Ctrl 3	Control3 peak/hold	OFF, HOLD, PEAK	
CONTROL SOURCE	Control 2	Control source 2	*1	
	Control 3	Control source 3	*1	
CONTROL 1	Destination	Control destination 1—4	*2	T
	Depth	Control depth 1—4	-63—+63	T
CONTROL 2	Destination	Control destination 1—4	*2	T
	Depth	Control depth 1—4	-63—+63	T
CONTROL 3	Destination	Control destination 1—4	*2	T
	Depth	Control depth 1—4	-63—+63	T

*1: OFF, SYS-CTRL1, SYS-CTRL2, MODULATION, BREATH, FOOT, VOLUME, PAN, EXPRESSION, BENDER, AFTERTOUCH, LFO1, LFO2, VELOCITY, KEYFOLLOW, PLAYMATE

*2: OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R

WAVE Group (p.29)

Display	Parameter		Value	
WAVE	Group	Wave group	INT-A, INT-B, XP-A, XP-B, XP-C, XP-D	T
	Number	Wave number	001—255	T
	Gain	Wave gain	-6, 0, 6, 12 dB	T
	Switch	Tone switch	OFF, ON	T
FXM	Switch	Frequency cross modulation switch	OFF, ON	T
	Color	Frequency cross modulation color	1—4	T
	Depth	Frequency cross modulation depth	1—16	T
TONE DELAY	Mode	Tone delay mode	*1	T
	Time	Tone delay time	0—127/0—880/0—5000 (*2)	T

*1: NORMAL, HOLD, PLAYMATE, CLOCK-SYNC, KEY-OFF-N, KEY-OFF-D

*2: When the Tone Delay Mode parameter is set to "CLOCK-SYNC" this is set as a Note value.

LFO Group (p.30)

Display	Parameter		Value	
LFO1	Form	LFO form	TRI, SIN, SAW, SQR, TRP, S&H, RND, CHS	T
	KeyTrigger	LFO key triger	OFF, ON	T
	Rate	LFO rate	0—127, 0—880 (*1)	T
	ExtSync	LFO external sync	OFF, CLOCK	T
	Mode	LFO fade mode	ON-IN, ON-OUT, OFF-IN, OFF-OUT	T
	Delay	LFO delay time	0—127	T
	Fade	LFO fade time	0—127	T
	Offset	LFO offset	-100, -50, 0, +50, +100	T
LFO2	*2			T
LFO DEPTH1:2	Pitch	Pitch LFO depth 1, 2	-63—+63	T
	TVF	TVF LFO depth 1, 2	-63—+63	T
	TVA	TVA LFO depth 1, 2	-63—+63	T
	Pan	Pan LFO depth 1, 2	-63—+63	T

*1: When the LFO External Sync parameter is set to "CLOCK" this is set as a Note value.

*2: Same as LFO1.

PITCH Group (p.31)

Display	Parameter		Value	
PITCH	Coarse	Coarse tune	-48—+48 semitone	T
	Fine	Fine tune	-50—+50 cent	T
	Random	Random pitch depth	0—1200 cent (*1)	T
	Keyfollow	Pitch keyfollow	-100—+200 (*2)	T
PCH ENVELOPE	Envelope Depth	Pitch envelope depth	-12—+12	T
	Velocity Sens	Pitch envelope velocity sens	-100—+150	T
PCH TIME ENV	V-T1	Pitch envelope time1 velocity sens	-100—+100 (*3)	T
	V-T4	Pitch envelope time4 velocity sens	-100—+100 (*3)	T
	Time Keyfollow	Pitch envelope time keyfollow	-100—+100 (*3)	T
PCH ENVELOPE	T1, T2, T3, T4	Pitch envelope time 1—4	0—127	T
	L1, L2, L3, L4	Pitch envelope level 1—4	-63—+63	T

*1: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200

*2: -100, -70, -50, -30, -10, 0, +10, +20, +30, +40, +50, +70, +100, +120, +150, +200

*3: -100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100

TVF Group (p.32)

Display	Parameter		Value	
FILTER	Type	Filter type	OFF, LPF, BPF, HPF, PKG	T
	Cut	Cutoff frequency	0—127	T
	Res	Resonance	0—127	T
	Keyfollow	Cutoff frequency keyfollow	-100—+200 (*1)	T
	Env Depth	TVF envelope depth	-63—+63	T
TVF VELOCITY	V-Sens	TVF envelope velocity sens	-100—+150	T
	V-Curve	TVF envelope velocity curve	1—7	T
	V-Resonance	Resonance velocity sens	-100—+150	T
TVF TIME ENV	V-T1	TVF envelope time1 velocity sens	-100—+100 (*2)	T
	V-T4	TVF envelope time4 velocity sens	-100—+100 (*2)	T
	Time Keyfollow	TVF envelope time keyfollow	-100—+100 (*2)	T
TVF ENVELOPE	T1, T2, T3, T4	TVF envelope time 1—4	0—127	T
	L1, L2, L3, L4	TVF envelope level 1—4	0—127	T

*1:- 100, -70, -50, -30, -10, 0, +10, +20, +30, +40, +50, +70, +100, +120, +150, +200

*2: -100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100

TVA Group (p.33)

Display	Parameter		Value	
TVA	Level	Level	0—127	T
	Pan	Pan	L64—0—63R	T
	V-Sens	TVA envelope velocity sens	-100—+150	T
	V-Curve	TVA envelope velocity curve	1—7	T
BIAS	Bias	Bias level	-100—+100 (*1)	T
	Point	Bias point	C-1—G9	T
	Direction	Bias direction	LOWER, UPPER, LOWER&UPPER, ALL	T
PAN MODULATE	Keyfollow	Pan keyfollow	-100—+100 (*1)	T
	Random	Random pan depth	0—63	T
	Alternate	Alternate pan depth	L63—0—63R	T
TVA TIME ENV	V-T1	TVA envelope time1 velocity sens	-100—+100 (*1)	T
	V-T4	TVA envelope time4 velocity sens	-100—+100 (*1)	T
	Time Keyfollow	TVA envelope time keyfollow	-100—+100 (*1)	T
TVA ENVELOPE	T1, T2, T3, T4	TVA envelope time 1—4	0—127	T
	L1, L2, L3	TVA envelope level 1—3	0—127	T

*1: -100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100

Performance Parameters

**** Parameters that can be set independently for each Part are indicated by "P."***

COMMON Group (p.35)

Display	Parameter		Value	
PERFORM NAME	——	Performance name	ASCII Characters (max. 12)	
PERFORM CLOCK	Source	Performance clock source	PERFORM, SEQUENCER	
	Tempo	Performance tempo	20—250	
PERFORM COMMON	Key Mode	Key mode	LAYER, SINGLE	
	Key Range	key range switch	OFF, ON	
KEY RANG	Lower	Key range lower	C-1—Upper	P
	Upper	Key range upper	Lower—G9	P
KEYBOARD	Octave Shift	Octave shift	-3—+3	P

EFFECTS Group (p.35)

Display	Parameter		Value	
OUTPUT	Output Assign	Output assign	MIX, EFX, PATCH	P
		Output level	0—127	P
	Chorus	Chorus send level	0—127	P
	Reverb	Reverb send level	0—127	P
PERFORM EFX TYPE	Type	EFX type	*1	
	Source	EFX source	PERFORM, 1—9, 11—16	
PERFORM EFX PRM	*1	Performance EFX parameters		
PERFORM EFX OUT	Mix Out	EFX output level	0—127	
	Chorus	Chorus send level	0—127	
	Reverb	Reverb send level	0—127	
PERFORM EFX CTRL		EFX control source 1	*2	
		EFX control depth 1	-63—+63	
		EFX control source 2	*2	
		EFX control depth 2	-63—+63	

PERFORM CHORUS	Rate	Chorus rate	0—127
	Depth	Chorus depth	0—127
	Delay	Chorus pre delay	0—127
	Fbk	Chorus feedback level	0—127
	Level	Chorus level	0—127
	Out	Chorus output assign	MIX, REV, M+R
PERFORM REVERB	Type	Reverb/Delay type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2, DELAY, PAN-DLY
	Time	Reverb/Delay time	0—127
	Fbk	Delay feedback level	0—127
	HF Damp	Reverb/Delay HF damp	*3
	Level	Reverb/Delay level	0—127

*1: Refer to EFX parameters.

*2: OFF, SYS-CTRL1, SYS-CTRL2, MODULATION, BREATH, FOOT, VOLUME, PAN, EXPRESSION, BENDER, AFTERTOUCH

*3: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

MIDI Group (p.37)

Display	Parameter		Value	
MIDI	Channel	MIDI channnel	1—16	P
	Rx	Receive switch	OFF, ON	P
	Tx	Transmit switch	OFF, ON	P
	Local	Local switch	OFF, ON	P
RxSWITCH	Volume	Receive volume switch	OFF, ON	P
	Hold-1	Receive hold-1 switch	OFF, ON	P
	Program Change	Receive program change switch	OFF, ON	P
TRANSMIT	BankSelectGroup	Transmit bank select group	PATCH, BS1—BS7	P
	Transmit Volume	Transmit volume	0—127, OFF	P

PART Group (p.38)

Display	Parameter		Value	
PATCH	Group	Patch group	USER, PR-A, PR-B, PR-C, GM, XP-A, XP-B, XP-C, XP-D	P
	Number	Patch number	001—255	P
SETTING	Level	Level	0—127	P
	Pan	Pan	L64—0—63R	P
	Coarse	Coarse tune	-48—+48 semitone	P
	Fine	Fine tune	-50—+50 cent	P
RESERVE	Voice Reserve	Voice reserve	0—64	P

INFORMATION Group (p.39)

Display	Parameter		Value	
INFO	Mod	Modulation information	0—127	P
	Breath	Breath information	0—127	P
	Foot	Foot information	0—127	P
	Vol	Volume information	0—127	P
	Pan	Pan information	L64—0—63R	P
	Exp	Expression information	0—127	P
	Hold	Hold1 information	0—127	P
	Bend	Pitch bend information	-128—+127	P
	Aft	Aftertouch information	0—127	P
	Sys1	System control 1 information	0—127/-128—+127	P
	Sys2	System control 2 information	0—127/-128—+127	P
	Voices	Voice information	0—64	P

Rhythm Set Parameters

COMMON Group (p.40)

Display	Parameter		Value
RHYTHM NAME	——	Rhythm set name	ASCII Characters (max. 12)

EFFECTS Group (p.40)

Display	Parameter		Value
OUTPUT	Output Assign	Output assign	MIX, EFX
		Output level	0—127
	Chorus	Chorus send level	0—127
	Reverb	Reverb send level	0—127
PERFORM EFX TYPE	Type	EFX type	*1
	Source	EFX source	PERFORM, 1—9, 11—16
PERFORM EFX PRM	*1	Performance EFX parameters	
PERFORM EFX OUT	Mix Out	EFX output level	0—127
	Chorus	Chorus send level	0—127
	Reverb	Reverb send level	0—127
PERFORM EFX CTRL	——	EFX control source 1, 2	*2
	——	EFX control depth 1, 2	-63—+63

PERFORM CHORUS	Rate	Chorus rate	0—127
	Depth	Chorus depth	0—127
	Delay	Chorus pre delay	0—127
	Fbk	Chorus feedback level	0—127
	Level	Chorus level	0—127
	Out	Chorus output assign	MIX, REV, M+R
PERFORM REVERB	Type	Reverb/Delay type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2, DELAY, PAN-DLY
	Time	Reverb/Delay time	0—127
	Fbk	Delay feedback level	0—127
	HF Damp	Reverb/Delay HF damp	*3
	Level	Reverb/Delay level	0—127

*1: Refer to EFXparameters.

*2: OFF, SYS-CTRL1, SYS-CTRL2, MODULATION, BREATH, FOOT, VOLUME, PAN, EXPRESSION, BENDER, AFTERTOUCH

*3: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

CONTROL Group (p.41)

Display	Parameter		Value
CONTROL	Bend Range	Bend range	0—12
	Env Mode	Envelope mode	NO-SUS, SUSTAIN
	Mute Group	Mute group	OFF, 1—31
RxSWITCH	Volume	Receive volume switch	OFF, ON
	Pan	Receive pan control switch	OFF, CONT, KEY-ON
	Hold-1	Receive hold-1 switch	OFF, ON

WAVE Group (p.42)

Display	Parameter		Value
WAVE	Group	Wave group	INT-A, INT-B, XP-A, XP-B, XP-C, XP-D
	Number	Wave number	001—255
	Gain	Wave gain	-6, 0, 6, 12 dB
	Switch	Key switch	OFF, ON

PITCH Group (p.42)

Display	Parameter		Value
PITCH	Coarse	Coarse tune	C-1—G9
	Fine	Fine tune	-50—+50 cent
	Random	Random pitch depth	0—1200 cent (*1)
	Env Depth	Pitch envelope depth	-12—+12
PCH VELOCITY	Velocity Sens	Pitch envelope velocity sens	-100—+150
	Velocity Time	Pitch envelope time velocity sens	-100—+100 (*2)
PCH ENVELOPE	T1, T2, T3, T4	Pitch envelope time 1—4	0—127
	L1, L2, L3, L4	Pitch envelope level 1—4	-63—+63

*1: 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200

*2: -100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100

TVF Group (p.43)

Display	Parameter		Value
FILTER	Type	Filter type	OFF, LPF, BPF, HPF, PKG
	Cutoff	Cutoff frequency	0—127
	Resonance	Resonance	0—127
	Env Depth	TVF Envelope depth	-63—+63
TVF VELOCITY	V-Sens	TVF envelope velocity sens	-100—+150
	V-Time	TVF envelope time velocity sens	-100—+100 (*1)
	V-Resonance	Resonance velocity sens	-100—+150
TVF ENVELOPE	T1—4	TVF envelope time 1—4	0—127
	L1—4	TVF envelope level 1—4	0—127

*2: -100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100

TVA Group (p.43)

Display	Parameter		Value
TVA	Level	Level	0—127
	Pan	Pan	L64—0—63R
	Random	Random pan depth	0—63
	Alternate	Alternate pan depth	L63—0—63R
TVA VELOCITY	Velocity Sens	TVA envelope velocity sens	-100—+150
	Velocity Time	TVA envelope time velocity sens	-100—+100 (*1)
TVA ENVELOPE	T1—4	TVA envelope time 1—4	0—127
	L1—3	TVA envelope level 1—3	0—127

*1: -100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100

GM Mode Parameters

**** Parameters that can be set independently for each Part are indicated by "P."***

EFFECTS Group (p.102)

Display	Parameter		Value	
OUTPUT	Output Assign	Output assign	MIX, EFX	P
		Output level	0—127	P
	Chorus	Chorus send level	0—127	P
	Reverb	Reverb send level	0—127	P
GM EFX TYPE	Type	EFX type	*1	
GM EFX PRM	*1	GM EFX parameters		
GM EFX OUT	Mix Out	EFX output level	0—127	
	Chorus	Chorus send level	0—127	
	Reverb	Reverb send level	0—127	
GM CHORUS	Rate	Chorus rate	0—127	
	Depth	Chorus depth	0—127	
	Delay	Chorus pre delay time	0—127	
	Fbk	Chorus feedback level	0—127	
	Level	Chorus level	0—127	
	Out	Chorus output assign	MIX, REV, M+R	
GM REVERB	Type	Reverb/Delay type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2, DELAY, PAN-DLY	
	Time	Reverb/Delay time	0—127	
	Fbk	Delay Feedback level	0—127	
	HF Damp	Reverb/Delay HF damp	*3	
	Level	Reverb/Delay level	0—127	

*1: Refer to EFX parameters.

*2: OFF, SYS-CTRL1, SYS-CTRL2, MODULATION, BREATH, FOOT, VOLUME, PAN, EXPRESSION, BENDER, AFTERTOUCH

*3: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

PART Group (p.103)

Display	Parameter		Value	
PATCH	Number	Patch number	001—128	P
SETTING	Volume	Part volume	0—127	P
	Pan	Part pan	L64—0—63R	P
	Coarse	Coarse tune	-48—+48 semitone	P
	Fine	Fine tune	-50—+50 cent	P

INFORMATION Group (p.103)

Display	Parameter		Value	
INFO	Mod	Modulation information	0—127	P
	Breath	Breath information	0—127	P
	Foot	Foot information	0—127	P
	Vol	Volume information	0—127	P
	Pan	Pan information	L64—0—63R	P
	Exp	Expression information	0—127	P
	Hold	Hold1 information	0—127	P
	Bend	Pitch bend information	-128—+127	P
	Aftertouch	Aftertouch information	0—127	P
	Voices	Voice information	0—64	P

EFX Paramaters

1: STEREO-EQ (p.45)

Parameter		Value
Low Freq	Low frequency	200, 400 Hz
LowGain	Low gain	-15—+15 dB
Hi Freq	High frequency	4000, 8000 Hz
Hi Gain	Hi gain	-15—+15 dB
P1 Freq	Peaking1 frequency	200—8000Hz (*1)
P1 Q	Peaking1 Q	0.5, 1.0, 2.0, 4.0, 8.0
P1 Gain	Peaking1 gain	-15—+15 dB
P2 Freq	Peaking2 frequency	200—8000 Hz (*1)
P2 Q	Peaking2 Q	0.5, 1.0, 2.0, 4.0, 8.0
P2 Gain	Peaking2 gain	-15—+15 dB
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

2: OVERDRIVE (p.45)

Parameter		Value
Drive	Drive	0—127
Level	Output level	0—127
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
AmpType	Amp simulator type	SMALL, BUILT-IN, 2-STACK, 3-STACK
Pan	Output pan	L64—0—63R

3: DISTORTION (p.45)

Parameter		Value
Drive	Drive	0—127
Level	Output level	0—127
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
AmpType	Amp simulator type	SMALL, BUILT-IN, 2-STACK, 3-STACK
Pan	Output pan	L64—0—63R

4: PHASER (p.46)

Parameter		Value
Manual	Manual	100—8000 Hz
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Res	Resonance	0—127
Mix	Mix level	0—127
Pan	Output pan	L64—0—63R
Level	Output level	0—127

5: SPECTRUM (p.46)

Parameter		Value
Band 1	Band1 gain	-15—+15 dB
Band 2	Band2 gain	-15—+15 dB
Band 3	Band3 gain	-15—+15 dB
Band 4	Band4 gain	-15—+15 dB
Band 5	Band5 gain	-15—+15 dB
Band 6	Band6 gain	-15—+15 dB
Band 7	Band7 gain	-15—+15 dB
Band 8	Band8 gain	-15—+15 dB
Width	Band width	1—5
Pan	Output pan	L64—0—63R
Level	Output level	0—127

6: ENHANCER (p.46)

Parameter		Value
Sens	Sens	0—127
Mix	Mix level	0—127
Low Gain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Level	Output level	0—127

7: AUTO-WAH (p.46)

Parameter		Value
Filter	Filter type	LPF, BPF
Sens	Sens	0—127
Manual	Manual	0—127
Peak	Peak	0—127
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Level	Output level	0—127

8: ROTARY (p.47)

Parameter		Value
LowSlow	Low frequency slow rate	0.05—10.0 Hz
Low Fast	Low frequency fast rate	0.05—10.0 Hz
LowAccl	Low frequency acceleration	0—15
Low Lvl	Low frequency level	0—127
Hi Slow	High frequency slow rate	0.05—10.0 Hz
Hi Fast	High frequency fast rate	0.05—10.0 Hz
Hi Accl	High frequency acceleration	0—15
Hi Lvl	High frequency level	0—127
Separation	Separation	0—127
Speed	Speed	SLOW, FAST
Level	Output level	0—127

9: COMPRESSOR (p.47)

Parameter		Value
Attack	Atack	0—127
Sustain	Sustain	0—127
Post Gain	Post gain	0, +6, +12, +18
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Pan	Output pan	L64—0—63R
Level	Output level	0—127

10: LIMITER (p.47)

Parameter		Value
Thresh	Threshold level	0—127
Ratio	Compression ratio	1.5:1, 2:1, 4:1, 100:1
Release	Release time	0—127
Gain	Post gain	0, +6, +12, +18
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Pan	Output pan	L64—0—63R
Level	Output level	0—127

11: HEXA-CHORUS (p.48)

Parameter		Value
Pre Dly	Pre delay time	0.0—100 ms
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Dly Dev	Pre delay deviation	0—20
Dpt Dev	Depth deviation	-20—20
Pan Dev	Pan deviation	0—20
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

12: TREMOLO-CHORUS (p.48)

Parameter		Value
Pre Dly	Pre delay time	0.0—100 ms
ChoRate	Chorus rate	0.05—10.0 Hz
Cho Dpt	Chorus depth	0—127
Phase	Tremolo phase	0—180 degree
TrmRate	Tremolo rate	0.05—10.0 Hz
Trm Sep	Tremolo separation	0—127
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

13: SPACE-D (p.48)

Parameter		Value
Pre Dly	Pre delay time	0.0—100 ms
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Phase	Phase	0—180 degree
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

14: STEREO-CHORUS (p.48)

Parameter		Value
Pre Dly	Pre delay time	0.0—100 ms
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Phase	Phase	0—180 degree
Filter Type	Filter type	OFF, LPF, HPF
Cutoff	Cutoff frequency	200—8000 Hz (*1)
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

15: STEREO-FLANGER (p.49)

Parameter		Value
Pre Dly	Pre delay time	0.0—100 ms
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Fbk	Feedback level	-98—+98 %
Phase	Phase	0—180 degree
Filter Type	Filter type	OFF, LPF, HPF
Cutoff	Cutoff frequency	200—8000 Hz (*1)
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz

16: STEP-FLANGER (p.49)

Parameter		Value
Pre Dly	Pre delay time	0.0—100 ms
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Fbk	Feedback level	-98—+98 %
Phase	Phase	0—180 degree
Step Rate	Step rate	0.05—10.0 Hz, note
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

17: STEREO-DELAY (p.50)

Parameter		Value
Delay L	Delay time left	0.0—500 ms
Delay R	Delay time right	0.0—500 ms
Fbk	Feedback level	-98—+98 %
Mode	Feedback mode	NORMAL, CROSS
Phase L	Feedback phase left	NORMAL, INVERT
Phase R	Feedback phase right	NORMAL, INVERT
HF Damp	HF damp	200—8000 Hz, BYPASS (*1)
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

18: MODULATION-DELAY (p.50)

Parameter		Value
Delay L	Delay time left	0.0—500 ms
Delay R	Delay time right	0.0—500 ms
Fbk	Feedback level	-98—+98 %
Mode	Feedback mode	NORMAL, CROSS
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Phase	Phase	0—180 degree
HF Damp	HF damp	200—8000 Hz, BYPASS (*1)
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

19: TRIPLE-TAP-DELAY (p.51)

Parameter		Value
Delay C	Delay time center	200—1000 ms, note
Delay L	Delay time left	200—1000 ms, note
Delay R	Delay time right	200—1000 ms, note
Fbk	Feedback level	-98—+98 %
Level C	Center level	0—127
Level L	Left level	0—127
Level R	Right level	0—127
HF Damp	HF damp	200—8000 Hz, BYPASS (*1)
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

20: QUADRUPLE-TAP-DELAY (p.51)

Parameter		Value
Delay 1	Delay time 1	200—1000 ms, note
Delay 2	Delay time 2	200—1000 ms, note
Delay 3	Delay time 3	200—1000 ms, note
Delay 4	Delay time 4	200—1000 ms, note
Level 1	Level 1	0—127
Level 2	Level 2	0—127
Level 3	Level 3	0—127
Level 4	Level 4	0—127
Fbk	Feedback level	-98—+98 %
HF Damp	HF damp	200—8000 Hz, BYPASS (*1)
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

21: TIME-CONTROL-DELAY (p.52)

Parameter		Value
Delay	Delay time	200—1000 ms
Accel	Acceleration	0—15
Fbk	Feedback level	-98—+98 %
HF Damp	HF damp	200—8000 Hz, BYPASS (*1)
Pan	Output pan	L64—0—63R
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

22: 2 VOICE-PITCH-SHIFTER (p.52)

Parameter		Value
CoarseA	Coarse pitch A	-24—12 semitone
Fine A	Fine pitch A	-100—100 cent
Pan A	Output pan A	L64—0—63R
PreDlyA	Pre delay time A	0.0—500 ms
CoarseB	Coarse pitch B	-24—12 semitone
Fine B	Fine pitch B	-100—100 cent
Pan B	Output pan B	L64—0—63R
PreDlyB	Pre delay time B	0.0—500 ms
Mode	Pitch shifter mode	1, 2, 3, 4, 5
Lvl Bal	Level balance	A100:0B—A0:100B
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

23: FBK-PITCH-SHIFTER (p.53)

Parameter		Value
Coarse	Coarse pitch	-24—12 semitone
Fine	Fine pitch	-100—100 cent
Fbk	Feedback level	-98—+98 %
Pre Dly	Pre delay time	0.0—500 ms
Mode	Pitch shifter mode	1, 2, 3, 4, 5
Pan	Output pan	L64—0—63R
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

24: REVERB (p.53)

Parameter		Value
Type	Reverb type	ROOM1, ROOM2, STAGE1, STAGE2, HALL1, HALL2
Pre Dly	Pre delay time	0.0—100 ms
Time	Gate time	0—127
HF Damp	HF damp	200—8000 Hz, BYPASS (*1)
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

25: GATE-REVERB (p.53)

Parameter		Value
Type	Gate-Reverb type	NORMAL, REVERSE,
Pre Dly	Pre delay time	0.0—100 ms
Gate Time	Gate time	5—500 ms
LowGain	Low gain	-15—+15 dB
Hi Gain	High gain	-15—+15 dB
Balance	Effect balance	D100:0E—D0:100E
Level	Output level	0—127

26: OVERDRIVE ➡ CHORUS (p.54)

Parameter		Value
Drive	Drive	0—127
Pan	Output pan	L64—0—63R
Pre Dly	Pre delay time	0.0—100 ms
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Balance	Chorus balance	D100:0E—D0:100E
Level	Output level	0—127

27: OVERDRIVE ➡ FLANGER (p.54)

Parameter		Value
Drive	Drive	0—127
Pan	Output pan	L64—0—63R
Pre Dly	Pre delay time	0.0—100 ms
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Fbk	Feedback level	-98—+98 %
Balance	Flanger balance	D100:0E—D0:100E
Level	Output level	0—127

28: OVERDRIVE ➡ DELAY (p.54)

Parameter		Value
Drive	Drive	0—127
Pan	Output pan	L64—0—63R
Delay	Delay time	0.0—500 ms
Fbk	Feedback level	-98—+98 %
HF Damp	HF damp	200—8000 Hz, BYPASS (*1)
Balance	Delay balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

29: DISTORTION ➡ CHORUS (p.55)

Refer to "26: OVERDRIVE ➡ CHORUS."

30: DISTORTION ➡ FLANGER (p.55)

Refer to "27: OVERDRIVE ➡ FLANGER."

31: DISTORTION ➡ DELAY (p.55)

Refer to "28: OVERDRIVE ➡ DELAY."

32: ENHANSER ➡ CHORUS (p.55)

Parameter		Value
Sens	Sens	0—127
Mix	Mix level	0—127
Pre Dly	Pre delay time	0.0—100 ms
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Balance	Chorus balance	D100:0E—D0:100E
Level	Output level	0—127

33: ENHANSER ➡ FLANGER (p.55)

Parameter		Value
Sens	Sens	0—127
Mix	Mix level	0—127
Pre Dly	Pre delay time	0.0—100 ms
Rate	Rate	0.05—10.0 Hz
Depth	Depth	0—127
Fbk	Feedback level	-98—+98 %
Balance	Flanger balance	D100:0E—D0:100E
Level	Output level	0—127

34: ENHANSER ➡ DELAY (p.55)

Parameter		Value
Sens	Sens	0—127
Mix	Mix level	0—127
Delay	Delay time	0.0—500 ms
Fbk	Feedback level	-98—+98 %
HF Damp	HF damp	200—8000 Hz, BYPASS (*1)
Balance	Delay balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

35: CHORUS ➡ DELAY (p.56)

Parameter		Value
Cho Dly	Chorus pre delay time	0.0—100 ms
ChoRate	Chorus rate	0.05—10.0 Hz
Cho Dpt	Chorus depth	0—127
Cho Bal	Chorus balance	D100:0E—D0:100E
Delay	Delay time	0.0—500 ms
Dly Fbk	Feedback level	-98—+98 %
HF Damp	HF damp	200—8000 Hz, BYPASS (*1)
Delay Balance	Delay balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

36: FLANGER ➡ DELAY (p.56)

Parameter		Value
Flg Dly	Flanger pre delay time	0.0—100 ms
FlgRate	Flanger rate	0.05—10.0 Hz
Flg Dpt	Flanger depth	0—127
Flg Fbk	Flanger feedback level	-98—+98 %
Flg Bal	Flanger balance	D100:0E—D0:100E
Delay	Delay time	0.0—500 ms
Dly Fbk	Delay feedback level	-98—+98 %
HF Damp	HF damp	200—8000 Hz, BYPASS (*1)
Delay Balance	Delay balance	D100:0E—D0:100E
Level	Output level	0—127

*1: 200, 250, 315, 400, 500, 630, 800, 1000, 1250, 1600, 2000, 2500, 3150, 4000, 5000, 6300, 8000 Hz, BYPASS

37: CHORUS ➡ FLANGER (p.56)

Parameter		Value
Cho Dly	Chorus pre delay time	0.0—100 ms
ChoRate	Chorus rate	0.05—10.0 Hz
Cho Dpt	Chorus depth	0—127
Cho Bal	Chorus balance	D100:0E—D0:100E
Flg Dly	Flanger pre delay time	0.0—100 ms
FlgRate	Flanger rate	0.05—10.0 Hz
Flg Dpt	Flanger depth	0—127
Flg Fbk	Flanger feedback level	-98—+98 %
Flanger Balance	Flanger balance	D100:0E—D0:100E
Level	Output level	0—127

38: CHORUS/DELAY (p.57)

Refer to "35: CHORUS ➡ DELAY."

39: FLANGER/DELAY (p.57)

Refer to "36: FLANGER ➡ DELAY."

40: CHORUS/FLANGER (p.57)

Refer to "37: CHORUS ➡ FLANGER."

System Parameters

SETUP Group (p.58)

Display	Parameter		Value
SYSTEM SETUP	Patch Remain	Patch remain switch	OFF, ON
	Power Up Mode	Power up mode	LAST-SET, DEFAULT

CONTRAST Group (p.58)

Display	Parameter		Value
CONTRAST	LCD Contrast	LCD contrast	1—10

CONTROL Group (p.58)

Display	Parameter		Value
KEYBOARD	Transpose	Transpose switch	OFF, ON
		Transpose value	-5 (G)—+6 (F#)
	Sens	Keyboard sens	LIGHT, MEDIUM, HEAVY
	Vel	Keyboard velocity	REAL, 1—127
	After	Aftertouch sens	0—100
PEDAL1/2 ASSIGN	Assign	Pedal 1/2 assign	*1
	Output	Pedal output	OFF, INT, MIDI, BOTH
	Polarity	Pedal polarity	STANDARD, REVERSE
C1/2 ASSIGN	Assign	C1/C2 slider assign	*2
	Output	C1/C2 slider output	OFF, INT, MIDI, BOTH
HOLD PEDAL	Output	Pedal output	OFF, INT, MIDI, BOTH
	Polarity	Pedal polarity	STANDARD, REVERSE
SYS-CTRL ASSIGN	Control 1/2	System control assign 1/2	*2
CONTROL SOURCE	Hold	Hold control source	OFF, HOLD-1, SOST, SOFT, HOLD-2
	Peak	Peak control source	OFF, HOLD-1, SOST, SOFT, HOLD-2
	Volume	Volume control source	VOLUME, VOL&EXP
	Aftertouch	Aftertouch control source	CHANNEL, POLY, CH&POLY

*1: CC00—95 (0, 32, 6, 38èüÇ≠), BEND, AFTERTOUCH, PROG-UP, PROG-DOWN, START/STOP, PUNCH-IN/OUT, TAP-TEMPO

*2: CC00—95 (0, 32, 6, 38èüÇ≠), BEND, AFTERTOUCH

MIDI Group (p.59)

Display	Parameter		Value
PERFORM MIDI	Control Channel	Performance control channnel	1—16, OFF
	Local	Local switch	OFF, ON
	Remote	Remote keyboard switch	OFF, ON
PATCH MIDI	Rx-Ch	Patch mode receive channel	1—16
	Tx-Ch	Patch mode transmit channel	1—16, Rx-Ch, OFF
	Local	Local switch	OFF, ON
	Remote	Remote keyboard switch	OFF, ON
GM MIDI	Local Switch	Local switch	OFF, ON
RECEIVE MIDI	Program Change	Receive program change switch	OFF, ON
	Bank Select	Receive bank select switch	OFF, ON
TRANSMIT MIDI	Program	Transmit program change switch	OFF, ON
	Bank Sel	Transmit bank select switch	OFF, ON
	Active Sensing	Transmit active sensing switch	OFF, ON
SYS-EXC MIDI	Unit#	Exclusive unit number	17—32
	Rx.Exc	Receive exclusive switch	OFF, ON
	Tx.Edit	Transmit edit data switch	OFF, ON
	Rx.GM	Receive GM exclusive switch	OFF, ON
BANK SEL-GROUP	Number	Bank select group number	1—7
	Switch	Bank select transmit switch	OFF, ON
	MSB	Bank select MSB	0—127
	LSB	Bank select LSB	0—127

SEQUENCER Group (p.61)

Display	Parameter		Value
SEQ MODE	SyncMode	Sync mode	INTERNAL, SLAVE, REMOTE
	SyncOut	Transmit sync message switch	OFF, ON
	Thru	Soft Through switch	OFF, ON
	Metoronome	Metoronome mode	OFF, ON
		Metoronome level	0—7
SEQ REC SWITCH	Ch	Record filter channel	ALL, 1—16
	PAft	Record filter polyphonic aftertouch	OFF, ON
	C.C	Record filter control change	OFF, ON
	P.C	Record filter program change	OFF, ON
	CAft	Record filter channel aftertouch	OFF, ON
	Bend	Record filter pitch band	OFF, ON
	Exc	Record filter exclusive	OFF, ON
MICROSCOPE	Auto Calculate Check Sum	Auto calculate check sum switch	OFF, ON

TUNE Group (p.62)

Display	Parameter		Value
TUNE	Master	Master tune	427.4—452.6 Hz
	Key Shift	Master key shift	-12—+12 semitone
	Scale Tune	Scale tune switch	OFF, ON
PATCH SCALE	C—B	Scale tune C—B	-63—+63 cent
KEY SCALE	C—B	Scale tune C—B	-63—+63 cent

PGM CHNG Group (p.62)

Display	Parameter		Value
TRANSMIT P.C	Channel	Transmit MIDI channel	1—16
	P.C#	Transmit program change	1—128
	Bnk-MSB	Transmit bank select MSB	0—127
	Bnk-LSB	Transmit bank select LSB	0—127

Groove Quantize Templete List

Groove Quantize is effective when applied to percussion instruments, and various templates are provided for use with a 4/4 time signature. They will not produce the desired results when applied to other time signatures.

Templates 01—50 are recommended to apply quantization to all the percussion instruments. Templates 51—90 are recommended to apply quantization to individual percussion instruments. For the Samba templates (51—54) we recommend using the World Expansion Board percussion instruments, and for the Ashe templates (55—58) we recommend using the Orchestra Drum Set (PR-C: 002). Try them out on various musical data.

Type	Templete	Effects
16 Beat Straight	01: 16Strait	a standard 16-beat
	02: Early_S	Template 01 (beats 2 and 4 early)
	03: Late_S	Template 01 (beats 2 and 4 late)
	04: Early_K	Template 01 (beat 3 early)
	05: Late_K	Template 01 (beats 1 and 3 late)
16Beat Light Shuffle	06: 16_LShuf	a light 16-beat shuffle
	07: LShuf_ES	Template 06 (beats 2 and 4 early)
	08: LShuf_LS	Template 06 (beats 2 and 4 late)
	08: LShuf_EK	Template 06 (beat 3 early)
	10: LShuf_LK	Template 06 (beats 1 and 3 late)
16 Beat Medium Shuffle	11: 16_MShuf	a standard 16-beat shuffle
	12: MShuf_ES	Template 11 (beats 2 and 4 early)
	13: MShuf_LS	Template 11 (beats 2 and 4 late)
	14: MShuf_EK	Template 11 (beat 3 early)
	15: MShuf_LK	Template 11 (beats 1 and 3 late)
16 Beat Heavy Shuffle	16: 16_HShuf	a heavy 16-beat shuffle
	17: HShuf_ES	Template 16 (beats 2 and 4 early)
	18: HShuf_LS	Template 16 (beats 2 and 4 late)
	19: HShuf_EK	Template 16 (beat 3 early)
	20: HShuf_LK	Template 16 (beats 1 and 3 late)
8 Beat Straight	21: 8_Strait	a standard 8-beat
	22: Early_S	Template 21 (beats 2 and 4 early)
	23: Late_S	Template 21 (beats 2 and 4 late)
	24: Early_K	Template 21 (beat 3 early)
	25: Late_K	Template 21 (beats 1 and 3 late)
8 Beat Light Shuffle	26: 8_LShuf	a light 8-beat shuffle
	27: LShuf_ES	Template 26 (beats 2 and 4 early)
	28: LShuf_LS	Template 26 (beats 2 and 4 late)
	29: LShuf_EK	Template 26 (beat 3 early)
	30: LShuf_LK	Template 26 (beats 1 and 3 late)
8 Beat Medium Shuffle	31: 8_MShuf	a standard 8-beat shuffle
	32: MShuf_ES	Template 31 (beats 2 and 4 early)
	33: MShuf_LS	Template 31 (beats 2 and 4 late)
	34: MShuf_EK	Template 31 (beat 3 early)
	35: MShuf_LK	Template 31 (beats 1 and 3 late)
8 Beat Heavy Shuffle	36: 8_HShuf	a heavy 8-beat shuffle
	37: HShuf_ES	Template 36 (beats 2 and 4 early)
	38: HShuf_LS	Template 36 (beats 2 and 4 late)
	39: HShuf_EK	Template 36 (beat 3 early)
	40: HShuf_LK	Template 36 (beats 1 and 3 late)
Double Time Swing	41: DT_Swg_A	a swing played at double-time
	42: DT_Swg_B	swing with a stronger accent than Template 41
	43: DT_L_Swg	swing lighter than Template 41
	44: DT_M_Swg	swing lighter than Template 41
	45: DT_H_Swg	swing lighter than Template 41
Swing	46: Swing_A	swing
	47: Swing_B	swing with a stronger accent than Template 46
	48: L_Swing	swing with lighter accent than Template 49
	49: M_Swing	swing with lighter accent than Template 46
	50: H_Swing	swing with stronger accent than Template 46

Type	Templete	Effects
World Music	51: Samba_P	samba rhythm (for Pandeiro)
	52: Samba_S	samba rhythm (for Surdo)
	53: Samba_T	samba rhythm (for Tamborim)
	54: Samba_C	samba rhythm (for Caixa)
	55: Axe_T_1	axé rhythm 1 (for Repinique part 1; Timbale hi)
	56: Axe_T_2	axé rhythm 2 (for Repinique part 2; Timbale low)
	57: Axe_T_3	axé rhythm 3 (for Caixa part; Snare drum)
	58: Axe_S	axé rhythm (for Surdo part; Timpani)
	59: Cascala	salsa rhythm (Cascala)
	60: Salsa_C	salsa rhythm (for Conga)
Tuplets	61: 3agnst1	triplets
	62: 6agnst1	sextuplets
	63: 5agnst1	quintuplets
	64: 5agnst2	quintuplets over two beats
	65: 5agnst4	quintuplets over four beats
	66: 7agnst1	septuplets
	67: 7agnst2	septuplets over two beats
	68: 7agnst4	septuplets over four beats
	69: 3_Laggng	lagging triplets
	70: 6_Laggng	lagging sextuplets
Constant Shuffle	71: Hop_01	mechanical shuffle
	72: Hop_02	heavier shuffle than Template 71
	73: Hop_03	heavier shuffle than Template 72
	74: Hop_04	heavier shuffle than Template 73
	75: Hop_05	heavier shuffle than Template 74
Getting Slow	76: Lagg_01	timing of each beat is gradually changed
	77: Lagg_02	greater change in timing than Template 76
	78: Lagg_03	greater change in timing than Template 77
	79: Lagg_04	greater change in timing than Template 78
	80: Lagg_05	greater change in timing than Template 79
Offsetting 2nd 16th note	81: 2_off_01	delay the second 16th note
	82: 2_off_02	delay the second 16th note more than Template 81
	83: 2_off_03	delay the second 16th note more than Template 82
	84: 2_off_04	delay the second 16th note more than Template 83
	85: 2_off_05	delay the second 16th note more than Template 84
Offsetting 4th 16th note	86: 4_off_01	delay the fourth 16th note
	87: 4_off_02	delay the fourth 16th note more than Template 86
	88: 4_off_03	delay the fourth 16th note more than Template 87
	89: 4_off_04	delay the fourth 16th note more than Template 88
	90: 4_off_05	delay the fourth 16th note more than Template 89

Waveform

Internal A

No.	Name		No.	Name	No.	Name	No.	Name	No.	Name	
1	Ac Piano1 A		52	Nylon Gtr A	103	Syn Gtr B	154	MC-202 Bs B	205	Cello A	
2	Ac Piano1 B		53	Nylon Gtr B	104	Syn Gtr C	155	MC-202 Bs C	206	Cello B	
3	Ac Piano1 C		54	Nylon Gtr C	105	Harp 1A	156	Flute 1A	207	Cello C	
4	Ac Piano2 pA		55	6-Str Gtr A	106	Harp 1B	157	Flute 1B	208	ST.Strings-R	
5	Ac Piano2 pB		56	6-Str Gtr B	107	Harp 1C	158	Flute 1C	209	ST.Strings-L	
6	Ac Piano2 pC		57	6-Str Gtr C	108	Banjo A	159	Blow Pipe	210	MonoStringsA	
7	Ac Piano2 fA	*	58	Gtr Harm A	109	Banjo B	160	Bottle	211	MonoStringsC	
8	Ac Piano2 fB	*	59	Gtr Harm B	110	Banjo C	161	Shakuhachi	212	Pizz	*
9	Ac Piano2 fC	*	60	Gtr Harm C	111	Sitar A	162	Clarinet A	213	JP Strings1A	
10	Piano Thump	*	61	Comp Gtr A	112	Sitar B	163	Clarinet B	214	JP Strings1B	
11	Piano Up TH	*	62	Comp Gtr B	113	Sitar C	164	Clarinet C	215	JP Strings1C	
12	MKS-20 P3 A		63	Comp Gtr C	114	Dulcimer A	165	Oboe mf A	216	JP Strings2A	
13	MKS-20 P3 B		64	Comp Gtr A+	115	Dulcimer B	166	Oboe mf B	217	JP Strings2B	
14	MKS-20 P3 C		65	Mute Gtr 1	116	Dulcimer C	167	Oboe mf C	218	JP Strings2C	
15	SA Rhodes 1A		66	Mute Gtr 2A	117	Shamisen A	168	Sop.Sax mf A	219	Soft Pad A	
16	SA Rhodes 1B		67	Mute Gtr 2B	118	Shamisen B	169	Sop.Sax mf B	220	Soft Pad B	
17	SA Rhodes 1C		68	Mute Gtr 2C	119	Shamisen C	170	Sop.Sax mf C	221	Soft Pad C	
18	SA Rhodes 2A		69	Pop Strat A	120	Koto A	171	Alto Sax 1A	222	Fantasynth A	
19	SA Rhodes 2B		70	Pop Strat B	121	Koto B	172	Alto Sax 1B	223	Fantasynth B	
20	SA Rhodes 2C		71	Pop Strat C	122	Koto C	173	Alto Sax 1C	224	Fantasynth C	
21	E.Piano 1A		72	Jazz Gtr A	123	Pick Bass A	174	Tenor Sax A	225	D-50 HeavenA	
22	E.Piano 1B		73	Jazz Gtr B	124	Pick Bass B	175	Tenor Sax B	226	D-50 HeavenB	
23	E.Piano 1C		74	Jazz Gtr C	125	Pick Bass C	176	Tenor Sax C	227	D-50 HeavenC	
24	E.Piano 2A		75	JC Strat A	126	Fingerd Bs A	177	Bari.Sax f A	228	Fine Wine	
25	E.Piano 2B		76	JC Strat B	127	Fingerd Bs B	178	Bari.Sax f B	229	D-50 Brass A	
26	E.Piano 2C		77	JC Strat C	128	Fingerd Bs C	179	Bari.Sax f C	230	D-50 Brass B	
27	E.Piano 3A		78	JC Strat A+	129	E.Bass	180	Harmonica A	231	D-50 Brass C	
28	E.Piano 3B		79	JC Strat B+	130	Fretless A	181	Harmonica B	232	D-50 BrassA+	
29	E.Piano 3C		80	JC Strat C+	131	Fretless B	182	Harmonica C	233	DualSquare A	
30	MK-80 EP A		81	Clean Gtr A	132	Fretless C	183	Chanter	234	DualSquare C	
31	MK-80 EP B		82	Clean Gtr B	133	UprightBs 1	184	Tpt Sect. A	235	DualSquareA+	
32	MK-80 EP C		83	Clean Gtr C	134	UprightBs 2A	185	Tpt Sect. B	236	Pop Voice	
33	D-50 EP A		84	Stratus A	135	UprightBs 2B	186	Tpt Sect. C	237	Syn Vox 1	
34	D-50 EP B		85	Stratus B	136	UprightBs 2C	187	Trumpet 1A	238	Syn Vox 2	
35	D-50 EP C		86	Stratus C	137	Slap Bass 1	188	Trumpet 1B	239	Voice Aahs A	
36	Celesta		87	OD Gtr A	138	Slap & Pop	189	Trumpet 1C	240	Voice Aahs B	
37	Music Box		88	OD Gtr B	139	Slap Bass 2	190	Trumpet 2A	241	Voice Aahs C	
38	Clav 1A		89	OD Gtr C	140	Slap Bass 3	191	Trumpet 2B	242	Voice Oohs1A	
39	Clav 1B		90	OD Gtr A+	141	Jz.Bs Thumb	192	Trumpet 2C	243	Voice Oohs1B	
40	Clav 1C		91	Heavy Gtr A	142	Jz.Bs Slap 1	193	HarmonMute1A	244	Voice Oohs1C	
41	Organ 1		92	Heavy Gtr B	143	Jz.Bs Slap 2	194	HarmonMute1B	245	Voice Oohs2A	
42	Jazz Organ 1		93	Heavy Gtr C	144	Jz.Bs Slap 3	195	HarmonMute1C	246	Voice Oohs2B	
43	Jazz Organ 2		94	Heavy Gtr A+	145	Jz.Bs Pop	196	Trombone 1	247	Voice Oohs2C	
44	Organ 2		95	Heavy Gtr B+	146	Syn Bass A	197	French 1A	248	Voice Breath	
45	Organ 3		96	Heavy Gtr C+	147	Syn Bass C	198	French 1C	249	Male Ooh A	
46	Organ 4		97	PowerChord A	148	Mini Bs 1A	199	F.Horns A	250	Male Ooh B	
47	Rock Organ		98	PowerChord B	149	Mini Bs 1B	200	F.Horns B	251	Male Ooh C	
48	Dist. Organ		99	PowerChord C	150	Mini Bs 1C	201	F.Horns C	252	Org Vox A	
49	Rot.Org Slw		100	EG Harm	151	Mini Bs 2	202	Violin A	253	Org Vox B	
50	Rot.Org Fst		101	Gt.FretNoise	* 152	Mini Bs 2+	203	Violin B	254	Org Vox C	
51	Pipe Organ		102	Syn Gtr A	153	MC-202 Bs A	204	Violin C	255	Vox Noise	

** Waveforms marked "*" are One-shot type waveforms (non-sustaining).*

Internal B

No.	Name		No.	Name		No.	Name		No.	Name	
1	Kalimba		52	Feedbackwave		103	Cowbell 1	*	154	REV 606HH Op	*
2	Marimba Wave		53	Spectrum		104	Wood Block	*	155	REV Ride	*
3	Log Drum		54	BreathNoise	*	105	Claves	*	156	REV Cup	*
4	Vibes		55	Rattles		106	Bongo Hi	*	157	REV Crash 1	*
5	Bottle Hit		56	Ice Rain		107	Bongo Lo	*	158	REV China	*
6	Glockenspiel		57	Tin Wave		108	Cga Open Hi	*	159	REV DrySick	*
7	Tubular		58	Anklungs		109	Cga Open Lo	*	160	REV RealCLP	*
8	Steel Drums		59	Wind Chimes	*	110	Cga Mute Hi	*	161	REV FingSnap	*
9	Fanta Bell A		60	Orch. Hit		111	Cga Mute Lo	*	162	REV Cowbell	*
10	Fanta Bell B		61	Tekno Hit	*	112	Cga Slap	*	163	REV WoodBlck	*
11	Fanta Bell C		62	Back Hit	*	113	Timbale	*	164	REV Clve	*
12	FantaBell A+		63	Philly Hit	*	114	Cabasa Up	*	165	REV Conga	*
13	Org Bell		64	Scratch 1	*	115	Cabasa Down	*	166	REV Tamb	*
14	Agogo		65	Scratch 2		116	Cabasa Cut	*	167	REV Maracas	*
15	DIGI Bell 1		66	Scratch 3	*	117	Maracas	*	168	REV Guiro	*
16	DIGI Bell 1+		67	Natural SN1	*	118	Long Guiro	*	169	REV Cuica	*
17	DIGI Chime		68	Natural SN2	*	119	Tambourine	*	170	REV Metro	*
18	Wave Scan		69	Piccolo SN	*	120	Open Triangl		171	Loop 1	
19	Wire String		70	Ballad SN	*	121	Cuica	*	172	Loop 2	
20	2.2 Bellwave		71	SN Roll	*	122	Vibraslap		173	Loop 3	
21	2.2 Vibwave		72	808 SN	*	123	Timpani		174	Loop 4	
22	Spark VOX		73	Brush Slap	*	124	Applause		175	Loop 5	
23	MMM VOX		74	Brush Swish	*	125	REV Orch.Hit	*	176	Loop 6	
24	Lead Wave		75	Brush Roll		126	REV TeknoHit	*	177	Loop 7	
25	Synth Reed		76	Dry Stick	*	127	REV Back Hit	*	178	R8 Click	*
26	Synth Saw 1		77	Side Stick	*	128	REV PhillHit	*	179	Metronome 1	
27	Synth Saw 2		78	Lite Kick	*	129	REV Steel DR	*	180	Metronome 2	*
28	Syn Saw 2inv		79	Hybrid Kick1	*	130	REV Tin Wave	*	181	MC500 Beep 1	*
29	Synth Saw 3		80	Hybrid Kick2	*	131	REV NatrlSN1	*	182	MC500 Beep 2	*
30	JP-8 Saw A		81	Old Kick	*	132	REV NatrlSN2	*	183	Low Saw	
31	JP-8 Saw B		82	Verb Kick	*	133	REV PiccloSN	*	184	Low Saw inv	
32	JP-8 Saw C		83	Round Kick	*	134	REV BalladSN	*	185	Low P5 Saw	
33	P5 Saw A		84	808 Kick		135	REV Side Stk	*	186	Low Pulse 1	
34	P5 Saw B		85	Verb Tom Hi	*	136	REV SN Roll	*	187	Low Pulse 2	
35	P5 Saw C		86	Verb Tom Lo	*	137	REV Brush 1	*	188	Low Square	
36	D-50 Saw A		87	Dry Tom Hi		138	REV Brush 2	*	189	Low Sine	
37	D-50 Saw B		88	Dry Tom Lo		139	REV Brush 3	*	190	Low Triangle	
38	D-50 Saw C		89	Cl HiHat 1	*	140	REV LiteKick	*	191	Low White NZ	
39	Synth Square		90	Cl HiHat 2	*	141	REV HybridK1	*	192	Low Pink NZ	
40	JP-8 SquareA		91	Op HiHat		142	REV HybridK2	*	193	DC	
41	JP-8 SquareB		92	Pedal HiHat	*	143	REV Old Kick	*			
42	JP-8 SquareC		93	606 HiHat Cl	*	144	REV Timpani	*			
43	Synth Pulse1		94	606 HiHat Op		145	REV VerbTomH	*			
44	Synth Pulse2		95	808 Claps	*	146	REV VerbTomL	*			
45	Triangle		96	Hand Claps	*	147	REV DryTom H	*			
46	Sine		97	Finger Snaps	*	148	REV DryTom M	*			
47	Org Click	*	98	Ride 1		149	REV ClHiHat1	*			
48	White Noise		99	Ride 2		150	REV ClHiHat2	*			
49	Pink Noise		100	Ride Bell 1		151	REV Op HiHat	*			
50	Metal Wind		101	Crash 1		152	REV Pedal HH	*			
51	Wind Agogo		102	China Cym		153	REV 606HH Cl	*			

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Patch

User

No.	Name	V	No.	Name	V
1	West Coast	4	65	Jet Pad 2	2
2	System 100m	3	66	Childlike	4
3	Dusk 2 Dawn	4	67	Taj Mahal	1
4	Purple Spin	4	68	D-50 Stack	4
5	Symphonique	4	69	Pulse Key	3
6	Dist Gtr 1	3	70	101 Bass	2
7	Impact	4	71	Velo-Wah Gtr	1
8	RandomVowels	4	72	Chime Wash	4
9	Raverborg	4	73	Sitar	2
10	ORBit Pad	2	74	Big BPF	4
11	Bs/Pno+Brs	4	75	Dunes	4
12	Sawteeth	3	76	PsychoRhodes	2
13	Clarinet mp	1	77	Bass Marimba	4
14	Dulcimer	2	78	MandolinTrem	4
15	Aurora	4	79	Poly Saws	4
16	Nice Piano	3	80	Pulse Pad	4
17	Heirborne	4	81	Nylon Gtr	1
18	ChamberWoods	3	82	Majestic Tpt	1
19	Raggatronic	4	83	Terminate	3
20	Crunch Split	4	84	SquareLead 1	3
21	Mondo Bass	3	85	House Piano	2
22	LetterFrmPat	4	86	Fooled Again	1
23	Hillbillys	4	87	Pick Bass	1
24	Gospel Spin	3	88	Wide Tubular	4
25	Biosphere	2	89	Velo-Rez Clv	1
26	JUNO Strings	3	90	Delicate EP	2
27	Tortured	4	91	Velo Tekno 1	3
28	Flying Waltz	4	92	Running Pad	4
29	Sop.Sax mf	2	93	Phripphuzz	1
30	Waterhodes	2	94	Archimede	3
31	Rezoid	4	95	Stage EGrand	4
32	JC Strat	1	96	Nylon Rhodes	4
33	Blade Racer	4	97	Huff N Stuff	3
34	PWM Strings	3	98	Finger Bass	1
35	Slow Strings	3	99	Slow Voices	3
36	Alternative	2	100	4 Hits 4 You	4
37	Music Bells	2	101	Brass Sect	4
38	Saw Mass	4	102	Tubular Vox	4
39	Steel Away	3	103	Atmosfear	3
40	64voicePiano	1	104	E.Grand	1
41	Velo Tekno 2	2	105	Bass In Face	2
42	Tone Wh.Solo	3	106	BritelowBass	4
43	Rotary Gtr	2	107	Mellow Bars	4
44	JP-8Haunting	4	108	MG Solo	4
45	Jz Gtr Hall	1	109	Air Lead	2
46	Vanishing	1	110	Raya Shaku	3
47	Harmonica	2	111	Greek Power	4
48	Wave Bells	4	112	Pure Tibet	1
49	Film Octaves	4	113	Wavin Strngs	2
50	Edye Boost	2	114	Chambers	3
51	AugerMentive	3	115	Nomad Perc	3
52	JD Ghostrngs	4	116	Horn Swell	4
53	SA Rhodes 1	4	117	Claviduck	2
54	3D Flanged	1	118	Night Shade	4
55	Ac.Upright	1	119	VOX Flute	4
56	Poly Brass	3	120	Dark Vox	2
57	Dissimilate	4	121	Bass Pizz	4
58	Stepped Pad	4	122	Seq Mallet	2
59	Sax Section	4	123	esreveR	3
60	Albion	2	124	Cyber Space	3
61	St.Strings	2	125	12str Gtr 1	2
62	AmbienceVibe	4	126	Gone withe W	3
63	Cascade	1	127	Gravity Str.	4
64	AltoLead Sax	3	128	Fantasy Vox	4

Preset A

No.	Name	V	No.	Name	V
1	64voicePiano	1	65	Dual Profs	3
2	Bright Piano	1	66	Saw Mass	4
3	Classique	2	67	Poly Split	4
4	Nice Piano	3	68	Poly Brass	3
5	Piano Thang	3	69	Stackoid	4
6	Power Grand	3	70	Poly Rock	4
7	House Piano	2	71	D-50 Stack	4
8	E.Grand	1	72	Fantasia JV	4
9	MIDIed Grand	3	73	Jimmee Dee	4
10	Piano Blend	3	74	Heavenals	4
11	West Coast	4	75	Mallet Pad	4
12	PianoStrings	4	76	Huff N Stuff	3
13	Bs/Pno+Brs	4	77	Puff 1080	2
14	Waterhodes	2	78	BellVox 1080	4
15	S.A.E.P.	3	79	Fantasy Vox	4
16	SA Rhodes 1	4	80	Square Keys	2
17	SA Rhodes 2	2	81	Childlike	4
18	Stiky Rhodes	3	82	Music Box	3
19	Dig Rhodes	2	83	Toy Box	2
20	Nylon EPiano	4	84	Wave Bells	4
21	Nylon Rhodes	4	85	Tria Bells	4
22	Rhodes Mix	3	86	Beauty Bells	4
23	PsychoRhodes	2	87	Music Bells	2
24	Tremo Rhodes	4	88	Pretty Bells	2
25	MK-80 Rhodes	1	89	Pulse Key	3
26	MK-80 Phaser	1	90	Wide Tubular	4
27	Delicate EP	2	91	AmbienceVibe	4
28	Octa Rhodes1	4	92	Warm Vibes	2
29	Octa Rhodes2	4	93	Dyna Marimba	1
30	JV Rhodes+	4	94	Bass Marimba	4
31	EP+Mod Pad	4	95	Nomad Perc	3
32	Mr.Mellow	4	96	Ethno Metals	4
33	Comp Clav	1	97	Islands Mlt	4
34	Klavinet	4	98	Steelin Keys	3
35	Winger Clav	4	99	Steel Drums	1
36	Phaze Clav 1	2	100	Voicey Pizz	3
37	Phaze Clav 2	1	101	Sitar	2
38	Phuzz Clav	2	102	Drone Split	4
39	Chorus Clav	1	103	Ethnopluck	4
40	Claviduck	2	104	Jamisen	2
41	Velo-Rez Clv	1	105	Dulcimer	2
42	Clavicembalo	4	106	East Melody	2
43	Analog Clav1	1	107	MandolinTrem	4
44	Analog Clav2	1	108	Nylon Gtr	1
45	Metal Clav	3	109	Gtr Strings	3
46	Full Stops	2	110	Steel Away	3
47	Ballad B	3	111	Heavenly Gtr	4
48	Mellow Bars	4	112	12str Gtr 1	2
49	AugerMentive	3	113	12str Gtr 2	3
50	Perky B	2	114	Jz Gtr Hall	1
51	The Big Spin	3	115	LetterFrmPat	4
52	Gospel Spin	3	116	Jazz Scat	3
53	Roller Spin	3	117	Lounge Gig	3
54	Rocker Spin	3	118	JC Strat	1
55	Tone Wh.Solo	3	119	Twin Strats	3
56	Purple Spin	4	120	JV Strat	2
57	60's LeadORG	2	121	Syn Strat	2
58	Assalt Organ	3	122	Rotary Gtr	2
59	D-50 Organ	2	123	Muted Gtr	1
60	Cathedral	4	124	SwitchOnMute	2
61	Church Pipes	4	125	Power Trip	2
62	Poly Key	3	126	Crunch Split	4
63	Poly Saws	4	127	Rezodrive	2
64	Poly Pulse	4	128	RockYurSocks	4

Preset B

No.	Name	V	No.	Name	V
1	Dist Gtr 1	3	65	Analog Seq	2
2	Dist Gtr 2	3	66	Impact Vox	4
3	R&R Chunk	4	67	TeknoSoloVox	2
4	Phripphuzz	1	68	X-Mod Man	2
5	Grungeroni	3	69	Paz <==> Zap	1
6	Black Widow	4	70	4 Hits 4 You	4
7	Velo-Wah Gtr	1	71	Impact	4
8	Mod-Wah Gtr	2	72	Phase Hit	3
9	Pick Bass	1	73	Tekno Hit 1	2
10	Hip Bass	2	74	Tekno Hit 2	2
11	Perc.Bass	3	75	Tekno Hit 3	4
12	Homey Bass	2	76	Reverse Hit	3
13	Finger Bass	1	77	SquareLead 1	3
14	Nylon Bass	2	78	SquareLead 2	2
15	Ac.Upright	1	79	You and Luck	2
16	Wet Fretls	1	80	Belly Lead	4
17	Fretls Dry	2	81	WhistlinAtom	2
18	Slap Bass 1	2	82	Edye Boost	2
19	Slap Bass 2	1	83	MG Solo	4
20	Slap Bass 3	1	84	FXM Saw Lead	4
21	Slap Bass 4	2	85	Sawteeth	3
22	4 Pole Bass	1	86	Smoothe	2
23	Tick Bass	4	87	MG Lead	2
24	House Bass	3	88	MG Interval	4
25	Mondo Bass	3	89	Pulse Lead 1	3
26	Clk AnalogBs	2	90	Pulse Lead 2	4
27	Bass In Face	2	91	Little Devil	4
28	101 Bass	2	92	Loud SynLead	4
29	Noiz Bass	2	93	Analog Lead	2
30	Super Jup Bs	2	94	5th Lead	2
31	Occitan Bass	3	95	Flute	2
32	Hugo Bass	4	96	Piccolo	1
33	Multi Bass	2	97	VOX Flute	4
34	Moist Bass	2	98	Air Lead	2
35	BritelowBass	4	99	Pan Pipes	2
36	Untamed Bass	3	100	Airplaaane	4
37	Rubber Bass	3	101	Taj Mahal	1
38	Stereoww Bs	3	102	Raya Shaku	3
39	Wonder Bass	3	103	Oboe mf	1
40	Deep Bass	2	104	Oboe Express	2
41	Super JX Bs	2	105	Clarinet mp	1
42	W<RED>-Bass	4	106	ClariExpress	2
43	HI-Ring Bass	3	107	Mitzva Split	4
44	Euro Bass	2	108	ChamberWinds	4
45	SinusoidRave	1	109	ChamberWoods	3
46	Alternative	2	110	Film Orch	4
47	Acid Line	1	111	Sop.Sax mf	2
48	Auto TB-303	3	112	Alto Sax	3
49	Hihat Tekno	2	113	AltoLead Sax	3
50	Velo Tekno 1	3	114	Tenor Sax	3
51	Raggatronic	4	115	Baritone Sax	3
52	Blade Racer	4	116	Take A Tenor	4
53	S&H Pad	1	117	Sax Section	4
54	Syncrosonix	3	118	Bigband Sax	4
55	Fooled Again	1	119	Harmonica	2
56	Alive	3	120	Harmo Blues	2
57	Velo Tekno 2	2	121	BluesHarp	1
58	Rezoid	4	122	Hillbillys	4
59	Raverborg	4	123	French Bags	4
60	Blow Hit	4	124	Majestic Tpt	1
61	Hammer Bell	3	125	Voluntare	2
62	Seq Mallet	2	126	2Trumpets	2
63	Intentions	3	127	Tpt Sect	4
64	Pick It	3	128	Mute TP mod	4

V: number of voices

Preset C

No.	Name	V	No.	Name	V
1	Harmon Mute	1	65	Harmonicum	2
2	Tp&Sax Sect	4	66	D-50 Heaven	2
3	Sax+Tp+Tb	3	67	Afro Horns	3
4	Brass Sect	4	68	Pop Pad	4
5	Trombone	1	69	Dreamesque	4
6	Hybrid Bones	4	70	Square Pad	4
7	Noble Horns	4	71	JP-8 Hollow	4
8	Massed Horns	3	72	JP-8Haunting	4
9	Horn Swell	4	73	Heirborne	4
10	Brass It!	4	74	Hush Pad	4
11	Brass Attack	3	75	Jet Pad 1	2
12	Archimede	3	76	Jet Pad 2	2
13	Rugby Horn	3	77	Phaze Pad	3
14	MKS-80 Brass	2	78	Phaze Str	4
15	True ANALOG	2	79	Jet Str Ens	2
16	Dark Vox	2	80	Pivotal Pad	4
17	RandomVowels	4	81	3D Flanged	1
18	Angels Sing	2	82	Fantawine	4
19	Pvox Oooze	3	83	Glassy Pad	3
20	Longing...	3	84	Moving Glass	1
21	Arasian Morn	4	85	Glasswaves	3
22	Beauty Vox	3	86	Shiny Pad	4
23	Mary-AnneVox	4	87	ShiftedGlass	2
24	Belltree Vox	4	88	Chime Pad	3
25	Vox Panner	2	89	Spin Pad	2
26	Spaced Voxx	4	90	Rotary Pad	4
27	Glass Voices	3	91	Dawn 2 Dusk	3
28	Tubular Vox	4	92	Aurora	4
29	Velo Voxx	2	93	Strobe Mode	4
30	Wavox	3	94	Albion	2
31	Doos	1	95	Running Pad	4
32	Synvox Comps	4	96	Stepped Pad	4
33	Vocal Oohz	3	97	Random Pad	4
34	LFO Vox	1	98	SoundtrkDANC	4
35	St.Strings	2	99	Flying Waltz	4
36	Warm Strings	4	100	Vanishing	1
37	Somber Str	4	101	5th Sweep	4
38	Marcato	2	102	Phazweep	4
39	Bright Str	2	103	Big BPF	4
40	String Ens	4	104	MG Sweep	4
41	TremoloStrng	2	105	CeremonyTimp	3
42	Chambers	3	106	Dyno Toms	4
43	ViolinCello	4	107	Sands ofTime	4
44	Symphonique	4	108	Inertia	4
45	Film Octaves	4	109	Vektogram	4
46	Film Layers	4	110	Crash Pad	4
47	Bass Pizz	4	111	Feedback VOX	4
48	Real Pizz	3	112	Cascade	1
49	Harp On It	3	113	Shattered	2
50	Harp	2	114	NextFrontier	2
51	JP-8 Str 1	2	115	Pure Tibet	1
52	JP-8 Str 2	3	116	Chime Wash	4
53	E-Motion Pad	4	117	Night Shade	4
54	JP-8 Str 3	4	118	Tortured	4
55	Vintage Orch	4	119	Dissimilate	4
56	JUNO Strings	3	120	Dunes	4
57	Gigantalog	4	121	Ocean Floor	1
58	PWM Strings	3	122	Cyber Space	3
59	Warmth	2	123	Biosphere	2
60	ORBit Pad	2	124	Variable Run	4
61	Deep Strings	2	125	Ice Hall	2
62	Pulsify	4	126	ComputerRoom	4
63	Pulse Pad	4	127	Inverted	4
64	Greek Power	4	128	Terminate	3

Preset GM

No.	Name	V	No.	Name	V
1	Piano 1	2	65	Soprano Sax	1
2	Piano 2	2	66	Alto Sax	1
3	Piano 3	2	67	Tenor Sax	1
4	Honky-tonk	2	68	Baritone Sax	2
5	E.Piano 1	2	69	Oboe	2
6	E.Piano 2	4	70	English Horn	2
7	Harpsichord	2	71	Bassoon	2
8	Clav.	2	72	Clarinet	1
9	Celesta	1	73	Piccolo	1
10	Glockenspiel	2	74	Flute	1
11	Music Box	1	75	Recorder	2
12	Vibraphone	1	76	Pan Flute	2
13	Marimba	2	77	Bottle Blow	2
14	Xylophone	2	78	Shakuhachi	1
15	Tubular-bell	2	79	Whistle	1
16	Santur	2	80	Ocarina	2
17	Organ 1	1	81	Square Wave	2
18	Organ 2	1	82	Saw Wave	2
19	Organ 3	2	83	Syn.Calliope	2
20	Church Org.1	2	84	Chiffer Lead	2
21	Reed Organ	1	85	Charang	3
22	Accordion Fr	2	86	Solo Vox	2
23	Harmonica	1	87	5th Saw Wave	3
24	Bandoneon	2	88	Bass & Lead	2
25	Nylon-str.Gt	1	89	Fantasia	3
26	Steel-str.Gt	1	90	Warm Pad	2
27	Jazz Gt.	1	91	Polysynth	2
28	Clean Gt.	1	92	Space Voice	2
29	Muted Gt.	1	93	Bowed Glass	3
30	Overdrive Gt	1	94	Metal Pad	2
31	DistortionGt	1	95	Halo Pad	3
32	Gt.Harmonics	3	96	Sweep Pad	2
33	Acoustic Bs.	3	97	Ice Rain	2
34	Fingered Bs.	1	98	Soundtrack	2
35	Picked Bs.	1	99	Crystal	2
36	Fretless Bs.	1	100	Atmosphere	2
37	Slap Bass 1	1	101	Brightness	3
38	Slap Bass 2	2	102	Goblin	2
39	Synth Bass 1	1	103	Echo Drops	2
40	Synth Bass 2	1	104	Star Theme	2
41	Violin	1	105	Sitar	1
42	Viola	1	106	Banjo	1
43	Cello	1	107	Shamisen	2
44	Contrabass	1	108	Koto	1
45	Tremolo Str	1	109	Kalimba	1
46	PizzicatoStr	1	110	Bag Pipe	3
47	Harp	2	111	Fiddle	1
48	Timpani	1	112	Shanai	1
49	Strings	2	113	Tinkle Bell	4
50	Slow Strings	1	114	Agogo	1
51	Syn.Strings1	2	115	Steel Drums	1
52	Syn.Strings2	2	116	Woodblock	1
53	Choir Aahs	3	117	Taiko	4
54	Voice Oohs	1	118	Melo. Tom 1	2
55	SynVox	1	119	Synth Drum	2
56	OrchestraHit	2	120	Reverse Cym.	2
57	Trumpet	2	121	Gt.FretNoise	1
58	Trombone	1	122	Breath Noise	2
59	Tuba	2	123	Seashore	3
60	MutedTrumpet	1	124	Bird	4
61	French Horn	2	125	Telephone 1	1
62	Brass 1	2	126	Helicopter	2
63	Synth Brass1	1	127	Applause	4
64	Synth Brass2	2	128	Gun Shot	2

V: number of voices

Rhythm set

Note No.	User 1	User 2	Preset A 1	Preset A 2	Preset B 1	Preset B 2	Preset C 1	Preset C 2	Preset GM 1	Preset GM 2
	HouseDrumSet	JazzDrumSet1	PopDrumSet1	PopDrumSet2	PowerDrumSet	RaveDrumSet	JazzDrumSet2	OrchDrumSet	GM Drum Set	BrushDrumSet
35	Scratch 1	Hybrid Kick2	Verb Kick	Hybrid Kick1	Verb Kick	808 Kick	Round Kick	Old Kick	Verb Kick	Hybrid Kick2
C2 36	808 SN	Hybrid Kick1	Hybrid Kick1	Round Kick	Round Kick	Round Kick	Old Kick	Round Kick	Hybrid Kick1	Hybrid Kick1
37	Dry Stick	Side Stick	Side Stick	Dry Stick	Dry Stick	Side Stick	Side Stick	Side Stick	Side Stick	Side Stick
38	808 SN	Ballad SN	Natural SN2	Piccolo SN	Piccolo SN	808 SN	Ballad SN	Ballad SN	Ballad SN	Brush Swish
39	808 Claps	Brush Slap	808 Claps	Hand Claps	808 Claps	808 Claps	Hand Claps	808 Claps	808 Claps	Brush Slap
40	808 SN	Brush Swish	SN Roll	Piccolo SN	Natural SN2	808 SN	SN Roll	SN Roll	Piccolo SN	Brush Roll
41	808 Kick	Verb Tom Lo	Verb Tom Lo	Verb Tom Lo	Verb Tom Lo	808 Kick	Verb Tom Lo	Timpani	Verb Tom Lo	Dry Tom Lo
42	606 HiHat Cl	Cl HiHat 1	Cl HiHat 1	Cl HiHat 1	Cl HiHat 1	606 HiHat Cl	Cl HiHat 2	Timpani	Cl HiHat 1	Cl HiHat 1
43	808 SN	Verb Tom Lo	Verb Tom Lo	Verb Tom Lo	Verb Tom Lo	Tekno Hit	Dry Tom Lo	Timpani	Verb Tom Lo	Dry Tom Lo
44	606 HiHat Cl	Pedal HiHat	Cl HiHat 2	Cl HiHat 2	Pedal HiHat	606 HiHat Cl	Pedal HiHat	Timpani	Pedal HiHat	Pedal HiHat
45	808 Kick	Verb Tom Hi	Verb Tom Hi	Verb Tom Hi	Verb Tom Lo	808 Kick	Verb Tom Lo	Timpani	Verb Tom Hi	Dry Tom Hi
46	606 HiHat Op	Op HiHat	Op HiHat	Op HiHat	Op HiHat	606 HiHat Op	Op HiHat	Timpani	Op HiHat	Op HiHat
47	808 SN	Verb Tom Hi	Verb Tom Hi	Verb Tom Hi	Verb Tom Lo	Tekno Hit	Dry Tom Lo	Timpani	Verb Tom Hi	Dry Tom Hi
C3 48	808 Kick	Verb Tom Hi	Verb Tom Hi	Verb Tom Hi	Verb Tom Hi	808 Kick	Verb Tom Hi	Timpani	Verb Tom Hi	Dry Tom Hi
49	Crash 1	Crash 1	Crash 1	Crash 1	Crash 1	Crash 1	Crash 1	Timpani	Crash 1	Crash 1
50	808 SN	Verb Tom Hi	Verb Tom Hi	Verb Tom Hi	Verb Tom Hi	Tekno Hit	Dry Tom Hi	Timpani	Verb Tom Hi	Dry Tom Hi
51	Ride 2	Ride 2	Ride 2	Ride 1	Ride 1	Voice Breath	Ride 2	Timpani	Ride 2	Ride 2
52	REV Crash 1	China Cym	China Cym	China Cym	China Cym	MC500 Beep 1	China Cym	Timpani	China Cym	China Cym
53	Ride Bell 1	Ride Bell 1	Ride Bell 1	Ride Bell 1	Ride Bell 1	MC500 Beep 2	Ride Bell 1	Timpani	Ride Bell 1	Ride Bell 1
54	Tambourine	Tambourine	Tambourine	Tambourine	Tambourine	R8 Click	Tambourine	Tambourine	Tambourine	Tambourine
55	Crash 1	Crash 1	Crash 1	Crash 1	Crash 1	Pizz	Crash 1	Crash 1	Crash 1	Crash 1
56	Cowbell 1	Cowbell 1	Cowbell 1	Cowbell 1	Cowbell 1	DIGI Bell 1	Cowbell 1	Cowbell 1	Cowbell 1	Cowbell 1
57	Crash 1	Crash 1	Crash 1	Crash 1	Crash 1	Rattles	Crash 1	Crash 1	Crash 1	Crash 1
58	Vibraslap	Vibraslap	Cowbell 1	Cowbell 1	Vibraslap	Ride Bell 1	Vibraslap	Ride 1	Vibraslap	Vibraslap
59	Ride 2	Ride 2	Ride Bell 1	Ride Bell 1	Ride 1	REV Tamb	Ride 2	Ride 2	Ride 2	Ride 2
C4 60	Bongo Hi	Bongo Hi	Cga Mute Hi	Cga Mute Hi	Bongo Hi	2.2 Vibwave	Bongo Hi	Bongo Hi	Bongo Hi	Cga Mute Hi
61	Bongo Lo	Bongo Lo	Cga Mute Lo	Cga Mute Lo	Bongo Lo	Low Pink NZ	Bongo Lo	Bongo Lo	Bongo Lo	Cga Mute Lo
62	Cga Mute Hi	Cga Mute Hi	Cga Slap	Cga Slap	Cga Mute Hi	Kalimba	Cga Mute Hi	Cga Mute Hi	Cga Mute Hi	Cga Slap
63	Cga Open Hi	Cga Open Hi	Cga Open Hi	Cga Open Hi	Cga Open Hi	Metal Wind	Cga Open Hi	Cga Open Hi	Cga Open Hi	Cga Open Hi
64	Cga Open Lo	Cga Open Lo	Cga Open Lo	Cga Open Lo	Cga Open Lo	Lead Wave	Cga Open Lo	Cga Open Lo	Cga Open Lo	Cga Open Lo
65	Timbale	Timbale	Timbale	Timbale	Timbale	Tin Wave	Timbale	Timbale	Timbale	Timbale
66	Timbale	Timbale	Timbale	Timbale	Timbale	Agogo	Timbale	Timbale	Timbale	Timbale
67	Agogo	Agogo	Agogo	Agogo	Agogo	Lite Kick	Agogo	Agogo	Agogo	Agogo
68	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo	Agogo
69	Cabasa Cut	Cabasa Up	Cabasa Up	Cabasa Up	Cabasa Up	Lite Kick	Cabasa Up	Cabasa Up	Cabasa Up	Cabasa Up
70	Maracas	Maracas	Maracas	Maracas	Maracas	Agogo	Maracas	Maracas	Maracas	Maracas
71	Soft Pad B	Soft Pad B	Soft Pad A	Cabasa Down	Soft Pad A	Gtr Harm A	Soft Pad A	Soft Pad A	Soft Pad A	Soft Pad A
C5 72	Soft Pad A	Soft Pad A	Soft Pad B	Cabasa Cut	Soft Pad B	Gtr Harm A	Brush Swish	Soft Pad B	Soft Pad B	Soft Pad B
73	Long Guiro	Long Guiro	Long Guiro	808 Kick	Long Guiro	Piano Thump	Long Guiro	Long Guiro	Long Guiro	Long Guiro
74	Long Guiro	Long Guiro	Long Guiro	808 SN	Long Guiro	Natural SN1	Long Guiro	Long Guiro	Long Guiro	Long Guiro
75	Claves	Claves	Claves	DIGI Bell 1	Claves	Hand Claps	Claves	Claves	Claves	Claves
76	Wood Block	Wood Block	Wood Block	808 SN	Wood Block	Natural SN1	Wood Block	Wood Block	Wood Block	Wood Block
77	Wood Block	Wood Block	Wood Block	808 Kick	Wood Block	808 SN	Metronome 2	Wood Block	Wood Block	Wood Block
78	Cuica	Cuica	Cuica	Spectrum	Cuica	PowerChord B	Cuica	Cuica	Cuica	Cuica
79	Cuica	Cuica	Cuica	808 Kick	Cuica	Hybrid Kick2	Cuica	Cuica	Cuica	Cuica
80	Open Triangl	Open Triangl	Open Triangl	Spectrum	Open Triangl	PowerChord B	Open Triangl	Open Triangl	Open Triangl	Open Triangl
81	Open Triangl	Open Triangl	Open Triangl	808 Kick	Open Triangl	Gt.FretNoise	Open Triangl	Open Triangl	Open Triangl	Open Triangl
82	Cabasa Cut	Cabasa Cut	Cabasa Cut	Spectrum	Maracas	Banjo B	Cabasa Cut	Cabasa Cut	Cabasa Cut	Cabasa Cut
83	Tambourine	Spectrum	Spectrum	808 Kick	Ice Rain	Slap Bass 1	Spectrum	Spectrum	Spectrum	Spectrum
C6 84	Old Kick	Wind Chimes	Wind Chimes	808 Kick	Wind Chimes	Oboe mf A	Wind Chimes	Wind Chimes	Wind Chimes	Wind Chimes
85	Scratch 1	Wood Block	Wood Block	Feedbackwave	Claves	Shakuhachi	Wood Block	Wood Block	Wood Block	Wood Block
86	Piccolo SN	Cga Slap	Cga Slap	808 Kick	808 SN	Pizz	Cga Slap	Cga Slap	Cga Slap	Cga Slap
87	Scratch 3	Dry Tom Lo	Dry Tom Lo	Feedbackwave	Verb Tom Hi	Syn Vox 1	Dry Tom Lo	Dry Tom Lo	Dry Tom Lo	Dry Tom Lo
88	White Noise	Lite Kick	Lite Kick	Pop Voice	Piccolo SN	Voice Aahs A	Lite Kick	Applause	Lite Kick	Lite Kick
89	Synth Saw 1	Hybrid Kick2	Hybrid Kick2	Pop Voice	Scratch 3	Voice Oohs2A	Hybrid Kick2	Hybrid Kick2	Hybrid Kick2	Hybrid Kick2
90	Synth Pulse1	Old Kick	Old Kick	Wind Agogo	Tin Wave	Pop Voice	Old Kick	Cl HiHat 1	Old Kick	Old Kick
91	Back Hit	808 Kick	Pop Voice	Pop Voice	Spectrum	Male Ooh A	Natural SN2	Round Kick	808 Kick	808 Kick
92	Tekno Hit	Natural SN1	Wind Agogo	Wind Agogo	REV Steel DR	Voice Breath	Natural SN1	Pedal HiHat	Natural SN1	Natural SN1
93	Orch. Hit	Natural SN2	Op HiHat	Op HiHat	REV Tin Wave	Org Vox C	Brush Swish	Natural SN2	Natural SN2	Natural SN2
94	Philly Hit	SN Roll	Anklungs	Anklungs	REV PiccloSN	Vox Noise	Brush Roll	Op HiHat	808 SN	SN Roll
95	REV Back Hit	Natural SN2	Op HiHat	Op HiHat	REV Crash 1	Vox Noise	Brush Slap	Brush Slap	Brush Slap	Brush Slap
C7 96	MC500 Beep 1	Metronome 2	Metronome 2	Metronome 2	Metronome 2	Applause	Metronome 2	Brush Swish	Brush Swish	Metronome 2
97	R8 Click	R8 Click	R8 Click	R8 Click	R8 Click	R8 Click	R8 Click	Brush Roll	Brush Roll	R8 Click
98	MC500 Beep 2	Metronome 1	Metronome 1	Metronome 1	Metronome 1	Metronome 2	Metronome 1	SN Roll	SN Roll	Metronome 1

Performance

User			Preset A			Preset B		
No.	Name	Key Mode	No.	Name	Key Mode	No.	Name	Key Mode
1	Tekno Loop 1	LAYER	1	House Set	SINGLE	1	Africa	SINGLE
2	Opening Orch	LAYER	2	Analectro	SINGLE	2	World Ethnic	SINGLE
3	Feedback EP	LAYER	3	Anatronic	SINGLE	3	Asian Ethnic	SINGLE
4	Cosmic Dawn	LAYER	4	Tekno Pop 1	SINGLE	4	Asian Band	SINGLE
5	Tekno Loop 2	LAYER	5	Tekno Pop 2	SINGLE	5	60's Set	SINGLE
6	S&H / Pad	LAYER	6	Hard Core	SINGLE	6	Blues Band	SINGLE
7	Fr.Horn Sect	LAYER	7	Hi Energy	SINGLE	7	Country Band	SINGLE
8	White Hole	LAYER	8	Pop Dance	SINGLE	8	Folk Set	SINGLE
9	Nebular Vox	LAYER	9	Acid Set	SINGLE	9	Reggae Band	SINGLE
10	Flying Jazz	LAYER	10	Ambient Set	SINGLE	10	FunkWah Band	SINGLE
11	Terminator	LAYER	11	Electro Pop	SINGLE	11	Funkin'Phaze	SINGLE
12	Orchestral	LAYER	12	Pop Set 1	SINGLE	12	Zydeco Band	SINGLE
13	Rave Split	LAYER	13	Pop Set 2	SINGLE	13	New Orleans	SINGLE
14	Multi Sax	LAYER	14	Pop Set 3	SINGLE	14	Dixieland	LAYER
15	Bass / Lead	LAYER	15	Pop Set 4	SINGLE	15	Big Band Set	SINGLE
16	AcPiano+Pad	LAYER	16	L.A. Ballad	SINGLE	16	Cont.Jazz 1	SINGLE
17	Kicks Attack	LAYER	17	Hip Hop Set	SINGLE	17	Cont.Jazz 2	SINGLE
18	Humming Vox	LAYER	18	Funk Rock	SINGLE	18	Ac.Jazz Set	SINGLE
19	Step Brass	LAYER	19	Funk Fusion	SINGLE	19	Gospel Set	LAYER
20	Drone / Pipe	LAYER	20	Heavy Metal	SINGLE	20	All Strings	SINGLE
21	Sweeper	LAYER	21	Heavy Kids	LAYER	21	All Brass	SINGLE
22	Chime Dreams	LAYER	22	Latin Set	SINGLE	22	All Piano 1	SINGLE
23	Big Band	LAYER	23	BrazilianSet	LAYER	23	All Piano 2	SINGLE
24	Labyrinth	LAYER	24	New Age 1	SINGLE	24	All Keyboard	SINGLE
25	SpaceCarrier	LAYER	25	New Age 2	SINGLE	25	All Organ	SINGLE
26	EasternSplit	LAYER	26	Orchestra	SINGLE	26	All Winds	SINGLE
27	Cyber Sweep	LAYER	27	Concerto	SINGLE	27	All Bells	LAYER
28	Tekno Asia	LAYER	28	Film Score 1	SINGLE	28	Mlt & Perc	SINGLE
29	1080 Fantasy	LAYER	29	Film Score 2	SINGLE	29	All Seq	SINGLE
30	Pop Ballad	LAYER	30	Symphonic	SINGLE	30	All Bass	SINGLE
31	Rhythmatic	LAYER	31	Chamber Set	SINGLE	31	All Pad	SINGLE
32	Power JV	LAYER	32	Baroque Set	SINGLE	32	All FX	SINGLE

* *The Key Mode determines how Patches will sound when you play the keyboard. If you select a "SINGLE" Performance, the keyboard will play only the Patch of the specified Part. If you select a "LAYER" Performance, the Patches for the Part(s) specified by the Performance will sound. Some settings will produce rich sounds in which two or more Patches are layered, or settings in which two or more Patches are split across different areas of the keyboard.*

Model: XP-50 (Music Workstation)
Version 1.00
Date: Dec.15 1994

1. Data reception (sound source section)

■ Channel voice messages

● Note Off

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)

* *Not received in Performance mode when the Rx parameter (PERFORM: MIDI: MIDI) is OFF.*
* *Not received by the Rhythm Part (Part 10) when the Env Mode parameter (RHYTHM: CONTROL: CONTROL) is NO-SUSTAIN.*

● Note On

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)

* *Not received in Performance mode when the Rx parameter (PERFORM: MIDI: MIDI) is OFF.*

● Polyphonic Aftertouch

status	2nd byte	3rd byte
AnH	kkH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
kk=note number : 00H - 7FH (0 - 127)
vv=Polyphonic Aftertouch : 00H - 7FH (0 - 127)

* *Not received when the Aftertouch parameter (SYSTEM: CONTROL: CONTROL SOURCE) is POLY or CH&POLY.*
* *Not received in Performance mode when the Rx parameter (PERFORM: MIDI: MIDI) is OFF.*
* *Not received in GM mode.*

● Control Change

* *If the corresponding Controller number is selected for the Control 2 or Control 3 parameter (PATCH: CONTROL: CONTROL SOURCE), the corresponding effect will occur.*
* *If a Controller number that corresponds to the Control 1 parameter or Control 2 parameter (SYSTEM: CONTROL: SYS-CTRL ASSIGN) is selected, the specified effect will apply if Control 2 parameter or Control 3 parameter (PATCH: CONTROL: CONTROL SOURCE) is set to SYS-CTRL1 or SYS-CTRL2.*
* *Not received in Performance mode when the Rx parameter (PERFORM: MIDI: MIDI) or the Control Change Receive Switch is OFF.*

○ Bank Select (Controller number 0, 32)

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)

* *Not received when the Program Change parameter or Bank Select parameter (SYSTEM: MIDI: RECEIVE MIDI) is OFF.*
* *Not received in GM mode.*
* *The Patches corresponding to each Bank Select are as follows.*

Bank Select MSB	Bank Select LSB	Program Change	Media	(Patch Number)
80	0	0 - 127	User	(#1 - #128)
81	0	0 - 127	Preset A	(#1 - #128)
81	1	0 - 127	Preset B	(#1 - #128)
81	2	0 - 127	Preset C	(#1 - #128)
81	3	0 - 127	Preset D (GM Instrument)	(#1 - #128)
84	0	0 - 127	Expansion A	(#1 - #128)
84	1	0 - 127	Expansion A	(#129-#256)
84	2	0 - 127	Expansion B	(#1 - #128)
84	3	0 - 127	Expansion B	(#129-#256)
84	4	0 - 127	Expansion C	(#1 - #128)
84	5	0 - 127	Expansion C	(#129-#256)
84	6	0 - 127	Expansion D	(#1 - #128)
84	7	0 - 127	Expansion D	(#129-#256)

* *The Performances corresponding to each Bank Select are as follows.*

Bank Select MSB	Bank Select LSB	Program Change	Media	(Performance Number)
80	0	0 - 31	User	(#1 - #32)
81	0	0 - 31	Preset A	(#1 - #32)
81	1	0 - 31	Preset B	(#1 - #32)

* *The Rhythm set corresponding to each Bank Select are as follows.*

Bank Select MSB	Bank Select LSB	Program Change	Media	(Rhythm Number)
80	0	0 - 1	User	(#1 - #2)
81	0	0 - 1	Preset A	(#1 - #2)
81	1	0 - 1	Preset B	(#1 - #2)
81	2	0 - 1	Preset C	(#1 - #2)
81	3	0 - 1	Preset D (GM Instrument)	(#1 - #2)
84	0	0 - 1	Expansion A	(#1 - #128)
84	1	0 - 1	Expansion A	(#129-#256)
84	2	0 - 1	Expansion B	(#1 - #128)
84	3	0 - 1	Expansion B	(#129-#256)
84	4	0 - 1	Expansion C	(#1 - #128)
84	5	0 - 1	Expansion C	(#129-#256)
84	6	0 - 1	Expansion D	(#1 - #128)
84	7	0 - 1	Expansion D	(#129-#256)

○ Modulation (Controller number 1)

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)

○ Breath type (Controller number 2)

status	2nd byte	3rd byte
BnH	02H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127)

○ Foot type (Controller number 4)

status	2nd byte	3rd byte
BnH	04H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127)

○ Portamento Time (Controller number 5)

status	2nd byte	3rd byte
BnH	05H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Portamento Time : 00H - 7FH (0 - 127)

* *The Time parameter (PATCH: CONTROL: PORTAMENTO) will change.*

○ 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,ll= the value of the parameter specified by RPN/NRPN
mm=MSB, ll=LSB

○ Volume (Controller number 7)

status	2nd byte	3rd byte
BnH	07H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Volume : 00H - 7FH (0 - 127)

○ Balance (Controller number 8)

status	2nd byte	3rd byte
BnH	08H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Balance : 00H - 7FH (0 - 127)

○ Panpot (Controller number 10)

status	2nd byte	3rd byte
BnH	0AH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Panpot : 00H - 40H - 7FH (left - center - right)

* *Adjust the stereo location over 128 steps, where 0 is far left, 64 is center, and 127 is far right. However this is not received when the Pan parameter (PATCH: CONTROL: RxSWITCH) is OFF.*

○ Expression (Controller number 11)

status	2nd byte	3rd byte
BnH	0BH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Expression : 00H - 7FH (0 - 127)

* *If the Volume parameter (SYSTEM: CONTROL: CONTROL SOURCE) is set to VOLUME & EXPRESSION, the volume of the Part corresponding to the MIDI channel of the received message will be adjusted. However this is not received if the Volume parameter (PATCH: CONTROL: RxSWITCH) is OFF.*
* *In GM mode, the volume can always be controlled.*

○ Hold 1 (Controller number 64)

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 received when the Hold-1 RxSwitch parameter (PATCH: CONTROL: DAMPER) is OFF.*

○ Portamento (Controller number 65)

status	2nd byte	3rd byte
BnH	41H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127) 0-63=OFF, 64-127=ON

* *The Sw parameter (PATCH: CONTROL: PORTAMENTO) will change.*

○ Sostenuto (Controller number 66)

status	2nd byte	3rd byte
BnH	42H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127) 0-63=OFF, 64-127=ON

○ Soft (Controller number 67)

status	2nd byte	3rd byte
BnH	43H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127) 0-63=OFF, 64-127=ON

○ Hold 2 (Controller number 69)

status	2nd byte	3rd byte
BnH	45H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
kk=source note number : 00H - 7FH (0 - 127)

○ Portamento Control (Controller number 84)

status	2nd byte	3rd byte
BnH	54H	kkH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
kk=source note number : 00H - 7FH (0 - 127)

* *A Note On message received immediately after a Portamento control will be sounded with the pitch changing smoothly from the source note number. If a voice is already sounding at the same note number as the source note number, that voice will change pitch to the pitch of the newly received Note On, and continue sounding (i.e., will be played legato).*
* *The speed of the pitch change caused by Portamento is determined by the Time parameter (PATCH: CONTROL: PORTAMENTO) value.*

○ Effect 1 (Reverb Send Level) (Controller number 91)

status	2nd byte	3rd byte
BnH	5BH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Reverb Send Level : 00H - 7FH (0 - 127)

* *Not received in Patch mode.*

○ Effect 3 (Chorus Send Level) (Controller number 93)

status	2nd byte	3rd byte
BnH	5DH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Chorus Send Level : 00H - 7FH (0 - 127)

* Not received in Patch mode.

○ 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=MSB of the parameter number specified by RPN
ll=LSB of the parameter number specified by RPN

<<< RPN >>>
Control Changes include RPN (Registered Parameter Numbers), which are extended parameters whose function is defined in the MIDI specification.
When using RPNs, first the RPN (Controller numbers 100 and 101; they can be sent in any order) is transmitted to specify the parameter you wish to control. Then, Data Entry messages (Controller numbers 6 and 38) are used to set the value of the specified parameter. Once a RPN parameter has been specified, all further Data Entry messages on that channel are considered to apply to that specified parameter. In order to prevent accidents, when the desired setting has been made for the parameter, it is recommended that RPN be set to Null.

This device receives the following RPNs.

RPN MSB LSB	Data entry MSB LSB	Notes
00H 00H	mmH ---	Pitch Bend Sensitivity mm : 00H - 0CH (0 - 12 semitones) ll : ignored (processed as 00H) Up to 1 octave can be specified in semitone steps. * *The Bend Range parameter (PATCH: CONTROL: KEY MODE & BENDER) will also be changed.* * *Not received by the Rhythm Part (Part 10).*
00H 01H	mmH llH	Master Fine Tuning mm, ll : 20 00H - 40 00H - 60 00H (-8192 * 50 / 8192 - 0 - +8192 * 50 / 8192 cent) * *In Patch mode, the Master parameter (SYSTEM: TUNE: TUNE) will change.* * *In Performance mode, the Fine parameter of each Part (PERFORM: PART: PART SETTING) will change. When received on the Control channel, the Master parameter (SYSTEM: TUNE: TUNE) will change.*
00H 02H	mmH ---	Master Coarse Tuning mm : 10H - 40H - 70H (-48 - 0 - +48 semitones) ll : ignored (processed as 00H) * *Not received in Patch mode.* * *In Performance mode, the Coarse parameter of each Part (PERFORM: PART: PART SETTING) will change.*
7FH 7FH	--- ---	RPN null RPN and NRPN will be set as "unspecified". Once this setting has been made, subsequent Data Entry messages will be ignored. (It is not necessary to transmit Data Entry for RPN Null settings. Parameter values that were previously set will not change. mm, ll : ignored

● Program Change

status	2nd byte
CnH	ppH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
pp=Program number : 00H - 7FH (prog.1 - prog.128)

* *Not received when the Program Change parameter (SYSTEM: MIDI: RECEIVE MIDI) is OFF.*
* *When received on the Control channel, the Performance will change.*
* *Not received in Performance mode when the Rx parameter (PERFORM: MIDI: MIDI) is OFF.*

● Channel Aftertouch

status	2nd byte
DnH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Channel Aftertouch : 00H - 7FH (0 - 127)

* *Not received in Performance mode when the Rx parameter (PERFORM: MIDI: MIDI) is OFF.*

● Pitch Bend Change

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)

* *Not received in Performance mode when the Rx parameter (PERFORM: MIDI: MIDI) is OFF.*

■ Channel Mode messages

● All Sound Off (Controller number 120)

status	2nd byte	3rd byte
BnH	78H	00H

n=MIDI channel : 0H - FH (ch.1 - ch.16)

* *When this message is received, all notes currently sounding on the corresponding channel will be turned off.*
* *Not received in Performance mode when the Rx parameter (PERFORM: MIDI: MIDI) is OFF.*

● Reset All Controllers (Controller number 121)

status	2nd byte	3rd byte
BnH	79H	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

* *Not received in Performance mode when the Rx parameter (PERFORM: MIDI: MIDI) is OFF.*
* *When this message is received, the following controllers will be set to their reset values.*

Controller	Reset value
Pitch Bend Change	±0 (center)
Polyphonic Key Pressure	0 (off)
Channel Pressure	0 (off)
Modulation	0 (off)
Breath type	0 (minimum)
Expression	127 (maximum)
	However the controller will be at minimum.
Hold 1	0 (off)
Sostenuto	0 (off)
Soft	0 (off)
Hold 2	0 (off)
RPN	Unset. Previously set data will not change.
NRPN	Unset. Previously set data will not change.
System General purpose controller 1	0 (minimum)
System General purpose controller 2	0 (minimum)

● All Note Off (Controller number 123)

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 or Sostenuto are on, the sound will be held until these are turned off.*
* *Not received in Performance mode if Rx parameter (PERFORM: MIDI: MIDI) is OFF.*

● Omni Off (Controller number 124)

status	2nd byte	3rd byte
BnH	7CH	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

* *The same processing as when All Note Off is received will be done.*
* *Not received in Performance mode if Rx parameter (PERFORM: MIDI: MIDI) is OFF.*

● Omni On (Controller number 125)

status	2nd byte	3rd byte
BnH	7DH	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

* *The same processing as when All Note Off is received will be done. The instrument will not be set to OMNI ON.*
* *Not received in Performance mode if Rx parameter (PERFORM: MIDI: MIDI) is OFF.*

● Mono (Controller number 126)

status	2nd byte	3rd byte
BnH	7EH	mmH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
mm=Mono number : 00H - 10H (0 - 16)

* *The same processing as when All Note Off is received will be done, and the Assign parameter (PATCH:CONTROL:KEY MODE & BENDER) will be set to SOLO.*
* *Not received in Performance mode if Rx parameter (PERFORM: MIDI: MIDI) is OFF.*

● Poly (Controller number 127)

status	2nd byte	3rd byte
BnH	7FH	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

* *The same processing as when All Note Off is received will be done, and the Assign parameter (PATCH: CONTROL: KEY MODE & BENDER) will be set to POLY.*
* *Not received in Performance mode if Rx parameter (PERFORM: MIDI: MIDI) is OFF.*

■ System Realtime messages

● Active Sensing

status
FEH

* *When an Active Sensing message is received, the unit will begin monitoring the interval at which MIDI messages 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 messages are received. Then monitoring will be halted.*

■ System Exclusive messages

status	data byte	status
F0H	iiH, ddH, ..., eeH	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,..., ee = data : 00H - 7FH (0 - 127)
F7H : EOX (End Of Exclusive)

Of the System Exclusive messages received by this device, the data of messages related to Mode settings and the Data Request (RQ1) messages will be set automatically.

● System Exclusive messages related to Mode settings

These messages are used to initialize the instrument to GM mode, or to switch from one mode to another mode.
"GM System On" and "GM System Off" use Universal Non-realtime message format.

○ GM System On

"GM System On" is a command message that resets the internal settings of the instrument to the GM initial state (General MIDI System - Level 1). A GM instrument that receives this message will automatically enter a state in which it can correctly perform a GM score.

status	data byte	status
F0H	7EH, 7FH, 09H, 01H	F7H

Byte	Remarks	
F0H	Exclusive status	
7EH	ID number	(Universal Non-realtime message)
7FH	device ID	(Broadcast)
09H	sub ID#1	(General MIDI Message)
01H	sub ID#2	(General MIDI On)
F7H	EOX	(End Of Exclusive)

* *Not received when the Rx.GM parameter (SYSTEM: MIDI: SYS-EXC MIDI) is OFF.*

○ GM System Off

When this messages is received, this instrument will return to the performance mode.

status	data byte	status
F0H	7EH, 7FH, 09H, 02H	F7H

Byte	Remarks	
F0H	Exclusive status	
7EH	ID number	(Universal Non-realtime message)
7FH	device ID	(Broadcast)
09H	sub ID#1	(General MIDI Message)
02H	sub ID#2	(General MIDI Off)
F7H	EOX	(End Of Exclusive)

* *Not received when the Rx.GM parameter (SYSTEM:MIDI:SYS-EXC MIDI) is OFF.*

● Data transmission

This instrument can use exclusive messages to exchange many varieties of internal settings with other devices.
The model ID of the exclusive messages used by this instrument is 6AH.

○ Data Request 1 RQ1

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

status	data byte	status
F0H	41H, dev, 6AH, 11H, aaH, bbH, ccH, ddH, ssH, ttH, uuH, sum	F7H

Byte	Remarks	
F0H	Exclusive status	
41H	ID number	(Roland)
dev	device ID	(dev: 10H - 1FH)
6AH	model ID	(XP-50)
11H	command ID	(RQ1)
aaH	address MSB	
bbH	address	
ccH	address	
ddH	address LSB	
ssH	size MSB	
ttH	size	
uuH	size	
vvH	size LSB	
sum	checksum	
F7H	EOX	(End Of Exclusive)

* *The size of data that can be transmitted at one time is fixed for each type of data, and data requests must be made with a fixed starting address and size. Refer to the address and size given in "3. Parameter address map." (p.143)*
* *For the checksum, refer to page 148.*
* *This message is not received if the Rx.Exc parameter (SYTEM: MIDI: SYS-EXC MIDI) is OFF.*
* *This message is not received in GM mode.*

○ 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, 6AH, 12H, aaH, bbH, ccH, ddH, eeH, ... ffH, sum	F7H

Byte	Remarks	
F0H	Exclusive status	
41H	ID number	(Roland)
dev	device ID	(dev: 10H - 1FH)
6AH	model ID	(XP-50)
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 is transmitted at one time is fixed for the type of data, and only data of the fixed starting address and size will be transmitted. Refer to the address and size given in "3. Parameter address map" (p.143).*
* *Data whose size is greater than 128 bytes should be divided into packets of 128 bytes or less and transmitted. Successive "Data Set 1" messages should have at least 20 ms of time interval between them.*
* *For the checksum please refer to page 148.*
* *This message is not received if Rx.Exc parameter (SYTEM:MIDI:SYS-EXC MIDI) is OFF.*
* *This message is not received in GM mode.*

This device is able to receive GS Exclusive messages only for Scale Tune settings.

○ 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, 42H, 12H, aaH, bbH, ccH, ddH, ... eeH, sum	F7H

Byte	Remarks	
F0H	Exclusive status	
41H	ID number	(Roland)
dev	device ID	(dev: 10H - 1FH)
42H	model ID	(GS)
12H	command ID	(DT1)
aaH	address MSB	
bbH	address middle byte	
ccH	address LSB	
ddH	data: The actual data to be transmitted. Multi-byte data is transmitted in the address order.	
:	:	
eeH	data	
sum	checksum	
F7H	EOX	(End Of Exclusive)

* *This message is not received when the Rx.Exc parameter (SYSTEM: MIDI: SYS-EXC MIDI) is OFF.*
* *This message is not received in GM mode.*

2. Data transmission (sound source section)

■ Channel Voice messages

● Note Off

status	2nd byte	3rd byte
8nH	kkH	vvH
9nH	kkH	00H
n=MIDI channel	: 0H - FH (ch.1 - ch.16)	
kk=Note Number	: 00H - 7FH (0 - 127)	
vv=Note Off Velocity	: 00H - 7FH (0 - 127)	

● Note On

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

* *By selecting a controller number that corresponds to the setting of the Assign parameter (SYSTEM: CONTROL: PEDAL1 ASSIGN) / Assign parameter (SYSTEM: CONTROL: PEDAL2 ASSIGN) / Assign parameter (SYSTEM: CONTROL: C1 ASSIGN) / Assign parameter (SYSTEM: CONTROL: C2 ASSIGN), you can transmit any desired control change.*

○ Bank Select (Controller number 0, 32)

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)	

* *This message is not transmitted if Program parameter / Bank Sel parameter (SYSTEM: MIDI: TRANSMIT MIDI) is OFF.*
* *For the Bank Select that corresponds to each Patch, refer to section 1.*
* *This message is not transmitted in GM mode*

○ Modulation (Controller number 1)

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)

○ Breath type (Controller number 2)

status	2nd byte	3rd byte
BnH	02H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127)

○ Foot type (Controller number 4)

status	2nd byte	3rd byte
BnH	04H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127)

○ Portamento Time (Controller number 5)

status	2nd byte	3rd byte
BnH	05H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Portamento Time : 00H - 7FH (0 - 127)

○ Volume (Controller number 7)

status	2nd byte	3rd byte
BnH	07H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Volume : 00H - 7FH (0 - 127)

○ Panpot (Controller number 10)

status	2nd byte	3rd byte
BnH	0AH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=panpot : 00H - 40H - 7FH (left - center - right)

○ Expression (Controller number 11)

status	2nd byte	3rd byte
BnH	0BH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Expression : 00H - 7FH (0 - 127)

○ Hold 1 (Controller number 64)

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

○ Portamento (Controller number 65)

status	2nd byte	3rd byte
BnH	41H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127) 0-63=OFF, 64-127=ON

○ Sostenuto (Controller number 66)

status	2nd byte	3rd byte
BnH	42H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127) 0-63=OFF, 64-127=ON

○ Soft (Controller number 67)

status	2nd byte	3rd byte
BnH	43H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127) 0-63=OFF, 64-127=ON

○ Hold 2 (Controller number 69)

status	2nd byte	3rd byte
BnH	45H	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=control value : 00H - 7FH (0 - 127)

○ Portamento control (Controller number 84)

status	2nd byte	3rd byte
BnH	54H	kkH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
kk=source note number : 00H - 7FH (0 - 127)

○ Effect 1 (Reverb Send Level) (Controller number 91)

status	2nd byte	3rd byte
BnH	5BH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Reverb Send Level : 00H - 7FH (0 - 127)

○ Effect 3 (Chorus Send Level) (Controller number 93)

status	2nd byte	3rd byte
BnH	5DH	vvH

n=MIDI channel : 0H - FH (ch.1 - ch.16)
vv=Chorus Send Level : 00H - 7FH (0 - 127)

● Program Change

status	2nd byte
CnH	ppH

n=MIDI channel : 0H - FH (ch.1 - ch.16)
pp=Program number : 00H - 7FH (prog.1 - prog.128)

* *This message is not transmitted when the Program parameter (SYSTEM: MIDI: TRANSMIT MIDI) is OFF.*

● Channel Aftertouch

status	2nd byte
DnH	vvH

n=MIDI channel : 0H - FH (ch.1 - ch.16)
vv=Channel Aftertouch : 00H - 7FH (1 - 128)

● Pitch Bend Change

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)

■ System Realtime messages

● Active Sensing

status
FEH

* *Transmitted at intervals of approximately 250ms.*
* *Not transmitted if the Active Sensing parameter (SYSTEM:MIDI: TRANSMIT MIDI) is OFF.*

■ System Exclusive messages

○ Data Set1 DT1

status	data byte	status
F0H	41H, dev, 6AH, 12H, aaH, bbH, ccH, ddH, eeH, ... eeH, sum	F7H

Byte	Remarks	
F0H	Exclusive status	
41H	ID number	(Roland)
dev	device ID	(dev: 10H - 1FH)
6AH	model ID	(XP-50)
12H	command ID	(DT1)
aaH	address MSB	
bbH	address	
ccH	address	
ddH	address LSB	
ddH	data: The actual data to be transmitted. Multi-byte data is transmitted in the address order.	
:	:	
eeH	data	
sum	checksum	
F7H	EOX	(End Of Exclusive)

* *The amount of data transmitted at one time is fixed for the type of data, and the data will be transmitted with the fixed starting address and size. Refer to the address and size given in "3. Parameter address map" (p.143).*
* *Large amounts of data must be divided into packets of 128 bytes or less, and transmitted at intervals of approximately 20 ms.*
* *For the checksum, refer to p.148.*

3. Data reception (Sequencer section)

3.1 Messages recorded during recording

■ Channel voice messages

● Note Off

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

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)

● Polyphonic Aftertouch

status	2nd byte	3rd byte
AnH	kkH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
kk=note number : 00H - 7FH (0 - 127)
vv=Polyphonic Aftertouch : 00H - 7FH (0 - 127)

* *This message is not received if the PAft parameter (SYSTEM: SEQUENCER: SEQ REC SWITCH) is OFF.*

● Control Change

status	2nd byte	3rd byte
BnH	kkH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
kk=control number : 00H - 78H (0 - 120)
vv=value : 00H - 7FH (0 - 127)

* *This message is not received if the C.C parameter (SYSTEM: SEQUENCER: SEQ REC SWITCH) is OFF.*

● Program Change

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 message is not received if the P.C parameter (SYSTEM: SEQUENCER: SEQ REC SWITCH) is OFF.*

● Channel Aftertouch

status	2nd byte
DnH	vvH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=Channel Aftertouch : 00H - 7FH (0 - 127)

* *This message is not received if the CAft parameter (SYSTEM: SEQUENCER: SEQ REC SWITCH) is OFF.*

● Pitch Bend Change

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 message is not received when the Bend parameter (SYSTEM: SEQUENCER: SEQ REC SWITCH) is OFF.*

■ Channel Mode messages

● All Sound Off (Controller number 120)

status	2nd byte	3rd byte
BnH	78H	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

● Reset All Controllers (Controller number 121)

status	2nd byte	3rd byte
BnH	79H	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

● Omni Off (Controller number 124)

status	2nd byte	3rd byte
BnH	7CH	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

* *The same processing will be done as when an All Note Off message is received.*

● Omni On (Controller number 125)

status	2nd byte	3rd byte
BnH	7DH	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

* *The same processing will be done as when an All Note Off message is received.*

● Mono (Controller number 126)

status	2nd byte	3rd byte
BnH	7EH	mmH

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
mm=mono number : 00H - 10H (0 - 16)

* *The same processing will be done as when an All Note Off message is received.*

● Poly (Controller number 127)

status	2nd byte	3rd byte
BnH	7FH	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

* *The same processing will be done as when an All Note Off message is received.*

■ System Exclusive messages

status	data byte	status
F0H	iiH, ddH, ..., eeH	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,..., ee = data : 00H - 7FH (0 - 127)
F7H : EOX (End Of Exclusive)

* *These messages are not received if the Exc parameter (SYSTEM: SEQUENCER: SEQ REC SWITCH) is OFF.*

3.2 Messages not recorded during recording

■ Channel Mode messages

● Local On/Off (Controller number 122)

status	2nd byte	3rd byte
BnH	7AH	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)
vv=value : 00H,7FH (Local off, Local on)

● All Note Off (Controller number 123)

status	2nd byte	3rd byte
BnH	7BH	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

* *When an All Note Off message is received, all notes of the corresponding channel that are on will be sent Note Off's, and the resulting Note Off messages will be recorded.*

3.3 Messages acknowledged for synchronization

■ System Common messages

● Song Position Pointer

status	2nd byte	3rd byte
F2H	mmH	llH

mm,ll=value: 00 00H - 7F 7FH (0 - 16383)

* *This message can be received anytime a song from internal memory is selected. It will not be received if a song from disk is selected.*

● Song Select

status	2nd byte
F3H	ssH
ss=value	: 0 - 7FH (0 - 127)

* *This message can be received when the sequencer is stopped. It will not be received while in the Edit display or Microscope display.*

■ System Realtime messages

● Timing Clock

status
F8H

* *This message will be received if the SyncMode parameter (SYSTEM: SEQUENCER: SEQ MODE) is SLAVE.*

● Start

status
FAH

* *This message will be received if the SyncMode parameter (SYSTEM: SEQUENCER: SEQ MODE) is SLAVE or REMOTE.*

● Continue

status
FBH

* *This message will be received if the SyncMode parameter (SYSTEM: SEQUENCER: SEQ MODE) is SLAVE or REMOTE.*

● Stop

status
FCH

* *This message will be received if the SyncMode parameter (SYSTEM: SEQUENCER: SEQ MODE) is SLAVE or REMOTE.*

4. Data transmission (Sequencer section)

4.1 Recorded messages are transmitted during playback.

4.2 If the Thru parameter (SYSTEM: SEQUENCER: SEQ MODE) is ON, messages received (except for System Common messages and System Realtime messages) will be transmitted.

4.3 Messages that are generated and transmitted

4.3.1 Messages automatically generated by the system

■ Channel Mode messages

● Omni Off (Controller number 124)

status	2nd byte	3rd byte
BnH	7CH	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

* *At start-up, this message is transmitted to all channels.*

● Poly (Controller number 127)

status	2nd byte	3rd byte
BnH	7FH	00H

n=MIDI channel number : 0H - FH (ch.1 - ch.16)

* *At start-up, this message is transmitted to all channels.*

4.3.2 Messages generated and transmitted when the Sync Message Transmit switch is ON

■ System Common messages

● Song Position Pointer

status	2nd byte	3rd byte
F2H	mmH	llH

mm,ll=value: 00 00H - 7F 7FH (0 - 16383)

● Song Select

status	2nd byte
F3H	ssH
ss=value	: 0 - 7FH (0 - 127)

■ System Realtime messages

● Timing Clock

status
F8H

● Start

status
FAH

● Continue

status
FBH

● Stop

status
FCH

5. Parameter address map

1.XP-50 (Model ID=6AH)

Note: For addresses marked by a #, the data must be divided into 2 parts for transmission. For example, data with the hexadecimal value ABH would be divided into 0AH and 0BH, and transmitted in that order.

Note: Parameter values enclosed in < > are for the JV-1080, and will be ignored if received by the XP-50.

Start Address	Description	
00 00 00 00	System	1-1
01 00 00 00	Temporary Performance	1-2
02 00 00 00	Performance Mode Temporary Patch (part 1)	1-3
02 01 00 00	Performance Mode Temporary Patch (part 2)	
:		
02 08 00 00	Performance Mode Temporary Patch (part 9)	
02 09 00 00	Temporary Rhythm Setup	1-4
02 0A 00 00	Performance Mode Temporary Patch (part 11)	1-3
:		
02 0F 00 00	Performance Mode Temporary Patch (part 16)	
03 00 00 00	Patch Mode Temporary Patch	1-3
10 00 00 00	User Performance USER: 01	1-2
10 01 00 00	User Performance USER: 02	
:		
10 1F 00 00	User Performance USER: 32	
10 40 00 00	User Rhythm Setup USER: 1	1-4
10 41 00 00	User Rhythm Setup USER: 2	
11 00 00 00	User Patch USER: 001	1-3
11 01 00 00	User Patch USER: 002	
:		
11 7F 00 00	User Patch USER: 128	

1-1.System

Offset Address	Description	
00 00	System Common	1-1-1
10 00	Part 1 Scale Tune	1-1-2
11 00	Part 2 Scale Tune	
:		
1F 00	Part 16 Scale Tune	
20 00	Patch Mode Scale Tune	1-1-2

1-1-1.System Common

	Offset Address		Description	
	00 00	0000 00aa	Sound Mode	0 - 2 (PERFORMANCE,PATCH,GM)
	00 01	0aaa aaaa	Performance Number	0 - 127 (USER:01 - USER:32,<CARD:01 - CARD:32>, PR-A:01 - PR-A:32,PR-B:01 - PR-B:32)
	00 02	0000 00aa	Patch Group Type	0 - 2 (USER&PRESET,<PCM>,EXP)
	00 03	0aaa aaaa	Patch Group ID	0 - 127
#	00 04	0000 aaaa 0000 bbbb	Patch Number	0 - 254 (001 - 255)
	00 06	0aaa aaaa	Master Tune	0 - 126 (427.4 - 452.6)
	00 07	0000 000a	Scale Tune Switch	0 - 1 (OFF,ON)
	00 08	0000 000a	EFX Switch	0 - 1 (OFF,ON)
	00 09	0000 000a	Chorus Switch	0 - 1 (OFF,ON)
	00 0A	0000 000a	Reverb Switch	0 - 1 (OFF,ON)
	00 0B	0000 000a	Patch Remain	0 - 1 (OFF,ON)
	00 0C	0000 000a	Clock Source	0 - 1 (<INT,MIDI>)
	00 0D	0000 0aaa	TAP Control Source	0 - 4 (<OFF,HOLD-1,SOSTENUTO,SOFT,HOLD-2>)
	00 0E	0000 0aaa	Hold Control Source	0 - 4 (OFF,HOLD-1,SOSTENUTO,SOFT,HOLD-2)
	00 0F	0000 0aaa	Peak Control Source	0 - 4 (OFF,HOLD-1,SOSTENUTO,SOFT,HOLD-2)
	00 10	0000 000a	Volume Control Source	0 - 1 (VOLUME,VOLUME&EXPRESSION)
	00 11	0000 00aa	Aftertouch Source	0 - 2 (CH-AFTER,POLY-AFTER,CH&POLY)
	00 12	0aaa aaaa	System Control Source 1	0 - 97 (CC00 - CC95,BENDER,AFTERTOUCH)
	00 13	0aaa aaaa	System Control Source 2	0 - 97 (CC00 - CC95,BENDER,AFTERTOUCH)
	00 14	0000 000a	Receive Program Change	0 - 1 (OFF,ON)
	00 15	0000 000a	Receive Bank Select	0 - 1 (OFF,ON)
	00 16	0000 000a	Receive Control Change	0 - 1 (<OFF,ON>)
	00 17	0000 000a	Receive Modulation	0 - 1 (<OFF,ON>)
	00 18	0000 000a	Receive Volume	0 - 1 (<OFF,ON>)
	00 19	0000 000a	Receive Hold-1	0 - 1 (<OFF,ON>)
	00 1A	0000 000a	Receive Bender	0 - 1 (<OFF,ON>)
	00 1B	0000 000a	Receive Aftertouch	0 - 1 (<OFF,ON>)
	00 1C	000a aaaa	Control Channel	0 - 16 (1 - 16,OFF)
	00 1D	0000 aaaa	Patch Receive Channel	0 - 15 (1 - 16)
	00 1E	0000 000a	Rhythm Edit Source	0 - 1 (<OFF,ON>)
	00 1F	0000 000a	Preview Sound Mode	0 - 1 (<SINGLE,CHORD>)
	00 20	0aaa aaaa	Preview Note Set 1	0 - 127 (<C-1 - G9>)
	00 21	0aaa aaaa	Preview Velocity Set 1	0 - 127 (<OFF,1 - 127>)
	00 22	0aaa aaaa	Preview Note Set 2	0 - 127 (<C-1 - G9>)
	00 23	0aaa aaaa	Preview Velocity Set 2	0 - 127 (<OFF,1 - 127>)
	00 24	0aaa aaaa	Preview Note Set 3	0 - 127 (<C-1 - G9>)
	00 25	0aaa aaaa	Preview Velocity Set 3	0 - 127 (<OFF,1 - 127>)
	00 26	0aaa aaaa	Preview Note Set 4	0 - 127 (<C-1 - G9>)
	00 27	0aaa aaaa	Preview Velocity Set 4	0 - 127 (<OFF,1 - 127>)
	00 28	0000 000a	Transmit Program Change	0 - 1 (OFF,ON)
	00 29	0000 000a	Transmit Bank Select	0 - 1 (OFF,ON)
	00 2A	000a aaaa	Patch Transmit Channel	0 - 17 (1 - 16,RX-CH,OFF)
	00 2B	0000 000a	Transpose Switch	0 - 1 (OFF,ON)
	00 2C	0000 aaaa	Transpose Value	0 - 11 (-5 - +6)
	00 2D	0000 0aaa	Octave Shift	0 - 6 (-3 - +3)
	00 2E	0aaa aaaa	Keyboard Velocity	0 - 127 (REAL,1 - 127)
	00 2F	0000 00aa	Keyboard Sens	0 - 2 (LIGHT,STANDARD,HEAVY)
	00 30	0aaa aaaa	Aftertouch Sens	0 - 100
	00 31	0aaa aaaa	Pedal1 Assign	0 - 102 (CC00 - CC95,BENDER,AFTERTOUCH, PROG-UP,PROG-DOWN,START/STOP, PUNCH-IN/OUT,TAP-TEMPO)
	00 32	0000 00aa	Pedal1 Output Mode	0 - 3 (OFF,INT,MIDI,INT&MIDI)
	00 33	0000 000a	Pedal1 Polarity	0 - 1 (STANDARD,REVERSE)
	00 34	0aaa aaaa	Pedal2 Assign	0 - 102 (CC00 - CC95,BENDER,AFTERTOUCH, PROG-UP,PROG-DOWN,START/STOP, PUNCH-IN/OUT,TAP-TEMPO)
	00 35	0000 00aa	Pedal2 Output Mode	0 - 3 (OFF,INT,MIDI,INT&MIDI)
	00 36	0000 000a	Pedal2 Polarity	0 - 1 (STANDARD,REVERSE)
	00 37	0aaa aaaa	C1 Assign	0 - 97 (CC00 - CC95,BENDER,AFTERTOUCH,
	00 38	0000 00aa	C1 Output Mode	0 - 3 (OFF,INT,MIDI,INT&MIDI)
	00 39	0aaa aaaa	C2 Assign	0 - 97 (CC00 - CC95,BENDER,AFTERTOUCH,
	00 3A	0000 00aa	C2 Output Mode	0 - 3 (OFF,INT,MIDI,INT&MIDI)
	00 3B	0000 00aa	Hold Pedal Output Mode	0 - 3 (OFF,INT,MIDI,INT&MIDI)
	00 3C	0000 000a	Hold Pedal Polarity	0 - 1 (STANDARD,REVERSE)
	00 3D	0000 000a	Bank Select Group1 Switch	0 - 1 (OFF,ON)
	00 3E	0aaa aaaa	Bank Select Group1 MSB	0 - 127
	00 3F	0aaa aaaa	Bank Select Group1 LSB	0 - 127
	00 40	0000 000a	Bank Select Group2 Switch	0 - 1 (OFF,ON)
	00 41	0aaa aaaa	Bank Select Group2 MSB	0 - 127
	00 42	0aaa aaaa	Bank Select Group2 LSB	0 - 127
	00 43	0000 000a	Bank Select Group3 Switch	0 - 1 (OFF,ON)
	00 44	0aaa aaaa	Bank Select Group3 MSB	0 - 127
	00 45	0aaa aaaa	Bank Select Group3 LSB	0 - 127
	00 46	0000 000a	Bank Select Group4 Switch	0 - 1 (OFF,ON)
	00 47	0aaa aaaa	Bank Select Group4 MSB	0 - 127
	00 48	0aaa aaaa	Bank Select Group4 LSB	0 - 127
	00 49	0000 000a	Bank Select Group5 Switch	0 - 1 (OFF,ON)
	00 4A	0aaa aaaa	Bank Select Group5 MSB	0 - 127
	00 4B	0aaa aaaa	Bank Select Group5 LSB	0 - 127
	00 4C	0000 000a	Bank Select Group6 Switch	0 - 1 (OFF,ON)
	00 4D	0aaa aaaa	Bank Select Group6 MSB	0 - 127
	00 4E	0aaa aaaa	Bank Select Group6 LSB	0 - 127
	00 4F	0000 000a	Bank Select Group7 Switch	0 - 1 (OFF,ON)
	00 50	0aaa aaaa	Bank Select Group7 MSB	0 - 127
	00 51	0aaa aaaa	Bank Select Group7 LSB	0 - 127
Total size	00 00 00 52			

1-1-2.Scale Tune

Offset Address		Description	
00 00	0aaa aaaa	Scale Tune for C	0 - 127 (-64 - +63)
00 01	0aaa aaaa	Scale Tune for C#	0 - 127 (-64 - +63)
00 02	0aaa aaaa	Scale Tune for D	0 - 127 (-64 - +63)
00 03	0aaa aaaa	Scale Tune for D#	0 - 127 (-64 - +63)
00 04	0aaa aaaa	Scale Tune for E	0 - 127 (-64 - +63)
00 05	0aaa aaaa	Scale Tune for F	0 - 127 (-64 - +63)
00 06	0aaa aaaa	Scale Tune for F#	0 - 127 (-64 - +63)
00 07	0aaa aaaa	Scale Tune for G	0 - 127 (-64 - +63)
00 08	0aaa aaaa	Scale Tune for G#	0 - 127 (-64 - +63)
00 09	0aaa aaaa	Scale Tune for A	0 - 127 (-64 - +63)
00 0A	0aaa aaaa	Scale Tune for A#	0 - 127 (-64 - +63)
00 0B	0aaa aaaa	Scale Tune for B	0 - 127 (-64 - +63)
Total size	00 00 00 0C		

1-2.Performance

Offset Address	Description	
00 00	Performance Common	1-2-1
10 00	Performance Part 1	1-2-2
11 00	Performance Part 2	
:		
1F 00	Performance Part 16	

1-2-1.Performance Common

	Offset Address		Description	
	00 00	0aaa aaaa	Performance Name 1	32 - 127
	00 01	0aaa aaaa	Performance Name 2	32 - 127
	00 02	0aaa aaaa	Performance Name 3	32 - 127
	00 03	0aaa aaaa	Performance Name 4	32 - 127
	00 04	0aaa aaaa	Performance Name 5	32 - 127
	00 05	0aaa aaaa	Performance Name 6	32 - 127
	00 06	0aaa aaaa	Performance Name 7	32 - 127
	00 07	0aaa aaaa	Performance Name 8	32 - 127
	00 08	0aaa aaaa	Performance Name 9	32 - 127
	00 09	0aaa aaaa	Performance Name 10	32 - 127
	00 0A	0aaa aaaa	Performance Name 11	32 - 127
	00 0B	0aaa aaaa	Performance Name 12	32 - 127
	00 0C	0000 aaaa	EFX Source	0 - 15 (PERFORM,1 - 9,11 - 16)
	00 0D	00aa aaaa	EFX Type	0 - 39 (1 - 40)
	00 0E	0aaa aaaa	EFX Parameter 1	0 - 127
	00 0F	0aaa aaaa	EFX Parameter 2	0 - 127
	00 10	0aaa aaaa	EFX Parameter 3	0 - 127
	00 11	0aaa aaaa	EFX Parameter 4	0 - 127
	00 12	0aaa aaaa	EFX Parameter 5	0 - 127
	00 13	0aaa aaaa	EFX Parameter 6	0 - 127
	00 14	0aaa aaaa	EFX Parameter 7	0 - 127
	00 15	0aaa aaaa	EFX Parameter 8	0 - 127
	00 16	0aaa aaaa	EFX Parameter 9	0 - 127
	00 17	0aaa aaaa	EFX Parameter 10	0 - 127
	00 18	0aaa aaaa	EFX Parameter 11	0 - 127
	00 19	0aaa aaaa	EFX Parameter 12	0 - 127
	00 1A	0000 00aa	EFX Output Assign	0 - 2 (MIX,<OUTPUT-1>,<OUTPUT-2>)
	00 1B	0aaa aaaa	EFX Mix Out Send Level	0 - 127
	00 1C	0aaa aaaa	EFX Chorus Send Level	0 - 127
	00 1D	0aaa aaaa	EFX Reverb Send Level	0 - 127
	00 1E	0000 aaaa	EFX Control Source 1	0 - 10 (OFF,SYS-CTRL1,SYS-CTRL2,MODULATION, BREATH,FOOT,VOLUME,PAN,EXPRESSION, BENDER,AFTERTOUCH)
	00 1F	0aaa aaaa	EFX Control Depth 1	0 - 126 (-63 - +63)
	00 20	0000 aaaa	EFX Control Source 2	0 - 10 (OFF,SYS-CTRL1,SYS-CTRL2,MODULATION, BREATH,FOOT,VOLUME,PAN,EXPRESSION, BENDER,AFTERTOUCH)
	00 21	0aaa aaaa	EFX Control Depth 2	0 - 126 (-63 - +63)
	00 22	0aaa aaaa	Chorus Level	0 - 127
	00 23	0aaa aaaa	Chorus Rate	0 - 127
	00 24	0aaa aaaa	Chorus Depth	0 - 127
	00 25	0aaa aaaa	Chorus Pre-Delay	0 - 127
	00 26	0aaa aaaa	Chorus Feedback	0 - 127
	00 27	0000 00aa	Chorus Output	0 - 2 (MIX,REV,MIX+REV)
	00 28	0000 0aaa	Reverb Type	0 - 7 (ROOM1,ROOM2,STAGE1,STAGE2, HALL1,HALL2,DELAY,PAN-DLY)
	00 29	0aaa aaaa	Reverb Level	0 - 127
	00 2A	0aaa aaaa	Reverb Time	0 - 127
	00 2B	000a aaaa	Reverb HF Damp	0 - 17 (200,250,315,400,500,630,800, 1000,1250,1600,2000,2500,3150, 4000,5000,6300,8000,BYPASS)
	00 2C	0aaa aaaa	Delay Feedback	0 - 127
#	00 2D	0000 aaaa 0000 bbbb	Performance Tempo	20 - 250
	00 2F	0000 000a	Keyboard Range Switch	0 - 1 (OFF,ON)
	00 30	0aaa aaaa	Voice Reserve 1	0 - 64
	00 31	0aaa aaaa	Voice Reserve 2	0 - 64
	00 32	0aaa aaaa	Voice Reserve 3	0 - 64
	00 33	0aaa aaaa	Voice Reserve 4	0 - 64
	00 34	0aaa aaaa	Voice Reserve 5	0 - 64
	00 35	0aaa aaaa	Voice Reserve 6	0 - 64
	00 36	0aaa aaaa	Voice Reserve 7	0 - 64
	00 37	0aaa aaaa	Voice Reserve 8	0 - 64
	00 38	0aaa aaaa	Voice Reserve 9	0 - 64
	00 39	0aaa aaaa	Voice Reserve 10	0 - 64
	00 3A	0aaa aaaa	Voice Reserve 11	0 - 64
	00 3B	0aaa aaaa	Voice Reserve 12	0 - 64
	00 3C	0aaa aaaa	Voice Reserve 13	0 - 64
	00 3D	0aaa aaaa	Voice Reserve 14	0 - 64
	00 3E	0aaa aaaa	Voice Reserve 15	0 - 64
	00 3F	0aaa aaaa	Voice Reserve 16	0 - 64
	00 40	0000 000a	Keyboard Mode	0 - 1 (LAYER,SINGLE)
	00 41	0000 000a	Clock Source	0 - 1 (PERFORMANCE,SEQUENCER)
Total size		00 00 00 42		

1-2-2.Performance Part

	Offset Address		Description	
	00 00	0000 000a	Receive Switch	0 - 1 (OFF,ON)
	00 01	0000 aaaa	MIDI Channel	0 - 15 (1 - 16)
	00 02	0000 00aa	Patch Group Type	0 - 2 (USER&PRESET,<PCM>,EXP)
	00 03	0aaa aaaa	Patch Group ID	0 - 127
#	00 04	0000 aaaa 0000 bbbb	Patch Number	0 - 254 (001 - 255)
	00 06	0aaa aaaa	Part Level	0 - 127
	00 07	0aaa aaaa	Part Pan	0 - 127 (L64 - 63R)
	00 08	0aaa aaaa	Part Coarse Tune	0 - 96 (-48 - +48)
	00 09	0aaa aaaa	Part Fine Tune	0 - 100 (-50 - +50)
	00 0A	0000 0aaa	Output Assign	0 - 4 (MIX,EFX,<OUTPUT-1>,<OUTPUT-2>,PATCH)
	00 0B	0aaa aaaa	Mix/EFX Send Level	0 - 127
	00 0C	0aaa aaaa	Chorus Send Level	0 - 127
	00 0D	0aaa aaaa	Reverb Send Level	0 - 127
	00 0E	0000 000a	Receive Program Change Switch	0 - 1 (OFF,ON)
	00 0F	0000 000a	Receive Volume Switch	0 - 1 (OFF,ON)
	00 10	0000 000a	Receive Hold-1 Switch	0 - 1 (OFF,ON)
	00 11	0aaa aaaa	Keyboard Range Lower	0 - 127 (C-1 - Upper)
	00 12	0aaa aaaa	Keyboard Range Upper	0 - 127 (Lower - G9)
	00 13	0000 0aaa	Octave Shift	0 - 6 (-3 - +3)
	00 14	0000 000a	Local Switch	0 - 1 (OFF,ON)
	00 15	0000 000a	Transmit Switch	0 - 1 (OFF,ON)
	00 16	0000 0aaa	Transmit Bank Select Group	0 - 7 (PATCH,GROUP1 - GROUP7)
#	00 17	0000 aaaa 0000 bbbb	Transmit Volume	0 - 128 (0 - 127,OFF)
Total size		00 00 00 19		

1-3.Patch

Offset Address	Description	
00 00	Patch Common	1-3-1
10 00	Patch Tone 1	1-3-2
12 00	Patch Tone 2	
14 00	Patch Tone 3	
16 00	Patch Tone 4	

1-3-1.Patch Common

	Offset Address		Description	
	00 00	0aaa aaaa	Patch Name 1	32 - 127
	00 01	0aaa aaaa	Patch Name 2	32 - 127
	00 02	0aaa aaaa	Patch Name 3	32 - 127
	00 03	0aaa aaaa	Patch Name 4	32 - 127
	00 04	0aaa aaaa	Patch Name 5	32 - 127
	00 05	0aaa aaaa	Patch Name 6	32 - 127
	00 06	0aaa aaaa	Patch Name 7	32 - 127
	00 07	0aaa aaaa	Patch Name 8	32 - 127
	00 08	0aaa aaaa	Patch Name 9	32 - 127
	00 09	0aaa aaaa	Patch Name 10	32 - 127
	00 0A	0aaa aaaa	Patch Name 11	32 - 127
	00 0B	0aaa aaaa	Patch Name 12	32 - 127
	00 0C	00aa aaaa	EFX Type	0 - 39 (1 - 40)
	00 0D	0aaa aaaa	EFX Parameter 1	0 - 127
	00 0E	0aaa aaaa	EFX Parameter 2	0 - 127
	00 0F	0aaa aaaa	EFX Parameter 3	0 - 127
	00 10	0aaa aaaa	EFX Parameter 4	0 - 127
	00 11	0aaa aaaa	EFX Parameter 5	0 - 127
	00 12	0aaa aaaa	EFX Parameter 6	0 - 127
	00 13	0aaa aaaa	EFX Parameter 7	0 - 127
	00 14	0aaa aaaa	EFX Parameter 8	0 - 127
	00 15	0aaa aaaa	EFX Parameter 9	0 - 127
	00 16	0aaa aaaa	EFX Parameter 10	0 - 127
	00 17	0aaa aaaa	EFX Parameter 11	0 - 127
	00 18	0aaa aaaa	EFX Parameter 12	0 - 127
	00 19	0000 00aa	EFX Output Assign	0 - 2 (MIX,<OUTPUT-1>,<OUTPUT-2>)
	00 1A	0aaa aaaa	EFX Mix Out Send Level	0 - 127
	00 1B	0aaa aaaa	EFX Chorus Send Level	0 - 127
	00 1C	0aaa aaaa	EFX Reverb Send Level	0 - 127
	00 1D	0000 aaaa	EFX Control Source 1	0 - 10 (OFF,SYS-CTRL1,SYS-CTRL2,MODULATION, BREATH,FOOT,VOLUME,PAN,EXPRESSION, BENDER,AFTERTOUCH)
	00 1E	0aaa aaaa	EFX Control Depth 1	0 - 126 (-63 - +63)
	00 1F	0000 aaaa	EFX Control Source 2	0 - 10 (OFF,SYS-CTRL1,SYS-CTRL2,MODULATION, BREATH,FOOT,VOLUME,PAN,EXPRESSION, BENDER,AFTERTOUCH)
	00 20	0aaa aaaa	EFX Control Depth 2	0 - 126 (-63 - +63)
	00 21	0aaa aaaa	Chorus Level	0 - 127
	00 22	0aaa aaaa	Chorus Rate	0 - 127
	00 23	0aaa aaaa	Chorus Depth	0 - 127
	00 24	0aaa aaaa	Chorus Pre-Delay	0 - 127
	00 25	0aaa aaaa	Chorus Feedback	0 - 127
	00 26	0000 00aa	Chorus Output	0 - 2 (MIX,REV,MIX+REV)
	00 27	0000 0aaa	Reverb Type	0 - 7 (ROOM1,ROOM2,STAGE1,STAGE2, HALL1,HALL2,DELAY,PAN-DLY)
	00 28	0aaa aaaa	Reverb Level	0 - 127
	00 29	0aaa aaaa	Reverb Time	0 - 127
	00 2A	000a aaaa	Reverb HF Damp	0 - 17 (200,250,315,400,500,630,800, 1000,1250,1600,2000,2500,3150, 4000,5000,6300,8000,BYPASS)
	00 2B	0aaa aaaa	Delay Feedback	0 - 127
#	00 2C	0000 aaaa 0000 bbbb	Patch Tempo	20 - 250
	00 2E	0aaa aaaa	Patch Level	0 - 127
	00 2F	0aaa aaaa	Patch Pan	0 - 127 (L64 - 63R)
	00 30	0aaa aaaa	Analog Feel	0 - 127
	00 31	0000 aaaa	Bend Range Up	0 - 12
	00 32	00aa aaaa	Bend Range Down	0 - 48 (0 - -48)
	00 33	0000 000a	Key Assign Mode	0 - 1

				(POLY, SOLO)
	00 34	0000 000a	Solo Legato	0 - 1 (OFF, ON)
#	00 35	0000 000a	Portamento Switch	0 - 1 (OFF, ON)
	00 36	0000 000a	Portamento Mode	0 - 1 (NORMAL, LEGATO)
	00 37	0000 000a	Portamento Type	0 - 1 (RATE, TIME)
	00 38	0000 000a	Portamento Start	0 - 1 (PITCH, NOTE)
	00 39	0aaa aaaa	Portamento Time	0 - 127
	00 3A	0000 aaaa	Patch Control Source 2	0 - 15 (OFF, SYS-CTRL1, SYS-CTRL2, MODULATION, BREATH, FOOT, VOLUME, PAN, EXPRESSION, BENDER, AFTERTOUCH, LFO1, LFO2, VELOCITY, KEYFOLLOW, PLAYMATE)
	00 3B	0000 aaaa	Patch Control Source 3	0 - 15 (OFF, SYS-CTRL1, SYS-CTRL2, MODULATION, BREATH, FOOT, VOLUME, PAN, EXPRESSION, BENDER, AFTERTOUCH, LFO1, LFO2, VELOCITY, KEYFOLLOW, PLAYMATE)
	00 3C	0000 00aa	EFX Control Hold/Peak	0 - 2 (OFF, HOLD, PEAK)
	00 3D	0000 00aa	Control 1 Hold/Peak	0 - 2 (OFF, HOLD, PEAK)
	00 3E	0000 00aa	Control 2 Hold/Peak	0 - 2 (OFF, HOLD, PEAK)
	00 3F	0000 00aa	Control 3 Hold/Peak	0 - 2 (OFF, HOLD, PEAK)
	00 40	0000 000a	Velocity Range Switch	0 - 1 (OFF, ON)
	00 41	0000 0aaa	Octave Shift	0 - 6 (-3 - +3)
	00 42	0000 00aa	Stretch Tune Depth	0 - 3 (OFF, 1 - 3)
	00 43	0000 000a	Voice Priority	0 - 1 (LAST, LOUDEST)
	00 44	0000 aaaa	Structure Type 1&2	0 - 9 (1 - 10)
	00 45	0000 00aa	Booster 1&2	0 - 3 (0, +6, +12, +18)
	00 46	0000 aaaa	Structure Type 3&4	0 - 9 (1 - 10)
	00 47	0000 00aa	Booster 3&4	0 - 3 (0, +6, +12, +18)
	00 48	0000 000a	Clock Source	0 - 1 (PATCH, SEQUENCER)
Total size	00 00 00 49			

1-3-2.Patch Tone

	Offset Address		Description	
	00 00	0000 000a	Tone Switch	0 - 1 (OFF, ON)
	00 01	0000 00aa	Wave Group Type	0 - 2 (INT, <PCM>, EXP)
	00 02	0aaa aaaa	Wave Group ID	0 - 127
#	00 03	0000 aaaa 0000 bbbb	Wave Number	0 - 254 (001 - 255)
	00 05	0000 00aa	Wave Gain	0 - 3 (-6, 0, +6, +12)
	00 06	0000 000a	FXM Switch	0 - 1 (OFF, ON)
	00 07	0000 00aa	FXM Color	0 - 3 (1 - 4)
	00 08	0000 aaaa	FXM Depth	0 - 15 (1 - 16)
	00 09	0000 0aaa	Tone Delay Mode	0 - 6 (NORMAL, HOLD, PLAYMATE, CLOCK-SYNC, <TAP-SYNC>, KEY-OFF-N, KEY-OFF-D)
	00 0A	0aaa aaaa	Tone Delay Time	0 - 127
	00 0B	0aaa aaaa	Velocity Cross Fade	0 - 127
	00 0C	0aaa aaaa	Velocity Range Lower	1 - 127 (1 - Upper)
	00 0D	0aaa aaaa	Velocity Range Upper	1 - 127 (Lower - 127)
	00 0E	0aaa aaaa	Keyboard Range Lower	0 - 127 (C-1 - Upper)
	00 0F	0aaa aaaa	Keyboard Range Upper	0 - 127 (Lower - G9)
	00 10	0000 000a	Redamper Control Switch	0 - 1 (OFF, ON)
	00 11	0000 000a	Volume Control Switch	0 - 1 (OFF, ON)
	00 12	0000 000a	Hold-1 Control Switch	0 - 1 (OFF, ON)
	00 13	0000 000a	Bender Control Switch	0 - 1 (OFF, ON)
	00 14	0000 00aa	Pan Control Switch	0 - 2 (OFF, CONTINUOUS, KEY-ON)
	00 15	000a aaaa	Controller 1 Destination 1	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 16	0aaa aaaa	Controller 1 Depth 1	0 - 126 (-63 - +63)
	00 17	000a aaaa	Controller 1 Destination 2	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 18	0aaa aaaa	Controller 1 Depth 2	0 - 126 (-63 - +63)
	00 19	000a aaaa	Controller 1 Destination 3	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 1A	0aaa aaaa	Controller 1 Depth 3	0 - 126 (-63 - +63)
	00 1B	000a aaaa	Controller 1 Destination 4	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 1C	0aaa aaaa	Controller 1 Depth 4	0 - 126 (-63 - +63)
	00 1D	000a aaaa	Controller 2 Destination 1	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 1E	0aaa aaaa	Controller 2 Depth 1	0 - 126 (-63 - +63)
	00 1F	000a aaaa	Controller 2 Destination 2	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 20	0aaa aaaa	Controller 2 Depth 2	0 - 126 (-63 - +63)
	00 21	000a aaaa	Controller 2 Destination 3	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 22	0aaa aaaa	Controller 2 Depth 3	0 - 126 (-63 - +63)
	00 23	000a aaaa	Controller 2 Destination 4	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 24	0aaa aaaa	Controller 2 Depth 4	0 - 126 (-63 - +63)
	00 25	000a aaaa	Controller 3 Destination 1	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 26	0aaa aaaa	Controller 3 Depth 1	0 - 126 (-63 - +63)
	00 27	000a aaaa	Controller 3 Destination 2	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 28	0aaa aaaa	Controller 3 Depth 2	0 - 126 (-63 - +63)
	00 29	000a aaaa	Controller 3 Destination 3	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 2A	0aaa aaaa	Controller 3 Depth 3	0 - 126 (-63 - +63)
	00 2B	000a aaaa	Controller 3 Destination 4	0 - 18 (OFF, PCH, CUT, RES, LEV, PAN, MIX, CHO, REV, PL1, PL2, FL1, FL2, AL1, AL2, pL1, pL2, L1R, L2R)
	00 2C	0aaa aaaa	Controller 3 Depth 4	0 - 126 (-63 - +63)
	00 2D	0000 0aaa	LFO1 Waveform	0 - 7 (TRI, SIN, SAW, SQR, TRP, S&H, RND, CHS)
	00 2E	0000 000a	LFO1 Key Sync	0 - 1 (TONE, KEY)
	00 2F	0aaa aaaa	LFO1 Rate	0 - 127
	00 30	0000 0aaa	LFO1 Offset	0 - 4 (-100, -50, 0, +50, +100)
	00 31	0aaa aaaa	LFO1 Delay Time	0 - 127
	00 32	0000 00aa	LFO1 Fade Mode	0 - 3 (KEY-ON-IN, KEY-ON-OUT) KEY-OFF-IN, KEY-OFF-OUT)
	00 33	0aaa aaaa	LFO1 Fade Time	0 - 127
	00 34	0000 00aa	LFO1 External Sync	0 - 2 (OFF, CLOCK, <TAP>)
	00 35	0000 0aaa	LFO2 Waveform	0 - 7 (TRI, SIN, SAW, SQR, TRP, S&H, RND, CHS)
	00 36	0000 000a	LFO2 Key Sync	0 - 1 (TONE, KEY)
	00 37	0aaa aaaa	LFO2 Rate	0 - 127
	00 38	0000 0aaa	LFO2 Offset	0 - 4 (-100, -50, 0, +50, +100)
	00 39	0aaa aaaa	LFO2 Delay Time	0 - 127
	00 3A	0000 00aa	LFO2 Fade Mode	0 - 3 (KEY-ON-IN, KEY-ON-OUT) KEY-OFF-IN, KEY-OFF-OUT)
	00 3B	0aaa aaaa	LFO2 Fade Time	0 - 127
	00 3C	0000 00aa	LFO2 External Sync	0 - 2 (OFF, CLOCK, <TAP>)
	00 3D	0aaa aaaa	Coarse Tune	0 - 96 (-48 - +48)
	00 3E	0aaa aaaa	Fine Tune	0 - 100 (-50 - +50)
	00 3F	000a aaaa	Random Pitch Depth	0 - 30 (0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200)
	00 40	0000 aaaa	Pitch Keyfollow	0 - 15 (-100, -70, -50, -30, -10, 0, +10, +20, +30, +40, +50, +70, +100, +120, +150, +200)
	00 41	000a aaaa	Pitch Envelope Depth	0 - 24 (-12 - +12)
	00 42	0aaa aaaa	Pitch Envelope Velocity Sens	0 - 125 (-100 - +150)
	00 43	0000 aaaa	Pitch Envelope Velocity Time1	0 - 14 (-100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
	00 44	0000 aaaa	Pitch Envelope Velocity Time4	0 - 14 (-100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
	00 45	0000 aaaa	Pitch Envelope Time Keyfollow	0 - 14 (-100, -70, -50, -40, -30, -20, -10, 0, +10, +20, +30, +40, +50, +70, +100)
	00 46	0aaa aaaa	Pitch Envelope Time 1	0 - 127
	00 47	0aaa aaaa	Pitch Envelope Time 2	0 - 127
	00 48	0aaa aaaa	Pitch Envelope Time 3	0 - 127
	00 49	0aaa aaaa	Pitch Envelope Time 4	0 - 127
	00 4A	0aaa aaaa	Pitch Envelope Level 1	0 - 126 (-63 - +63)
	00 4B	0aaa aaaa	Pitch Envelope Level 2	0 - 126 (-63 - +63)
	00 4C	0aaa aaaa	Pitch Envelope Level 3	0 - 126 (-63 - +63)
	00 4D	0aaa aaaa	Pitch Envelope Level 4	0 - 126 (-63 - +63)
	00 4E	0aaa aaaa	Pitch LFO1 Depth	0 - 126 (-63 - +63)
	00 4F	0aaa aaaa	Pitch LFO2 Depth	0 - 126 (-63 - +63)
	00 50	0000 0aaa	Filter Type	0 - 4 (OFF, LPF, BPF, HPF, PKG)
	00 51	0aaa aaaa	Cutoff Frequency	0 - 127
	00 52	0000 aaaa	Cutoff Keyfollow	0 - 15 (-100, -70, -50, -30, -10, 0, +10, +20, +30, +40, +50, +70, +100, +120, +150, +200)
	00 53	0aaa aaaa	Resonance	0 - 127
	00 54	0aaa aaaa	Resonance Velocity Sens	0 - 125 (-100 - +150)
	00 55	0aaa aaaa	Filter Envelope Depth	0 - 126 (-63 - +63)
	00 56	0000 0aaa	Filter Envelope Velocity Curve	0 - 6 (1 - 7)

00 57	0aaa aaaa	Filter Envelope Velocity Sens	0 - 125 (-100 - +150)
00 58	0000 aaaa	Filter Envelope Velocity Time1	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 59	0000 aaaa	Filter Envelope Velocity Time4	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 5A	0000 aaaa	Filter Envelope Time Keyfollow	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 5B	0aaa aaaa	Filter Envelope Time 1	0 - 127
00 5C	0aaa aaaa	Filter Envelope Time 2	0 - 127
00 5D	0aaa aaaa	Filter Envelope Time 3	0 - 127
00 5E	0aaa aaaa	Filter Envelope Time 4	0 - 127
00 5F	0aaa aaaa	Filter Envelope Level 1	0 - 127
00 60	0aaa aaaa	Filter Envelope Level 2	0 - 127
00 61	0aaa aaaa	Filter Envelope Level 3	0 - 127
00 62	0aaa aaaa	Filter Envelope Level 4	0 - 127
00 63	0aaa aaaa	Filter LFO1 Depth	0 - 126 (-63 - +63)
00 64	0aaa aaaa	Filter LFO2 Depth	0 - 126 (-63 - +63)
00 65	0aaa aaaa	Tone Level	0 - 127
00 66	0000 00aa	Bias Direction	0 - 3 (LOWER,UPPER,LOWER&UPPER,ALL)
00 67	0aaa aaaa	Bias Position	0 - 127 (C-1 - G9)
00 68	0000 aaaa	Bias Level	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 69	0000 0aaa	Level Envelope Velocity Curve	0 - 6 (1 - 7)
00 6A	0aaa aaaa	Level Envelope Velocity Sens	0 - 125 (-100 - +150)
00 6B	0000 aaaa	Level Envelope Velocity Time1	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 6C	0000 aaaa	Level Envelope Velocity Time4	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 6D	0000 aaaa	Level Envelope Time Keyfollow	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 6E	0aaa aaaa	Level Envelope Time 1	0 - 127
00 6F	0aaa aaaa	Level Envelope Time 2	0 - 127
00 70	0aaa aaaa	Level Envelope Time 3	0 - 127
00 71	0aaa aaaa	Level Envelope Time 4	0 - 127
00 72	0aaa aaaa	Level Envelope Level 1	0 - 127
00 73	0aaa aaaa	Level Envelope Level 2	0 - 127
00 74	0aaa aaaa	Level Envelope Level 3	0 - 127
00 75	0aaa aaaa	Level LFO1 Depth	0 - 126 (-63 - +63)
00 76	0aaa aaaa	Level LFO2 Depth	0 - 126 (-63 - +63)
00 77	0aaa aaaa	Tone Pan	0 - 127 (L64 - 63R)
00 78	0000 aaaa	Pan Keyfollow	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 79	00aa aaaa	Random Pan Depth	0 - 63
00 7A	0aaa aaaa	Alternate Pan Depth	1 - 127 (L63 - 63R)
00 7B	0aaa aaaa	Pan LFO1 Depth	0 - 126 (L63 - 63R)
00 7C	0aaa aaaa	Pan LFO2 Depth	0 - 126 (L63 - 63R)
00 7D	0000 00aa	Output Assign	0 - 3 (MIX,EFX,<OUTPUT-1>,<OUTPUT-2>)
00 7E	0aaa aaaa	Mix/EFX Send Level	0 - 127
00 7F	0aaa aaaa	Chorus Send Level	0 - 127
01 00	0aaa aaaa	Reverb Send Level	0 - 127
Total size	00 00 01 01		

1-4.Rhythm Setup

Offset Address	Description	
00 00	Rhythm Common	1-4-1
23 00	Rhythm Note for Key# 35	1-4-2
24 00	Rhythm Note for Key# 36	
:		
62 00	Rhythm Note for Key# 98	

1-4-1.Rhythm Common

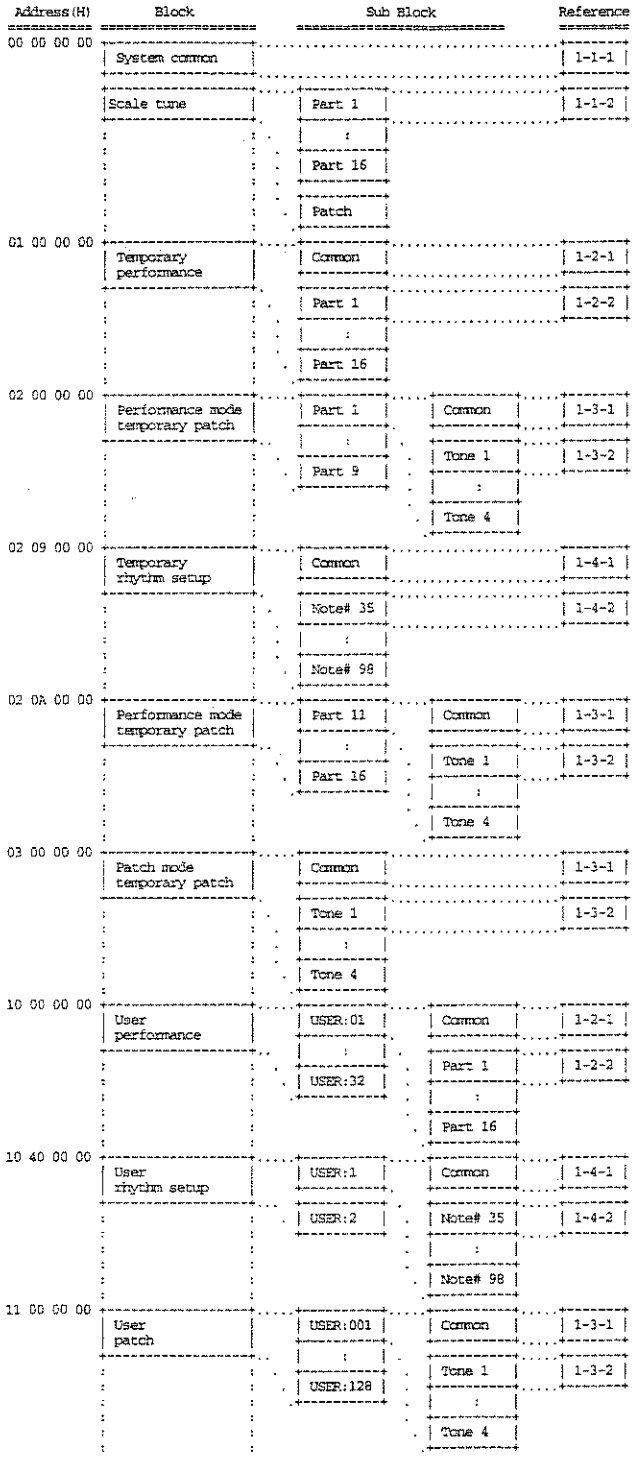
Offset Address		Description	
00 00	0aaa aaaa	Rhythm Name 1	32 - 127
00 01	0aaa aaaa	Rhythm Name 2	32 - 127
00 02	0aaa aaaa	Rhythm Name 3	32 - 127
00 03	0aaa aaaa	Rhythm Name 4	32 - 127
00 04	0aaa aaaa	Rhythm Name 5	32 - 127
00 05	0aaa aaaa	Rhythm Name 6	32 - 127
00 06	0aaa aaaa	Rhythm Name 7	32 - 127
00 07	0aaa aaaa	Rhythm Name 8	32 - 127
00 08	0aaa aaaa	Rhythm Name 9	32 - 127
00 09	0aaa aaaa	Rhythm Name 10	32 - 127
00 0A	0aaa aaaa	Rhythm Name 11	32 - 127
00 0B	0aaa aaaa	Rhythm Name 12	32 - 127
Total size	00 00 00 0C		

1-4-2.Rhythm Note

Offset Address		Description	
00 00	0000 000a	Tone Switch	0 - 1 (OFF,ON)
00 01	0000 00aa	Wave Group Type	0 - 2 (INT,<PCM>,EXP)
00 02	0aaa aaaa	Wave Group ID	0 - 127
# 00 03	0000 aaaa 0000 bbbb	Wave Number	0 - 254 (001 - 255)
00 05	0000 00aa	Wave Gain	0 - 3 (-6,0,+6,+12)
00 06	0000 aaaa	Bend Range	0 - 12
00 07	000a aaaa	Mute Group	0 - 31 (OFF,1 - 31)
00 08	0000 000a	Envelope Mode	0 - 1 (NO-SUS,SUSTAIN)
00 09	0000 000a	Volume Control Switch	0 - 1 (OFF,ON)
00 0A	0000 000a	Hold-1 Control Switch	0 - 1 (OFF,ON)
00 0B	0000 00aa	Pan Control Switch	0 - 2 (OFF,CONTINUOUS,KEY-ON)
00 0C	0aaa aaaa	Source Key	0 - 127 (C-1 - G9)
00 0D	0aaa aaaa	Fine Tune	0 - 100 (-50 - +50)
00 0E	000a aaaa	Random Pitch Depth	0 - 30 (0,1,2,3,4,5,6,7,8,9,10,20,30,40,50,60, 70,80,90,100,200,300,400,500,600,700, 800,900,1000,1100,1200)
00 0F	000a aaaa	Pitch Envelope Depth	0 - 24 (-12 - +12)
00 10	0aaa aaaa	Pitch Envelope Velocity Sens	0 - 125 (-100 - +150)
00 11	0000 aaaa	Pitch Envelope Velocity Time	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 12	0aaa aaaa	Pitch Envelope Time 1	0 - 127
00 13	0aaa aaaa	Pitch Envelope Time 2	0 - 127
00 14	0aaa aaaa	Pitch Envelope Time 3	0 - 127
00 15	0aaa aaaa	Pitch Envelope Time 4	0 - 127
00 16	0aaa aaaa	Pitch Envelope Level 1	0 - 126 (-63 - +63)
00 17	0aaa aaaa	Pitch Envelope Level 2	0 - 126 (-63 - +63)
00 18	0aaa aaaa	Pitch Envelope Level 3	0 - 126 (-63 - +63)
00 19	0aaa aaaa	Pitch Envelope Level 4	0 - 126 (-63 - +63)
00 1A	0000 0aaa	Filter Type	0 - 4 (OFF,LPF,BPF,HPF,PKG)
00 1B	0aaa aaaa	Cutoff Frequency	0 - 127
00 1C	0aaa aaaa	Resonance	0 - 127
00 1D	0aaa aaaa	Resonance Velocity Sens	0 - 125 (-100 - +150)
00 1E	0aaa aaaa	Filter Envelope Depth	0 - 126 (-63 - +63)
00 1F	0aaa aaaa	Filter Envelope Velocity Sens	0 - 125 (-100 - +150)
00 20	0000 aaaa	Filter Envelope Velocity Time	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 21	0aaa aaaa	Filter Envelope Time 1	0 - 127
00 22	0aaa aaaa	Filter Envelope Time 2	0 - 127
00 23	0aaa aaaa	Filter Envelope Time 3	0 - 127
00 24	0aaa aaaa	Filter Envelope Time 4	0 - 127
00 25	0aaa aaaa	Filter Envelope Level 1	0 - 127
00 26	0aaa aaaa	Filter Envelope Level 2	0 - 127
00 27	0aaa aaaa	Filter Envelope Level 3	0 - 127
00 28	0aaa aaaa	Filter Envelope Level 4	0 - 127
00 29	0aaa aaaa	Tone Level	0 - 127
00 2A	0aaa aaaa	Level Envelope Velocity Sens	0 - 125 (-100 - +150)
00 2B	0000 aaaa	Level Envelope Velocity Time	0 - 14 (-100,-70,-50,-40,-30,-20,-10,0, +10,+20,+30,+40,+50,+70,+100)
00 2C	0aaa aaaa	Level Envelope Time 1	0 - 127
00 2D	0aaa aaaa	Level Envelope Time 2	0 - 127
00 2E	0aaa aaaa	Level Envelope Time 3	0 - 127
00 2F	0aaa aaaa	Level Envelope Time 4	0 - 127
00 30	0aaa aaaa	Level Envelope Level 1	0 - 127
00 31	0aaa aaaa	Level Envelope Level 2	0 - 127
00 32	0aaa aaaa	Level Envelope Level 3	0 - 127
00 33	0aaa aaaa	Tone Pan	0 - 127 (L64 - 63R)
00 34	00aa aaaa	Random Pan Depth	0 - 63
00 35	0aaa aaaa	Alternate Pan Depth	1 - 127 (L63 - 63R)
00 36	0000 00aa	Output Assign	0 - 3 (MIX,EFX,<OUTPUT-1>,<OUTPUT-2>)
00 37	0aaa aaaa	Mix/EFX Send Level	0 - 127
00 38	0aaa aaaa	Chorus Send Level	0 - 127
00 39	0aaa aaaa	Reverb Send Level	0 - 127
Total size	00 00 00 3A		

■ Address block map

The following is an outline of the address map for Exclusive messages.



2.GS (Model ID=42H)

Start address	Description		
40 10 00	Scale Tune Part10		2-1
40 11 00	: Part11		
40 12 00	: Part12		
40 13 00	: Part13		
40 14 00	: Part14		
40 15 00	: Part15		
40 16 00	: Part16		
40 17 00	: Part7		
40 18 00	: Part8		
40 19 00	: Part9		
40 1A 00	: Part11		
40 1B 00	: Part12		
40 1C 00	: Part13		
40 1D 00	: Part14		
40 1E 00	: Part15		
40 1F 00	: Part16		

2-1.Scale Tune

Offset address	Description		
40	0aaa aaaa	Scale Tune for C	0 - 127 (-64 - +63)
41	0aaa aaaa	Scale Tune for C#	0 - 127 (-64 - +63)
42	0aaa aaaa	Scale Tune for D	0 - 127 (-64 - +63)
43	0aaa aaaa	Scale Tune for D#	0 - 127 (-64 - +63)
44	0aaa aaaa	Scale Tune for E	0 - 127 (-64 - +63)
45	0aaa aaaa	Scale Tune for F	0 - 127 (-64 - +63)
46	0aaa aaaa	Scale Tune for F#	0 - 127 (-64 - +63)
47	0aaa aaaa	Scale Tune for G	0 - 127 (-64 - +63)
48	0aaa aaaa	Scale Tune for G#	0 - 127 (-64 - +63)
49	0aaa aaaa	Scale Tune for A	0 - 127 (-64 - +63)
4A	0aaa aaaa	Scale Tune for A#	0 - 127 (-64 - +63)
4B	0aaa aaaa	Scale Tune for B	0 - 127 (-64 - +63)
Total Size	00 00 0C		

Note: In order for a GS Exclusive message to be correctly received by the XP-50, the starting address of the message must be the Start address of each Part (the address of Scale Tune C, i.e., offset 40).

6. Supplementary material

● Decimal/Hexadecimal table (hexadecimal values are indicated by a following 'H')

MIDI uses 7-bit hexadecimal values to indicate data values and the address and size of exclusive messages. The following table shows the correspondance between decimal and hexadecimal numbers.

H	D	H	D	H	D	H	D
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 in the above table.*
- *Since each MIDI byte carries 7 significant databits, 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 (+/-), 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 and 34H = 52
Thus, 18 x 128 + 52 = 2356

<Example 3> What is the decimal equivalent of the nibbled expression 0A 03 09 0DH?

From the above table, 0AH = 10, 03H = 3, 09H = 9, 0DH = 13
Thus, the result is ((10 x 16 + 3) x 16 + 9) x 16 + 13 = 41885

<Example 4> What is the nibbled equivalent of the decimal number 1258?

```
16 ) 1258
16 )   78...10
16 )    4...14
          0....4
```

From the above table, 0=00H, 4=04H, 14=0EH, 10=0AH
Thus the result is 00 04 0E 0AH

● 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.

<Example 2> CE 49

CnH is the Program Change status and 'n' is the MIDI channel number. Since EH = 14, and 49H = 73, this is a Program Change message of MIDI CH = 15, Program number 74 (in the GS sound map, Flute).

<Example 3> EA 00 28

EnH is the Pitch Bend Change status and 'n' is the MIDI channel number. The 2nd byte (00H=0) is the LSB of the Pitch Bend value, and the 3rd byte (28H=40) is the MSB. However since the Pitch Bend is a signed number with 0 at 40 00H (= 64 x 128 + 0 = 8192), the Pitch Bend value in this case is
28 00H - 40 00H = 40 x 128 + 0 - (64 x 128 + 0) = 5120 - 8192 = -3072

If we assume that the Pitch Bend Sensitivity is set to two semitones, the pitch will change only -200 cents for a Pitch Bend value of -8192 (00 00H). Thus, this message is specifying a Pitch Bend of -200 x (-3072) ÷ (-8192) = -75 cents on MIDI CH = 11.

<Example 4> B3 64 00 65 00 06 0C 26 00 64 7F 65 7F

BnH is the Control Change status, and 'n' is the MIDI channel number. In Control Change messages, the 2nd byte is the controller number, and the 3rd byte is the parameter value. MIDI allows what is known as "running status," when if messages of the the same status follow each other, it is permitted to omit the second and following status bytes. In the message above, running status is being used, meaning that the message has the following content.

B3 64 00	MIDI CH = 4, RPN parameter number LSB	: 00H
(B3) 65 00	MIDI CH = 4, RPN parameter number MSB	: 00H
(B3) 06 0C	MIDI CH = 4, parameter value MSB	: 0CH
(B3) 26 00	MIDI CH = 4, parameter value LSB	: 00H
(B3) 64 7F	MIDI CH = 4, RPN parameter number LSB	: 7FH
(B3) 65 7F	MIDI CH = 4, RPNparameter number MSB	: 7FH

Thus, this message transmits a parameter value of 0C 00H to RPN parameter number 00 00H on MIDI CH = 4, and then sets the RPN parameter number to 7F 7FH.

The function assigned to RPN parameter number 00 00H is Pitch Bend Sensitivity, and the MSB of the parameter value indicates semitone steps. Since the MSB of this parameter value is 0CH = 12, the maximum width of pitch bend is being set to ±12 semitones (1 octave) (GS sound sources ignore the LSB of Pitch Bend Sensitivity, but it is best to transmit the LSB (parameter value 0) as well, so that the message can be correctly received by any device.

Once the parameter number has been set for RPN or NRPN, all subsequent Data Entry messages on that channel will be effective. Thus, it is recommended that after you have made the change you want, you set the parameter number to 7F 7FH (an "unset" or "null" setting). The final (B3) 64 7F (B3) 65 7F is for this purpose.

It is not a good idea to store many events within the data of a song (e.g., a Standard MIDI File song) using running status as shown in <Example 4>. When the song is paused, fast-forwarded or rewound, the sequencer may not be able to transmit the proper status, causing the sound source to misinterpret the data. It is best to attach the proper status byte to all events.

It is also important to transmit RPN or NRPN parameter number settings and parameter values in the correct order. In some sequencers, data events recorded in the same clock (or a nearby clock) can sometimes be transmitted in an order other than the order in which they were recorded. It is best to record such events at an appropriate interval (1 tick at TPQN=96, or 5 ticks at TPQN=480).

TPQN : Ticks Per Quarter Note (i.e., the time resolution of the sequencer)

● Examples of exclusive messages and calculating the checksum

Roland exclusive messages (RQ1, DT1) are transmitted with a 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 size) of the exclusive message.

○ How to calculate the checksum (hexadecimal values are indicated by a 'H')

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 = total
total ÷ 128 = quotient ... remainder
128 - remainder = checksum

<Example 1> Setting the Performance Common REVERB TYPE to DELAY (DT1).

The "Parameter address map" indicates that the starting address of the Temporary Performance is 01 00 00 00H, that the Performance Common offset address is 00 00H, and that the REVERB TYPE address is 00 28H. Thus, the address is:

```
   01 00 00 00H
      00 00H
+)       00 28H
   01 00 00 28H
```

Since DELAY is parameter value 06H,

F0	41	10	6A	12	01 00 00 28	06	22	F7
(1)	(2)	(3)	(4)	(5)	address	data	checksum	(6)

(1) Exclusive status (2) ID number (Roland) (3) device ID(17)
(4) model ID (XP-50) (5) command ID (DT1) (6) EOX

Next we calculate the checksum.

01H + 00H + 00H + 28H + 06H = 1 + 0 + 0 + 40 + 6 = 47 (sum)
47 (total) ÷ 128 = 0 (quotient) ... 47 (remainder)
checksum = 128 - 47 (quotient) = 81 = 51H

This means that the message transmitted will be F0 41 10 6A 12 01 00 00 28 06 51 F7.

<Example 2> Retrieving data for USER:03 Performance Part 3 (RQ1)

The "Parameter address map" indicates that the starting address of USER:03 is 10 02 00 00H, and that the offset address of Performance Part 3 is 12 00H. Thus, the address is:

```
   10 02 00 00H
+)       12 00H
   10 02 12 00H
```

Since the size of the Performance Part is 00 00 00 19H,

F0	41	10	6A	11	10 02 12 00	00 00 00 19	22	F7
(1)	(2)	(3)	(4)	(5)	address	size	checksum	(6)

(1) Exclusive status (2) ID number (Roland) (3) Device ID (17)
(4) Model ID (XP-50) (5) Command ID (RQ1) (6) EOX

Next we calculate the checksum.

10H + 02H + 12H + 00H + 00H + 00H + 00H + 19H =
16 + 2 + 18 + 0 + 0 + 0 + 0 + 25 = 61 (sum)

61 (total) ÷ 128 = 0 (product) ... 61 (remainder)
checksum = 128 - 61 (remainder) = 67 = 43H

Thus, a message of F0 41 10 6A 11 10 02 12 00 00 00 00 19 43 F7 would be transmitted.

<Example 3> Retrieving data for Temporary Performance (RQ1)

Note: When a data transfer is executed in Utility mode, data that is accessed will be the same as that which is transmitted when the Type parameter is set to PERFORM and the Source parameter is set to TEMP: TYPE-A.

The "Parameter address map" gives the following start addresses for Temporary Performance data.

01 00 00 00H	Temporary Performance Common
01 00 10 00H	Temporary Performance Part 1
:	
01 00 1F 00H	Temporary Performance Part 16

Since Performance Part has a size of 00 00 00 19H, we add that size to the start address of the Temporary Performance Part 16, resulting in:

```
   01 00 1F 00H
+) 00 00 00 19H
   01 00 1F 19H
```

Thus, the Size for the retrieved data will be:

```
   01 00 1F 19H
-) 01 00 00 00H
   00 00 1F 19H
```

F0	41	10	6A	11	01 00 00 00	00 00 1F 19	22	F7
(1)	(2)	(3)	(4)	(5)	address	size	checksum	(6)

(1) Exclusive status (2) ID number (Roland) (3) device ID(17)
(4) model ID (XP-50) (5) commandID (RQ1) (6) EOX

Calculating the checksum as shown in <Example 2>, we get a message of F0 41 10 6A 11 01 00 00 00 00 1F 19 47 F7 to be transmitted.

<Example 4> Retrieving the Temporary Performance data together with all Temporary Part and Rhythm Set data (RQ1)

Note: When a data transfer is executed in Utility mode, the data that is accessed will be the same as that which is transmitted when the Type parameter is set to PERFORM and the Source parameter is set to TEMP: TYPE-B.

The "Parameter address map" gives the following start addresses for Temporary Performance, Performance Mode Temporary Patch and Performance Mode Temporary Rhythm.

01 00 00 00H	Temporary Performance
02 00 00 00H	Performance Mode Temporary Patch(part 1)
:	
02 08 00 00H	Performance Mode Temporary Patch(part 9)
02 09 00 00H	Temporary Rhythm Setup
02 0A 00 00H	Performance Mode Temporary Patch(part 11)
:	
02 0F 00 00H	Performance Mode Temporary Patch(part 16)

The Patch offset addresses are as follows.

00 00H	Patch Common
10 00H	Patch Tone 1
:	
16 00H	Patch Tone 4

Since Patch Tone has a size of 00 00 01 01H, we add this size to the start address of Performance Mode Temporary Patch (Part 16) Tone 4, to get:

```
   02 0F 00 00H
      16 00H
+) 00 00 01 01H
   02 0F 17 01H
```

Thus, the size of the retrieved data will be:

```
   02 0F 17 01H
-) 01 00 00 00H
   01 0F 17 01H
```

F0	41	10	6A	11	01 00 00 00	01 0F 17 01	22	F7
(1)	(2)	(3)	(4)	(5)	address	size	checksum	(6)

(1) Exclusive status (2) ID number (Roland) (3) device ID(17)
(4) model ID (XP-50) (5) command ID (RQ1) (6) EOX

Calculating the checksum as shown in <Example 2>, we get a message of F0 41 10 6A 11 01 00 00 00 01 0F 17 01 57 F7 to be transmitted.

● Scale Tune function (Model ID : 42H (GS), address: 40 1x 40H)

Scale Tune is a function that makes fine adjustments to the pitch of each note C—B. Settings are made for one octave, and applied to the notes of all octaves. By making Scale Tune settings you can use tunings and temperaments other than the standard Equal Temperament. Here we give three types of settings as examples.

○ Equal temperament

This temperament divides the octave into 12 equal steps, and is the temperament most frequently used today, especially in western music. Initially, the Scale Tune function of this instrument is set to Equal Temperament.

○ Just intonation (tonic of C)

The primary triads sound more beautiful in just intonation than in equal temperament. However, this applies only in one key, and chords will be discordant if you play in a different key. The settings here are for a tonic of C.

○ Arabian-type scale

The Scale Tune function allow you to use various tunings of ethnic music. Here is one of the Arabian scales.

Setting examples

Note	Equal Temp.	Just (in C)	Arabian-type scale
C	0	0	-6
C#	0	-8	+45
D	0	+4	-2
D#	0	+16	-12
E	0	-14	-51
F	0	-2	-8
F#	0	-10	+43
G	0	+2	-4
G#	0	+14	+47
A	0	-16	0
A#	0	+14	-10
B	0	-12	-49

The values in the above table are in units of 1 cent. Convert these values to hexadecimal, and transmit them as exclusive data. For example to set the Scale Tune of Part 1 to an Arabian-type scale, transmit the following data.
F0 41 10 42 12 40 11 40 3A 6D 3E 34 0D 38 6B 3C 6F 40 36 0F 50 F7

● ASCII code table

Char	Hex.	Char	Hex.	Char	Hex.
SP	20H	a	61H	1	31H
A	41H	b	62H	2	32H
B	42H	c	63H	3	33H
C	43H	d	64H	4	34H
D	44H	e	65H	5	35H
E	45H	f	66H	6	36H
F	46H	g	67H	7	37H
G	47H	h	68H	8	38H
H	48H	i	69H	9	39H
I	49H	j	6AH	0	30H
J	4AH	k	6BH	+	2BH
K	4BH	l	6CH	-	2DH
L	4CH	m	6DH	*	2AH
M	4DH	n	6EH	/	2FH
N	4EH	o	6FH	#	23H
O	4FH	p	70H	!	21H
P	50H	q	71H	,	2CH
Q	51H	r	72H	.	2EH
R	52H	s	73H		
S	53H	t	74H		
T	54H	u	75H		
U	55H	v	76H		
V	56H	w	77H		
W	57H	x	78H		
X	58H	y	79H		
Y	59H	z	7AH		
Z	5AH				

Note: SP indicates "space".

MUSIC WORKSTATION (Sound Source Section) Date : Dec. 15, 1994

Model XP-50

MIDI Implementation Chart

Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic	Default	X	1 — 16	
Channel	Changed	X	1 — 16	
Mode	Default	X	Mode 3	
	Messages	X	Mode 3, 4 (M=1)	* 2
	Altered	**********		
Note Number :		0	0 — 127	
	True Voice	**********	0 — 127	
Velocity	Note ON	O	O	
	Note OFF	O	O	
After Touch	Key's	X	O *1	
	Ch's	O	O *1	
Pitch Bend		O	O *1	
Control Change	0, 32	O *1	O *1	Bank select
	1	O	O *1	Modulation
	2	O	O *1	Breath type
	4	O	O *1	Foot type
	5	O	O *1	Portamento time
	6, 38	O	O *1	Data entry
	7	O	O *1	Volume
	8	O	O *1	Balance
	10	O	O *1	Panpot
	11	O	O *1	Expression
	64	O	O *1	Hold 1
	65	O	O *1	Portamento
	66	O	O *1	Sostenuto
	67	O	O *1	Soft
	69	O	O *1	Hold 2
	84	O	O *1	Portamento control
	91	O	O (Reverb) *1	General purpose effects 1
	93	O	O (Chorus) *1	General purpose effects 3
	1 — 5, 7 — 31, 64 — 95 *3	O	O *1	CC1 (General purpose controller 1)
	1 — 5, 7 — 31, 64 — 95 *3	O	O *1	CC2 (General purpose controller 2)
	98, 99	x	x	NRPN LSB, MSB
	100, 101	x	O *1	RPN LSB, MSB
Program Change		O *1	O *1	
	: True #	**********	0 — 127	Program No. 1—128
System Exclucive		O	O *1	
System Common	: Song Pos	X	X	
	: Song Sel	X	X	
	: Tune	X	X	
System Real Time	: Clock	X	X	
	: Commands	X	X	
Aux Message	: All sound off	X	O (120, 126, 127)	
	: Reset all controllers	X	O	
	: Local ON/OFF	X	X	
	: All Notes OFF	X	O (123 — 127)	
	: Active Sense	O *1	O	
	: System Reset	X	X	
Notes		* 1 O X is selectable. * 2 Recognized as M=1 even if M≠1. * 3 Can be changed settings.		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO O : Yes

Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO X : No

MUSIC WORKSTATION (Sequencer Section) Date : Dec. 15, 1994

Model XP-50

MIDI Implementation Chart

Version : 1.00

Function...		Transmitted	Recognized	Remarks
Basic Channel	Default Changed	All channel X	All channnel 1 — 16	There is no specific basic channel.
Mode	Default Messages Altered	Mode 3 OMNI OFF, POLY *2 **********	X X	
Note Number :	True Voice	0 — 127 **********	0 — 127 0 — 127	
Velocity	Note ON Note OFF	O O	O O	
After Touch	Key's Ch's	O O	O *1 O *1	
Pitch Bend		O	O *1	
Control Change	0 — 119	O *1	O *1	
Program Change	: True #	O *1 **********	O *1 0 — 127	
System Exclucive		O	O *1	
System Common	: Song Pos : Song Sel : Tune	O O O	O *3 O *3 O	
System Real Time	: Clock : Commands	O O	O *4 O *3	
Aux Message	: All Sound Off : Reset all controllers : Local ON/OFF : All Notes OFF : Active Sense : Sysyem Reset	O O X *5 O *6 X *7 X	O O X O (123 — 127) *7 O *7 X	
Notes		* 1 O X is selectable. * 2 OMNI OFF and POLY ON are transmitted on all channels upon power-up. * 3 Recognized when the Sync Mode parameter (SYSTEM: SEQUENCER: SEQ MODE) is set to SLAVE or REMOTE. * 4 Recognized when the Sync Mode parameter (SYSTEM: SEQUENCER: SEQ MODE) is set to SLAVE. * 5 Not stored/transmitted when received, but can be created and transmitted using Microscope. * 6 Mode Messages (123 — 127) are recorded and transmitted, after all currently sounding notes are turned off. The All Note Message itself is not recorded or transmitted. However, it can be created in Microscope and transmitted. * 7 Transmitted/received by sound source section. Sequencer section uses them for error control if reception is interrupted.	

Mode 1 : OMNI ON, POLY
Mode 2 : OMNI ON, MONO
Mode 3 : OMNI OFF, POLY
Mode 4 : OMNI OFF, MONO

O : Yes
X : No

Specifications

XP-50: Music Workstation

(Conforms to General MIDI System Level 1)

Synthesizer Section

Sound Generator
PCM Synthesis

Parts
16 (Part 10 is Rhythm Part.)

Maximum Polyphony
64 Voices

Effects
EFX: 40 sets
Reverb: 1 set (8 types)
Chorus: 1 set

Preset Memory
Patches: 512
Performances: 64
Rhythm Sets: 8

User Memory
Patches: 128
Performances: 32
Rhythm Sets: 2

Wave Expansion Boards (sold separately)
Max. 4 Boards (A to D)

** Each Wave Expansion Board includes Patches/Rhythm Sets that make use of the waves on the board.*

Sequencer Section

Tracks
Phrase Tracks (16 MIDI channels per track): 16
Pattern Tracks (16 MIDI channels per track): 1
Tempo Tracks: 1
Beat Tracks: 1

** A maximum of 100 patterns can be created in a Pattern Track.*

Internal Memory
Songs: 1
Note Capacity: approx. 20,000 notes
Song Length: 9998 measures

3.5 Inch Micro Floppy Disk (2DD / 2HD)
Disk Format: 720 K bytes (2DD), 1.44 M bytes (2HD)
Note Storage: approx. 90,000 notes (2DD), approx. 180,000 notes (2HD)
Song Files: max. 99

Loadable Song Types
XP-50 Songs (MRC Pro)
Standard MIDI Files (format 0)
Standard MIDI Files (format 1)
S-MRC Songs (from MC series sequencer)

Formats Songs Can Be Saved IN
XP-50 Songs (MRC Pro)
Standard MIDI Files (format 0)
Standard MIDI Files (format 1)

Resolution
96 ticks per quarter note

Recording Methods
Realtime, Step

Maximum Simultaneous Input Notes (during realtime recording)
64 notes

Maximum Simultaneous Output Notes
64 notes per track

Tempo
20 to 250
5 to 500 (with the Tempo Track)

Time Signatures
1 to 32/16, 1 to 32/8, 1 to 32/4, 1 to 32/2

Others

Keyboard
61 keys (with velocity and channel aftertouch)

Display
40 characters, 2 lines (backlit LCD)

Connectors
Mix Output jacks (stereo)
Headphone jack (stereo)
Pedal Hold jack
Pedal jacks (1, 2)
MIDI connectors (IN, OUT, THRU)

Power Supply
AC 117 V, AC 230 V, or AC 240 V

Power Consumption
21 W

Dimensions
1023 (W) x 348 (D) x 97 (H) mm
40-5/16 (W) x 13-3/4 (D) x 3-7/8 (H) inches

Weight
9.3 kg / 20 lbs 9 oz

Accessories
Owner's Manual
Quick Start
Demo Disk
Power Cable (Not included with XP-50 designed for 117 V power supply)

Options
Wave Expansion Boards: SR-JV80 series

** In the interest of product development, the specifications for this product are subject to change without prior notice.*

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