MSX

YAMAHA

YRM-302

RX EDITOR
OWNER'S MANUAL

EDITEUR RX
MANUEL D'UTILISATION

RX EDITOR
BEDIENUNGSANLEITUNG

NIPPON GAKKI CO., LTD.
PRINTED IN JAPAN

INTRODUCTION

Congratulations on your purchase of the Yamaha RX Editor.
In order to appreciate the full performance of this program, please read this Owner's Manual carefully and completely. Keep it in a safe place for future reference.

For further information on the RX11 or RX15 programming functions read the instruction manual supplied with the RX.

To start this program, enter call RX.

Features

This RX editor (YRM-302) is a ROM cartridge that enables the Yamaha Music Computer to be used for the programming of the Yamaha RX11 Digital Rhythm Program or RX15 Rhythm sequencer. Here is a list of this program's main features:

- In the same manner as the RX Rhythm Program, this ROM cartridge allows for the sectional programming of rhythm patterns, and the linking together of these patterns to create a song.
- Patterns can be entered both by step input edited on the screen and real-time input.
- In addition to the computer keyboard, the RX buttons or a MIDI keyboard can also be used as the pattern input device.
- The velocity and pan (RX11 only) can be specified for each note for precise rhythm patterns.
- The tone and volume of each pattern can be freely changed (RX11).
- The created data can be saved on cassette tape or floppy disk.
- Synchronized playback is possible through the use of an external MIDI clock. It is also possible for playback synchronized to a sequencer.
- Use of a mouse allows for simple operation.
- Pages of screen can be printed out using an optional MSX-compatible printer.

Use of this manual

- Chapter I explains how to connect the various components of your system. Proper configuration is very important and you should consult your Yamaha dealer for more information in case of any hesitation.
- Chapter II provides you with a general guide-line rather than structured material. This chapter is an introduction to the RX Editor and will allow you to discover the main features of this ROM program while experimenting with it.
- Chapter III gives a complete reference material for operation.
- The Appendix provides a MIDI implementation chart for computer-minded users as well as a short alphabetic index of important terms used in this manual.

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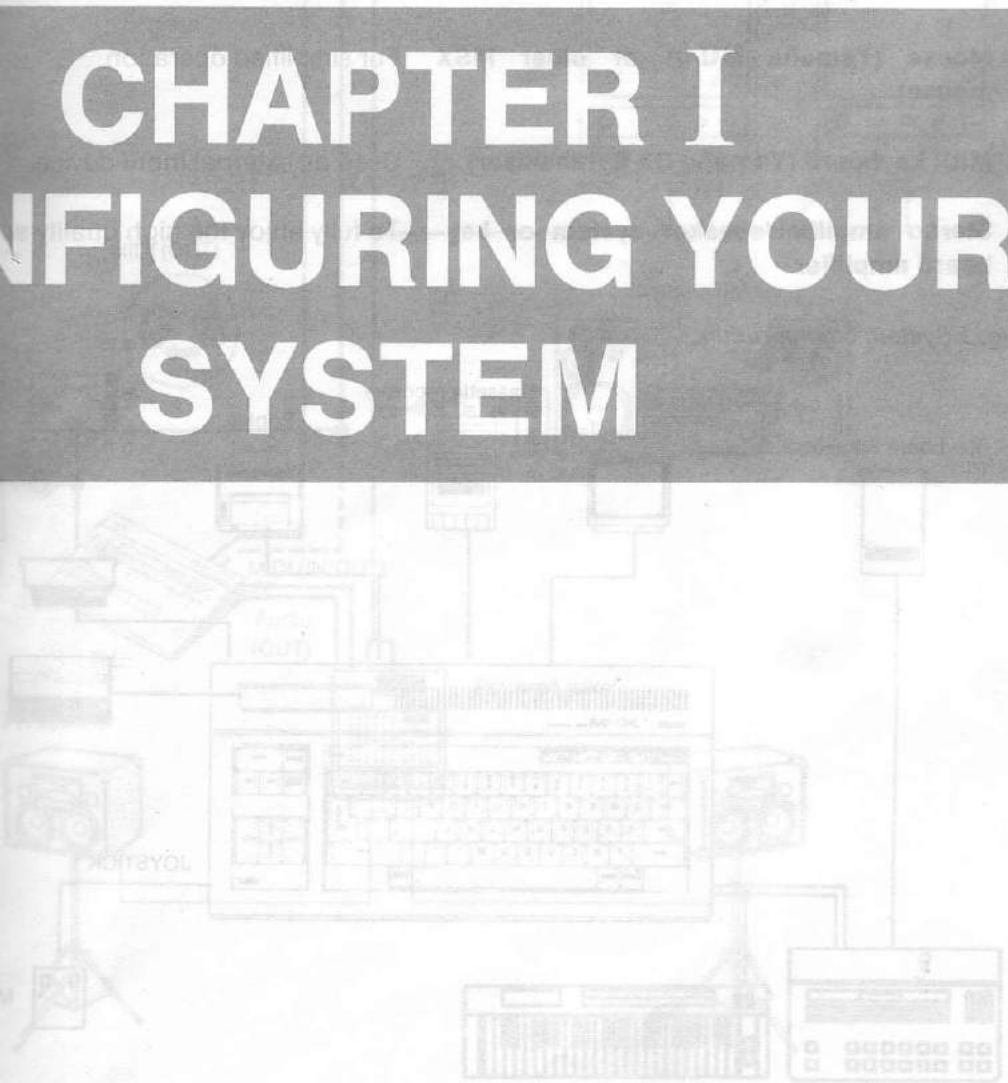
CHAPTER I
CONFIGURING YOUR SYSTEM

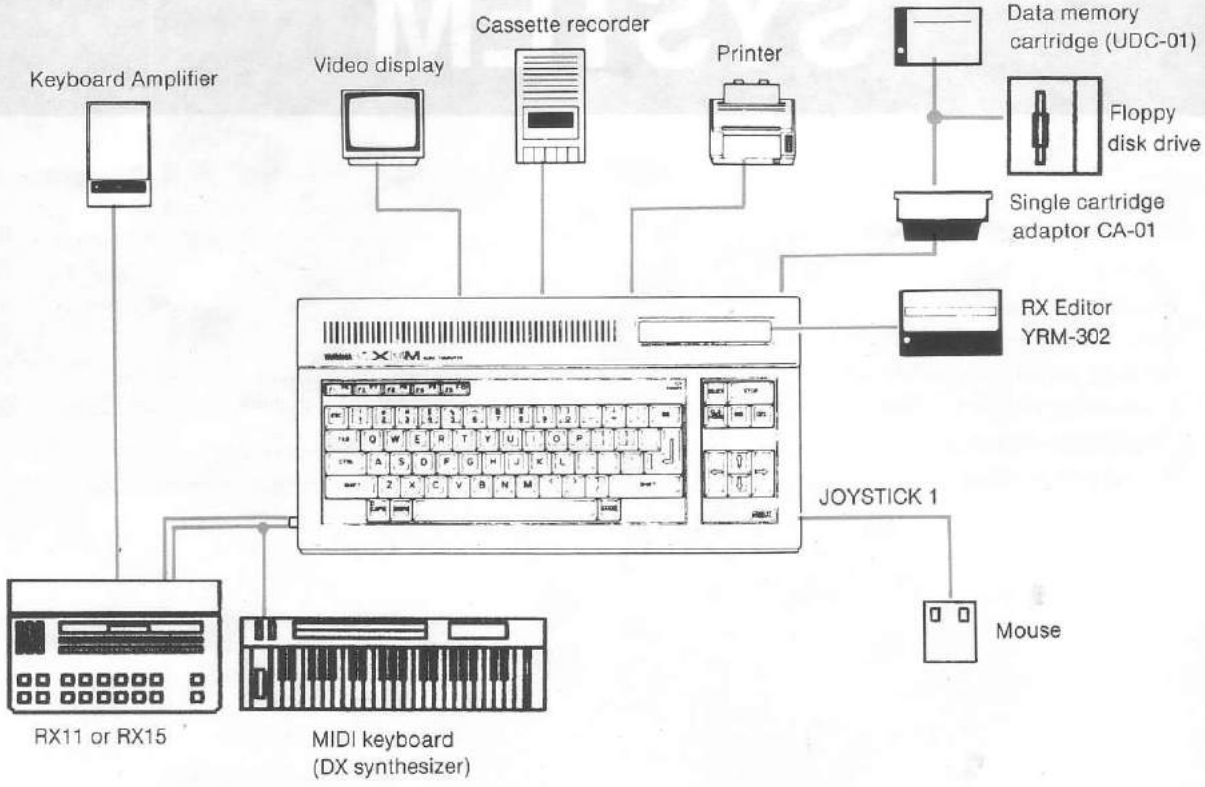


SYSTEM COMPONENTS

Here is list of the components that you need to enjoy the full potential of the RX Editor.

- **Yamaha Music Computer** — This MSX computer is equipped with a built-in Yamaha Synthesizer unit.
- **Color monitor or color TV** — Necessary for visual display and control of the data.
- **Yamaha RX11 or RX15 plus two MIDI cables** — This RX Editor is designed for exclusive use with the Yamaha RX11 or RX15.
- **Cassette recorder and/or Data Memory Cartridge (UDC-01) with adaptor (CA-01) or floppy disk drive** — Used to save the data.
- **Printer (Yamaha PN-101 or other MSX or dot matrix printer)** — To make hard copies of the screen.
- **Mouse (Yamaha MU-01 or other MSX mouse)** — For simplified operation.
- **MIDI keyboard (Yamaha DX Synthesizer)** — Used as external input device.
- **Stereo amplifier/speaker system or keyboard amplifier** — To fully enjoy the high quality sound.

Fig. 1 System configuration

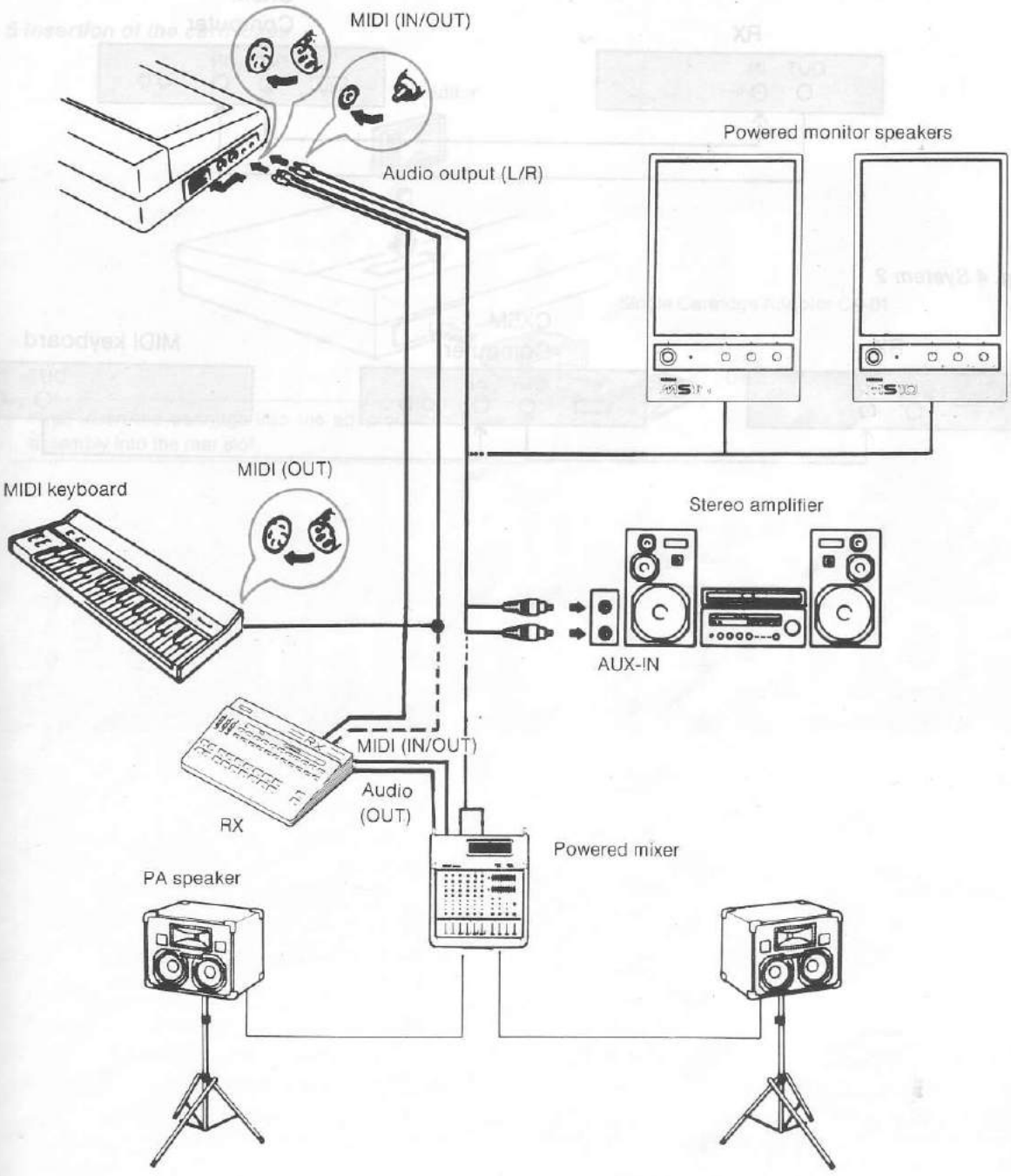


SYSTEM CONNECTIONS

Please refer to the Owner's Manual supplied with your Music Computer for connecting video display, printer, and cassette recorder. The following diagram is given for easy reference. Please read carefully the Owner's Manual provided with each component before assembling.

Caution: Before connecting the system, be sure that the power to all components is turned OFF.

Fig. 2 Connection diagram for the Audio System, MIDI keyboard, and Yamaha RX



MIDI Connections

The following diagrams indicate MIDI connections.

- If you are going to connect the RX11 or RX15 only, see Fig. 3. This system will be referred to as System 1 in this manual.
- If you want to input data through the use of a MIDI keyboard (DX synthesizer, etc.), see Fig. 4. This system will be referred to as System 2.

Fig. 3 System 1

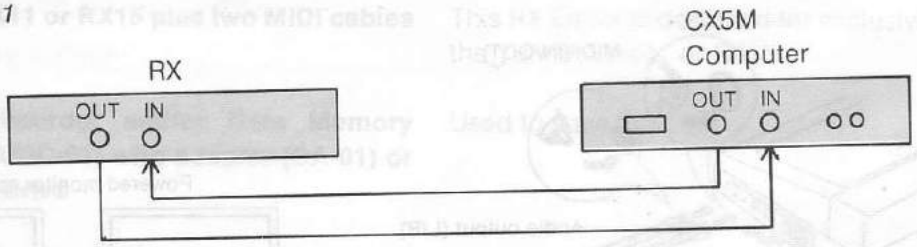
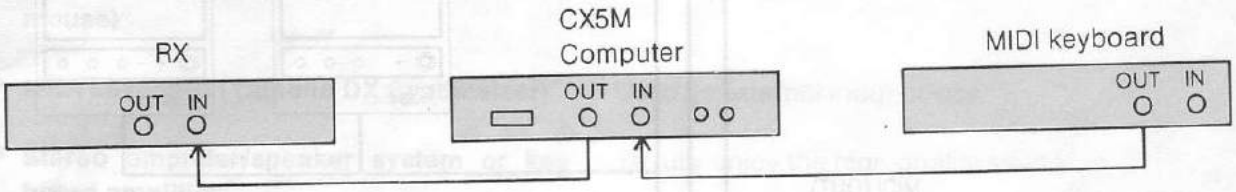


Fig. 4 System 2

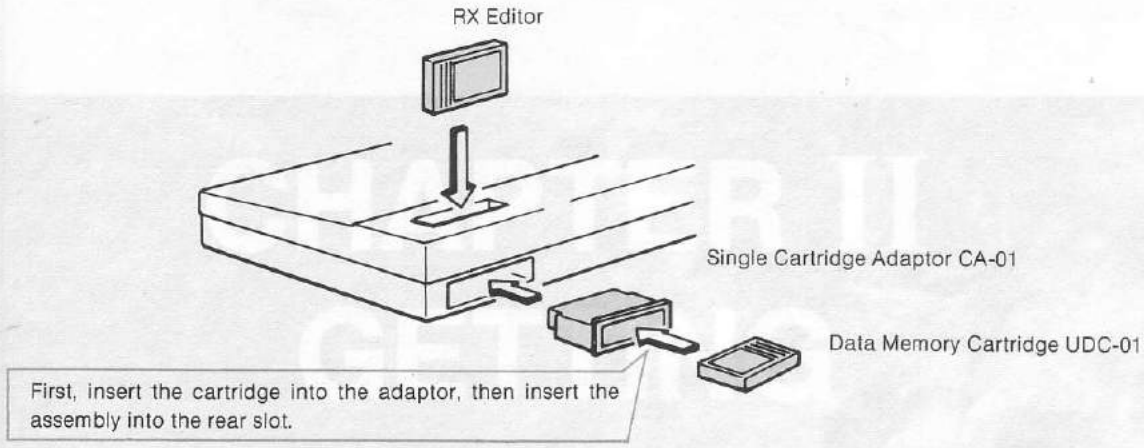


Precautions regarding the use of cartridges

- **Always** turn the power to computer OFF before inserting or removing a cartridge; removing or inserting a cartridge when the power is ON can easily cause trouble.

- **Always** return the cartridges into their protective package after use and reinstall the rear slot cover when a cartridge is removed from rear slot as dust on the connection pins can produce erratic operation.

Fig. 5 Insertion of the cartridges



CHAPTER II
GETTING ACQUAINTED WITH THE RX EDITOR

POWER-ON DISPLAYS

Starting the program

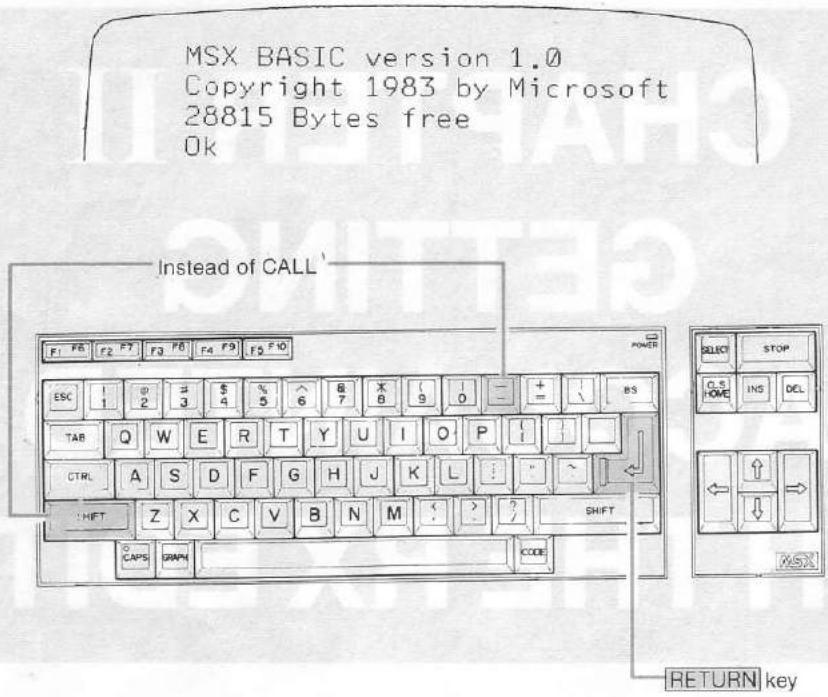
(1) Check to see that all components are correctly connected.

(2) With the power to the computer off, insert the YRM-302 ROM cartridge into the computer cartridge slot.

(3) Turn the power to all components on (RX, keyboard, monitor, disk drive, etc.), then switch the computer on. The initial messages of the MSX BASIC will appear.

★ With disk version, the message Enter the date will appear first. Typing the date in and pressing the RETURN key, or ignoring this and just pressing the RETURN key will cause the BASIC initial display to appear.

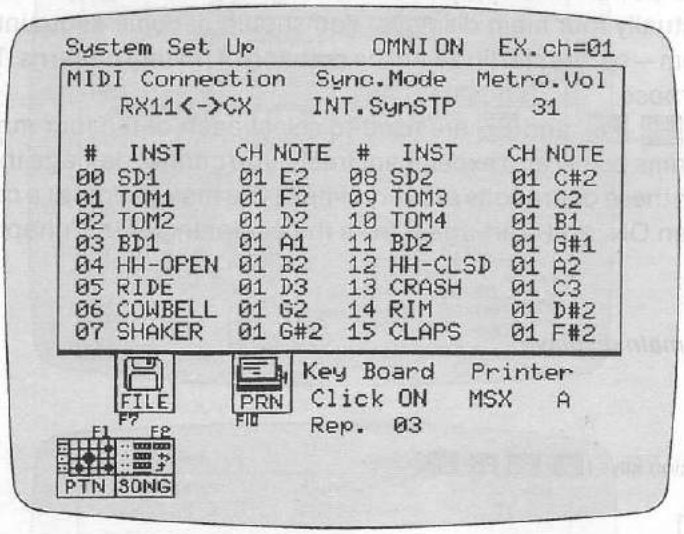
Fig. 6 Initial BASIC display



(4) To start the RX Editor type in:
Call rx
then press the RETURN key. The CALL command can be replaced by SHIFT + ⎵ (underscore) and all letters can be typed either in upper-or lower-case. The display will show an introduction page for a few seconds, then switch to the System Set Up display.

Note:
If the System Set Up display fails to appear, turn the power to the computer OFF and check to ensure the ROM cartridge is properly inserted. When a floppy disk drive is connected, make sure that the power to the drive is on.

Fig. 7 System Set Up display

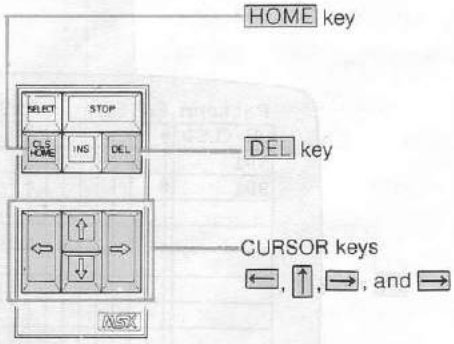


MIDI set-up

As mentioned in Chapter I, the RX Editor can support two different MIDI configurations (Systems 1 and 2). In addition, it is compatible with both the RX11 and the RX15, so you have a total of four possibilities. Setting the RX Editor to match the system in use is the first step you have to take. To do this, move the cursor (the red arrow mark that initially is displayed below the title System Set Up) by using the cursor keys. When you reach the MIDI connection area, a flashing red box will appear at the location of RX11 ←→CX. This indicates that you may select the system in use by pressing the DEL and HOME keys.

Fig. 8 MIDI connection set-up

System		Setting
System 1	RX11	RX11 ←→ CX
(computer + RX)	RX15	RX15 ←→ CX
System 2	RX11	DX → CX → RX11
(computer + RX + DX)	RX15	DX → CX → RX15



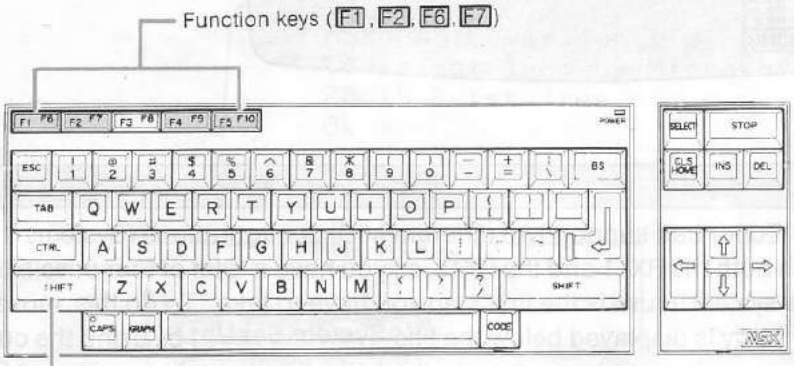
Operating the RX Editor is very easy: most of the many settings you are going to perform follow the same pattern as the above setting: simply move the cursor to the desired area (cursor keys) until this area starts flashing, then select a new setting (HOME and DEL keys).

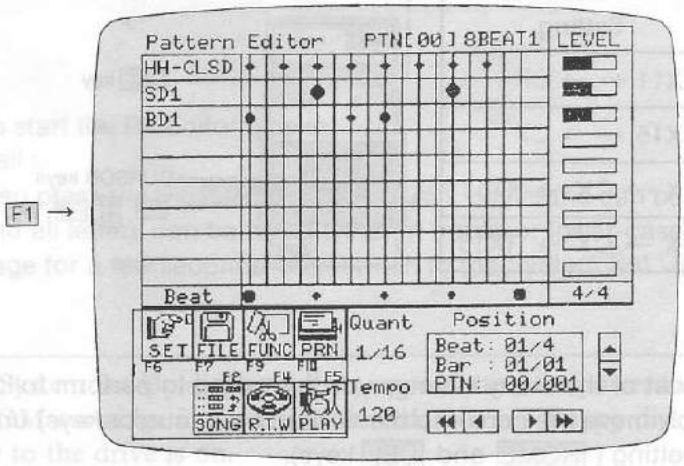
Selecting the main displays

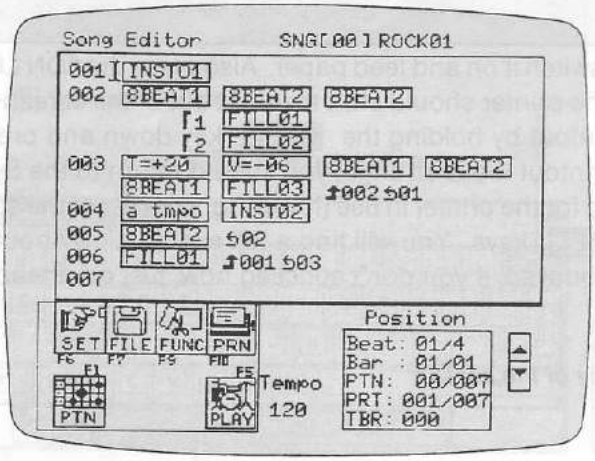
As you can imagine, the power-on display shown on Fig.7 is not the only one made available by the RX Editor. There are actually four main displays. You should become acquainted with these displays — and the way to get them — before starting with the creation of rhythm patterns. The following diagrams will help you in that purpose.

The function keys, F1 , F2 , F6 , and F7 are used to select each of the four main displays. Follow the indications of the diagrams below and experiment freely: you cannot damage the RX Editor by pressing the wrong key. Although these operations are very simple, you may get lost at a certain point. Just switch your computer OFF, then ON, and start again from the beginning of this chapter.

Fig. 9 How to select the main displays

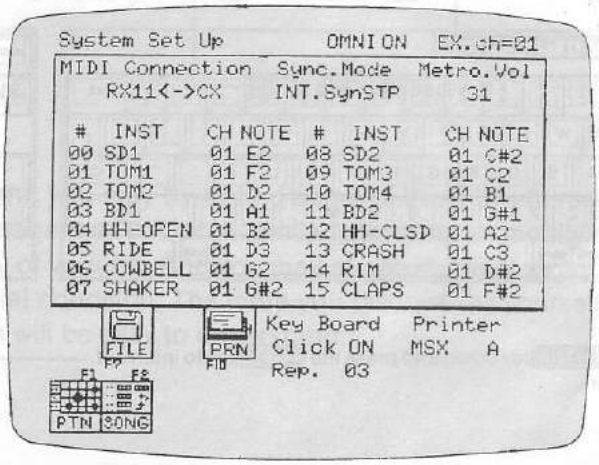






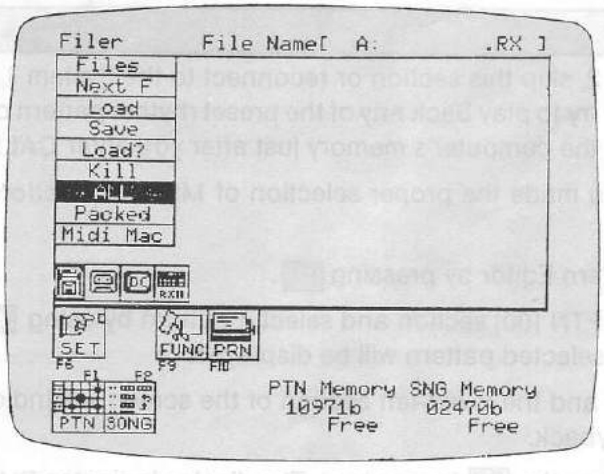
F2 →

Song Editor



F6 (SHIFT + F1)

System Set Up



F7 (SHIFT + F2) →

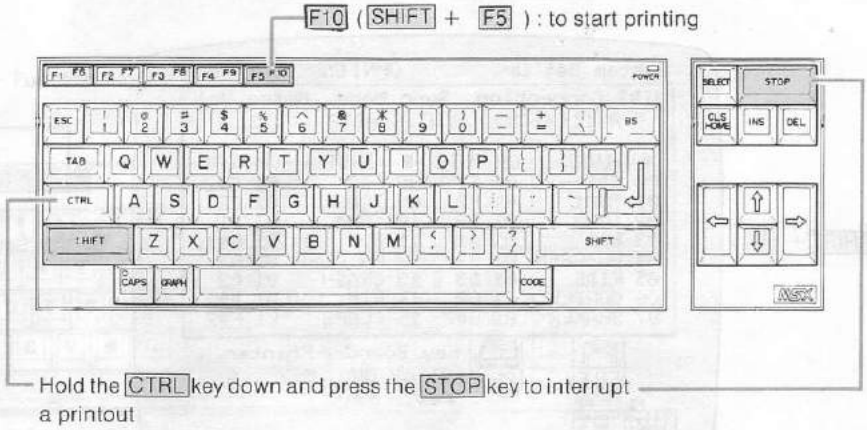
Filer

Note that if you made a selection in the MIDI Connection area as explained at the very beginning of this chapter, your choice is kept unchanged (as long as you don't modify it), even if the System Set Up display is temporarily replaced by another display. This holds true for all of the data you will input: as long as you don't modify or erase it, it will remain in the computer's memory even if it disappears from the screen.

Printing a page of screen

If you have a printer on line, switch it on and feed paper. Also press the "ON LINE" button of the printer. Now, press the F10 key. The printer should start the print out of the screen display (hard copy). You may always interrupt the printout by holding the CTRL key down and pressing the STOP key. If nothing happens or if the printout looks strange, you should return to the System Set Up display and select the appropriate setting for the printer in use (lower-right corner of the screen) by using the cursor keys and the HOME and DEL keys. You will find a full explanation about this setting in the corresponding section of this manual so, if you don't succeed now, just go ahead.

Fig. 10 How to make hard copy of the screen



Playback

If you are using the System 2, skip this section or reconnect to the System 1 configuration. If you are using the System 1, you may try to play back any of the preset rhythm pattern of your RX (these patterns are automatically loaded in the computer's memory just after you enter CALL RX).

(1) First make sure that you made the proper selection of MIDI connection as explained at the beginning of this chapter.

(2) Turn the display to Pattern Editor by pressing F1.

(3) Move the cursor to the PTN [00] section and select a pattern by using DEL and HOME keys as usual. The data of the selected pattern will be displayed.

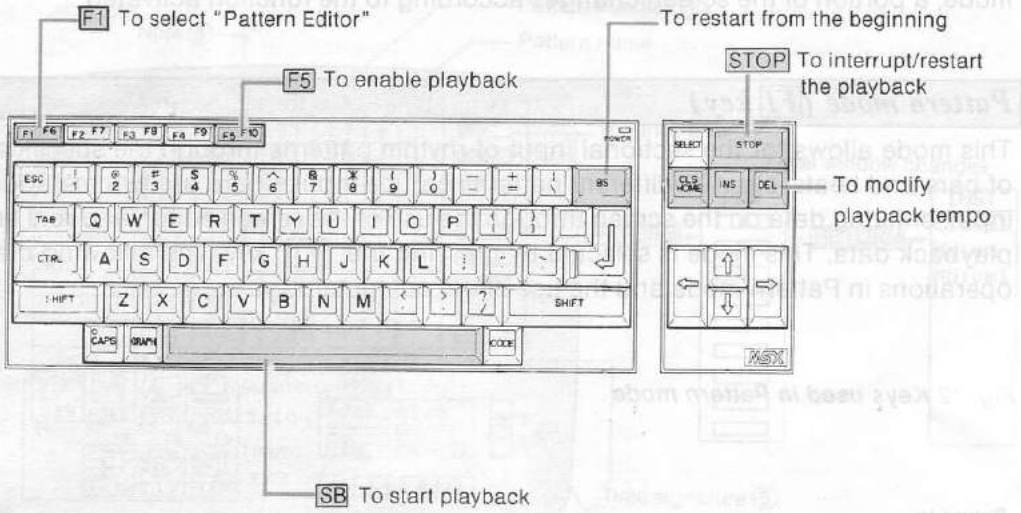
(4) Now press the F5 key and the lower-left section of the screen will indicate that the RX Editor is READY to start the playback.

(5) If you are also ready, press the SB (space bar). The display indicates RUN and you can now listen the rhythm pattern in your audio system or headphones.

(6) You may interrupt playback or restart it by pressing the STOP key.

(7) At any time, you may go back to the initial Pattern Editor display by pressing the ESC key. The cursor will reappear and you may choose another pattern to listen, or to modify the tempo during playback, by using DEL and HOME keys.

Fig. 11 How to play back



Other possibilities exist and you may try to find some of them by yourself. Once again, pressing the wrong key will never damage the RX Editor. Similarly, erasing or modifying some data of the pattern will not effect the memory of your RX. And you may at any moment switch your computer off, then on again, to recover the initial condition. The more you discover by yourself, the more the explanations given in the next sections will be easy to understand.

MODES AND DISPLAYS

The RX Editor has a number of functions. These are divided into six modes. With the exception of the Play and Print mode, the other four modes each have their own screen display. In the Pattern and Song mode, a portion of the screen changes according to the function activated.

Pattern mode (F1 key)

This mode allows for the sectional input of rhythm patterns through the specification of the number of bars and beats, etc. 100 different patterns can be input. There are two methods available for data input: entering data on the screen through the use of the screen editor, and real time writing of actual playback data. This mode is selected by pressing the F1 key. The following diagrams indicate the operations in Pattern mode and the use of the computer keys.

Fig. 12 Keys used in Pattern mode

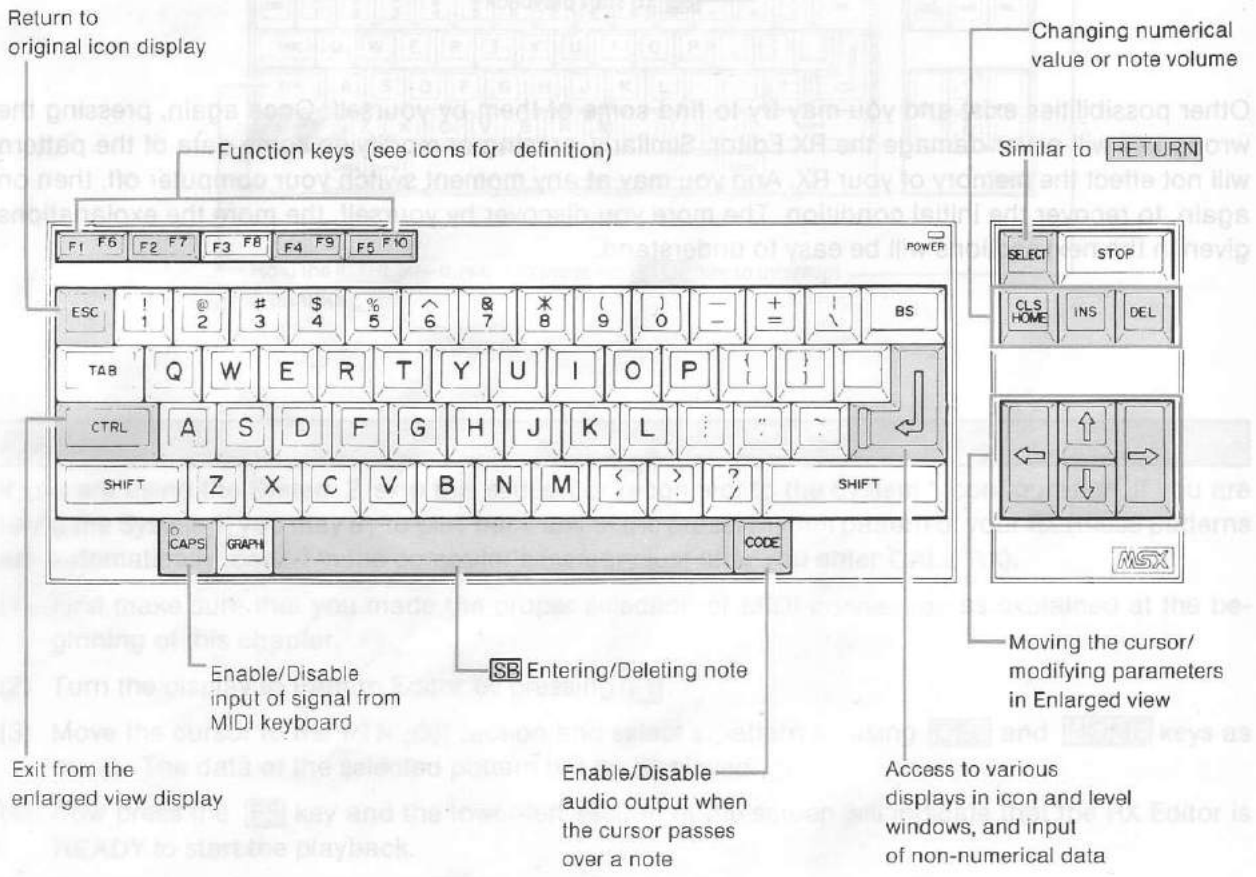
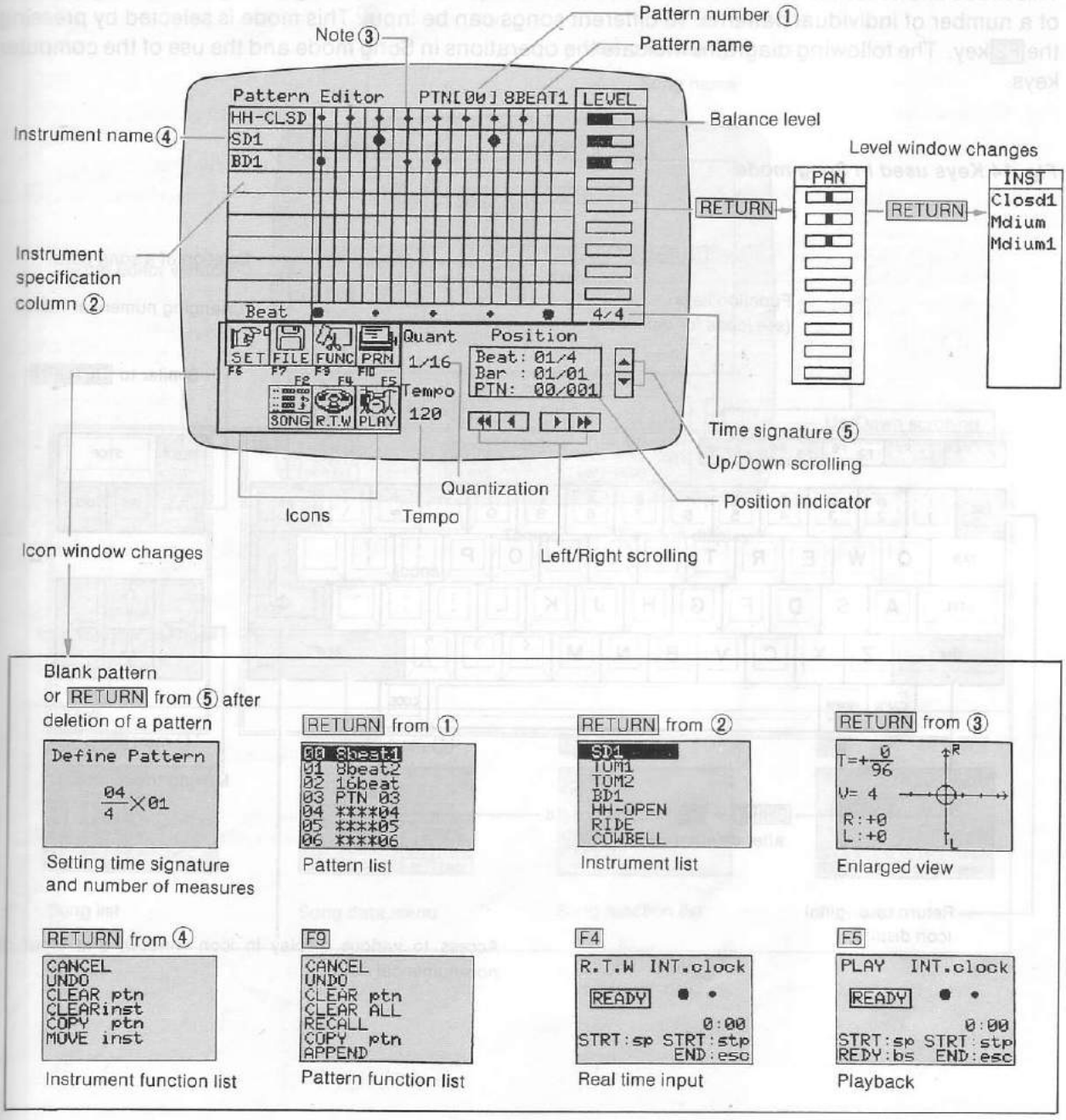


Fig. 13 Pattern Editor display



Song mode (F2 key)

This mode allows for the creation of a rhythm pattern equivalent to a song through the linking together of a number of individual patterns. 10 different songs can be input. This mode is selected by pressing the F2 key. The following diagrams indicate the operations in Song mode and the use of the computer keys.

Fig. 14 Keys used in Song mode

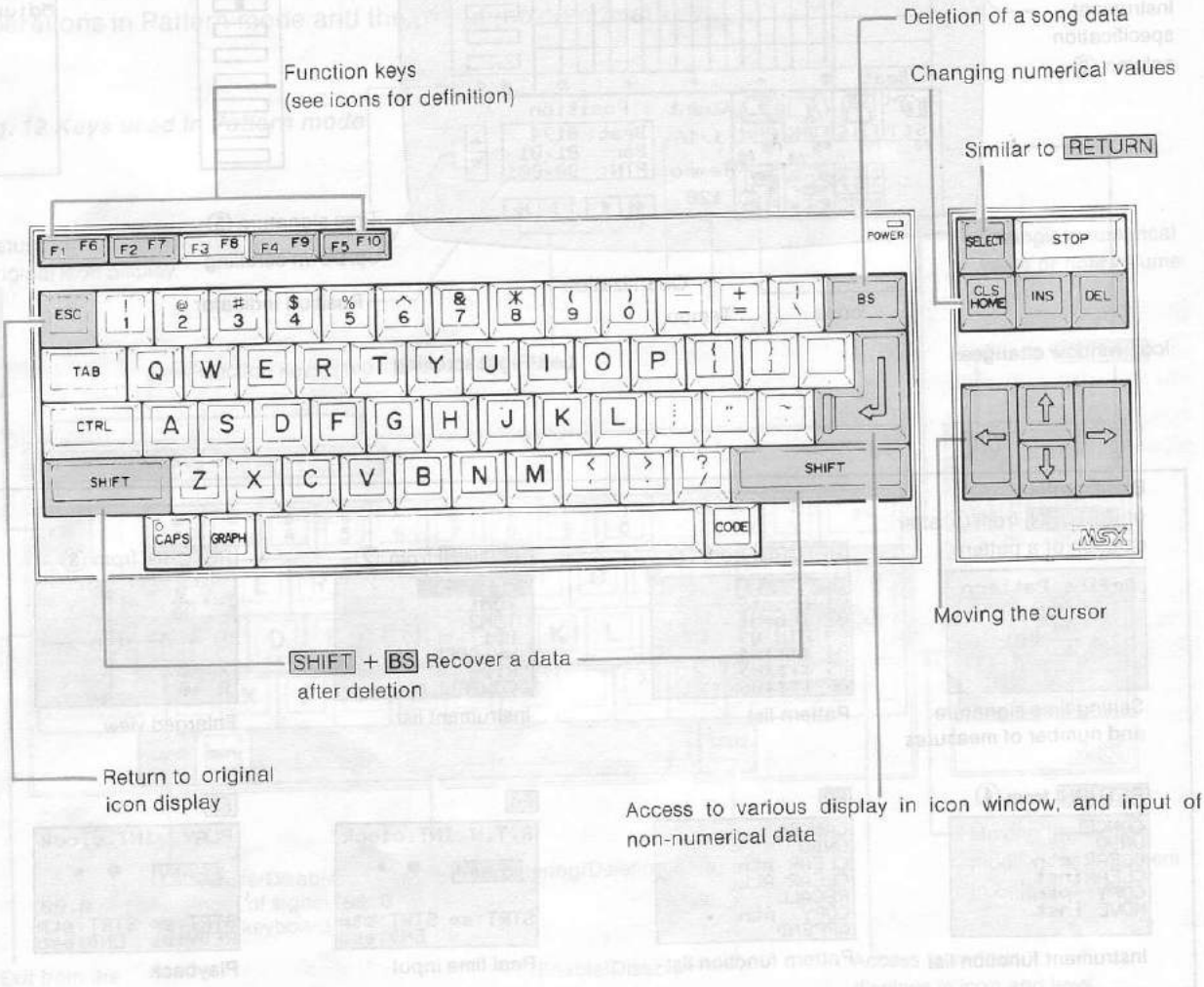
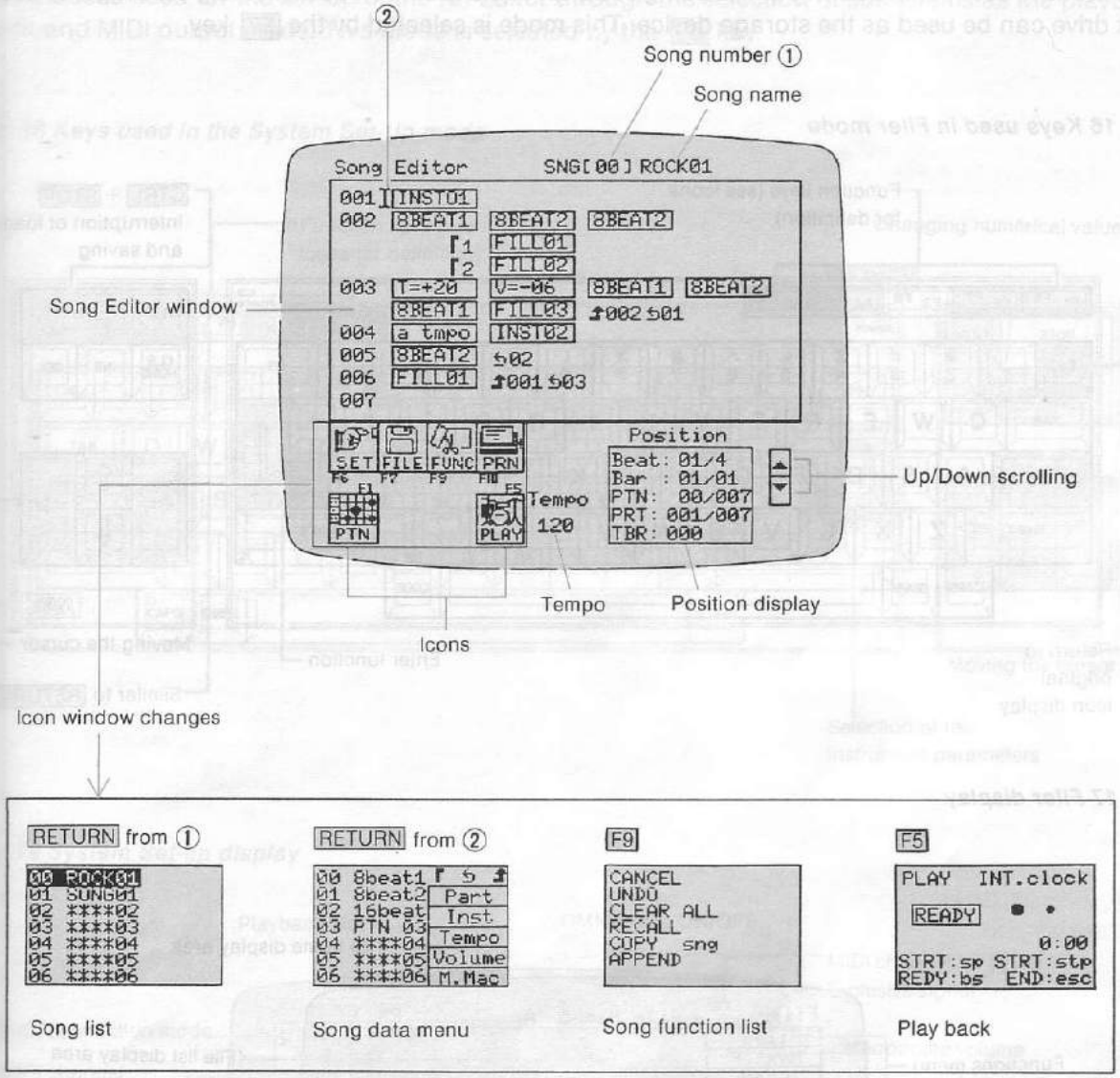


Fig. 15 Song Editor display



File mode (F7 key)

This mode is used for the saving and loading of data. A data recorder, data memory cartridge, or floppy disk drive can be used as the storage device. This mode is selected by the F7 key.

Fig. 16 Keys used in Filer mode

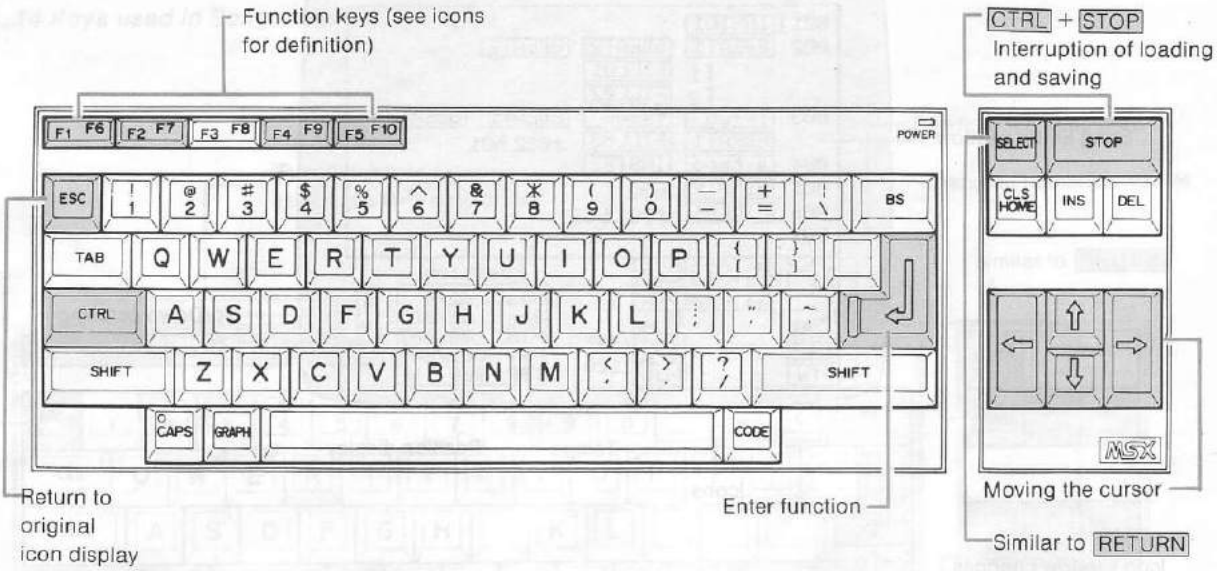
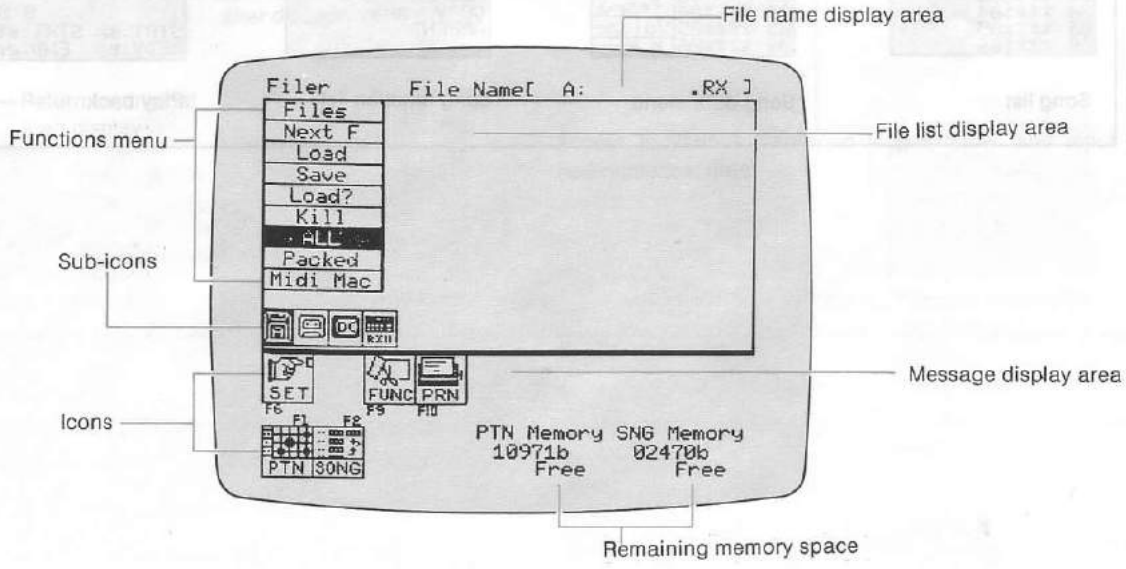


Fig. 17 Filer display

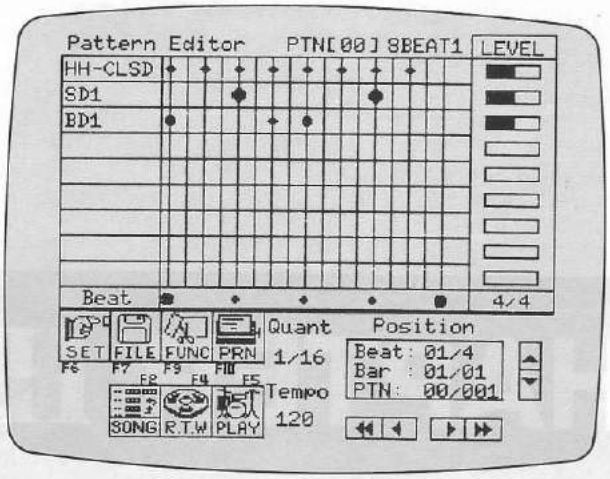


CHAPTER III
OPERATING THE RX EDITOR

THE PATTERN EDITOR

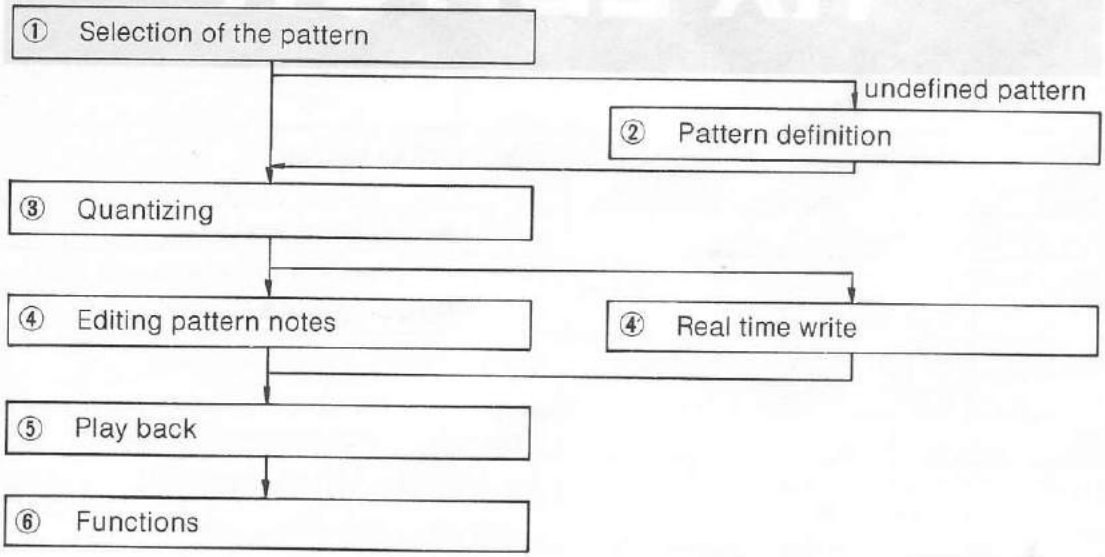
This mode allows for the sectional input of rhythm patterns through the specification of the number of bars and beats, etc. There are two methods available for data input: entering data on the screen through the use of the screen editor, and real time writing of actual playback data. The pattern mode is selected by moving the cursor over the PTN icon and then pressing the RETURN key, or by pressing the F1 key. The below illustration shows an example of Pattern Editor display.

Fig. 25 Example of Pattern Editor display



Refer to the following diagram for the procedure used to create a single pattern.

Fig. 26 Creation of a single pattern



Selection of the pattern — Step①

Specifying the pattern number

The pattern number must be first specified for both the input and playback or patterns.

- Direct selection

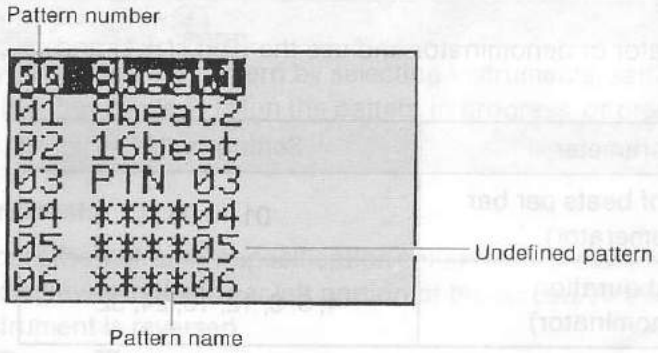
The pattern number can be selected by moving the cursor over the numeric portion of PTN (pattern) in the upper portion of the screen and then pressing the HOME (−1) or DEL (+1) key.

- Displaying the pattern list

Instead of using the HOME or DEL key, the RETURN key can be pressed to display the pattern list in the lower left hand section of the screen. The display of the uppermost pattern is reversed at this time. Pressing the ↑ or ↓ cursor key causes the position of reversed display to move up and down. The desired pattern can be selected by pressing the RETURN key when the display of this pattern is reversed.

★ Pressing the ESC key causes the pattern editor to return to its original state without anything else occurring.

Fig. 27 Pattern list display



Specifying the pattern name

Each pattern can be given a pattern name consisting of a maximum of six characters. The default pattern name setting is PTN nn, where nn corresponds to the pattern number.

(1) Move the cursor to the PTN nn section on the right side of the pattern number display, and press the RETURN key.

(2) Enter a pattern name from the computer keyboard. If a mistake is made during entry of the name, the ← and → cursor keys can be used to move the cursor to the left and right for correction. Pressing the BS key allows for deletion of the character to the left of the cursor.

(3) Press the RETURN key to enter the pattern name.

★ Graphic characters can not be entered.

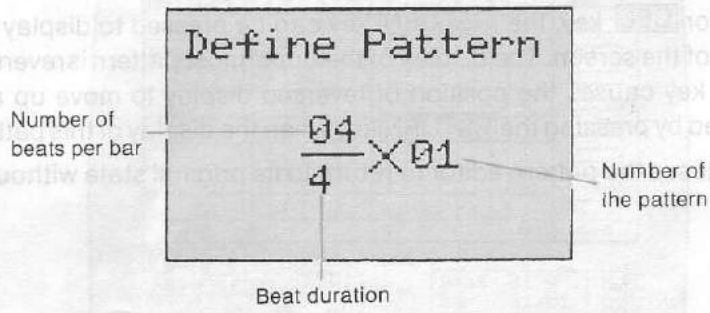
★ Pressing the ESC key will cause this area to stop flashing. The name displayed before input of characters will re-appear unchanged.

Pattern definition — Step②

If you are going to create a new pattern from scratch, you must now define the time signature and the number of bars the pattern will be made of (length).

When you specify a pattern number which has not yet been used, the Define Pattern display appears in the icons window, showing the default setting. To obtain the same display after deleting a pattern, press [RETURN] after moving the cursor to the time signature display (center-right of the screen).

Fig. 28 Define Pattern display



Specifying the time signature

Move the cursor to the numerator or denominator and use the [DEL] (+1) and [HOME] (−1) keys to modify the values.

Parameter	Setting range
Number of beats per bar (numerator)	01 ~ 99
Beat duration (denominator)	4, 6, 8, 12, 16, 24, 32

The beat duration setting corresponds to a note duration (4 = quarter note, etc.).

Specifying the number of bars

Move the cursor to the numeric value at the right of the fraction and use the [DEL] (+1) and [HOME] (−1) keys to modify the value.

Parameter	Setting range
Number of bars	01 ~ 95

★ The number of bars can not be set such that the length of the pattern exceeds 256 bars of 4/4 time.

Quantizing — Step③

This sets the minimum time interval between the notes input in the pattern. In Real Time Writing, this value defines the time resolution. (The notes you enter from the external keyboard will be written at preset intervals even if your timing is not perfect. The length of these intervals is set here.)

Move the cursor over the numeric value on the Quant (Quantize) display, and press the HOME (increase) and DEL (decrease) keys to set the note length.

Parameter	Setting range
Quantize (denominator)	4, 6, 8, 12, 16, 24, 32, 48

The length of the intervals set by Quantize is defined as a note duration (4 = quarter note, etc.)

★ The Quantize setting can be altered after the input of notes.

★ The resolution of the pattern diagram is changed when the Quantize setting is altered.

★ The Real Time Write function involves writing of a performance rhythm pattern corrected to the timing determined by the Quantize setting. Even if the performance timing is not the same as this timing, writing will be corrected to the proper timing as long as the variance from the length of notes determined by the Quantize setting is less than + 50% Refer to RX Owner's Manual for more details about the Quantize function.

Editing pattern notes — Step④

You are now ready to create your pattern by selecting instruments, setting notes, etc. At any moment you may switch to the Play mode to listen the pattern in progress, or press the CODE key to listen the notes passed over by the cursor.

Selecting the instruments

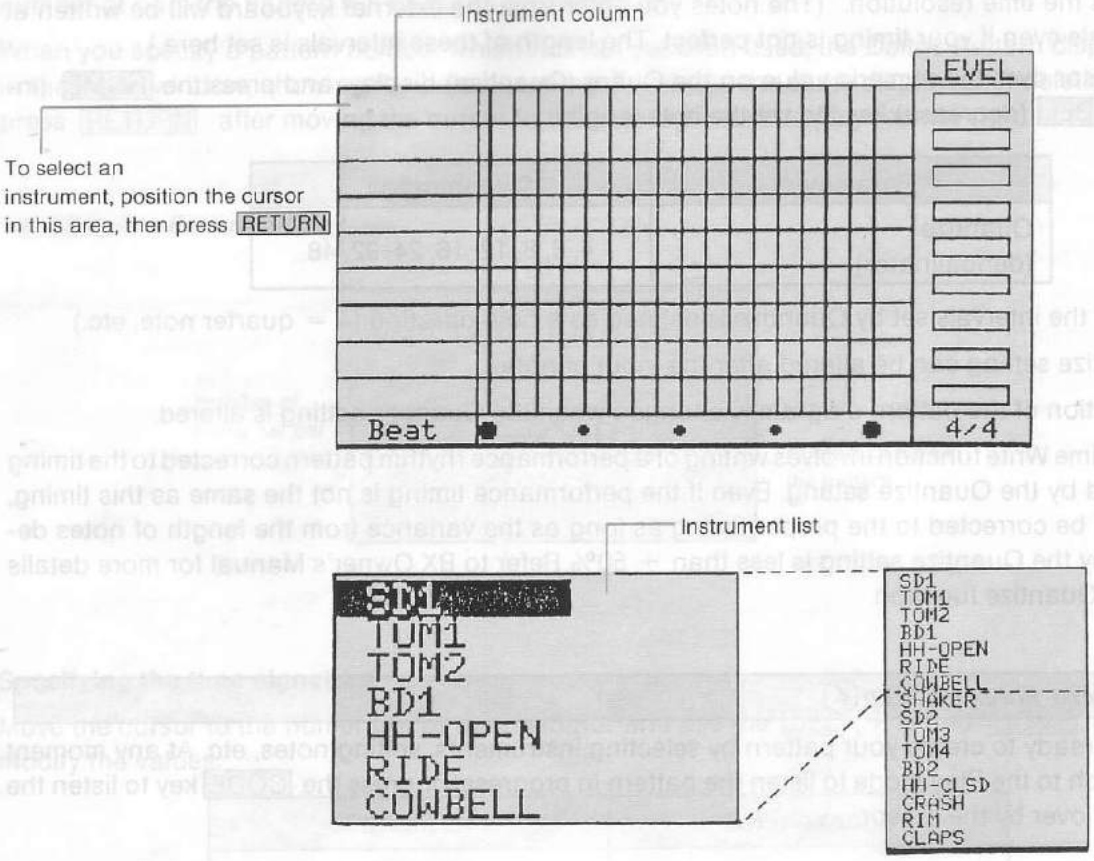
(1) Move the cursor to the instrument specification column and press the RETURN key. The instrument names will be displayed in the lower left portion of the screen. At this time, the display color of the uppermost instrument is reversed.

(2) Pressing the ↑ and ↓ cursor keys will move the position of the reverse display up and down. Pressing the RETURN key when the display of the desired instrument is reversed will select that instrument and cause it to be displayed in the instrument specification column.

★ Specify the desired instruments in order, starting from the top of the instrument specification column, and moving the cursor to the next empty location before a new selection.

★ Pressing the ESC key before selecting an instrument will restore the original icons window.

Fig. 29 Selecting instruments



★ If you press the RETURN key when the cursor is located over an instrument already selected in the instrument column, a function display appears in the icons window. See the paragraph "Functions".

Inputting notes

- Input from the computer keyboard

Notes are entered on the pattern diagram. Note that the time signature and number of bars can no longer be altered if even one note is entered.

The cursor will change from ↖ to □ when it is moved over the pattern diagram display for which instruments have been set.

★ If instruments have not yet been set, the shape of the cursor will not change when it is moved over the rhythm pattern diagram. Be sure to first set the instruments.

(1) Move the cursor to any step of the desired instrument and press the SB key. A note is entered and a ◆ mark is displayed at that point.

★ When the diagram can not be completely displayed on the screen, moving the cursor will cause the screen to scroll accordingly. Scrolling is prevented by pressing the SHIFT key while pressing the cursor keys. This is used to prevent the cursor from moving to an area not displayed on the screen.

★ When you need to scroll through a large amount of data, you may use the Position display at the lower-right corner of the screen, just move the cursor to the appropriate arrow symbol ⇤, ◄, ►, ⇥, ▲, or ▼ and press the RETURN key.

(2) Pressing the SB key at a location where there is already a note will cause this note to be deleted.

★ When the mouse is being used, pressing the left button while the right button is being pressed will perform the same function as the space key. Notes can be entered and deleted in this manner.

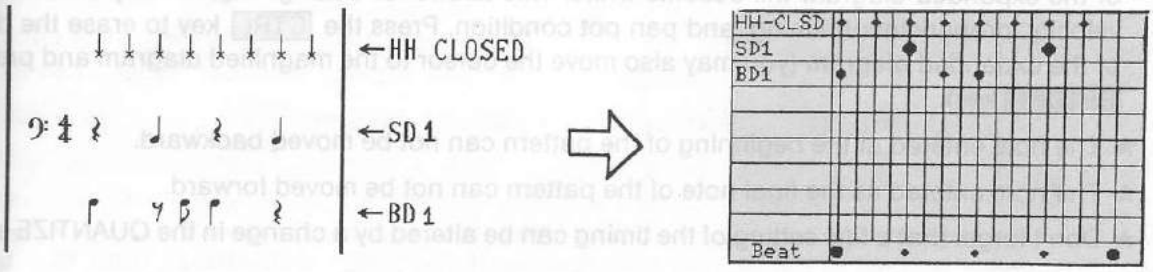
(3) Pressing the CODE key once will allow for the actual sound to be heard for confirmation when notes are entered or when the cursor is moved across the pattern.

★ The Quantize setting may cause the entered note to deviate from the edit points. In this case, the notes will be displayed as >, < or X, and these notes can not be edited. The Quantize sitting can be altered to set the notes on the edit points, or the RETURN key can be pressed for editing using the expanded view.

★ When memory is full it becomes impossible to exit the Pattern mode. In that case, you must erase some data. If the data currently edited can be abandoned, press one of the function key F1, F2, F6, or F7 while holding the INS key down.

★ Editing is impossible when two notes are on the cursor. Change the QUANTIZE setting to move such notes away from each other.

Fig. 30 Inputting notes from the computer keyboard



- **Input from a MIDI keyboard**

Pressing the CAPS key to set the CAPS ON state will allow for notes to be input using an external MIDI device instead of the space key. The velocity is also set at the same time when input is from a device which allows for velocity output.

(1) Press the CAPS key to set the CAPS ON state. Pressing the CAPS key again will select the CAPS OFF state.

(2) Move the cursor to the step for input, and press the MIDI keyboard or RX INSTRUMENT button to enter notes.

★ Pressing a key on the MIDI keyboard or RX INSTRUMENT button while pressing the SHIFT key will delete notes.

★ Input from MIDI keyboard is possible with System 2 configuration only. Don't forget to select the corresponding setting in System Set-Up mode.

★ The volume of the notes that you listen to when inputting will not necessarily be the same as the playback volume. You should be careful about this point.

- **Altering the velocity**

The velocity of the sound can be altered for each note. The range of alteration is in eight steps from 1 to 8.

Move the cursor to the point where the note is entered, and press the HOME (−1) and DEL (+1) keys to change the velocity of the note.

★ The mark indicating the note changes when the velocity is altered. The mark changes at intervals of two steps.

★ The default velocity is 4 (◆) when you input a note by using the SB key.

Velocity	1, 2	3, 4	5, 6	7, 8
Display	▪	◆	●	●

Fine tuning of pronunciation timing

The pronunciation timing can be moved forward or backward in intervals of 1/96 (96th notes).

(1) Move the cursor to the point where the note is entered and press the RETURN key. An expanded diagram of the of the note appears in the lower left portion of the screen. Pressing the left and right cursor keys will cause the timing to move forward or backward in units of 1/96.

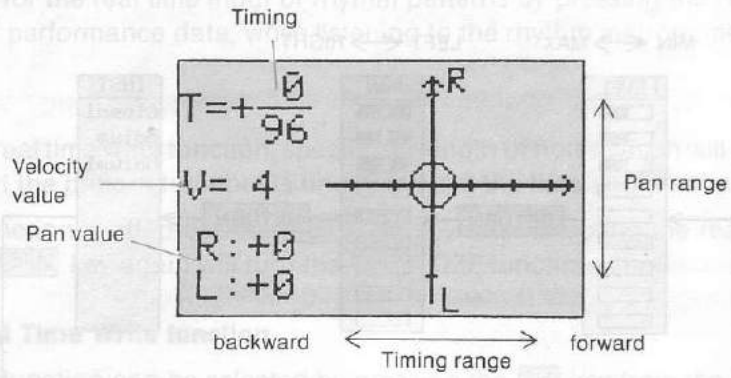
(2) Pressing the RETURN key completes the setting and returns to the edit mode. The background of the expanded diagram will become white. This allows for editing while closely examining the velocity, pronunciation timing, and pan pot condition. Press the CTRL key to erase the display of the expanded diagram (you may also move the cursor to the magnified diagram and press the RETURN key).

★ The note entered at the beginning of the pattern can not be moved backward.

★ The note entered as the final note of the pattern can not be moved forward.

★ Don't forget that a fine setting of the timing can be altered by a change in the QUANTIZE setting.

Fig. 31 Expanded diagram



Movement of pan (stereo image position) — RX11 only

The OUTPUT L/R level balance for each instrument can be altered for each note. The setting is made according to the degree of movement (relative value) from the current pan setting.

(1) Move the cursor to the point where the note is entered and press the [RETURN] key. An expanded diagram of the note appears in the lower left portion of the screen.
Pressing the [↑] and [↓] cursor keys will set the degree of pan movement.

(2) Pressing the [RETURN] key completes the setting and returns to the edit mode. The background of the expanded diagram will become white. This allows for editing while closely examining the velocity, pronunciation timing, and pan pot condition. Press the [CTRL] key to erase the display of the expanded diagram.

★ This becomes the pan setting for each pattern.

★ This function is only available with the RX11. It does not function on other rhythm machines.

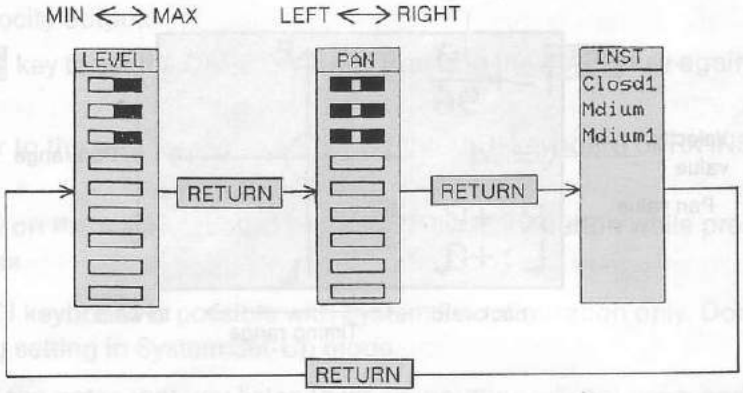
★ The MIDI connection setting in System Set up mode must be properly selected.

Setting other parameters

The level balance LEVEL, pan PAN, and tone variation INST can be set for each pattern. These functions are only available with the RX11 and the proper setting has been selected in System Set-Up mode. They do not function on other rhythm machines.

Move the cursor to the right hand column of the screen and press the [RETURN] key. This portion of the display changes from LEVEL to PAN. Pressing again the [RETURN] key will cause the display to change from PAN to INST. Further pressions on the [RETURN] key will produce cyclic changes of this window as shown in Fig. 32.

Fig. 32 Level window



★ In the System 1 configuration, the preset values contained in RX11 memory become the default values.

- **Setting the relative level of an instrument — LEVEL display**

(1) Move the cursor to the area of the LEVEL display corresponding to the desired instrument.

(2) Adjust the relative level of this instrument by using the HOME and DEL keys. The width of the white portion indicates the relative level.

★ The RX11 will use this data as the default setting for each instrument. The RX15 uses the velocity values only.

- **Setting the pan (stereo image position) — PAN display**

(1) Move the cursor to the area of the PAN display corresponding to the desired instrument.

(2) Adjust the stereo balance of this instrument by using the HOME and DEL keys. The position of the small white portion indicates the balance.

★ This setting will be the default value for the corresponding instrument (in absence of other specification, playback of the pattern will start with this value).

- **Setting the tone variation — INST display**

(1) Move the cursor to the area of the INST display corresponding to the desired instrument.

(2) Adjust the tone of this instrument by using the HOME and DEL key. The display will change according to your setting and to the selected instrument.

Fig. 33 Tone variation display (for SD1)

Medium → Light → Hi Tun1 ... HiTun5 → Heavy

NOTE:

The three above settings of course, are only possible if the cursor is located in front of a selected instrument. These settings can be considered as the default values for all notes of the same instrument. The expanded display allows for individual deviations from these default values (LEVEL and PAN).

Real time writing — Step ④

This function allows for the real time input of rhythm patterns by pressing the RX instrument buttons or MIDI keyboard for performance data, while listening to the rhythm metronome.

Set-up

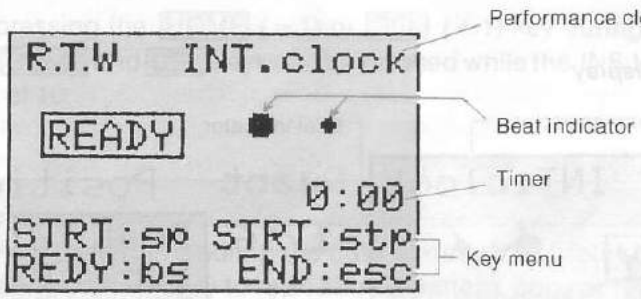
Before selecting the real time write function, specify the length of notes which will be the minimum units for quantized input. If the pattern for input is undefined, set the time and number of bars.

★ If the Quantize function is off, press the RETURN key after selecting the real time write function. Pressing the RETURN key again will turn the QUANTIZE function OFF.

Selection of the Real Time Write function

The Real Time Write function can be selected by pressing the F4 key from the pattern mode. This is the same as moving the cursor over the R.T.W. icon and pressing the RETURN key.

Fig. 34 Real time writing display (icons window)



Input of notes

(1) The write mode is started by pressing the space bar key.
Notes are input by the RX instrument buttons or MIDI keyboard according to the rhythm metronome.

★ Notes can be deleted by pressing a key on the MIDI keyboard or an RX instrument button while pressing the SHIFT key.

(2) The real time write is interrupted by pressing the STOP key.

(3) Pressing the ESC key during the real time write will release the function without pausing it, and cause a return back to the Pattern mode.

★ The left button of the mouse is used for starting R.T.W., and the right button is used for stopping the function.

★ If the specified number of bars is exceeded, the beginning of the Pattern is returned to, and the same pattern is repeated until the function is interrupted.

★ The notes timing is automatically adjusted to the intervals specified by the Quantize setting.

★ The metronome clicks according to the time signature, accentuating the first beat of each measure. The big, blue dot of the beat indicator flashes at the first beat of each measure; the small one flashes at the next beats.

★ The metronome click is output through the RX11 when MIDI connection is set to RX11, and through the computer's audio output when RX15 is selected.

★ If the pattern memory becomes full during use of the R.T.W. functions, the function will automatically stop but the pattern will not be entered.

★ Use of the R.T.W. function may not be possible for patterns having long bars.

★ R.T.W. function only accepts input from a MIDI keyboard in the System 2 setting.

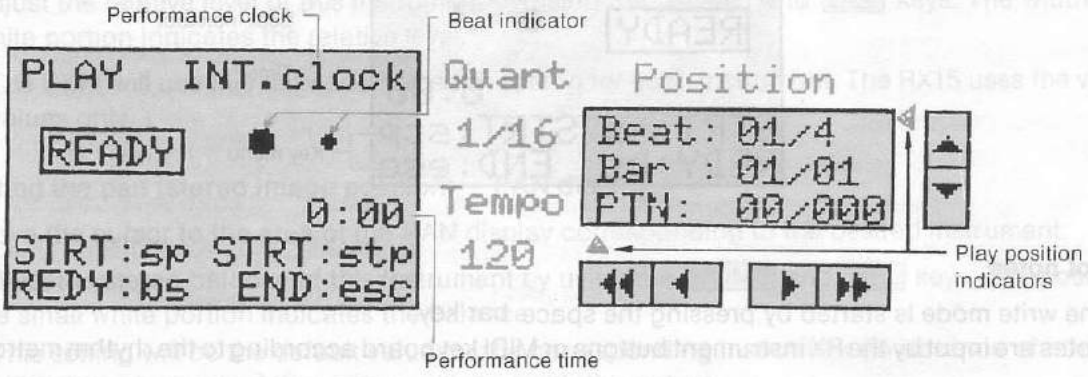
Playback — Step⑤

This function is used for the playback of patterns. The play mode is selected when the F5 key is pressed, and playback starts when the SB key is pressed.

(1) When the F5 key is pressed or when the cursor is moved over the PLAY icon and the RETURN key pressed, the lower left hand portion of the screen will appear as shown in Fig. 35. This selects the Play mode.

(2) Pressing the SB key starts playback of the pattern. When playback starts, the RUN indicator is illuminated, and the play position and performance time is displayed.

Fig. 35 Play mode display



★ The play position display position has the following meaning:

Beat	beat counter/number of beats in one bar
Bar	bar counter/number of bars in the pattern
PTN	pattern number/number of defined patterns

The ▲ and ◀ indicators allow you for visual control of the playback in progress.

★ Playback is interrupted by pressing the STOP key.

★ Pressing the BS key when playback is interrupted allows for restarting from the beginning of the pattern (see also Fig. 21).

★ Pressing the ESC key during playback will release the function without pausing it, and causes a return to the Pattern mode.

★ The left button of the mouse is used for starting playback and the right button is used for stopping the function.

★ The pan data and other initial setting data is sent at the point when the READY mode is selected. Pressing the [SB] (START) key allows for playback to begin immediately.

★ Playback of the same pattern will be repeated until the function is interrupted.

★ The pan setting returns to its original position when the pattern returns to the beginning.

Changing the tempo

The tempo for playback and the real time write function can be freely selected in the range of ♩ = 40 ~ 250. The tempo can be altered either in playback or real time writing.

• When editting

Move the cursor to the tempo indicator, and press the [HOME] (−1) or [DEL] (+1) keys to change the tempo. When a large change in tempo is desired, the [HOME] or [DEL] keys can be pressed while the [INS] key is being pressed. This will cause the tempo to be altered in steps of 10.

• During playback (or real time writing)

The tempo can be altered by pressing the [HOME] (−1) or [DEL] (+1) key during playback or when using the R.T.W. function. The [HOME] and [DEL] keys can be pressed while the INS key is being pressed for altering the tempo in steps of 10.

Functions — Step⑥

The functions of the RX Editor are used for handling the data already input rather than for the actual input of new data. These functions make it easy to rearrange a pattern, copy or relocate it, etc. There are two categories of functions available in the Pattern Editor: the Instrument functions and the Pattern functions.

Instrument functions

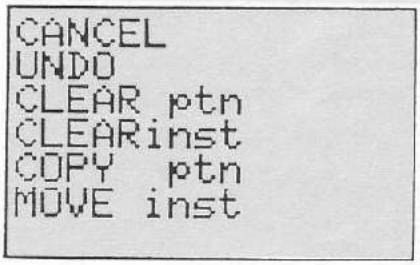
These are the functions for copying, moving, and erasing instruments within a pattern. Basic operations are as follows (special operations are explained along with the function description):

(1) Move the cursor to the instrument specification column, at the location of an already-selected instrument, and press the [RETURN] key. A list of function will appear in the icon window, and the selected instrument appears in reversed color.

(2) Select the desired function by using the [↑] and [↓] and enable the selected function (reverse color) by pressing [RETURN] again.

★ Pressing the [ESC] key instead of [RETURN] will cancel the selection and cause the icons to re-appear without any change in the pattern.

Fig. 36 Instrument functions list



The following describes the action of each of the Instrument functions.

CANCEL — Causes the original state to be returned to without any change (same as [ESC]).

UNDO — Restores the previous state (existing before the execution of a previous function).This is used, for example, immediately after the CLEAR function has been mistakenly executed: UNDO will restore the state which existed prior to execution of the CLEAR function.

CLEAR ptn — Deletes the notes of the instrument from the pattern. The affected instrument is, of course, this one indicated by the cursor when you called the function list. The notes of that instrument are cleared but the instrument is still there, waiting for new note input.

CLEAR inst — Removes an instrument and its notes from the pattern. The list of selected instrument will automatically be adjusted in the instrument column display.

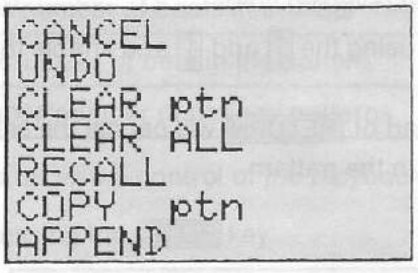
COPY ptn — Copies the notes of an instrument into an other instrument. The destination instrument is this one indicated by the cursor before the function is called. When the function is enabled by [RETURN], a red flashing display indicates an other instrument of the instrument column. Select the source instrument by using the [↑] and [↓] keys and press [RETURN]. The notes of the red-flashing instrument are copied onto the black-background instrument.

MOVE inst — Moves an instrument to another location in the instrument column. An arrow mark appears in the instrument column. Select the new location by using the [↑] and [↓] keys. Pressing the [RETURN] key produces a permutation of the indicated pair of instruments.

Pattern functions

These functions are used for linking a certain pattern to another pattern, and for copying and deleting in pattern units. Press the [F9] key or move the cursor to the FUNC icon and press the [RETURN] key. The list of Pattern functions will appear at the icons window.

Fig. 37 Pattern functions list



Select the desired function by using the ↑ and ↓ keys (the color of a function under selection is reversed), then enable this function by pressing the RETURN key.

* Pressing the ESC key will restore the icon display.

The following describes the action of each of the Pattern functions:

CANCEL — Causes the original state to be returned to without any change (same as ESC).

UNDO — Restores the previous state (existing before the execution of the previous function). This is used, for example, immediately after the CLEAR function has been mistakenly executed: UNDO will restore the state which existed prior the execution of the CLEAR function. This also works after the use of the R.T.W.

CLEAR ptn — Deletes all notes of the pattern. The instrument settings remain untouched, so that the system is ready for new input of notes.

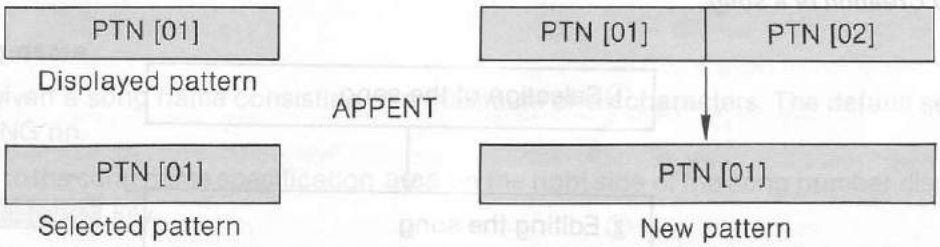
CLEAR ALL — Deletes notes and instrument settings. The current pattern becomes a blank (undefined) one. Pattern name becomes PTN nn where nn is its number. You may re-define the time signature and the pattern length after this.

RECALL — Returns to the state which existed prior the use of the editor.

COPY ptn — Copies a pattern to the pattern currently edited. The list of patterns replaces the list of function. Select the desired source pattern and press the RETURN key.

APPEND — Links a selected pattern at the end of the pattern currently edited. The list of patterns replaces the list of functions. Select the desired pattern and press the RETURN key. Undefined patterns or patterns having a different time signature cannot be appended.

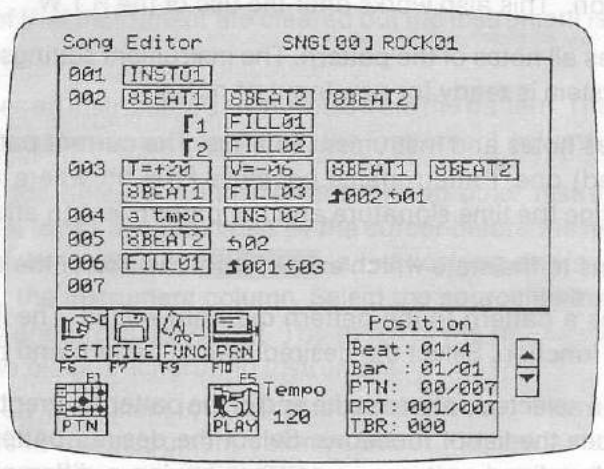
Fig. 38 The APPEND function



THE SONG EDITOR

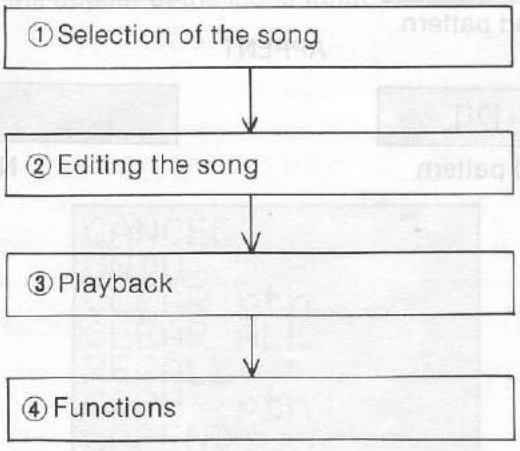
This is the mode used for linking patterns which have already been entered into a single sequence equivalent in length to a song. This consists of more than simply linking patterns together. The tone variation of the instruments, the levels, and the tempo can all be altered in the song.
Move the cursor over the SONG icon and press the RETURN key (or just press the F2 key). The screen changes to the Song Editor shown in the diagram below and the Song mode is selected.

Fig. 39 Example of Song Editor display



Refer to the following diagram for the procedure used to create a song.

Fig. 40 Creation of a song



Selection of the song — Step①

Specifying the song number

The SONG number has to be specified first if a song is to be input or played back. Two procedures are available.

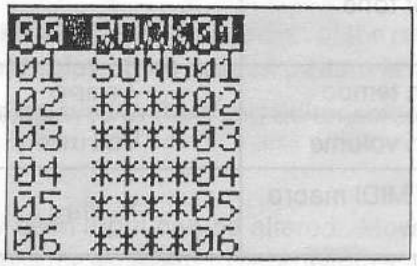
- Direct selection

Move the cursor to the numeric value display portion of the SNG (SONG) indicator. Press the HOME (−1) and DEL (+1) keys to select the desired SONG number.

- Displaying the song list

Instead of using the HOME and DEL keys, press the RETURN key to display the song list in the lower left hand portion of the screen. The display color of the top level is reversed when the list is first displayed. Pressing the ↑ and ↓ cursor keys moves the position of the reverse display up and down. Pressing the RETURN key when the display of the desired song is reversed will select that song.

Fig. 41 Example of song list



Specifying the song name

Each song can be given a song name consisting of a maximum of six characters. The default setting is a song name of SNG nn.

(1) Move the cursor to the song name specification area on the right side of the song number display, and press the RETURN key.

(2) Enter a song name from the computer keyboard. If a mistake is made during entry of the name, the ← and → cursor keys can be used to move the cursor to the left and right for correction. Pressing the BS key allows for deletion of the character to the left of the cursor.

(3) Press the RETURN key after entering the song name.

★ Graphic or special characters can not be entered.

★ Pressing the ESC key cancels the function without any change.

Editing the song — Step②

The cursor is moved over the song edit area to create a pattern sequence for one song by filling in the patterns in order. This consists of more than simply linking patterns together. The tone variation of the instruments, the levels, and the tempo can be altered for each pattern. The data input for the song, including the pattern numbers, is referred to as song data.

Overview of the Song Editor

The following is a list of the various "ingredients" of a song.

Type	Contents	Menu display	Display example
Pattern data	Pattern to be performed	00 8beat1	[8beat1]
Repetition marks	Types of repetition and numbers	↻	↻03
		↑	↑002↻01
		⌜	⌜1
Part number	Specification of part	Part	001
Instrument condition	Change of tone variation	Inst	[8beat1]
Tempo change	Change in tempo	Tempo	[T=+04]
Volume change	Change in volume	Volume	[V=+02]
MIDI macro data	Output of MIDI macro data	M.Mac	[MMAC01]

Overview of song data input

Input the song data according to the following procedure.

(1) Move the cursor to the right of the 001 display of the Song Editor. The shape of the cursor changes from ↖ to I.

(2) Press the [RETURN] key. The list of song data appears in the icons window.

(3) Select the desired data by using the cursor keys. The data whose color is reversed can be entered by pressing the [RETURN] key again.

(4) The data you just entered is now displayed in the edit area. If you move the cursor to the right of this data, its shape changes from ↖ to I again, indicating that you may input the next data.

★ When the song data can not be completely displayed on the screen, moving the cursor will cause the screen to scroll up and down accordingly. Scrolling is prevented by pressing the [SHIFT] key while pressing the cursor keys. This is used to prevent the cursor from moving to an area not displayed on the screen.

Fig. 42 Song data list and Song Editor cursors

Alteration or selection of song data

Input of song data

★ There are cases where song data can not be entered due to the song data which follows or precedes it. Data which can not be entered will be cancelled if it is specified.

Pattern data

• Input of pattern data

(1) If the [RETURN] key is pressed when the cursor is I, the song data list will be displayed in the lower left hand portion of the screen. The display of the uppermost pattern will be reversed at this time.

(2) Press the [↑] and [↓] cursor keys to move the position of the reverse display up and down. Pressing the [RETURN] key when the display of the desired pattern is reversed will select that pattern.

★ The pattern name will be displayed in the Song Editor screen.

• Altering the pattern data

Pattern data which has already been input can be altered. Move the cursor over the pattern display of the Song Editor screen and press the [HOME] (−1) and [DEL] (+1) keys to change the pattern number, and consequently, its name.

Repetition marks

Any section of the song can be specified for repeated playback. Specification of repeated playback is made by entering the part number at the beginning of the section to be repeated, and a repetition mark after the last pattern of the section to be repeated. There are three types of repetition. A portion of the song that appears between two number displayed at the left of the screen will be referred to as a Part, and these numbers as Part numbers.

• Repetition of a single part

The ↺ mark is used to indicate return to the beginning of the part for repetition.

(1) Move the cursor to the beginning of the first pattern in the section to be repeated. Press the [RETURN] key and the song data menu will be displayed.

(2) Use the cursor keys to cause the Part symbol to be reverse displayed, and press the [RETURN] key.

(3) Move the cursor to the end of the last pattern in the section to be repeated. Press the [RETURN] key and the song data menu will be displayed.

(4) Use the cursor keys to cause the ↺ symbol to be reverse displayed, and press the [RETURN] key.

(5) Move the cursor to the ↻01 indicator and use the HOME (−1) and DEL (+1) keys to specify the number of repetitions (from 01 to 99).

★ Repeat once means play back twice.

★ You cannot add data to a part after the repeat mark.

Fig. 43 Repetition of a single part

001 [8beat1] [8beat2] ↻01

Part 1 will be repeated once (played back twice)

- **Repetition of multiple parts**

The ↑ mark is used to indicate a return to some previous part.

(1) Move the cursor to the beginning of the first pattern in the section to be repeated. Press the RETURN key and the song data menu will be displayed.

(2) Use the cursor keys to cause the Part symbol to be reverse displayed, and press the RETURN key.

(3) Move the cursor to the end of the last pattern in the section to be repeated. Press the RETURN key and the the song data menu will be displayed.

(4) Use the cursor keys to cause the ↑ symbol to be reverse displayed, and press the RETURN key.

(5) Move the cursor to the ↑001 indicator and use the HOME (−1) DEL and (+1) keys to specify the part number to be returned to.

(6) Move the cursor to the ↻01 indicator and use the HOME (−1) and DEL (+1) keys to specify the number of repetitions (from 01 to 99).

★ Repeat once means play back twice.

★ You cannot add data to a part after the repeat mark.

Fig. 44 Repetition of multiples part

001 [8beat1] [8beat2] ↻01
002 [8beat1] [fill01] [8beat2] [fill02]
↑001 ↻01
003

The playback sequence is [001], [001], [002], [001],[001], [002]

• Repetition when only the final portion is different

The ⌈ mark is used to indicate repetition when only the final portion is different. This is the same as parentheses on a score.

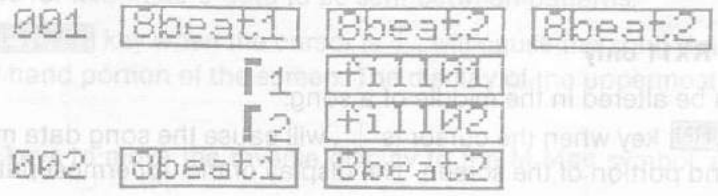
(1) Move the cursor to the beginning of the first pattern in the section to be repeated. Press the RETURN key and the song data menu will be displayed.

(2) Use the cursor keys to cause the Part symbol to be reverse displayed, and press the RETURN key.

(3) Move the cursor to the end of the last pattern in the section to be repeated. Press the RETURN key and the song data menu will be displayed.

(4) Use the cursor keys to cause the ⌈ symbol to be reverse displayed, and press the RETURN key.

Fig. 45 Parentheses



The playback sequence is "8beat1", "8beat2", "8beat2", "fill01", "8beat1", "8beat2", "8beat2', "fill02", [002]

Setting instruments — RX11 only

The tone variation and level balance settings of the instruments can be altered in the song. The settings of the instruments are the tone variations and level balance information is specified for each pattern in the pattern mode.

(1) Pressing the RETURN key when the cursor is I, will cause the song data menu to be displayed in the lower left hand portion of the screen. The display of the uppermost pattern will be reversed at this time.

(2) Use the cursor keys to move the reverse display to the INST symbol, and press the RETURN key. The INST symbol will become blue.

(3) Use the cursor keys to move the reverse display to the pattern which is going to be used. The INST symbol will become yellow. The set tone variation and level balance are specified for this pattern.

★ Note that if RX11 is not specified as the MIDI connection, the instrument setting data is not output (this setting works with RX11 only).

Altering the tempo

The tempo can be altered in the song.

(1) Pressing the RETURN key when the cursor is I , will cause the song data menu to be displayed in the lower left hand portion of the screen. The display of the uppermost pattern will be reversed at this time.

(2) Use the cursor keys to move the reverse display to the Tempo symbol, and press the RETURN key. The tempo change data is entered. This is displayed as a tmpo on the screen of the Song Editor.

(3) Move the cursor to the a tmpo display and press the HOME (−1) and DEL (+1) keys to enter the amount of tempo change.

★ The amount of tempo change can be entered in the range of −50 to 50. For example, if the original tempo is ♩ = 100 and the tempo change data is +50, the tempo will change to ♩ = 150.

★ The upper tempo limit of the RX Editor is ♩ = 250. Even if the tempo is raised above ♩ = 250 by a tempo change, the tempo will be taken as ♩ = 250 and will not be faster than this value.

★ Specifying a tmpo will reset the tempo to the start value of the song.

Altering the volume — RX11 only

The overall volume can be altered in the middle of a song.

(1) Pressing the RETURN key when the cursor is I , will cause the song data menu to be displayed in the lower left hand portion of the screen. The display of the uppermost pattern will be reversed at this time.

(2) Use the cursor keys to move the reverse display to the Volume symbol, and press the RETURN key. The volume change data is entered. V = +00 is displayed on the screen of the Song Editor.

(3) Move the cursor to the V = +00 display and press the HOME (−1) and DEL (+1) keys to enter the amount of volume change.

★ The amount of volume change can be entered in the range of −15 to +15.

★ Note that if RX11 is not specified as the MIDI connection, the volume change data is not output.

★ The volume of the RX11 can be altered in the range of 0 to 63. The initial setting is 63. This means that the volume can only be lowered at the beginning of a song.

Deletion

The input song data can be deleted.

- **Deleting a single data**

Moving the cursor to the song data display on the Song Editor screen and pressing the BS key will delete the song data (the mouse cannot perform this).

- **Restoring a deleted data**

Pressing the BS key while pressing the SHIFT key will restore the song data which was deleted last.

- Deleting all the data of a part

If deletion of all data of a certain part is desired, move the cursor to the part number display of that part and press the [BS] key after pressing the [RETURN] key.

- When deletion or insertion of song data causes repetition symbols to be entered in the following invalid locations, these symbols are automatically edited and deleted:
  - when there is no part for the ↵ symbol to return to, or when the destination becomes larger than the current part.
  - when deletion of part numbers causes repetition symbols to appear between patterns.

Insertion

New song data can be inserted between existing song data. Move the cursor to the space between song data, and press the [RETURN] key when the cursor changes to I. The song data list is displayed and the data to be inserted is selected from the list.

MIDI macros

This functions allows for MIDI macro data to be sent between patterns.

(1) Pressing the [RETURN] key when the cursor is I, will cause the song data menu to be displayed in the lower left hand portion of the screen. The display of the uppermost pattern will be reversed at this time.

(2) Use the cursor keys to move the reverse display to the M.Mac symbol, and press the [RETURN] key.

(3) Move the cursor to the macro01 display and press the [HOME] (−1) and [DEL] (+1) keys to select the MIDI macro data.

★ MIDI macro data is data created by the YAMAHA MIDI Macro & Monitor. Load it in advance using the file mode function.

★ Refer to the Owner's Manual of the MIDI Macro & Monitor for details on MIDI macro data.

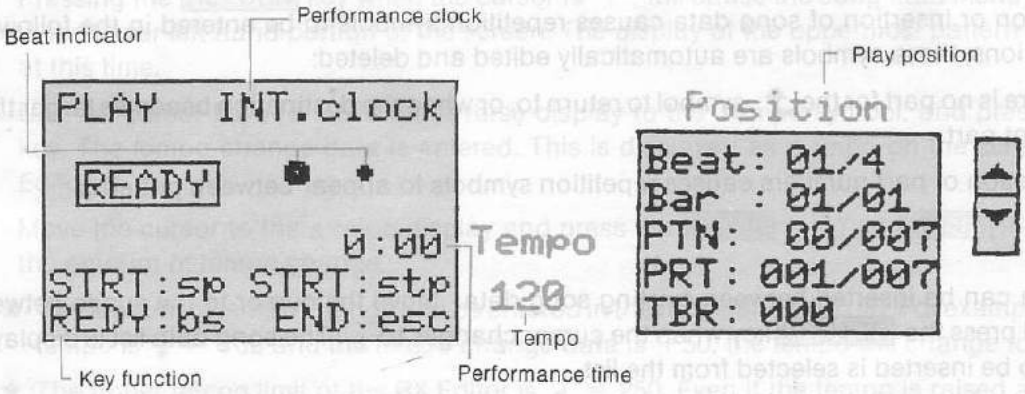
Playback — Step③

Playback of the entire song

This function is used for the playback of songs. The Play mode is selected when the [F5] key is pressed, and playback starts when the [SB] key is pressed.

(1) When the [F5] key is pressed or when the cursor is moved over the PLAY icon and the [RETURN] key pressed, the lower left hand portion of the screen will appear as shown in Fig. 46. This selects the Play mode. Pressing the [SB] key starts playback of the song. When playback starts, the RUN indicator is illuminated, and the play position and performance time is displayed.

Fig. 46 Play mode display



★ The play position display has the following meaning:

Beat	the current position is which beat/number of beats in one bar
Bar	the current position is which bar/number of bars in the pattern
PTN	pattern number/number of defined patterns
PRT	the current position is which part/total number of parts
TBR	total number of bars up to now

(2) Playback is interrupted and also re-started by pressing the STOP key.

(3) Pressing the ESC key during playback will release the function without pausing it, and causes a return to the pattern mode.

★ The left button of the mouse is used for starting playback, and the right button is used for exiting the function.

★ The pan data and other initial setting data is sent at the point when the mode is selected. Pressing the SB (START) key allows for playback to begin immediately.

Playback in Part units

This function is used for playback of only certain parts.

(1) The cursor is moved to the number indication of the part to be played back and the RETURN key is pressed.

★ The part specification is released by moving the cursor to another location after the specification.

(2) Press the F5 key to select the play mode.

(3) Press the space key for playback of only the specified part.

★ When a part is selected, its number is displayed in reversed color.

★ You may use the ▲ and ▼ marks to scroll the display and search for a desired part.

Altering the tempo during playback

Refer to the corresponding section in Pattern playback. The change introduced by that way will be effective during the present playback only.

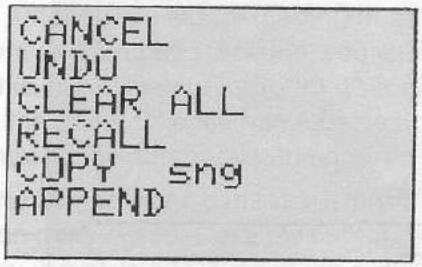
Song functions — Step④

These functions are used for linking a certain song to another song, and for copying and deleling in song units.

(1) When the cursor is moved over the FUNC icon and the [RETURN] key is pressed, or when the [F9] key is pressed, the function menu shown in Fig. 47 will appear in the window located in the lower left hand portion of the screen.

(2) Select the desired function by using the [↑] and [↓] keys (the color of the function under selection is reversed), then enable this function by pressing the [RETURN] key.

Fig. 47 Function menu



The following describes the action of each of the functions in the Song mode.

CANCEL — This causes the original state to be returned to without anything else happening.

★ Pressing the [ESC] key has the same function of returning to the original state with nothing being set.

UNDO — This function restores the previous state (immediately after the execution of the previous function). It is used, for example, when the CLEAR function is mistakenly executed. Execution of the UNDO function will restore the state which existed prior to execution of the CLEAR function.

CLEAR ALL — This function is used to delete the entire contents of the currently specified song and make it into an undefined song.

RECALL — This function is used to return to the state which existed prior to use of the editor.

COPY sng — This function is used to copy a certain song to the currently specified song.
Selecting this function causes the song list to be displayed. Select the desired source song by using the [↑] and [↓] keys, then press the [RETURN] key.

★ Undefined songs can not be copied.

APPEND — This function is used to append a certain song following the end of the currently specified song.
Selecting this function causes the song list to be displayed. Select the desired song by using the [↑] and [↓] keys, then press the [RETURN] key.

THE FILER

The File mode is used for the transfer of data into or from an external device (cassette recorder, floppy disk drive, RX11, and memory cartridge). It allows for permanent storage (save), retrieval (load), and management of your data (files).
The file mode is selected by moving the cursor over the FILE icon and pressing the RETURN key, or by pressing the F7 key. When the file mode is selected, sub-icons are displayed on the screen to allow selection of the external memory device. This is shown below.

Fig. 48 Filer display

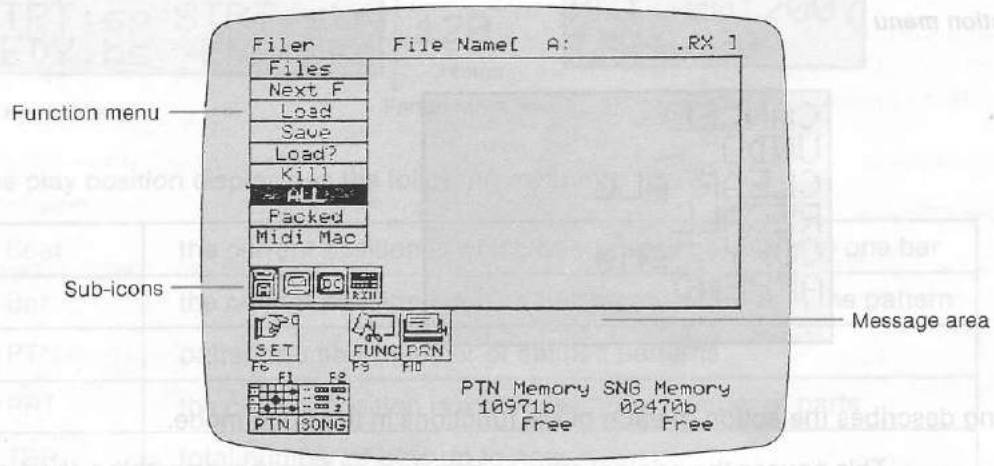
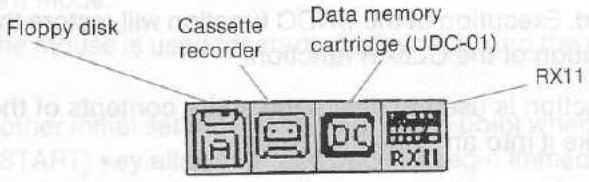


Fig. 49 Sub-icons for selecting the storing device



A cassette recorder, floppy disk drive, or data memory cartridge (UDC-01) can be used as the external memory device. These devices can be used not only for data from the RX Editor, but also for the data from the MIDI Macro & Monitor. The external memory device is selected by the sub-icons located in the upper left hand portion of the screen. Move the cursor to the appropriate icon and press the RETURN key.

★ A maximum of two floppy disk drives can be used. The drive can be specified when a floppy disk is selected as the external memory device. To select the drive, move the cursor to the Floppy disk sub-icon (see Fig. 49) and use the RETURN key to select A or B.

★ Disk drive and data memory cartridge cannot be selected if these devices are not connected.

File mode functions

The file mode contains the functions shown in Fig. 48 (Left column). The function is selected by moving the cursor to the desired function shown in the function menu in the upper portion of the screen, and then pressing the RETURN key. Note that the functions which can be used vary according to the external memory devices in use. The functions which can be used are displayed in black.

Main functions

You may use the following main functions for saving and loading data.

Files — This function allows for the display of a table of the file names (file list) stored on the external memory device.

NextF — This continues the display of the file names stored on the floppy disk.

Load — This function is used for loading of data.
Before selecting this function, you must enter the file name from the keyboard. To do this, move the cursor to the File name display, press the RETURN key, then type the name. The file name can also be specified when the file list is displayed by moving the cursor over the desired file name and pressing the RETURN key.

★ The file name can consist of a maximum of eight characters. Graphic characters can not be used. Move the cursor over the Load display and press the RETURN key. Sure ? is displayed in the message area. Pressing the RETURN key again will load the data of the specified file.

★ You may cancel this function by pressing one of the ESC, BS, or SB keys instead of the RETURN key.

★ You may interrupt the loading at any time by pressing CTRL + STOP. The message Aborted! will appear.

Save — This function is used for saving data.
First, specify the file name in the same manner as for the Load function.
Next, move the cursor over the Save display and press the RETURN key. Sure ? is displayed in the message area. Pressing the RETURN key again will save the data using the specified file name.

★ You may cancel the function by pressing one of the ESC, BS, or SB keys instead of the RETURN key.

★ You may interrupt the loading at any time by pressing CTRL + STOP until the message Aborted! appears (a few seconds).

★ When you want to use a new floppy disk, be sure it has been formatted by the FORMAT command of the DISK-BASIC.

Load? — This function is used to check (verify) the data saved by the data recorder.
After saving data into a cassette tape, stop the cassette recorder, rewind the tape and set the recorder to the playback mode. Then, move the cursor to the Load? display and press the RETURN key. The data recorded onto the cassette tape will be compared with the data of the file currently selected.
After that comparison, the message Complete appears if the data are correctly saved; the message Read Error appears if some error occured during saving (incorrect level or tone setting, etc.). Try saving again after readjusting those settings.

Kill — This function is used to delete specified file from the data stored on a floppy disk. It is also used for deleting the contents of the data memory cartridge.
Select the file name as above and press the [RETURN] key after moving the cursor to the Kill display.
Sure? appears in the message area.
Pressing the [RETURN] key again will delete the specified file.

★ You may cancel this function by pressing any of the [ESC], [BS], or [SB] key instead of the [RETURN] key.

Note:
The question Sure? appears on the screen to give you a second chance for thinking about the consequence of the currently selected function. For example, if you are saving a file onto a disk containing a file that has the same file name, this old file will be erased. It is recommended to use the function File before saving. If you are using a mouse, you may cancel the function by pressing the left and right button simultaneously when the message Sure? appears.

Special functions for saving/loading

These functions are used to select whether or not the data is compressed for saving and loading.

All — All of the data is saved/loaded. This mode is normally used.

Packed — This function is used for the compression of data when saving. It is also used for saving the compressed data. This mode is used for the transmission and reception of data from the RX11, and when all of the data can not be saved into the data memory cartridge.

★ The following data is eliminated when the data is packed:
- o Pattern data: velocity (velocity values 1-4 are accent OFF, and values 5-8 are accent ON), and pan data.
- o Song data: instrument condition, volume changes, and a tempo becomes T+0. Repetition symbols are according to Repeat (on RX).

★ When saving into RX11, the song chain data is cleared.

★ The device name changes from RX to RXP.

★ Loading or saving packed data is not possible with RX15.

★ Saving will be impossible if the size of packed data is too large.

MIDI Mac — This function is used for loading of the MIDI macro data created by the MIDI Macro & Monitor.

Error messages

The following error messages appear when saving and loading operation cannot be performed.

Data too Large	Saving is impossible due to the excessive amount of data. Reduce the size by deleting some pattern or song data.
Disk Full	Disk is full and cannot accept further data. Delete useless files or use a new disk.
Disk not Ready	Floppy disks are not inserted into the drives. Set floppy disk properly.
File not Found	Specified file is not recorded on the disk. Check file names and specify an existing name.
Illegal Data Type	RX Editor cannot recognize the data being loaded. Be sure to load data saved from RX Editor.
Illegal File Name	You are saving without specifying a file name. Be sure to specify a file name before saving.
Read Error	Data has not been correctly saved and an error has been encountered when using Load? Try saving again.
RX11 not Ready	RX11 is not properly connected. Reconnect.
Write Error	Error during data saving.
Write Protected	Floppy disk has a protection tape. Remove the protection tape or use another disk.

Function mode in Filer display

To enter the function mode, press the [F9] key or press the [RETURN] key after moving the cursor to the FUNC icon.

In the Filer display, the function mode contains only two functions. These functions are selected as usually by using the [↑] and [↓] cursor keys and then pressing the [RETURN] key.

CANCEL — This causes the original state to be returned to without anything else happening.

★ Pressing the [ESC] key has the same function of returning to the original state with nothing being deleted.

CLEAR ALL — This function clears the contents of all patterns and songs. Should be used with extreme care. Fortunately, the question Sure? appears and you may press any of the [ESC], [BS], or [SB] keys to cancel this dangerous function.

THE PRINT MODE

This mode is used for making a print-out (hard copy) of the data displayed on the screen.

(1) Check to ensure that the power to the printer is ON and that the printer is ON LINE.

(2) Set the printer output of the RX Editor to match the printer being used (refer to the next section THE SYSTEM SET-UP, Printer)

(3) Select the display to be printed out (Pattern Editor, for example), then select the data (in this example, select the pattern and scroll it if necessary).

(4) Press the F10 key or press the RETURN key after moving the cursor to the PRN icon.

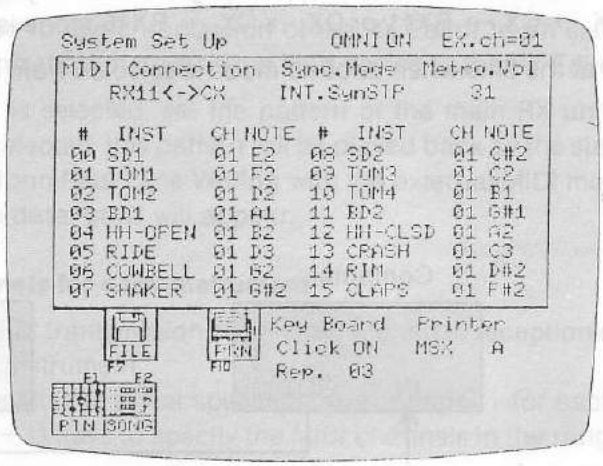
★ Print-out is possible only when the PRN icon is displayed.

★ To interrupt the printing, press CTRL + STOP.

THE SYSTEM SET-UP

System Set-Up of the RX Editor involves such operations as selecting the performance clock and selecting the MIDI output mode. The System Set-Up mode can be selected by moving the cursor to the SET icon and pressing the RETURN key, or by pressing the F6 key. The screen will appear as shown below.

Fig. 50 System Set-Up display



MIDI transmission and reception

OMNI mode

There are 1 to 16 channels for MIDI signals. When the transmission and reception side channels are matched, these become conventions for signal reception. The OMNI mode ignores these MIDI channels and allows for reception of MIDI signals on all channels.

The OMNI ON mode is selected when the power is turned on. This means that MIDI signals are received on all channels. Moving the cursor over the OMNI display and pressing the HOME key will set the OMNI mode to OFF. Pressing the DEL key when the OMNI mode is OFF will reset to ON.

MIDI channels of System Exclusive channels

This function is used for setting the reception/transmission channel for System Exclusive signals such as Parameter Change signals.

Move the cursor over the EX.ch display and press the HOME (−1) and DEL (+1) keys to specify the MIDI channel in the range of 01 to 16.

* Channel 1 is selected when the power is turned on.

MIDI connection mode

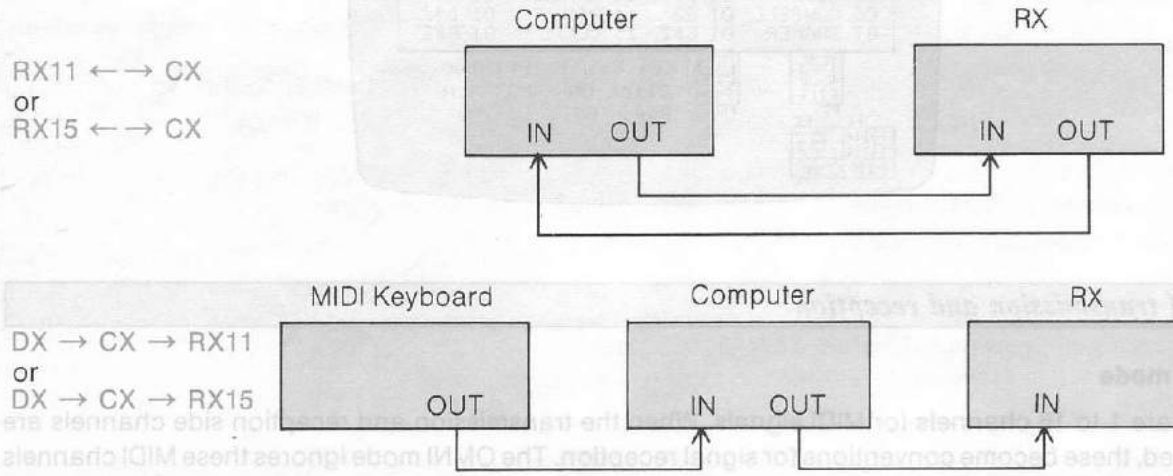
This function sets the output procedure for MIDI signals. It changes according to the device being used and the connection procedure.

(1) The MIDI connection is RX11 ←→ CX or RX15 ←→ CX when the power is turned on. Moving the cursor to this display and pressing the HOME and DEL keys causes the MIDI connection to change as shown below.

(2) When the RX rhythm machine is used with one music computer, the RX11 ←→ CX or RX15 ←→ CX mode is used. When data is to be input using the MIDI keyboard of a DX Synthesizer or similar device, the DX → CX → RX11 or DX → CX → RX15 mode is used.

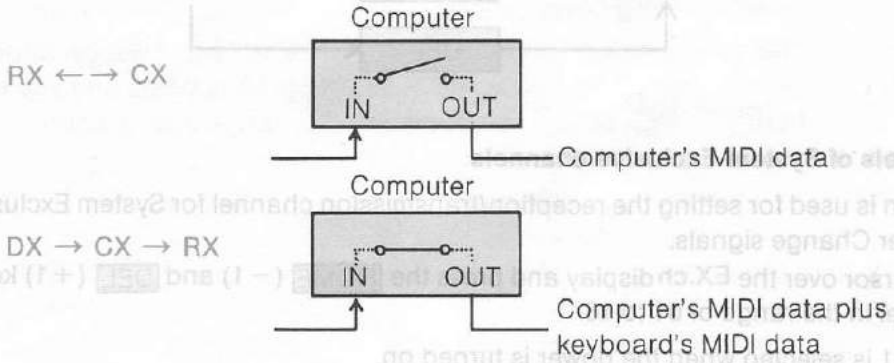
★ The mode is changed at the time when another mode is selected from the System Set-Up mode.

Fig. 51 MIDI connection



★ In the RX ←→ CX mode, only the data created by the RX Editor is output to MIDI. In the DX → CX → RX mode, the data from the RX Editor and the data input to MIDI IN are mixed and output.

Fig. 52 MIDI output of the computer



★ When the RX11 is selected as the device, System Exclusive data consisting of pan and volume information are output.

Performance clock

This function is used to select the performance clock of the RX Editor. Playback with the RX Editor synchronized to an external MIDI device is possible if an external clock is selected.

(1) When the cursor is moved over the Sync. Mode display and the HOME and DEL keys are pressed, the display changes as shown below.

INT.SynOUT ⟷ INT.SynSTP ⟷ EXT.CLOCK

HOME ⟷ DEL

(2) EXT. clock is selected for synchronization of the RX Editor to an external clock. INT.SynOUT is selected for synchronization of an external MIDI device to the RX Editor.

★ When INT.SynOUT is selected, set the pattern of the main RX unit to undefined. If a pattern containing data is selected, this pattern will be played back by the start signal from the RX Editor. It is possible to perform Real Time Writing with the external MIDI mode, but if the computer has to handle too much data, gaps will appear.

MIDI transmission channels for each instrument

This function allows for MIDI transmission channels matched to reception devices to be selected in the range of 1 to 16 for each instrument.

Move the cursor over the MIDI channel specification column CH for each instrument and press the HOME (−1) and DEL (+1) keys to specify the MIDI channels in the range of 1 to 16.

★ When connections correspond to System 1 for RX11, the MIDI channels are set to the same values as when the power is turned on. In all other cases, channel 1 is set.

Key number of each instrument

This function allows for the specification of a key number of each instrument sound.

Move the cursor over the key number specification column NOTE for each instrument and press the HOME (−1) and DEL (+1) keys to specify the key numbers.

★ When connections are made as shown in diagram a of Fig. 51 for RX11, the key numbers are set to the same values as when the power is turned on. In all other cases, the setting are as follows. Note that proper operations are not possible when the rhythm machine and numbers do not match.

Fig. 53 Key numbers and names

SD1	E2	(52)	SD2	C#2 (49)
TOM1	F2	(53)	TOM3	C2 (48)
TOM2	D2	(50)	TOM4	B1 (47)
BD1	A1	(45)	BD2	G#1 (44)
HH-OPEN	B2	(59)	HH-CLOSED	A2 (57)
RIDE	D3	(62)	CRASH	C3 (60)
COWBELL	G2	(55)	RIM	D#2 (51)
SHAKER	G#2	(56)	CLAPS	F#2 (54)

Key numbers for RX

★ Pressing the [RETURN] key when the cursor is on CH or NOTE column will toggle note names and key number displays.

Fig. 54 Key number display correspondence chart

RX	0	12	24	36	48	60	72	84	96	108	120
RX Editor			C0	C1	C2	C3	C4	C5	C6	C7	

PIANO RANGE

Other settings

Metronome volume

This function is used to adjust the volume of the rhythm guide used for the real time write function.

★ This does not work when clocks are output through MSX audio output (RX15).

Move the cursor over the Metro.Vol area and press the [HOME] (−1) and [DEL] (+1) keys to specify the volume in the range of 00 to 31.

Keyboard repeat

When a key is held down, input of that key is repeated. This function sets the rate of repetition for key input.

Move the cursor to the Keyboard Rep. area and press the [HOME] (−1) and [DEL] (+1) keys to specify the speed in the range of 01 to 10. 01 is the fastest and 10 is the slowest.

Printer

This function sets the printer output to match the printer being used. When the cursor is moved to the Printer display and the [HOME] and [DEL] keys pressed, the display will change as shown below.

MSX A ——— MSX B ——— EPSON A ——— EPSON B

[HOME] ←- - - -

System Set Up mode (F6 key)

This mode is used for the set-up of the RX Editor through the selection of such items as the playback clock and MIDI output mode. This mode is selected by the F6 key.

Fig. 18 Keys used in the System Set-Up mode

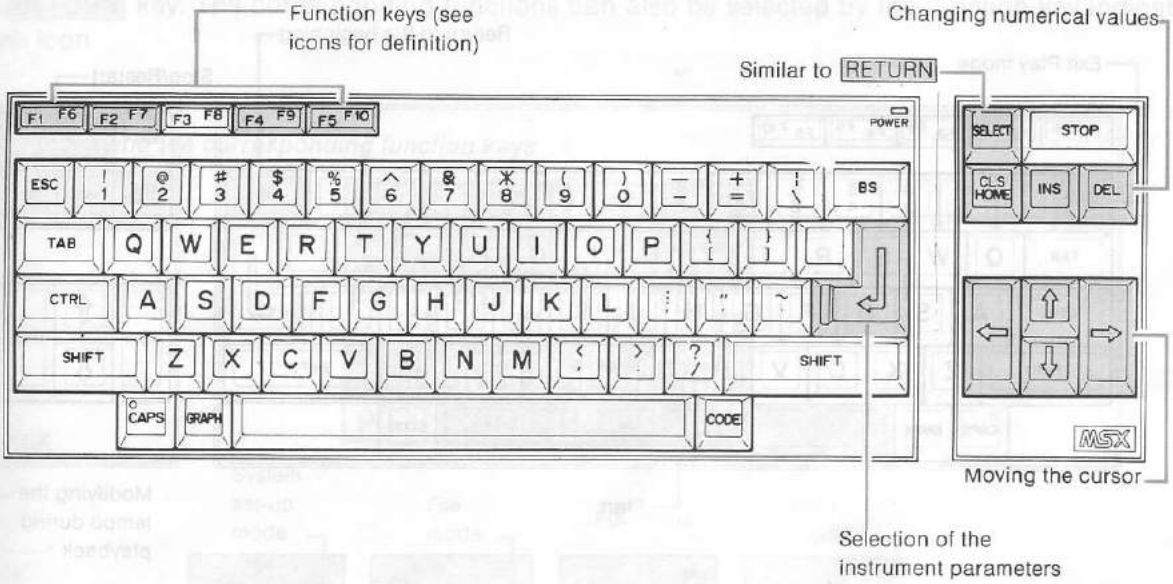
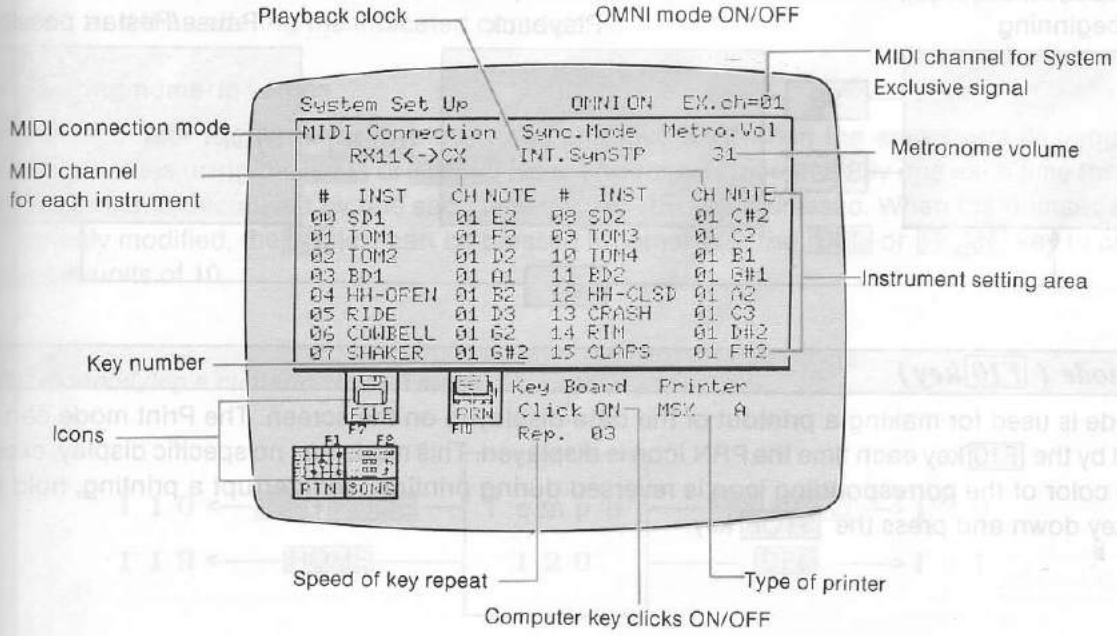


Fig. 19 System Set-up display



Play mode (F5 key)

This mode is used for the playback of patterns and songs. When this mode is selected by the F5 key, the icon window changes. Note that the Play mode can be selected from the pattern Editor and song Editor displays only.

Fig. 20 Keys used in Play mode

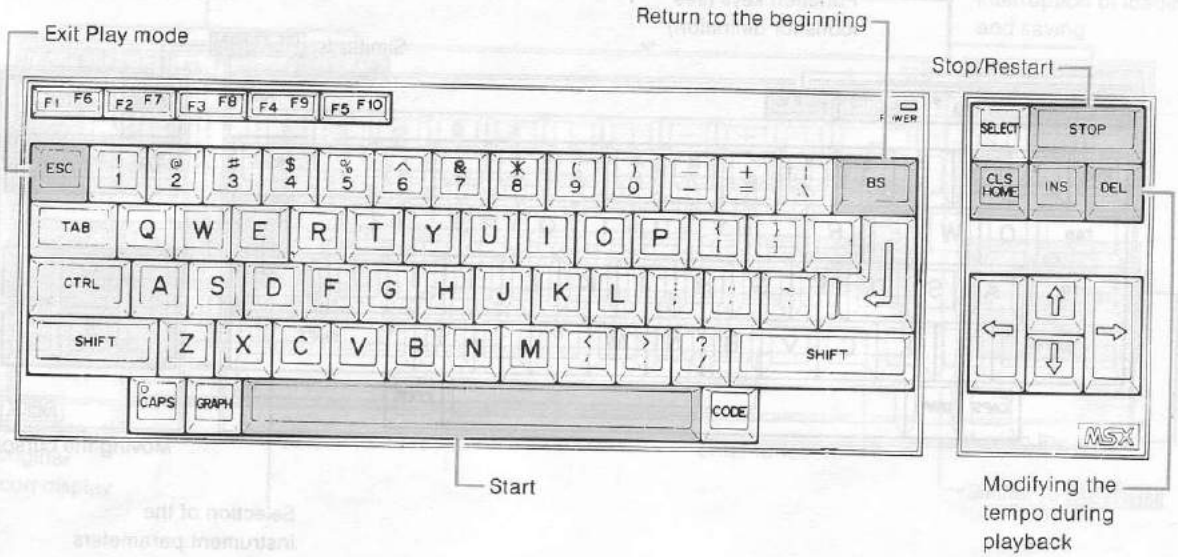
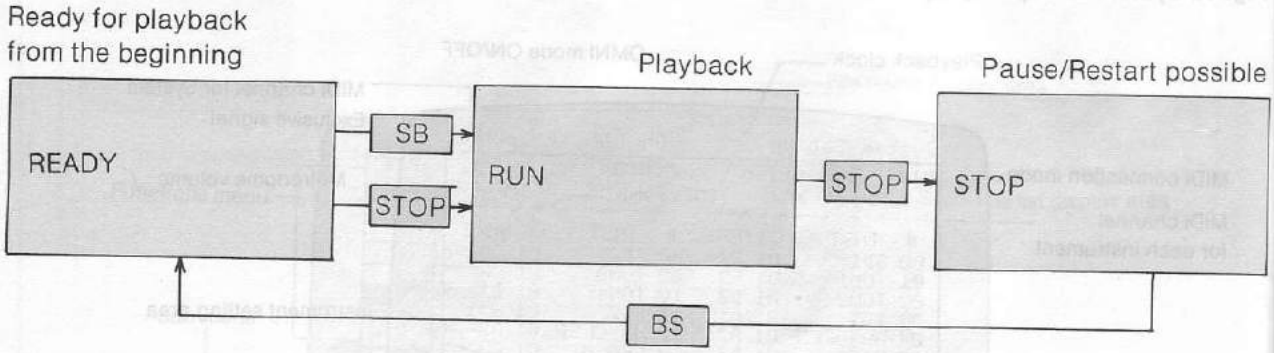


Fig. 21 Play mode display in the icon window



Print mode (F10 key)

This mode is used for making a printout of the data displayed on the screen. The Print mode can be selected by the F10 key each time the PRN icon is displayed. This mode has no specific display, except that the color of the corresponding icon is reversed during printing. To interrupt a printing, hold the CTRL key down and press the STOP key.

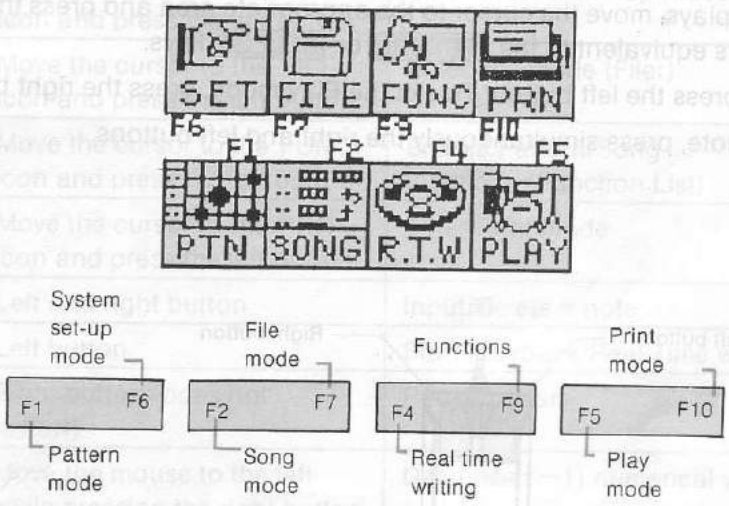
OVERVIEW OF OPERATIONS

You may operate the RX Editor either from the computer keyboard or by using a mouse. Even if you are going to use a mouse, you should read the following section.

Using the computer keyboard

There are eight symbols displayed in the lower left hand corner of the screen of the RX Editor. These symbols are used for the selection of functions and are called icons. The function corresponding to the various icons can be selected by moving the cursor over the appropriate icons and then pressing the RETURN key. The corresponding functions can also be selected by the function key indicated by the icon.

Fig. 22 Icons and the corresponding function keys

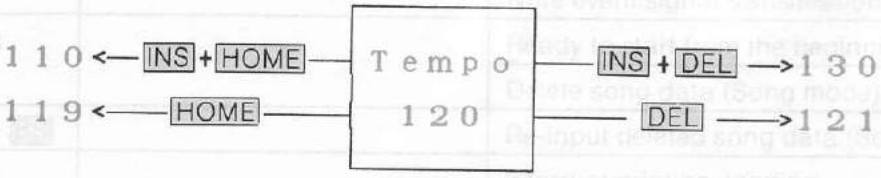


Most RX Editor operations can be performed by moving the cursor to the appropriate location on the screen, and then altering the indicated contents.

- Altering numeric values

Move the cursor to the numeric values to be changed and, when the area starts flashing, alter the numeric values using the DEL or HOME keys. The value is increased by one each time the DEL key is pressed, and decreased by one each time the HOME key is pressed. When the numeric value is to be greatly modified, the INS key can be pressed together with the DEL or HOME key to change the value in units of 10.

Fig. 23 Modifying a numeric value (Tempo)



- Altering items other than numeric values

Move the cursor to the item to be altered and select the contents by pressing the DEL or HOME key.

Using a mouse

The RX Editor also allows for operation through the use of a mouse. Connect the mouse to JOYSTICK jack 1 before turning ON the power of the unit. Operation using the mouse is not possible if the mouse is connected after the power has already been turned on.

★ If the mouse is disconnected from the MSX unit during operation, the cursor will move by itself in the right downward direction.

The operation using a mouse is very simple

(1) To move the cursor, simply move the mouse across a level surface. The cursor will follow the movement of your hand if the mouse is oriented as showed in Fig. 24.

(2) To modify a parameter (when its display is flashing), move the mouse to the left or to the right WHILE PRESSING ITS RIGHT BUTTON.

(3) To access other displays, move the cursor to the appropriate area and press the left button of the mouse: this button is equivalent to the [RETURN] or [SELECT] keys.

(4) To start playback, press the left button. To exit the Play mode, press the right button

(5) To enter/cancel a note, press simultaneously the right and left buttons.

Fig. 24 Mouse

Summarize of operations

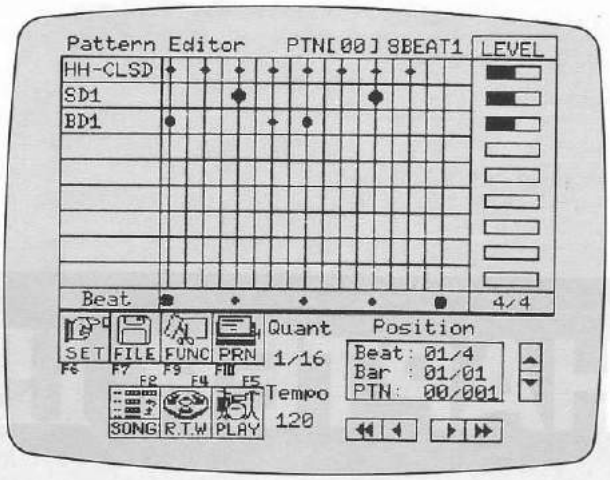
Key	If you are using a mouse	Effect
F1	Move the cursor to the PTN icon and press the left button	Enter Pattern mode (Pattern Editor)
F2	Move the cursor to the SONG icon and press the left button	Enter Song mode (Song Editor)
F4	Move the cursor to the R.T.W. icon and press the left button	Real Time Writing
F5	Move the cursor to the PLAY icon and press the left button	Enter Play mode
F6 (SHIFT + F1)	Move the cursor to the SET icon and press the left button	Enter System Set-Up mode
F7 (SHIFT + F2)	Move the cursor to the FILE icon and press the left button	Enter File mode (Filer)
F9 (SHIFT + F4)	Move the cursor to the FUNC icon and press the left button	Enable Pattern/Song functions (Function List)
F10 (SHIFT + F5)	Move the cursor to the PRN icon and press the left button	Enter Print mode
SB (space bar)	Left and right button	Input/Delete a note
	Left button	Start playback/Real Time writing
STOP	Right button (does not restart)	Pause/restart
HOME	Move the mouse to the left while pressing the right button	Decrease (−1) numerical value
DEL	Move the mouse to the right while pressing the right button	Increase (+1) numerical value
NS		With HOME or DEL, change (±10) numerical value
RETURN or SELECT	Left button	Select various settings
ESC	Right button	Cancel/recover icon display
CTRL	Left button when cursor is on enlarged view	Recover icon display (from enlarged view with white background.)
Cursors keys	Just move the mouse across a level surface	Move cursor
CAPS		Note event signal transmission ON/OFF
BS (Back space)		Ready to start from the beginning (Play mode)
		Delete song data (Song mode)
SHIFT + BS		Re-input deleted song data (Song mode)
CTRL + STOP		Interrupt printing, loading
CODE		Enable/Disable audio output of a note when the cursor passes over a note of the pattern

CHAPTER III
OPERATING THE RX EDITOR

THE PATTERN EDITOR

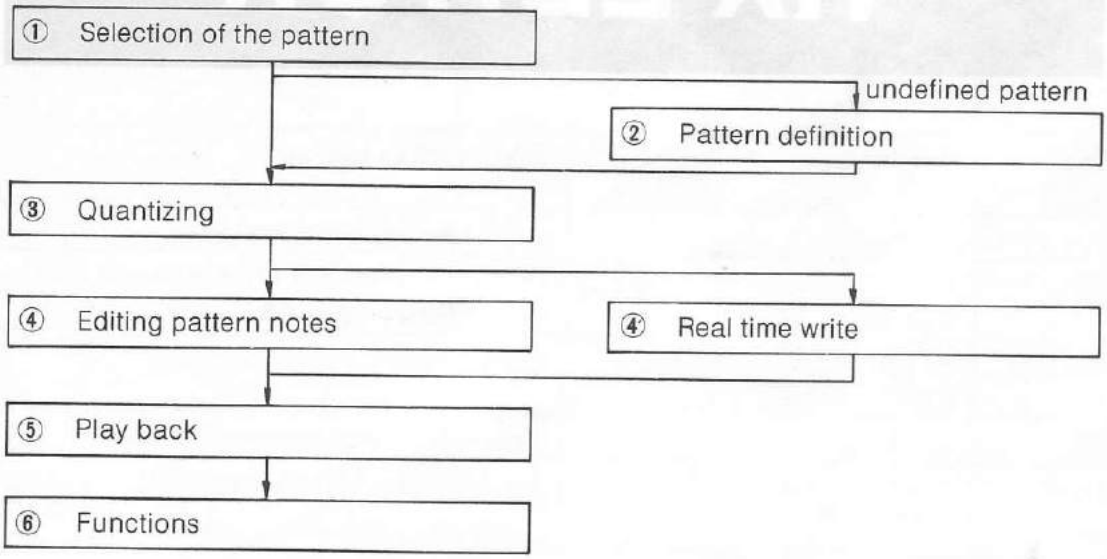
This mode allows for the sectional input of rhythm patterns through the specification of the number of bars and beats, etc. There are two methods available for data input: entering data on the screen through the use of the screen editor, and real time writing of actual playback data. The pattern mode is selected by moving the cursor over the PTN icon and then pressing the RETURN key, or by pressing the F1 key. The below illustration shows an example of Pattern Editor display.

Fig. 25 Example of Pattern Editor display



Refer to the following diagram for the procedure used to create a single pattern.

Fig. 26 Creation of a single pattern



Selection of the pattern — Step①

Specifying the pattern number

The pattern number must be first specified for both the input and playback or patterns.

- Direct selection

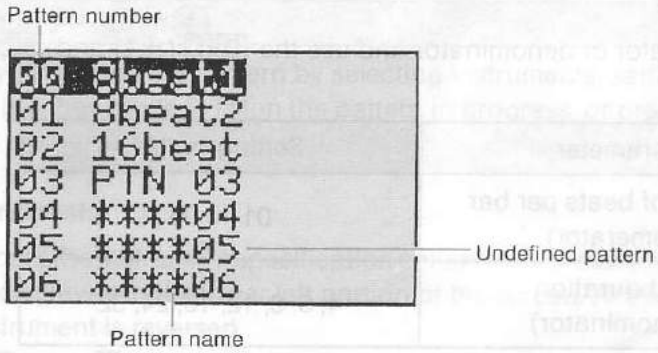
The pattern number can be selected by moving the cursor over the numeric portion of PTN (pattern) in the upper portion of the screen and then pressing the HOME (−1) or DEL (+1) key.

- Displaying the pattern list

Instead of using the HOME or DEL key, the RETURN key can be pressed to display the pattern list in the lower left hand section of the screen. The display of the uppermost pattern is reversed at this time. Pressing the ↑ or ↓ cursor key causes the position of reversed display to move up and down. The desired pattern can be selected by pressing the RETURN key when the display of this pattern is reversed.

★ Pressing the ESC key causes the pattern editor to return to its original state without anything else occurring.

Fig. 27 Pattern list display



Specifying the pattern name

Each pattern can be given a pattern name consisting of a maximum of six characters. The default pattern name setting is PTN nn, where nn corresponds to the pattern number.

(1) Move the cursor to the PTN nn section on the right side of the pattern number display, and press the RETURN key.

(2) Enter a pattern name from the computer keyboard. If a mistake is made during entry of the name, the ← and → cursor keys can be used to move the cursor to the left and right for correction. Pressing the BS key allows for deletion of the character to the left of the cursor.

(3) Press the RETURN key to enter the pattern name.

★ Graphic characters can not be entered.

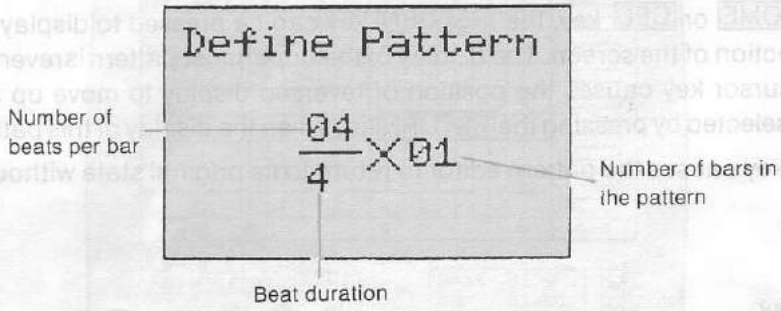
★ Pressing the ESC key will cause this area to stop flashing. The name displayed before input of characters will re-appear unchanged.

Pattern definition — Step②

If you are going to create a new pattern from scratch, you must now define the time signature and the number of bars the pattern will be made of (length).

When you specify a pattern number which has not yet been used, the Define Pattern display appears in the icons window, showing the default setting. To obtain the same display after deleting a pattern, press [RETURN] after moving the cursor to the time signature display (center-right of the screen).

Fig. 28 Define Pattern display



Specifying the time signature

Move the cursor to the numerator or denominator and use the [DEL] (+1) and [HOME] (−1) keys to modify the values.

Parameter	Setting range
Number of beats per bar (numerator)	01 ~ 99
Beat duration (denominator)	4, 6, 8, 12, 16, 24, 32

The beat duration setting corresponds to a note duration (4 = quarter note, etc.).

Specifying the number of bars

Move the cursor to the numeric value at the right of the fraction and use the [DEL] (+1) and [HOME] (−1) keys to modify the value.

Parameter	Setting range
Number of bars	01 ~ 95

★ The number of bars can not be set such that the length of the pattern exceeds 256 bars of 4/4 time.

Quantizing — Step③

This sets the minimum time interval between the notes input in the pattern. In Real Time Writing, this value defines the time resolution. (The notes you enter from the external keyboard will be written at preset intervals even if your timing is not perfect. The length of these intervals is set here.)

Move the cursor over the numeric value on the Quant (Quantize) display, and press the HOME (increase) and DEL (decrease) keys to set the note length.

Parameter	Setting range
Quantize (denominator)	4, 6, 8, 12, 16, 24, 32, 48

The length of the intervals set by Quantize is defined as a note duration (4 = quarter note, etc.)

★ The Quantize setting can be altered after the input of notes.

★ The resolution of the pattern diagram is changed when the Quantize setting is altered.

★ The Real Time Write function involves writing of a performance rhythm pattern corrected to the timing determined by the Quantize setting. Even if the performance timing is not the same as this timing, writing will be corrected to the proper timing as long as the variance from the length of notes determined by the Quantize setting is less than + 50% Refer to RX Owner's Manual for more details about the Quantize function.

Editing pattern notes — Step④

You are now ready to create your pattern by selecting instruments, setting notes, etc. At any moment you may switch to the Play mode to listen the pattern in progress, or press the CODE key to listen the notes passed over by the cursor.

Selecting the instruments

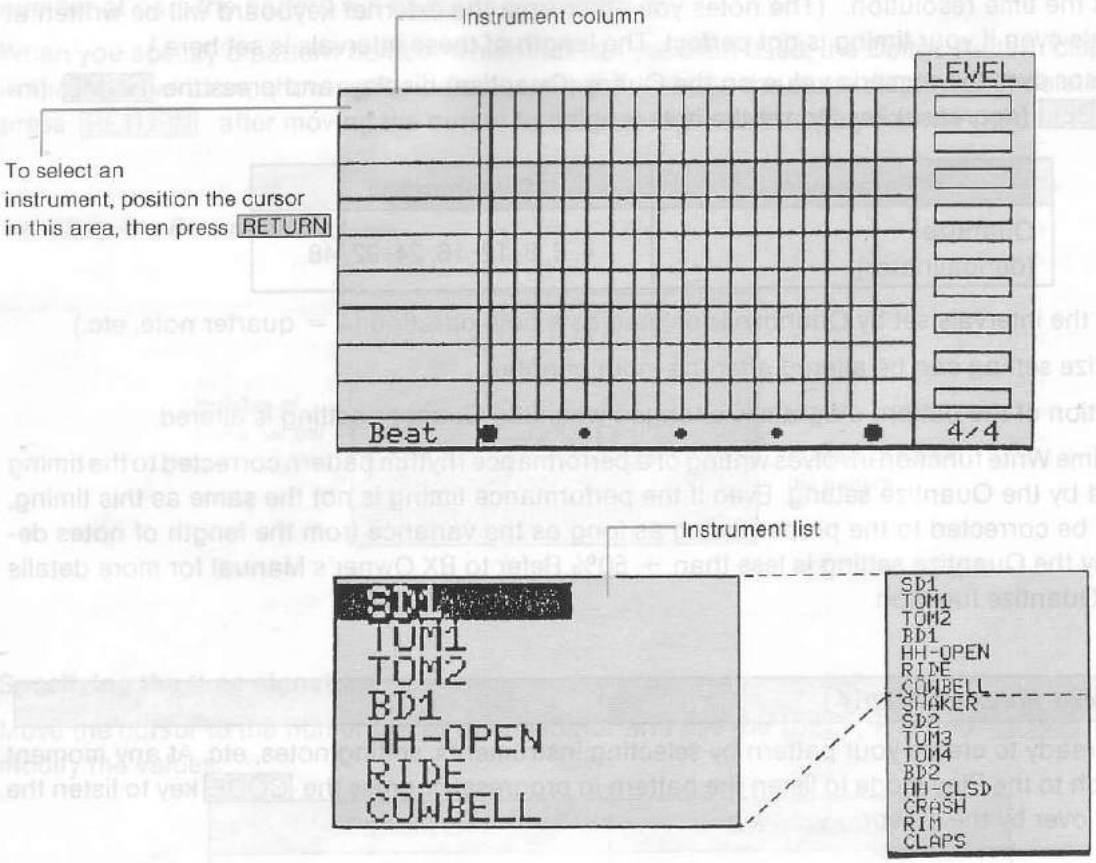
(1) Move the cursor to the instrument specification column and press the RETURN key. The instrument names will be displayed in the lower left portion of the screen. At this time, the display color of the uppermost instrument is reversed.

(2) Pressing the ↑ and ↓ cursor keys will move the position of the reverse display up and down. Pressing the RETURN key when the display of the desired instrument is reversed will select that instrument and cause it to be displayed in the instrument specification column.

★ Specify the desired instruments in order, starting from the top of the instrument specification column, and moving the cursor to the next empty location before a new selection.

★ Pressing the ESC key before selecting an instrument will restore the original icons window.

Fig. 29 Selecting instruments



★ If you press the RETURN key when the cursor is located over an instrument already selected in the instrument column, a function display appears in the icons window. See the paragraph "Functions".

Inputting notes

- Input from the computer keyboard

Notes are entered on the pattern diagram. Note that the time signature and number of bars can no longer be altered if even one note is entered.

The cursor will change from ↖ to □ when it is moved over the pattern diagram display for which instruments have been set.

★ If instruments have not yet been set, the shape of the cursor will not change when it is moved over the rhythm pattern diagram. Be sure to first set the instruments.

(1) Move the cursor to any step of the desired instrument and press the [SB] key. A note is entered and a ◆ mark is displayed at that point.

★ When the diagram can not be completely displayed on the screen, moving the cursor will cause the screen to scroll accordingly. Scrolling is prevented by pressing the [SHIFT] key while pressing the cursor keys. This is used to prevent the cursor from moving to an area not displayed on the screen.

★ When you need to scroll through a large amount of data, you may use the Position display at the lower-right corner of the screen, just move the cursor to the appropriate arrow symbol [⇤], [←], [→], [⇥], [▲], or [▼] and press the [RETURN] key.

(2) Pressing the [SB] key at a location where there is already a note will cause this note to be deleted.

★ When the mouse is being used, pressing the left button while the right button is being pressed will perform the same function as the space key. Notes can be entered and deleted in this manner.

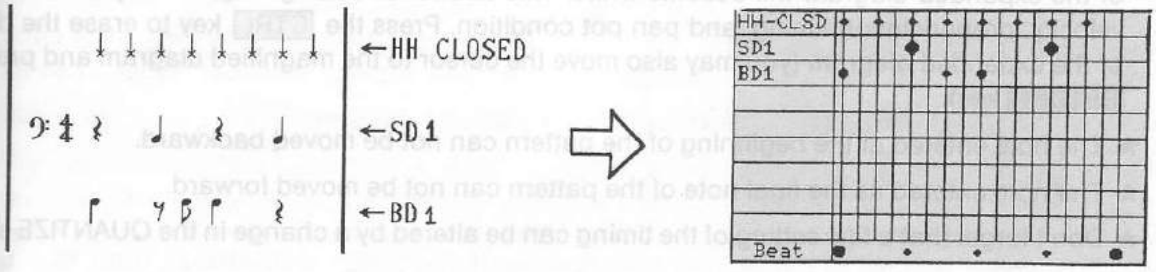
(3) Pressing the [CODE] key once will allow for the actual sound to be heard for confirmation when notes are entered or when the cursor is moved across the pattern.

★ The Quantize setting may cause the entered note to deviate from the edit points. In this case, the notes will be displayed as >, < or X, and these notes can not be edited. The Quantize sitting can be altered to set the notes on the edit points, or the [RETURN] key can be pressed for editing using the expanded view.

★ When memory is full it becomes impossible to exit the Pattern mode. In that case, you must erase some data. If the data currently edited can be abandoned, press one of the function key [F1], [F2], [F6], or [F7] while holding the [INS] key down.

★ Editing is impossible when two notes are on the cursor. Change the QUANTIZE setting to move such notes away from each other.

Fig. 30 Inputting notes from the computer keyboard



- **Input from a MIDI keyboard**

Pressing the CAPS key to set the CAPS ON state will allow for notes to be input using an external MIDI device instead of the space key. The velocity is also set at the same time when input is from a device which allows for velocity output.

(1) Press the CAPS key to set the CAPS ON state. Pressing the CAPS key again will select the CAPS OFF state.

(2) Move the cursor to the step for input, and press the MIDI keyboard or RX INSTRUMENT button to enter notes.

★ Pressing a key on the MIDI keyboard or RX INSTRUMENT button while pressing the SHIFT key will delete notes.

★ Input from MIDI keyboard is possible with System 2 configuration only. Don't forget to select the corresponding setting in System Set-Up mode.

★ The volume of the notes that you listen to when inputting will not necessarily be the same as the playback volume. You should be careful about this point.

- **Altering the velocity**

The velocity of the sound can be altered for each note. The range of alteration is in eight steps from 1 to 8.

Move the cursor to the point where the note is entered, and press the HOME (−1) and DEL (+1) keys to change the velocity of the note.

★ The mark indicating the note changes when the velocity is altered. The mark changes at intervals of two steps.

★ The default velocity is 4 (◆) when you input a note by using the SB key.

Velocity	1, 2	3, 4	5, 6	7, 8
Display	▪	◆	●	●

Fine tuning of pronunciation timing

The pronunciation timing can be moved forward or backward in intervals of 1/96 (96th notes).

(1) Move the cursor to the point where the note is entered and press the RETURN key. An expanded diagram of the of the note appears in the lower left portion of the screen. Pressing the left and right cursor keys will cause the timing to move forward or backward in units of 1/96.

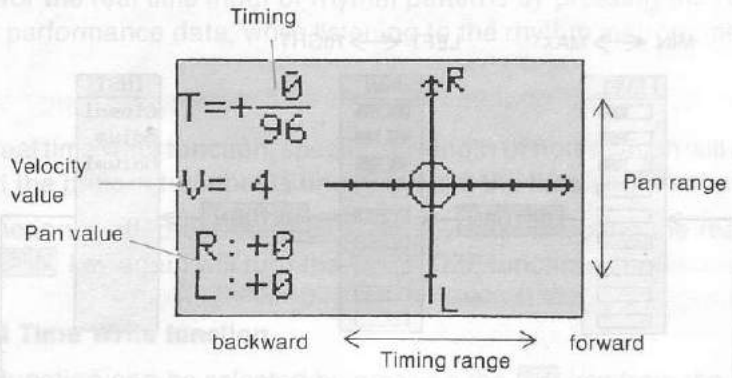
(2) Pressing the RETURN key completes the setting and returns to the edit mode. The background of the expanded diagram will become white. This allows for editing while closely examining the velocity, pronunciation timing, and pan pot condition. Press the CTRL key to erase the display of the expanded diagram (you may also move the cursor to the magnified diagram and press the RETURN key).

★ The note entered at the beginning of the pattern can not be moved backward.

★ The note entered as the final note of the pattern can not be moved forward.

★ Don't forget that a fine setting of the timing can be altered by a change in the QUANTIZE setting.

Fig. 31 Expanded diagram



Movement of pan (stereo image position) — RX11 only

The OUTPUT L/R level balance for each instrument can be altered for each note. The setting is made according to the degree of movement (relative value) from the current pan setting.

(1) Move the cursor to the point where the note is entered and press the RETURN key. An expanded diagram of the note appears in the lower left portion of the screen.
Pressing the ↑ and ↓ cursor keys will set the degree of pan movement.

(2) Pressing the RETURN key completes the setting and returns to the edit mode. The background of the expanded diagram will become white. This allows for editing while closely examining the velocity, pronunciation timing, and pan pot condition. Press the CTRL key to erase the display of the expanded diagram.

★ This becomes the pan setting for each pattern.

★ This function is only available with the RX11. It does not function on other rhythm machines.

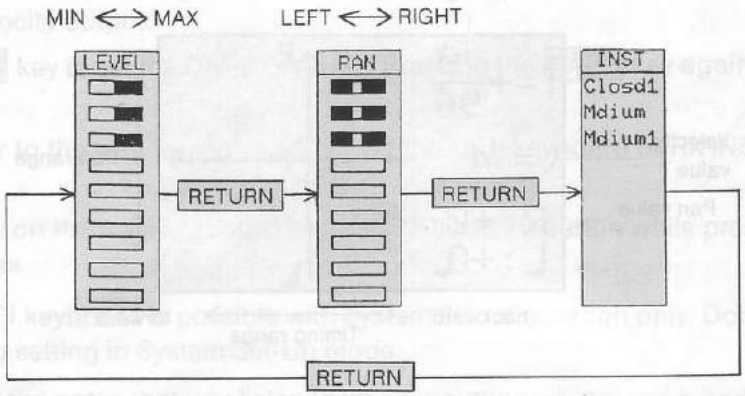
★ The MIDI connection setting in System Set up mode must be properly selected.

Setting other parameters

The level balance LEVEL, pan PAN, and tone variation INST can be set for each pattern. These functions are only available with the RX11 and the proper setting has been selected in System Set-Up mode. They do not function on other rhythm machines.

Move the cursor to the right hand column of the screen and press the RETURN key. This portion of the display changes from LEVEL to PAN. Pressing again the RETURN key will cause the display to change from PAN to INST. Further pressions on the RETURN key will produce cyclic changes of this window as shown in Fig. 32.

Fig. 32 Level window



★ In the System 1 configuration, the preset values contained in RX11 memory become the default values.

- **Setting the relative level of an instrument — LEVEL display**

(1) Move the cursor to the area of the LEVEL display corresponding to the desired instrument.

(2) Adjust the relative level of this instrument by using the HOME and DEL keys. The width of the white portion indicates the relative level.

★ The RX11 will use this data as the default setting for each instrument. The RX15 uses the velocity values only.

- **Setting the pan (stereo image position) — PAN display**

(1) Move the cursor to the area of the PAN display corresponding to the desired instrument.

(2) Adjust the stereo balance of this instrument by using the HOME and DEL keys. The position of the small white portion indicates the balance.

★ This setting will be the default value for the corresponding instrument (in absence of other specification, playback of the pattern will start with this value).

- **Setting the tone variation — INST display**

(1) Move the cursor to the area of the INST display corresponding to the desired instrument.

(2) Adjust the tone of this instrument by using the HOME and DEL key. The display will change according to your setting and to the selected instrument.

Fig. 33 Tone variation display (for SD1)

Medium → Light → Hi Tun1 ... HiTun5 → Heavy

NOTE:

The three above settings of course, are only possible if the cursor is located in front of a selected instrument. These settings can be considered as the default values for all notes of the same instrument. The expanded display allows for individual deviations from these default values (LEVEL and PAN).

Real time writing — Step ④

This function allows for the real time input of rhythm patterns by pressing the RX instrument buttons or MIDI keyboard for performance data, while listening to the rhythm metronome.

Set-up

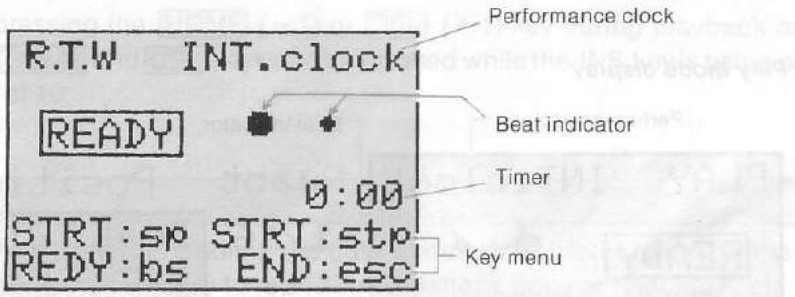
Before selecting the real time write function, specify the length of notes which will be the minimum units for quantized input. If the pattern for input is undefined, set the time and number of bars.

★ If the Quantize function is off, press the RETURN key after selecting the real time write function. Pressing the RETURN key again will turn the QUANTIZE function OFF.

Selection of the Real Time Write function

The Real Time Write function can be selected by pressing the F4 key from the pattern mode. This is the same as moving the cursor over the R.T.W. icon and pressing the RETURN key.

Fig. 34 Real time writing display (icons window)



Input of notes

(1) The write mode is started by pressing the space bar key.
Notes are input by the RX instrument buttons or MIDI keyboard according to the rhythm metronome.

★ Notes can be deleted by pressing a key on the MIDI keyboard or an RX instrument button while pressing the SHIFT key.

(2) The real time write is interrupted by pressing the STOP key.

(3) Pressing the ESC key during the real time write will release the function without pausing it, and cause a return back to the Pattern mode.

★ The left button of the mouse is used for starting R.T.W., and the right button is used for stopping the function.

★ If the specified number of bars is exceeded, the beginning of the Pattern is returned to, and the same pattern is repeated until the function is interrupted.

★ The notes timing is automatically adjusted to the intervals specified by the Quantize setting.

★ The metronome clicks according to the time signature, accentuating the first beat of each measure. The big, blue dot of the beat indicator flashes at the first beat of each measure; the small one flashes at the next beats.

★ The metronome click is output through the RX11 when MIDI connection is set to RX11, and through the computer's audio output when RX15 is selected.

★ If the pattern memory becomes full during use of the R.T.W. functions, the function will automatically stop but the pattern will not be entered.

★ Use of the R.T.W. function may not be possible for patterns having long bars.

★ R.T.W. function only accepts input from a MIDI keyboard in the System 2 setting.

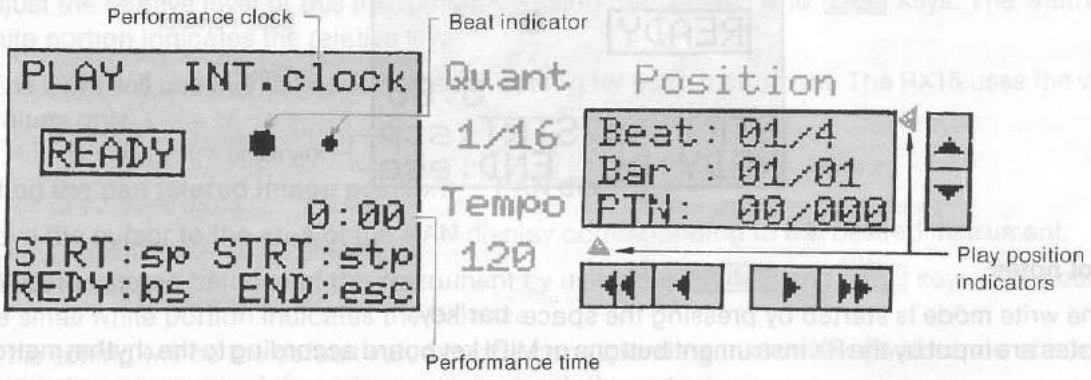
Playback — Step⑤

This function is used for the playback of patterns. The play mode is selected when the F5 key is pressed, and playback starts when the SB key is pressed.

(1) When the F5 key is pressed or when the cursor is moved over the PLAY icon and the RETURN key pressed, the lower left hand portion of the screen will appear as shown in Fig. 35. This selects the Play mode.

(2) Pressing the SB key starts playback of the pattern. When playback starts, the RUN indicator is illuminated, and the play position and performance time is displayed.

Fig. 35 Play mode display



★ The play position display position has the following meaning:

Beat	beat counter/number of beats in one bar
Bar	bar counter/number of bars in the pattern
PTN	pattern number/number of defined patterns

The ▲ and ◀ indicators allow you for visual control of the playback in progress.

★ Playback is interrupted by pressing the STOP key.

★ Pressing the BS key when playback is interrupted allows for restarting from the beginning of the pattern (see also Fig. 21).

★ Pressing the ESC key during playback will release the function without pausing it, and causes a return to the Pattern mode.

★ The left button of the mouse is used for starting playback and the right button is used for stopping the function.

★ The pan data and other initial setting data is sent at the point when the READY mode is selected. Pressing the [SB] (START) key allows for playback to begin immediately.

★ Playback of the same pattern will be repeated until the function is interrupted.

★ The pan setting returns to its original position when the pattern returns to the beginning.

Changing the tempo

The tempo for playback and the real time write function can be freely selected in the range of ♩ = 40 ~ 250. The tempo can be altered either in playback or real time writing.

• When editting

Move the cursor to the tempo indicator, and press the [HOME] (−1) or [DEL] (+1) keys to change the tempo. When a large change in tempo is desired, the [HOME] or [DEL] keys can be pressed while the [INS] key is being pressed. This will cause the tempo to be altered in steps of 10.

• During playback (or real time writing)

The tempo can be altered by pressing the [HOME] (−1) or [DEL] (+1) key during playback or when using the R.T.W. function. The [HOME] and [DEL] keys can be pressed while the INS key is being pressed for altering the tempo in steps of 10.

Functions — Step⑥

The functions of the RX Editor are used for handling the data already input rather than for the actual input of new data. These functions make it easy to rearrange a pattern, copy or relocate it, etc. There are two categories of functions available in the Pattern Editor: the Instrument functions and the Pattern functions.

Instrument functions

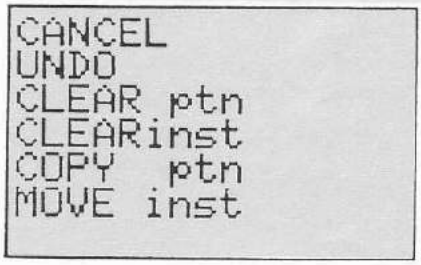
These are the functions for copying, moving, and erasing instruments within a pattern. Basic operations are as follows (special operations are explained along with the function description):

(1) Move the cursor to the instrument specification column, at the location of an already-selected instrument, and press the [RETURN] key. A list of function will appear in the icon window, and the selected instrument appears in reversed color.

(2) Select the desired function by using the [↑] and [↓] and enable the selected function (reverse color) by pressing [RETURN] again.

★ Pressing the [ESC] key instead of [RETURN] will cancel the selection and cause the icons to re-appear without any change in the pattern.

Fig. 36 Instrument functions list



The following describes the action of each of the Instrument functions.

CANCEL — Causes the original state to be returned to without any change (same as [ESC]).

UNDO — Restores the previous state (existing before the execution of a previous function).This is used, for example, immediately after the CLEAR function has been mistakenly executed: UNDO will restore the state which existed prior to execution of the CLEAR function.

CLEAR ptn — Deletes the notes of the instrument from the pattern. The affected instrument is, of course, this one indicated by the cursor when you called the function list. The notes of that instrument are cleared but the instrument is still there, waiting for new note input.

CLEAR inst — Removes an instrument and its notes from the pattern. The list of selected instrument will automatically be adjusted in the instrument column display.

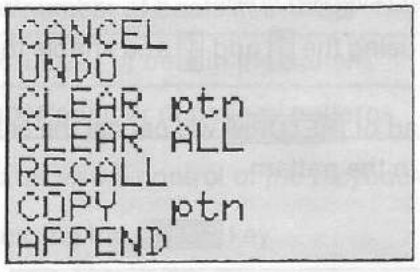
COPY ptn — Copies the notes of an instrument into an other instrument. The destination instrument is this one indicated by the cursor before the function is called. When the function is enabled by [RETURN], a red flashing display indicates an other instrument of the instrument column. Select the source instrument by using the [↑] and [↓] keys and press [RETURN]. The notes of the red-flashing instrument are copied onto the black-background instrument.

MOVE inst — Moves an instrument to another location in the instrument column. An arrow mark appears in the instrument column. Select the new location by using the [↑] and [↓] keys. Pressing the [RETURN] key produces a permutation of the indicated pair of instruments.

Pattern functions

These functions are used for linking a certain pattern to another pattern, and for copying and deleting in pattern units. Press the [F9] key or move the cursor to the FUNC icon and press the [RETURN] key. The list of Pattern functions will appear at the icons window.

Fig. 37 Pattern functions list



Select the desired function by using the ↑ and ↓ keys (the color of a function under selection is reversed), then enable this function by pressing the RETURN key.

* Pressing the ESC key will restore the icon display.

The following describes the action of each of the Pattern functions:

CANCEL — Causes the original state to be returned to without any change (same as ESC).

UNDO — Restores the previous state (existing before the execution of the previous function). This is used, for example, immediately after the CLEAR function has been mistakenly executed: UNDO will restore the state which existed prior the execution of the CLEAR function. This also works after the use of the R.T.W.

CLEAR ptn — Deletes all notes of the pattern. The instrument settings remain untouched, so that the system is ready for new input of notes.

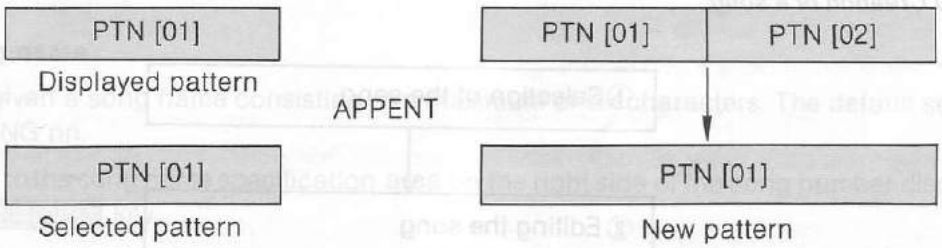
CLEAR ALL — Deletes notes and instrument settings. The current pattern becomes a blank (undefined) one. Pattern name becomes PTN nn where nn is its number. You may re-define the time signature and the pattern length after this.

RECALL — Returns to the state which existed prior the use of the editor.

COPY ptn — Copies a pattern to the pattern currently edited. The list of patterns replaces the list of function. Select the desired source pattern and press the RETURN key.

APPEND — Links a selected pattern at the end of the pattern currently edited. The list of patterns replaces the list of functions. Select the desired pattern and press the RETURN key. Undefined patterns or patterns having a different time signature cannot be appended.

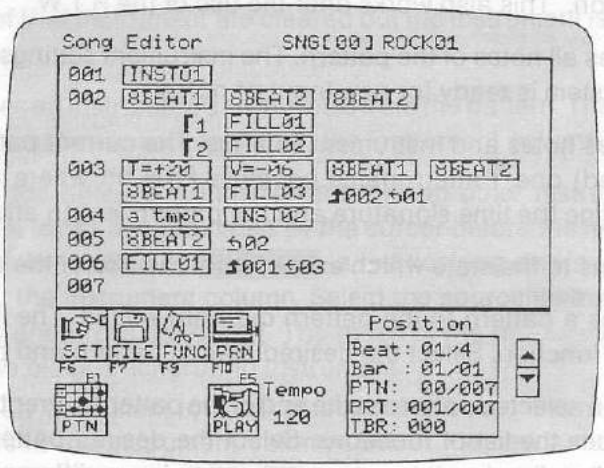
Fig. 38 The APPEND function



THE SONG EDITOR

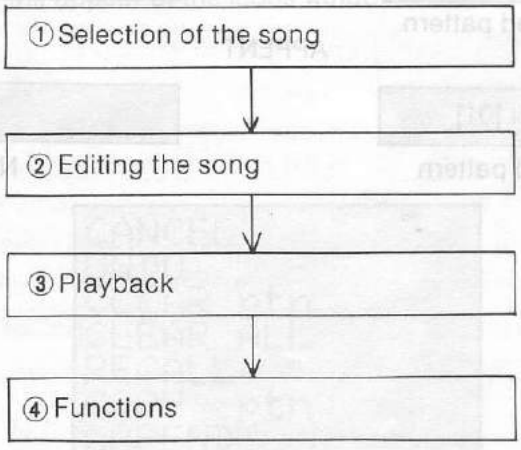
This is the mode used for linking patterns which have already been entered into a single sequence equivalent in length to a song. This consists of more than simply linking patterns together. The tone variation of the instruments, the levels, and the tempo can all be altered in the song.
Move the cursor over the SONG icon and press the RETURN key (or just press the F2 key). The screen changes to the Song Editor shown in the diagram below and the Song mode is selected.

Fig. 39 Example of Song Editor display



Refer to the following diagram for the procedure used to create a song.

Fig. 40 Creation of a song



Selection of the song — Step①

Specifying the song number

The SONG number has to be specified first if a song is to be input or played back. Two procedures are available.

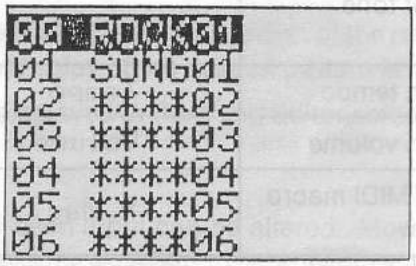
- Direct selection

Move the cursor to the numeric value display portion of the SNG (SONG) indicator. Press the HOME (−1) and DEL (+1) keys to select the desired SONG number.

- Displaying the song list

Instead of using the HOME and DEL keys, press the RETURN key to display the song list in the lower left hand portion of the screen. The display color of the top level is reversed when the list is first displayed. Pressing the ↑ and ↓ cursor keys moves the position of the reverse display up and down. Pressing the RETURN key when the display of the desired song is reversed will select that song.

Fig. 41 Example of song list



Specifying the song name

Each song can be given a song name consisting of a maximum of six characters. The default setting is a song name of SNG nn.

(1) Move the cursor to the song name specification area on the right side of the song number display, and press the RETURN key.

(2) Enter a song name from the computer keyboard. If a mistake is made during entry of the name, the ← and → cursor keys can be used to move the cursor to the left and right for correction. Pressing the BS key allows for deletion of the character to the left of the cursor.

(3) Press the RETURN key after entering the song name.

★ Graphic or special characters can not be entered.

★ Pressing the ESC key cancels the function without any change.

Editing the song — Step②

The cursor is moved over the song edit area to create a pattern sequence for one song by filling in the patterns in order. This consists of more than simply linking patterns together. The tone variation of the instruments, the levels, and the tempo can be altered for each pattern. The data input for the song, including the pattern numbers, is referred to as song data.

Overview of the Song Editor

The following is a list of the various "ingredients" of a song.

Type	Contents	Menu display	Display example
Pattern data	Pattern to be performed	00 8beat1	[8beat1]
Repetition marks	Types of repetition and numbers	↻	↻03
		↑	↑002↻01
		⌜	⌜1
Part number	Specification of part	Part	001
Instrument condition	Change of tone variation	Inst	[8beat1]
Tempo change	Change in tempo	Tempo	[T=+04]
Volume change	Change in volume	Volume	[V=+02]
MIDI macro data	Output of MIDI macro data	M.Mac	[MMAC01]

Overview of song data input

Input the song data according to the following procedure.

(1) Move the cursor to the right of the 001 display of the Song Editor. The shape of the cursor changes from ↖ to I.

(2) Press the [RETURN] key. The list of song data appears in the icons window.

(3) Select the desired data by using the cursor keys. The data whose color is reversed can be entered by pressing the [RETURN] key again.

(4) The data you just entered is now displayed in the edit area. If you move the cursor to the right of this data, its shape changes from ↖ to I again, indicating that you may input the next data.

★ When the song data can not be completely displayed on the screen, moving the cursor will cause the screen to scroll up and down accordingly. Scrolling is prevented by pressing the [SHIFT] key while pressing the cursor keys. This is used to prevent the cursor from moving to an area not displayed on the screen.

Fig. 42 Song data list and Song Editor cursors

Alteration or selection of song data

Input of song data

★ There are cases where song data can not be entered due to the song data which follows or precedes it. Data which can not be entered will be cancelled if it is specified.

Pattern data

• Input of pattern data

(1) If the [RETURN] key is pressed when the cursor is I, the song data list will be displayed in the lower left hand portion of the screen. The display of the uppermost pattern will be reversed at this time.

(2) Press the [↑] and [↓] cursor keys to move the position of the reverse display up and down. Pressing the [RETURN] key when the display of the desired pattern is reversed will select that pattern.

★ The pattern name will be displayed in the Song Editor screen.

• Altering the pattern data

Pattern data which has already been input can be altered. Move the cursor over the pattern display of the Song Editor screen and press the [HOME] (−1) and [DEL] (+1) keys to change the pattern number, and consequently, its name.

Repetition marks

Any section of the song can be specified for repeated playback. Specification of repeated playback is made by entering the part number at the beginning of the section to be repeated, and a repetition mark after the last pattern of the section to be repeated. There are three types of repetition. A portion of the song that appears between two number displayed at the left of the screen will be referred to as a Part, and these numbers as Part numbers.

• Repetition of a single part

The ↻ mark is used to indicate return to the beginning of the part for repetition.

(1) Move the cursor to the beginning of the first pattern in the section to be repeated. Press the [RETURN] key and the song data menu will be displayed.

(2) Use the cursor keys to cause the Part symbol to be reverse displayed, and press the [RETURN] key.

(3) Move the cursor to the end of the last pattern in the section to be repeated. Press the [RETURN] key and the song data menu will be displayed.

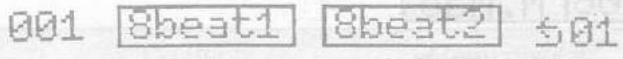
(4) Use the cursor keys to cause the ↻ symbol to be reverse displayed, and press the [RETURN] key.

(5) Move the cursor to the ↻01 indicator and use the HOME (−1) and DEL (+1) keys to specify the number of repetitions (from 01 to 99).

★ Repeat once means play back twice.

★ You cannot add data to a part after the repeat mark.

Fig. 43 Repetition of a single part



Part 1 will be repeated once (played back twice)

- **Repetition of multiple parts**

The ↑ mark is used to indicate a return to some previous part.

(1) Move the cursor to the beginning of the first pattern in the section to be repeated. Press the RETURN key and the song data menu will be displayed.

(2) Use the cursor keys to cause the Part symbol to be reverse displayed, and press the RETURN key.

(3) Move the cursor to the end of the last pattern in the section to be repeated. Press the RETURN key and the the song data menu will be displayed.

(4) Use the cursor keys to cause the ↑ symbol to be reverse displayed, and press the RETURN key.

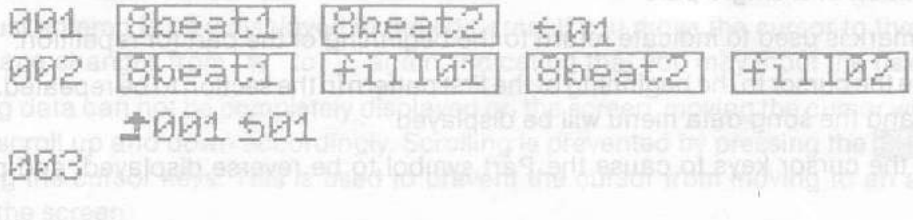
(5) Move the cursor to the ↑001 indicator and use the HOME (−1) DEL and (+1) keys to specify the part number to be returned to.

(6) Move the cursor to the ↻01 indicator and use the HOME (−1) and DEL (+1) keys to specify the number of repetitions (from 01 to 99).

★ Repeat once means play back twice.

★ You cannot add data to a part after the repeat mark.

Fig. 44 Repetition of multiples part



The playback sequence is [001], [001], [002], [001],[001], [002]

• **Repetition when only the final portion is different**

The ⌈ mark is used to indicate repetition when only the final portion is different. This is the same as parentheses on a score.

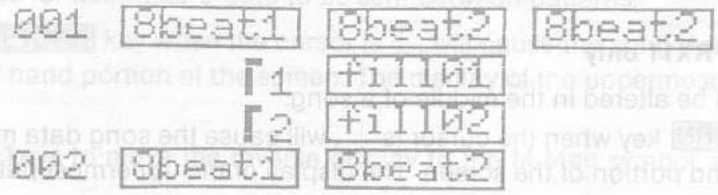
(1) Move the cursor to the beginning of the first pattern in the section to be repeated. Press the RETURN key and the song data menu will be displayed.

(2) Use the cursor keys to cause the Part symbol to be reverse displayed, and press the RETURN key.

(3) Move the cursor to the end of the last pattern in the section to be repeated. Press the RETURN key and the song data menu will be displayed.

(4) Use the cursor keys to cause the ⌈ symbol to be reverse displayed, and press the RETURN key.

Fig. 45 Parentheses



The playback sequence is "8beat1", "8beat2", "8beat2", "fill01", "8beat1", "8beat2", "8beat2', "fill02", [002]

Setting instruments — RX11 only

The tone variation and level balance settings of the instruments can be altered in the song. The settings of the instruments are the tone variations and level balance information is specified for each pattern in the pattern mode.

(1) Pressing the RETURN key when the cursor is I, will cause the song data menu to be displayed in the lower left hand portion of the screen. The display of the uppermost pattern will be reversed at this time.

(2) Use the cursor keys to move the reverse display to the INST symbol, and press the RETURN key. The INST symbol will become blue.

(3) Use the cursor keys to move the reverse display to the pattern which is going to be used. The INST symbol will become yellow. The set tone variation and level balance are specified for this pattern.

★ Note that if RX11 is not specified as the MIDI connection, the instrument setting data is not output (this setting works with RX11 only).

Altering the tempo

The tempo can be altered in the song.

(1) Pressing the RETURN key when the cursor is I , will cause the song data menu to be displayed in the lower left hand portion of the screen. The display of the uppermost pattern will be reversed at this time.

(2) Use the cursor keys to move the reverse display to the Tempo symbol, and press the RETURN key. The tempo change data is entered. This is displayed as a tmpo on the screen of the Song Editor.

(3) Move the cursor to the a tmpo display and press the HOME (−1) and DEL (+1) keys to enter the amount of tempo change.

★ The amount of tempo change can be entered in the range of −50 to 50. For example, if the original tempo is ♩ = 100 and the tempo change data is +50, the tempo will change to ♩ = 150.

★ The upper tempo limit of the RX Editor is ♩ = 250. Even if the tempo is raised above ♩ = 250 by a tempo change, the tempo will be taken as ♩ = 250 and will not be faster than this value.

★ Specifying a tmpo will reset the tempo to the start value of the song.

Altering the volume — RX11 only

The overall volume can be altered in the middle of a song.

(1) Pressing the RETURN key when the cursor is I , will cause the song data menu to be displayed in the lower left hand portion of the screen. The display of the uppermost pattern will be reversed at this time.

(2) Use the cursor keys to move the reverse display to the Volume symbol, and press the RETURN key. The volume change data is entered. V = +00 is displayed on the screen of the Song Editor.

(3) Move the cursor to the V = +00 display and press the HOME (−1) and DEL (+1) keys to enter the amount of volume change.

★ The amount of volume change can be entered in the range of −15 to +15.

★ Note that if RX11 is not specified as the MIDI connection, the volume change data is not output.

★ The volume of the RX11 can be altered in the range of 0 to 63. The initial setting is 63. This means that the volume can only be lowered at the beginning of a song.

Deletion

The input song data can be deleted.

- **Deleting a single data**

Moving the cursor to the song data display on the Song Editor screen and pressing the BS key will delete the song data (the mouse cannot perform this).

- **Restoring a deleted data**

Pressing the BS key while pressing the SHIFT key will restore the song data which was deleted last.

- Deleting all the data of a part

If deletion of all data of a certain part is desired, move the cursor to the part number display of that part and press the [BS] key after pressing the [RETURN] key.

- When deletion or insertion of song data causes repetition symbols to be entered in the following invalid locations, these symbols are automatically edited and deleted:
  - when there is no part for the ↵ symbol to return to, or when the destination becomes larger than the current part.
  - when deletion of part numbers causes repetition symbols to appear between patterns.

Insertion

New song data can be inserted between existing song data. Move the cursor to the space between song data, and press the [RETURN] key when the cursor changes to I. The song data list is displayed and the data to be inserted is selected from the list.

MIDI macros

This functions allows for MIDI macro data to be sent between patterns.

(1) Pressing the [RETURN] key when the cursor is I, will cause the song data menu to be displayed in the lower left hand portion of the screen. The display of the uppermost pattern will be reversed at this time.

(2) Use the cursor keys to move the reverse display to the M.Mac symbol, and press the [RETURN] key.

(3) Move the cursor to the macro01 display and press the [HOME] (−1) and [DEL] (+1) keys to select the MIDI macro data.

★ MIDI macro data is data created by the YAMAHA MIDI Macro & Monitor. Load it in advance using the file mode function.

★ Refer to the Owner's Manual of the MIDI Macro & Monitor for details on MIDI macro data.

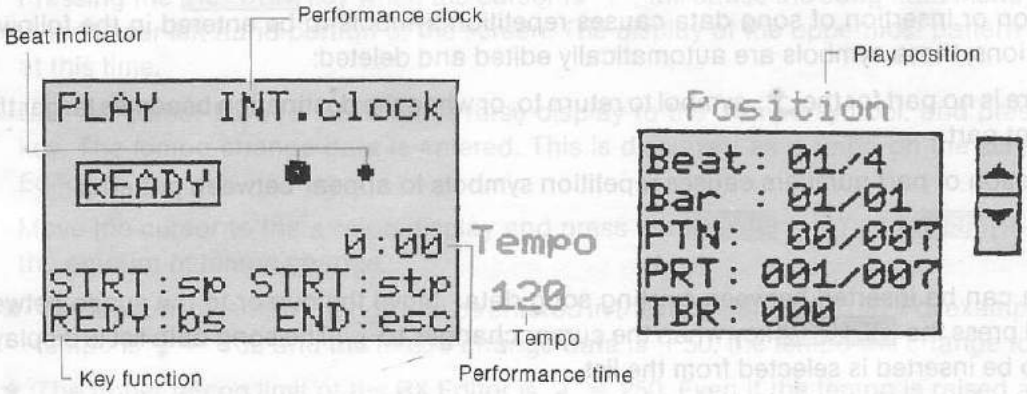
Playback — Step③

Playback of the entire song

This function is used for the playback of songs. The Play mode is selected when the [F5] key is pressed, and playback starts when the [SB] key is pressed.

(1) When the [F5] key is pressed or when the cursor is moved over the PLAY icon and the [RETURN] key pressed, the lower left hand portion of the screen will appear as shown in Fig. 46. This selects the Play mode. Pressing the [SB] key starts playback of the song. When playback starts, the RUN indicator is illuminated, and the play position and performance time is displayed.

Fig. 46 Play mode display



★ The play position display has the following meaning:

Beat	the current position is which beat/number of beats in one bar
Bar	the current position is which bar/number of bars in the pattern
PTN	pattern number/number of defined patterns
PRT	the current position is which part/total number of parts
TBR	total number of bars up to now

(2) Playback is interrupted and also re-started by pressing the STOP key.

(3) Pressing the ESC key during playback will release the function without pausing it, and causes a return to the pattern mode.

★ The left button of the mouse is used for starting playback, and the right button is used for exiting the function.

★ The pan data and other initial setting data is sent at the point when the mode is selected. Pressing the SB (START) key allows for playback to begin immediately.

Playback in Part units

This function is used for playback of only certain parts.

(1) The cursor is moved to the number indication of the part to be played back and the RETURN key is pressed.

★ The part specification is released by moving the cursor to another location after the specification.

(2) Press the F5 key to select the play mode.

(3) Press the space key for playback of only the specified part.

★ When a part is selected, its number is displayed in reversed color.

★ You may use the ▲ and ▼ marks to scroll the display and search for a desired part.

Altering the tempo during playback

Refer to the corresponding section in Pattern playback. The change introduced by that way will be effective during the present playback only.

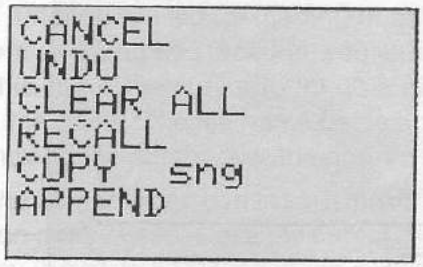
Song functions — Step④

These functions are used for linking a certain song to another song, and for copying and deleling in song units.

(1) When the cursor is moved over the FUNC icon and the [RETURN] key is pressed, or when the [F9] key is pressed, the function menu shown in Fig. 47 will appear in the window located in the lower left hand portion of the screen.

(2) Select the desired function by using the [↑] and [↓] keys (the color of the function under selection is reversed), then enable this function by pressing the [RETURN] key.

Fig. 47 Function menu



The following describes the action of each of the functions in the Song mode.

CANCEL — This causes the original state to be returned to without anything else happening.

★ Pressing the [ESC] key has the same function of returning to the original state with nothing being set.

UNDO — This function restores the previous state (immediately after the execution of the previous function). It is used, for example, when the CLEAR function is mistakenly executed. Execution of the UNDO function will restore the state which existed prior to execution of the CLEAR function.

CLEAR ALL — This function is used to delete the entire contents of the currently specified song and make it into an undefined song.

RECALL — This function is used to return to the state which existed prior to use of the editor.

COPY sng — This function is used to copy a certain song to the currently specified song.
Selecting this function causes the song list to be displayed. Select the desired source song by using the [↑] and [↓] keys, then press the [RETURN] key.

★ Undefined songs can not be copied.

APPEND — This function is used to append a certain song following the end of the currently specified song.
Selecting this function causes the song list to be displayed. Select the desired song by using the [↑] and [↓] keys, then press the [RETURN] key.

THE FILER

The File mode is used for the transfer of data into or from an external device (cassette recorder, floppy disk drive, RX11, and memory cartridge). It allows for permanent storage (save), retrieval (load), and management of your data (files).
The file mode is selected by moving the cursor over the FILE icon and pressing the RETURN key, or by pressing the F7 key. When the file mode is selected, sub-icons are displayed on the screen to allow selection of the external memory device. This is shown below.

Fig. 48 Filer display

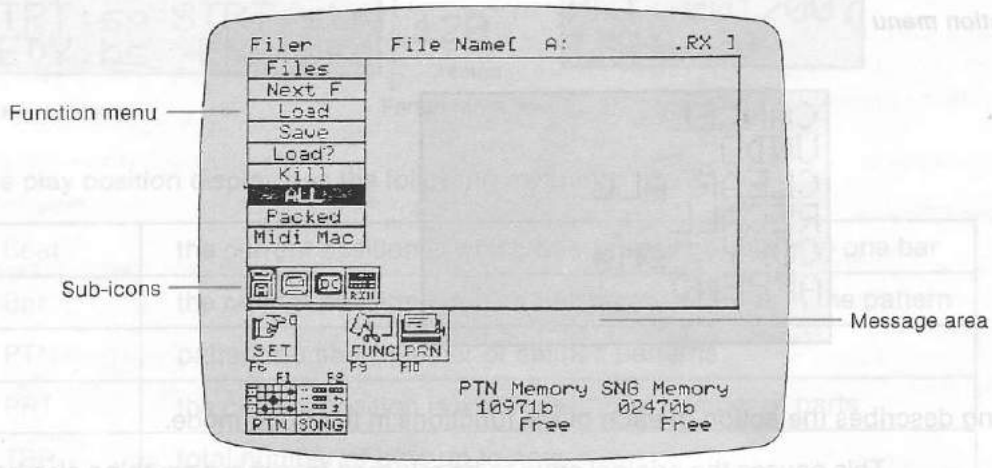
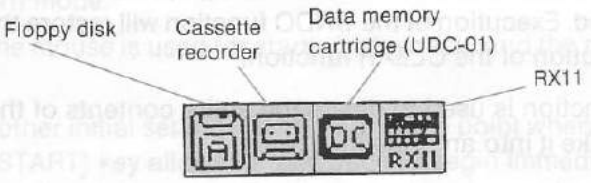


Fig. 49 Sub-icons for selecting the storing device



A cassette recorder, floppy disk drive, or data memory cartridge (UDC-01) can be used as the external memory device. These devices can be used not only for data from the RX Editor, but also for the data from the MIDI Macro & Monitor. The external memory device is selected by the sub-icons located in the upper left hand portion of the screen. Move the cursor to the appropriate icon and press the RETURN key.

★ A maximum of two floppy disk drives can be used. The drive can be specified when a floppy disk is selected as the external memory device. To select the drive, move the cursor to the Floppy disk sub-icon (see Fig. 49) and use the RETURN key to select A or B.

★ Disk drive and data memory cartridge cannot be selected if these devices are not connected.

File mode functions

The file mode contains the functions shown in Fig. 48 (Left column). The function is selected by moving the cursor to the desired function shown in the function menu in the upper portion of the screen, and then pressing the RETURN key. Note that the functions which can be used vary according to the external memory devices in use. The functions which can be used are displayed in black.

Main functions

You may use the following main functions for saving and loading data.

Files This function allows for the display of a table of the file names (file list) stored on the external memory device.

NextF This continues the display of the file names stored on the floppy disk.

Load This function is used for loading of data.
Before selecting this function, you must enter the file name from the keyboard. To do this, move the cursor to the File name display, press the RETURN key, then type the name. The file name can also be specified when the file list is displayed by moving the cursor over the desired file name and pressing the RETURN key.

★ The file name can consist of a maximum of eight characters. Graphic characters can not be used. Move the cursor over the Load display and press the RETURN key. Sure ? is displayed in the message area. Pressing the RETURN key again will load the data of the specified file.

★ You may cancel this function by pressing one of the ESC, BS, or SB keys instead of the RETURN key.

★ You may interrupt the loading at any time by pressing CTRL + STOP. The message Aborted! will appear.

Save This function is used for saving data.
First, specify the file name in the same manner as for the Load function.
Next, move the cursor over the Save display and press the RETURN key. Sure ? is displayed in the message area. Pressing the RETURN key again will save the data using the specified file name.

★ You may cancel the function by pressing one of the ESC, BS, or SB keys instead of the RETURN key.

★ You may interrupt the loading at any time by pressing CTRL + STOP until the message Aborted! appears (a few seconds).

★ When you want to use a new floppy disk, be sure it has been formatted by the FORMAT command of the DISK-BASIC.

Load? This function is used to check (verify) the data saved by the data recorder.
After saving data into a cassette tape, stop the cassette recorder, rewind the tape and set the recorder to the playback mode. Then, move the cursor to the Load? display and press the RETURN key. The data recorded onto the cassette tape will be compared with the data of the file currently selected.
After that comparison, the message Complete appears if the data are correctly saved; the message Read Error appears if some error occured during saving (incorrect level or tone setting, etc.). Try saving again after readjusting those settings.

Kill — This function is used to delete specified file from the data stored on a floppy disk. It is also used for deleting the contents of the data memory cartridge.
Select the file name as above and press the [RETURN] key after moving the cursor to the Kill display.
Sure? appears in the message area.
Pressing the [RETURN] key again will delete the specified file.

★ You may cancel this function by pressing any of the [ESC], [BS], or [SB] key instead of the [RETURN] key.

Note:
The question Sure? appears on the screen to give you a second chance for thinking about the consequence of the currently selected function. For example, if you are saving a file onto a disk containing a file that has the same file name, this old file will be erased. It is recommended to use the function File before saving. If you are using a mouse, you may cancel the function by pressing the left and right button simultaneously when the message Sure? appears.

Special functions for saving/loading

These functions are used to select whether or not the data is compressed for saving and loading.

All — All of the data is saved/loaded. This mode is normally used.

Packed — This function is used for the compression of data when saving. It is also used for saving the compressed data. This mode is used for the transmission and reception of data from the RX11, and when all of the data can not be saved into the data memory cartridge.

★ The following data is eliminated when the data is packed:
- o Pattern data: velocity (velocity values 1-4 are accent OFF, and values 5-8 are accent ON), and pan data.
- o Song data: instrument condition, volume changes, and a tempo becomes T+0. Repetition symbols are according to Repeat (on RX).

★ When saving into RX11, the song chain data is cleared.

★ The device name changes from RX to RXP.

★ Loading or saving packed data is not possible with RX15.

★ Saving will be impossible if the size of packed data is too large.

MIDI Mac — This function is used for loading of the MIDI macro data created by the MIDI Macro & Monitor.

Error messages

The following error messages appear when saving and loading operation cannot be performed.

Data too Large	Saving is impossible due to the excessive amount of data. Reduce the size by deleting some pattern or song data.
Disk Full	Disk is full and cannot accept further data. Delete useless files or use a new disk.
Disk not Ready	Floppy disks are not inserted into the drives. Set floppy disk properly.
File not Found	Specified file is not recorded on the disk. Check file names and specify an existing name.
Illegal Data Type	RX Editor cannot recognize the data being loaded. Be sure to load data saved from RX Editor.
Illegal File Name	You are saving without specifying a file name. Be sure to specify a file name before saving.
Read Error	Data has not been correctly saved and an error has been encountered when using Load? Try saving again.
RX11 not Ready	RX11 is not properly connected. Reconnect.
Write Error	Error during data saving.
Write Protected	Floppy disk has a protection tape. Remove the protection tape or use another disk.

Function mode in Filer display

To enter the function mode, press the F9 key or press the RETURN key after moving the cursor to the FUNC icon.

In the Filer display, the function mode contains only two functions. These functions are selected as usually by using the ↑ and ↓ cursor keys and then pressing the RETURN key.

CANCEL — This causes the original state to be returned to without anything else happening.

★ Pressing the ESC key has the same function of returning to the original state with nothing being deleted.

CLEAR ALL — This function clears the contents of all patterns and songs. Should be used with extreme care. Fortunately, the question Sure? appears and you may press any of the ESC, BS, or SB keys to cancel this dangerous function.

THE PRINT MODE

This mode is used for making a print-out (hard copy) of the data displayed on the screen.

(1) Check to ensure that the power to the printer is ON and that the printer is ON LINE.

(2) Set the printer output of the RX Editor to match the printer being used (refer to the next section, THE SYSTEM SET-UP, Printer)

(3) Select the display to be printed out (Pattern Editor, for example), then select the data (in this example, select the pattern and scroll it if necessary).

(4) Press the F10 key or press the RETURN key after moving the cursor to the PRN icon.

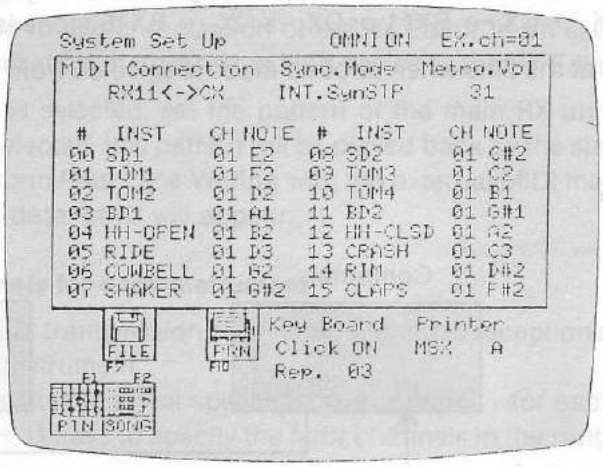
★ Print-out is possible only when the PRN icon is displayed.

★ To interrupt the printing, press CTRL + STOP.

THE SYSTEM SET-UP

System Set-Up of the RX Editor involves such operations as selecting the performance clock and selecting the MIDI output mode. The System Set-Up mode can be selected by moving the cursor to the SET icon and pressing the RETURN key, or by pressing the F6 key. The screen will appear as shown below.

Fig. 50 System Set-Up display



MIDI transmission and reception

OMNI mode

There are 1 to 16 channels for MIDI signals. When the transmission and reception side channels are matched, these become conventions for signal reception. The OMNI mode ignores these MIDI channels and allows for reception of MIDI signals on all channels.

The OMNI ON mode is selected when the power is turned on. This means that MIDI signals are received on all channels. Moving the cursor over the OMNI display and pressing the HOME key will set the OMNI mode to OFF. Pressing the DEL key when the OMNI mode is OFF will reset to ON.

MIDI channels of System Exclusive channels

This function is used for setting the reception/transmission channel for System Exclusive signals such as Parameter Change signals.

Move the cursor over the EX.ch display and press the HOME (−1) and DEL (+1) keys to specify the MIDI channel in the range of 01 to 16.

* Channel 1 is selected when the power is turned on.

MIDI connection mode

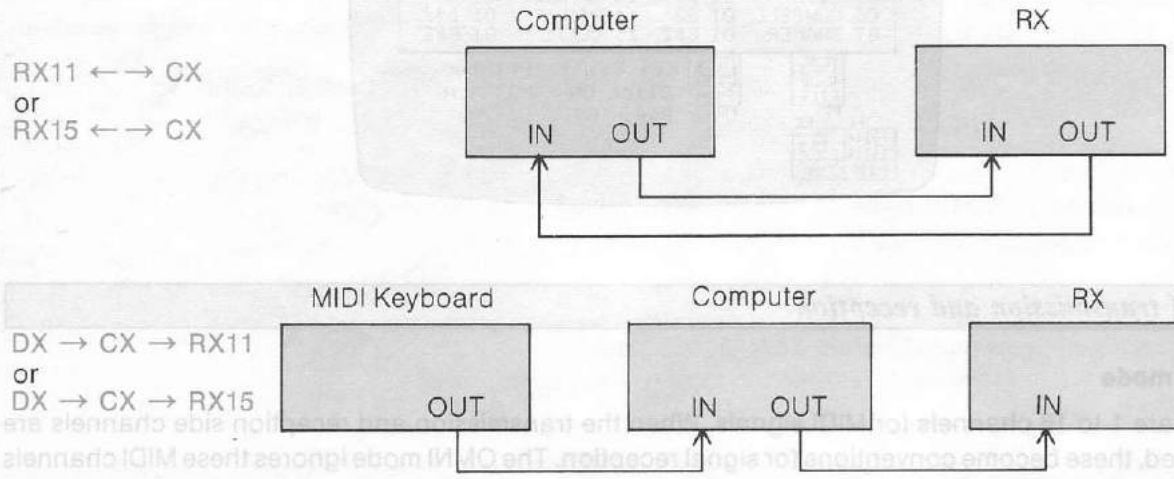
This function sets the output procedure for MIDI signals. It changes according to the device being used and the connection procedure.

(1) The MIDI connection is RX11 ← → CX or RX15 ← → CX when the power is turned on. Moving the cursor to this display and pressing the HOME and DEL keys causes the MIDI connection to change as shown below.

(2) When the RX rhythm machine is used with one music computer, the RX11 ← → CX or RX15 ← → CX mode is used. When data is to be input using the MIDI keyboard of a DX Synthesizer or similar device, the DX → CX → RX11 or DX → CX → RX15 mode is used.

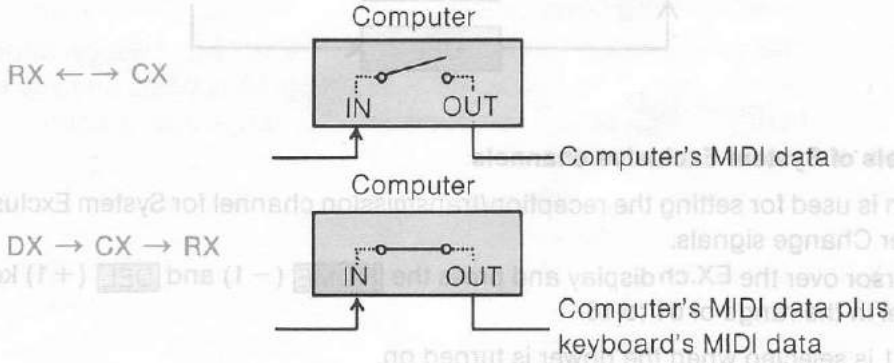
★ The mode is changed at the time when another mode is selected from the System Set-Up mode.

Fig. 51 MIDI connection



★ In the RX ← → CX mode, only the data created by the RX Editor is output to MIDI. In the DX → CX → RX mode, the data from the RX Editor and the data input to MIDI IN are mixed and output.

Fig. 52 MIDI output of the computer

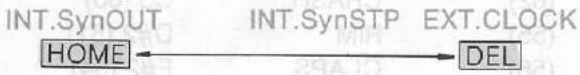


★ When the RX11 is selected as the device, System Exclusive data consisting of pan and volume information are output.

Performance clock

This function is used to select the performance clock of the RX Editor. Playback with the RX Editor synchronized to an external MIDI device is possible if an external clock is selected.

(1) When the cursor is moved over the Sync. Mode display and the [HOME] and [DEL] keys are pressed, the display changes as shown below.



(2) EXT. clock is selected for synchronization of the RX Editor to an external clock. INT.SynOUT is selected for synchronization of an external MIDI device to the RX Editor.

★ When INT.SynOUT is selected, set the pattern of the main RX unit to undefined. If a pattern containing data is selected, this pattern will be played back by the start signal from the RX Editor. It is possible to perform Real Time Writing with the external MIDI mode, but if the computer has to handle too much data, gaps will appear.

MIDI transmission channels for each instrument

This function allows for MIDI transmission channels matched to reception devices to be selected in the range of 1 to 16 for each instrument.

Move the cursor over the MIDI channel specification column CH for each instrument and press the [HOME] (−1) and [DEL] (+1) keys to specify the MIDI channels in the range of 1 to 16.

★ When connections correspond to System 1 for RX11, the MIDI channels are set to the same values as when the power is turned on. In all other cases, channel 1 is set.

Key number of each instrument

This function allows for the specification of a key number of each instrument sound.

Move the cursor over the key number specification column NOTE for each instrument and press the [HOME] (−1) and [DEL] (+1) keys to specify the key numbers.

★ When connections are made as shown in diagram a of Fig. 51 for RX11, the key numbers are set to the same values as when the power is turned on. In all other cases, the setting are as follows. Note that proper operations are not possible when the rhythm machine and numbers do not match.

Fig. 53 Key numbers and names

SD1	E2	(52)	SD2	C#2 (49)
TOM1	F2	(53)	TOM3	C2 (48)
TOM2	D2	(50)	TOM4	B1 (47)
BD1	A1	(45)	BD2	G#1 (44)
HH-OPEN	B2	(59)	HH-CLOSED	A2 (57)
RIDE	D3	(62)	CRASH	C3 (60)
COWBELL	G2	(55)	RIM	D#2 (51)
SHAKER	G#2	(56)	CLAPS	F#2 (54)

Key numbers for RX

★ Pressing the RETURN key when the cursor is on CH or NOTE column will toggle note names and key number displays.

Fig. 54 Key number display correspondence chart

RX	0	12	24	36	48	60	72	84	96	108	120
RX Editor			C0	C1	C2	C3	C4	C5	C6	C7	

PIANO RANGE

Other settings

Metronome volume

This function is used to adjust the volume of the rhythm guide used for the real time write function.

★ This does not work when clocks are output through MSX audio output (RX15).

Move the cursor over the Metro.Vol area and press the HOME (−1) and DEL (+1) keys to specify the volume in the range of 00 to 31.

Keyboard repeat

When a key is held down, input of that key is repeated. This function sets the rate of repetition for key input.

Move the cursor to the Keyboard Rep. area and press the HOME (−1) and DEL (+1) keys to specify the speed in the range of 01 to 10. 01 is the fastest and 10 is the slowest.

Printer

This function sets the printer output to match the printer being used. When the cursor is moved to the Printer display and the HOME and DEL keys pressed, the display will change as shown below.

MSX A ⟷ MSX B ⟷ EPSON A ⟷ EPSON B

HOME ← - → DEL

For each printer (MSX or EPSON), you have two options (A or B)

A	Normal density
B	High density

CHAPTER IV
APPENDIX

MIDI IMPLEMENTATION CHART

[MSX Music Application Software] Date : 1/20, 198
Model RX EDITOR MIDI Imolementation Chart Version : 1.0

Function ...		Transmitted **	Recognized	Remarks
Basic	Default	1	1	
Channel	Changed	1 - 16	1 - 16	
Mode	Default	1	1	
	Messages	x	x	
	Alterd	**********	x	
Note Number		36 - 99	36 - 99	
	True voice	**********		
Velocity	Note ON	o 9nH,v=1-127	o v=1-127	
	Note OFF	x 9nH,v=0	x	
After Touch	Key's	x	x	
	Ch's	x	x	
Pitch Bender		x	x	
Control Change		x	x	
Prog Change	True #	x **********	x	
System Exclusive		o	o	bulk,parameter
System Common	Song Pos	x	x	
	Song Sel	x	x	
	Tune	x	x	
System Real Time	Clock	o (sync out)	o (ext clock)	
	Commands	o (sync out)	o (ext clock)	
Aux Mes- sages	Local ON/OFF	x	x	
	All Notes OFF	x	x	
	Active Sense	x	x	
	Reset	x	x	
Notes		** : Except MIDI data merge mode		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO o : Ye
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO x : No

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