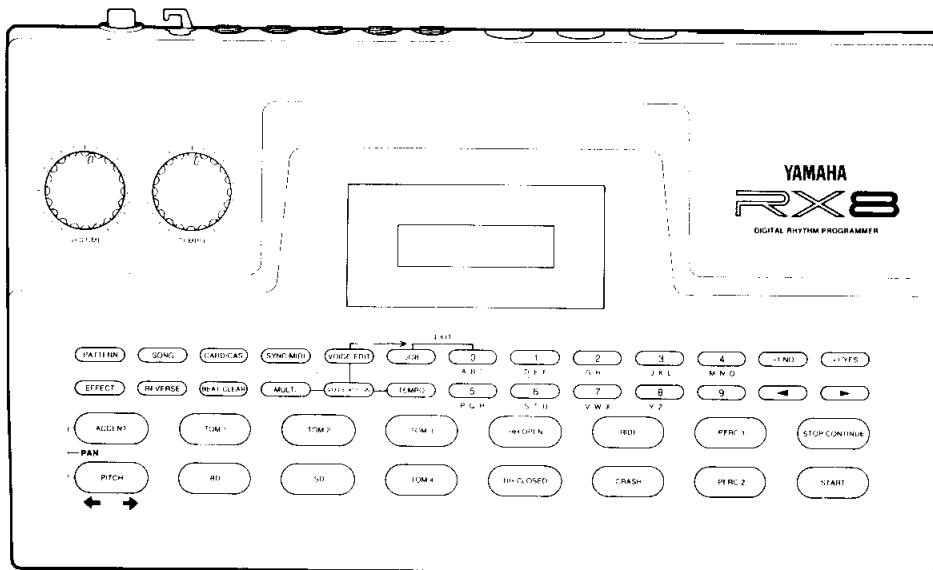


YAMAHA

RX8

DIGITAL RHYTHM PROGRAMMER
PROGRAMMEUR DE RYTHME NUMERIQUE
DIGITAL RHYTHM PROGRAMMER

OPERATING MANUAL
MANUEL D'UTILISATION
BEDIENUNGSANLEITUNG



INTRODUCTION

Thank you for purchasing the Yamaha RX8 digital rhythm programmer, which combines high-quality digitally-sampled sounds with extremely versatile and easy programming facilities to give you a perfect rhythm accompaniment to your music. The extensive MIDI facilities allow it to be easily interfaced to other equipment to become a central part of your setup.

PRECAUTIONS

Your RX8 is a fine musical instrument — and should be treated as such. Though the solid-state digital circuitry of the RX8 is reliable, there are a few common-sense precautions you should take to ensure years of service from it:

- **Location**

Avoid exposure to direct sunlight or other sources of heat. Vibration, excessive dust, cold, low or high humidity can also cause malfunction.

- **Relocation**

When moving the RX8, unplug the AC adaptor and all other connecting cables to avoid damage to cords and terminals.

- **Handling**

Avoid rough handling. Don't drop the RX8 as this can damage the internal circuitry. Applying excessive force to terminals or controls may lead to malfunctions. Always remove plugs from terminals or sockets by gripping them directly, not by pulling the cord.

- **AC Power Connection**

Use only the supplied AC power adaptor (PA 1505), and connect it only to a power supply conforming to the specifications shown on it.

Disconnect the RX8 and the adaptor from the AC outlet when not using it for an extensive period of time. Electrical storms (lightning) can produce power surges, damaging digital circuitry even when the power is turned off.

- **Cleaning**

Clean the exterior with a soft, dry cloth. Using chemical solvents or cleaners will damage the finish.

- **Interference through Electromagnetic Fields**

Do not use your RX8 close to television sets, radio receivers or other equipment generating electromagnetic fields. This could cause both malfunctions of the RX8 digital circuitry as well as interference noise in the other appliance.

- **Service and Modifications**

The RX8 contains no user-servicable parts. Opening it or tampering with it in any way can lead to electrical shock as well as damage and will void the product warranty. Refer all servicing to qualified YAMAHA personnel.

FCC INFORMATION

While the following statements are provided to comply with FCC Regulations in the United States, the corrective measures listed below are applicable worldwide.

This series of Yamaha professional music equipment uses frequencies that appear in the radio frequency range and if installed in the immediate proximity of some types of audio or video devices (within three meters), interference may occur. This series of Yamaha professional music equipment has been type tested and found to comply with the specifications set for a class B computing device in accordance with those specifications listed in subpart J of part 15 of the FCC rules. These rules are designed to provide a reasonable measure of protection against such interference. However, this does not guarantee that interference will not occur. If your professional music equipment should be suspected of causing interference with other electronic devices, verification can be made by turning your professional music equipment off and on. If the interference continues when your equipment is off, the equipment is not the source of interference. If your equipment does appear to be the source of the interference, you should try to correct the situation by using one or more of the following measures:

Relocate either the equipment or the electronic device that is being affected by the interference. Utilize power outlets for the professional music equipment and the device being affected that are on different branch (circuit breaker or fuse) circuits, or install AC line filters.

In the case of radio or TV interference, relocate the antenna or, if the antenna lead-in is 300 ohm ribbon lead, change the lead-in to a co-axial type cable. If these corrective measures do not produce satisfactory results, please contact your authorized Yamaha professional products dealer for suggestions and/or corrective measures.

If you cannot locate a franchised Yamaha professional products dealer in your general area contact the Electronic Service Department, Yamaha Corporation of America, 6600 Orangethorpe Ave., Buena Park, CA 90620, U.S.A.

If for any reason, you should need additional information relating to radio or TV interference, you may find a booklet prepared by the Federal Communications Commission helpful:

"How to Identify and Resolve Radio — TV Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402 — Stock No. 004-000-00345-4.

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IMPORTANT NOTICE
FOR THE UNITED KINGDOM


Connecting the Plug and Cord

**WARNING : THIS APPARATUS
MUST BE EARTHED**

IMPORTANT. The wires in this mains lead are coloured in accordance with the following code:

GREEN-AND-YELLOW	:	EARTH
BLUE	:	NEUTRAL
BROWN	:	LIVE

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

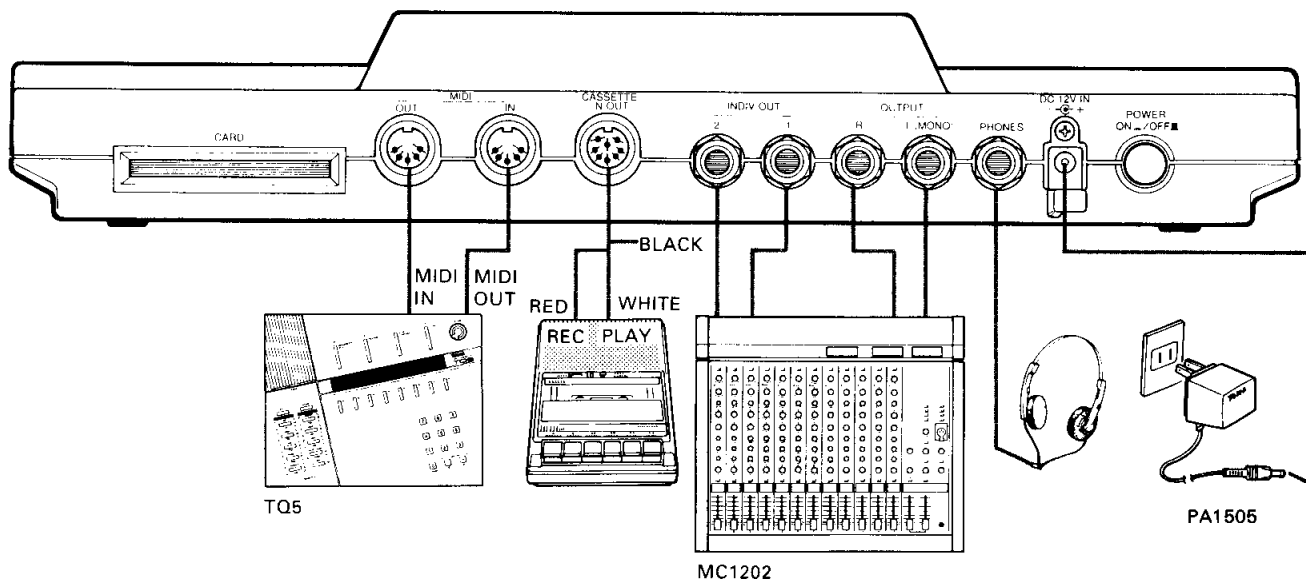
The wire which is coloured GREEN-AND-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol  or coloured GREEN or GREEN AND-YELLOW.

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

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

CONNECTING THE RX8

Find a firm level surface on which to place the RX8 where you can read the display without too much strain. Before you turn on the power, make the following connections:



Audio

Connect the Output sockets (L and R) to LINE level sockets on your mixer (or the LINE IN sockets on your keyboard if you are using your keyboard's amplifier). On a stereo mixer, pan the two channels hard right and hard left for maximum stereo effect. If you only have one input socket available, or if your mixer is mono, use the L (MONO) socket on the RX8. If only this socket is used, all of the RX8's voices will be output through this socket. If you intend using the Individual outputs, connect them to your mixer (the pan position is entirely up to you). All these outputs are unbalanced. Private listening is possible if you plug a pair of ordinary stereo headphones into the PHONES socket of the RX8. This will not, however, cut off the output from the OUTPUT or INDIVIDUAL sockets.

MIDI

The MIDI connections that you make are entirely dependent on your setup. If you are going to determine the timing of a sequencer's playback from the RX8, then the RX8's MIDI OUT should be connected to the MIDI IN of the sequencer. Connecting the MIDI OUT of the sequencer to the MIDI IN of the RX8 will allow the sequencer to control the timing of the RX8, and also control the Start, Stop and Continue functions of the RX8. If the RX8 is to have its voices controlled by an external controller, this device must be connected to MIDI IN of the RX8, and if the RX8 is to control the voices of other instruments, the MIDI OUT of the RX8 must be connected to the MIDI in of these instruments. Although the RX8 has no MIDI THRU terminal, the MIDI ECHO BACK function allows you to echo MIDI data

received at the IN terminal at the OUT terminal, merged with whatever data is being produced by the RX8.

Cassette

The 8-pin cassette DIN socket should be connected using the supplied lead. This connector serves two functions: for connection of a data cassette recorder for data storage, and for connection to a multi-track recorder to provide tape synchronization facilities. In either case, the red lead (3.5mm jack) is used to input from tape to the RX8, and the white cable (3.5mm jack) is used to output from the RX8 to tape. The black lead (2.5mm jack) is not used with the RX8.

Power

The supplied Yamaha PA-1505 should be used, delivering an unregulated nominal +12V to +15V @ 500mA to a tip-positive connector. Push the connector firmly into the power socket, and wind a few turns of power cable round the brackets on the back panel. This will prevent the power accidentally being disconnected — a disaster in the middle of a performance or recording session. The power switch is just by the power input. Press it in to turn the RX8 on. Pressing it again will turn the RX8 off.

Turning On

When you first turn on the RX8, the screen will illuminate and display:

```
*****  
*****
```

This will be cleared, and the following message will be displayed:

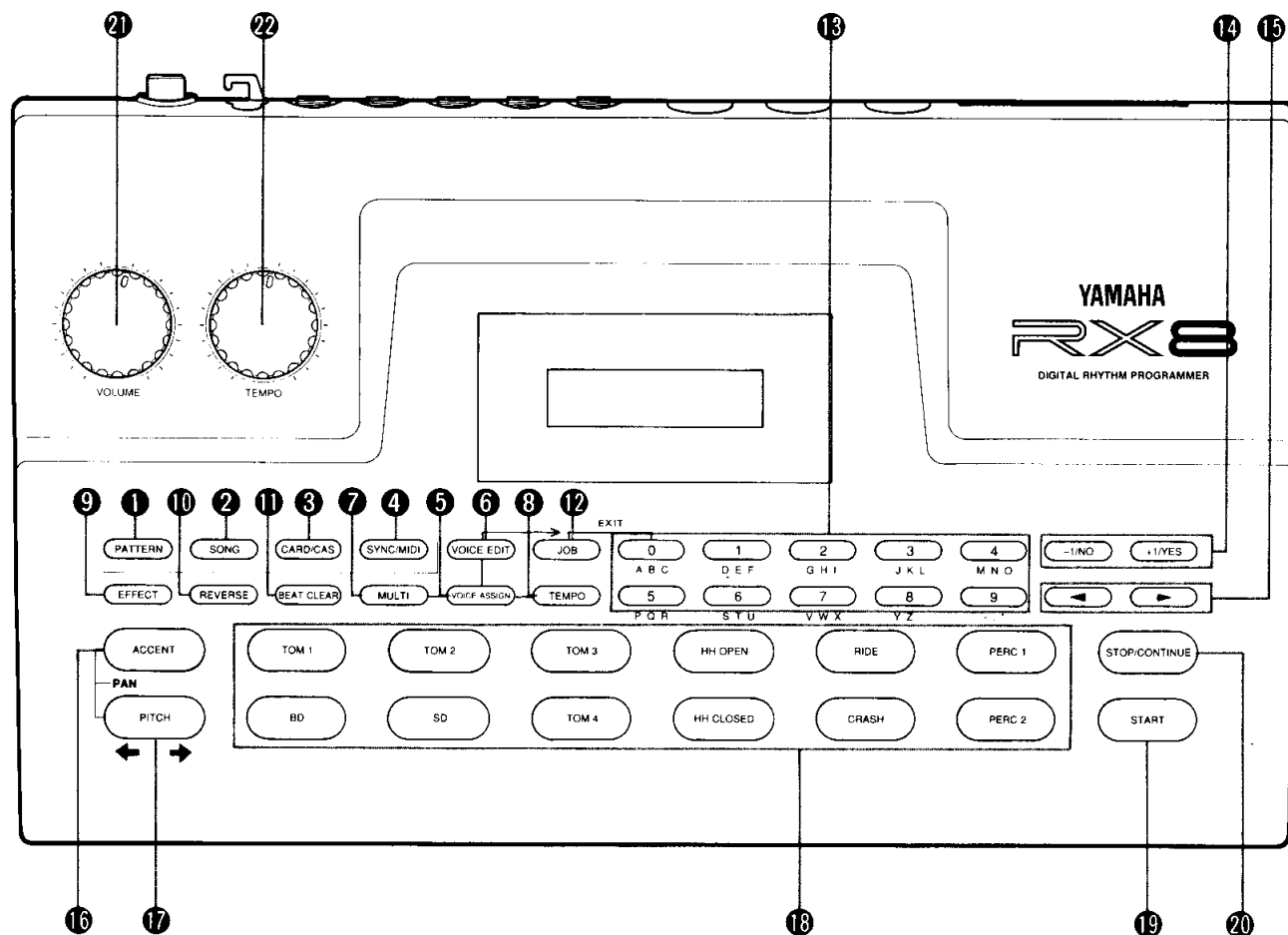
```
Digital Rhythm  
YAMAHA RX8
```

The "RX8" will blink a few times, and the screen will display the following:

```
SELECT PATTERN  
PTN00w> 12345678
```

(the "w" following "PTN00" may not be displayed). If your display is radically different from this, consult your Yamaha dealer.

RX8 KEYS



The RX8 is programmed and controlled by means of the keys on the front panel. Here is a brief explanation of them and their functions:

- ➊ **PATTERN** enters the PATTERN mode and menu (as at power-on).
- ➋ **SONG** enters the SONG mode and menu.
- ➌ **CARD/CASS** Alternate presses of this key cycle between CARD mode (for operations concerning the Yamaha MCD32 memory card) and CASSETTE mode (for operations concerning data storage on cassette).
- ➍ **SYNC/MIDI** Alternate presses of this key cycle between the SYNC mode (for determining the timing of the RX8) and the MIDI mode (where you can set various MIDI parameters).
- ➎ **VOICE ASSIGN** allows you to assign any of the RX8's 43 voices to the 12 instrument keys and to assign them to audio outputs.
- ➏ **VOICE EDIT** allows you to edit the RX8's 43 different voices (volume, pan, accent, etc).
- ➐ **MULTI** allows the programming of the instrument keys to one instrument, with different pitches or accents.
- ➑ **TEMPO** allows you to see the current tempo and alter it with the +I/YES and -I/NO keys.
- ➒ **EFFECT**, when pressed with an instrument key, sounds the voice set up in Voice Assign with the effect added in Voice Edit.
- ➓ **REVERSE**, when pressed with an instrument key, reverses the sound of the voice assigned in Voice Assign.
- ➑ **BEAT CLEAR** is used when Realtime and Step writing patterns to delete (clear) unwanted notes from patterns.
- ➒ **JOB** is used together with the number key pad in the main modes (PATTERN, SONG, CARD/CASS and MIDI) as well as the sub-functions (MULTI, VOICE ASSIGN and VOICE EDIT) to select jobs. Some jobs may also contain "sub-jobs", and the JOB key may also be used to select these.

- 13 **NUMBER KEYS** are used whenever numerical input is to be done (for instance, selecting a pattern or song). They may also be used with the **JOB** key to select jobs or sub-jobs.
- 14 **+1/YES** and **-1/NO** are used for data entry. They may either increment or decrement numbers, or answer questions displayed on a screen to which a “yes” or “no” answer is required. The **+1/YES** key may also turn certain functions **ON**, and the **-1/NO** key may turn them **OFF**.
- 15 **◀** and **▶** keys are used for moving the cursor and for selecting jobs (followed by the **+1/YES** key).
- 16 **ACCENT** is used to define and produce accents for the voices assigned to the instrument keys.
- 17 **PITCH** is used to define and produce a pitch shift for the voices assigned to the instrument keys. When pressed together with **ACCENT**, it is used to edit **PAN** settings for voices in patterns.
- 18 **Instrument keys** may have any of the RX8's 43 voices assigned to them using **Voice Assign**. At power-up, the default assignment of voices to keys will be:

TOM1	Tom 1
TOM2	Tom 2
TOM3	Tom 3
HH OPEN	HHopen
RIDE	Cup
PERC1	Bass 1
BD	BD 1
SD	SD 1
TOM4	Tom 4
HH CLOSED	HHclos
CRASH	Crash
PERC2	Bass 2

It is possible to assign the same voice to more than one instrument key but (unless **MULTI** mode has been selected), each key will play the voice with the same volume, pitch setting, etc.

- 19 **START** is used to start the playback or **Realtime/Stepwrite** recording of a pattern from the beginning, and to start the playback of a song from the beginning.
- 20 **STOP/CONTINUE** is used to stop playback of a song or pattern, and to restart it from the point at which it was stopped.
- 21 The rotary **VOLUME** control is used to adjust the overall level of the RX8's output from all outputs (**L**, **R**, **INDIV 1 & 2** and **PHONES**). The level of individual voices can be altered in **Voice Edit**.
- 22 The rotary **TEMPO** control is used to adjust the RX8's tempo for playback or **Realtime** record from 40 to 250 beats (crochets) per minute.

VOICES

The 43 voices of the RX8 are as follows:

- Bass (kick) drums (x 5)
- Snare drums (x 5 + rimshot)
- Toms (x 8)
- Hi-hat (open and closed)
- Ride cymbal (cup and edge)
- Crash cymbal
- Bass guitar (pull and thumb slap)
- DX-type marimba
- DX-type orchestral hit
- Handclap
- Cowbell
- Tambourine
- Shaker
- Congas (high muted, high open and low)
- Bongos (high and low)

- Timbales (high and low)
- Agogo (high and low)
- Cuica
- Whistle

A detailed description of all of these voices is given in the **Supplementary Information** section at the back of this manual.

TUTORIALS

This tutorial is divided into three sections. The first is an explanation of how to load and play the demonstration songs, to give you an idea of the capabilities of the RX8. The second teaches you briefly how to write a simple drum pattern in the Realtime write mode. The third section is quite long, and takes you on a step-by-step tour of the procedures necessary to write a song of your own on the RX8.

It is strongly suggested that you follow the steps and procedures in this section, working through the examples. Whether the RX8 is your first rhythm programmer or whether you consider yourself to be an experienced user of drum machines and rhythm programmers, it will give you an idea of the way in which you can use the RX8 to maximum effect. After you have worked through this tutorial section, you will have a good working knowledge of the main functions of the RX8.

All functions are described later in the Functions section following this tutorial.

PLAYING DEMO PATTERNS AND SONGS

The RX8 contains demo data which can be loaded to overwrite all existing patterns and songs.

1. To load this data, turn the RX8 off, then on again, while holding down the ACCENT key.

```
Load Demo
Data No.* ?
```

2. Select the demo data to be loaded by pressing the 0 or 1 key.
3. Confirm this by pressing the +I/YES key.

```
Load Demo
Are You Sure ?
```

4. You will then be asked once more if you want to load the demo patterns and songs. Press the +I/YES key again.
5. Select patterns with the PATTERN key, and songs with the SONG key; then use the number keys to select individual patterns or songs. Note that any pattern or song containing data will have a "w" displayed after the number.

```
>PIRATES.<;J=130
SNG00w> 1234567
```

6. Start playing patterns or songs with the START key, and stop them with the STOP/CONTINUE key.

7. When playing patterns, you will see the following display:

```
PLAY: INT.clock
PTN00w :next **
```

This means that the next pattern to be played will be the same as the current one. You can pick another pattern to be played (without stopping playback) by using the number keys to select the next pattern

8. Use the rotary TEMPO control to control the speed of the demo songs and patterns being played.

WRITING A PATTERN

1. Select the pattern mode by pressing the PATTERN key.

```
SELECT PATTERN  
PTN00w> 12345678
```

2. Choose a pattern to write by using the number keys (if the pattern already contains data, a "w" will follow the pattern number).
3. Enter the Realtime Record job by pressing the JOB and 2 keys together.

```
REALTIME WRITE ?  
PTN00w> 12345678
```

4. You will then be asked if you are sure you want to record. Press the +I/YES key to confirm that you do.
5. Press the START key. You will hear a metronome click in time with the tempo. Adjust the tempo to the speed you want, using the TEMPO control.

```
RECORD:INT.clock  
PTN00w
```

6. Record your pattern by playing the instrument keys in time with the click as the pattern is repeated.
7. If you make a mess of things – don't worry! Just press the BEAT CLEAR key along with the appropriate instrument key in order to erase any wrong notes.
8. When you've finished, press the STOP/CONTINUE key to return to the Pattern menu.
9. Press the START key to hear your pattern, and the STOP/CONTINUE key to end.

```
PLAY: INT.clock  
PTN00w :next **
```

CREATING A SONG ON THE RX8

By way of a more detailed introduction to the features of the RX8, let's begin by writing a song. As explained earlier, the VOICE ASSIGN and VOICE EDIT keys are used to set up a "drum kit" on which to write PATTERNs which are chained together to make a SONG. Before you start, though, you may like to have a "clean slate" to write on, especially if you've loaded the demo patterns and songs. To erase them (don't worry, they can always be reloaded!), follow this procedure:

Press the PATTERN key:

```
SELECT PATTERN
PTN00w> 12345678
```

Now press the JOB and 7 keys together:

```
CLEAR ALL PTNs ?
PTN > 12345678
```

Answer YES to this question by pressing the +1/YES key:

```
Sure? (yes/no)
PTN > 12345678
```

Again, answer with the +1/YES key. The display will briefly flash "COMPLETE!", and then return to the "SELECT PATTERN" display. To erase the songs, press the SONG key:

```
>PIRATES.<;J=130
SNG00w> 1234567
```

Now press the JOB and 6 keys together:

```
CLEAR ALL SONGs?
SNG > 1234567
```

and answer with the +1/YES key.

```
Sure? (yes/no)
SNG > 1234567
```

Again, answer with the +1/YES key. The display will briefly show "COMPLETE!", and you will be returned to the main Song menu, but this time with no song title:

```
>
SNG00 > <;J=---
1234567
```

Now we're ready.

Making a "drum kit"

Begin by deciding what instruments you are going to use. Let's say that this song needs a rock kit, (snare, bass, three toms, hi-hat and crash and ride cymbals), together with a percussion section

of timbales and tambourine. We'll also use the RX8 to provide a bass line.

Voice Assign

To select the bass drum, press the VOICE ASSIGN key, and the following will be displayed:

```
>KEY *****
ASSIGN> 1234
```

Now an instrument key (we'll use the BD key here). The display will then change to show the instrument currently assigned to that key, eg

```
>KEY BD 3
ASSIGN> 1234
```

The sound of the instrument will be played as you press the key. If you do not want this instrument, use the -1/NO and +1/YES keys to step through the range of instruments on the RX8 until you find the one you want.

Voice Level and Accent

Now we can start to edit the sound to our requirements, so press the VOICE EDIT key to do this. The display will change to read:

```
>VOICE LEVEL =48
BD 3 > 123456
```

There are six jobs in the VOICE EDIT mode, and the voice level is the first of them. This means that the BD3 voice assigned to this key is at a level of 48. Use the -1/NO and +1/YES keys to alter the level (0 to 63). When you have set the volume, an accent may also be set. Press the green ACCENT key, and the display will read to change:

```
>ACC.LEVEL =+02
BD 3 > 123456
```

Using the -1/NO and +1/YES keys, alter the accent level ("negative" accents are allowed, meaning that the voice will sound quieter when the ACCENT key is pressed together with the instrument key). This accent level is added to the voice level and if the result falls above 63 or below 0, a ! is added to the first line of the display, showing that any further increments of the accent level will have any audible effect. To hear the accented voice, press the instrument key while holding down the ACCENT key.

Note that successive presses of the ACCENT key will switch between the VOICE LEVEL and ACCENT LEVEL modes.

Pan position

Now move onto the next job, the stereo position of the voice, by pressing the JOB and 2 keys together. The display will now read:

```
>PAN(L.....j.....R)=09
BD 3 > 123456
```

Pressing the -1/NO and +1/YES keys will move the cursor corresponding to the instrument's position in the stereo image.

Pitch and Pitch Shift

Now the pitch of the voice may be altered, along with an alternate pitch (pitch shift), which may be used for emphasis, etc. Press JOB and 3 together to access this mode.

```
>PITCH=+0100CENT
BD 3 > 123456
```

Use the -1/NO and +1/YES keys to shift the pitch up or down in 10-cent steps (100 cents = 1 semitone) up to +1200 from the original pitch or down to -1200 from the original pitch. Now you can select the alternate pitch by pressing the green PITCH key. The display will read:

```
>PITCH SHIFT=+01
BD 3 > 123456
```

Again, use the -1/NO and +1/YES keys to shift the alternate pitch in semitone steps, up to 24 semitones either way. If, however, the pitch setting and the alternate pitch setting added together exceed the voice's pitch limit (1 octave either way), a ! will be displayed as the final character on the first line of the display, meaning that no further pitch change is possible. To listen to the alternate pitch, press the instrument key while holding down the PITCH key. Note that successive presses of the PITCH key will switch between the PITCH and PITCH SHIFT modes.

Polyphony

The next job is the setting of polyphony (more than one note simultaneously) for the voice. Access this by pressing JOB and 4 together:

```
>POLY OFF
BD 3 > 123456
```

When POLY is OFF, only one note of this voice may be played at one time, but for drum rolls, cymbal climaxes, etc, it is sometimes a good idea to have POLY on. Set this by pressing the +1/YES key. If the voice has POLY ON and you want it OFF, use the -1/NO key. If you want to listen to the effect of polyphony vs monophony, pick a voice with a long decay (such as a cymbal), and press the instrument key twice in quick succession. You will notice that in monophonic mode, the second sound cuts off the first, but in polyphonic mode, the two overlap.

Effect/Detune

```
>EFFECT/DETUNE=1
BD 3 > 123456
```

By pressing JOB and 5 together, the EFFECT/DETUNE job can be accessed. This alters the pitch at which a second voice similar to the first, but detuned is played when the instrument and EFFECT keys are pressed together. Use the -1/NO and +1/YES to alter the amount from 1 to 3. Listen to the effected sound (a little similar to flanging) by pressing the instrument key together with the EFFECT key.

Effect expansion

Press the JOB and 6 keys together to access this last job. The display will change to read:

```
>EFFECT/EXP OFF
BD 3 > 123456
```

Use the +1/YES key to turn the expand effect ON. When the instrument key is pressed together with the EFFECT key, you will notice that the two detuned voices are sent to the two different sides of the stereo image, overriding the PAN setting. To turn this effect off, press the -1/NO key.

You have now set up the bass drum with only a few key presses, in much less time than it would take to set up a real bass drum to your requirements. You can now repeat the process for all the other instruments (except the bass, which we'll come to in a while).

A short cut

As a short cut, you might like to notice that when you are in a job in the VOICE EDIT mode, pressing different instrument keys will display the VOICE EDIT settings for these instruments in turn. As an example, let's look at the PAN settings for the toms. Supposing you have ASSIGNED the voices of TOMs 6, 7 and 8 to the TOM1, TOM2 and TOM3 keys respectively (they could be any instrument keys, of course, but these make the assignment easy to remember). When in the VOICE EDIT mode, and the PAN sub-job (JOB+2) has been entered, pressing the TOM1 key will display something like:

```
>PAN(L.....j.....R)=08
Tom 6 > 123456
```

There's no need to go through the JOB procedure to set the PAN settings for the other toms. Just press the TOM2 instrument key (for instance, and the display will read:

```
>PAN(L.....j.....R)=08
Tom 7 > 123456
```

Pressing the TOM3 instrument key will display the PAN setting for the TOM 8 voice. In this way, pan settings, levels, etc, can be assigned quickly and easily.

Planning a song

Once you've got the "drum kit" set up to your liking, you're ready to start writing a song. First, however, we have to think of how the song is constructed. Let's take a simple familiar song-structure, a 12-bar blues and look at what parts we need. Usually, such a song consists of something like the following:

INTRO	(4 bars).
VERSE	(12 bars).
VERSE	(12 bars).
MIDDLE 8	(8 bars).
VERSE	(12 bars).
ENDING	(4 bars)

A total of 52 bars! Does this mean that we have to program 52 different patterns? Not at all, as we can use the same pattern more than once, and even use the same drum pattern for each verse. We could, of course, use the same pattern for all the song, but this would be monotonous. Usually drummers play a basic beat, and put subtle variations over the top, and this is what we'll do with the RX8.

Making the first pattern

Press the PATTERN button. The display will change to the following:

```
SELECT PATTERN
PTN00 > 12345678
```

You may now choose the pattern number for your first pattern (let's say it's a pattern to be used in the verse) by pressing the number keys or the -1/NO or +1/YES keys to change the pattern number. The pattern number is displayed, followed by a "w" if it already contains data. For Realtime writing, we need Job 2, so press the JOB and 2 keys together (or use the ◀ and ▶ keys until Job 2 is selected).

```
REALTIME WRITE ?
PTN00 > 12345678
```

Press the +1/YES key to confirm that this is what you want to do. The display will change and show three sub-jobs as options.

```
LENGTH = 16/16
REAL.W> 123
```

The first option is for the length of the pattern, given in sixteenth notes (semiquavers). The default is sixteen sixteenth notes to the bar, but by using the -1/NO and +1/YES keys, any value from 1/16 to 32/16 can be selected.

These values of sixteenth-notes (semiquavers) can be translated into more conventional musical notation by simple arithmetic (16/16 becomes 4/4, 10/16 becomes 5/8, 20/16 becomes 5/4, etc). For example, the illustration below shows how 16/16 becomes 4/4 (one whole note (semibreve) per bar):

16
16
4
4 (c)
2
2

Another example shows how a bar in 12/16 can be treated as either 3/4 time or 6/8 time:

12
16
6
8
3
4

Quantization

To enter the second subjob, Quantization, press the JOB and 2 keys together:

```
QUANTIZE= 1/16
REAL.W> 123
```

Quantization, if you have not heard the term before, is the auto-correction function, which corrects any errors in timing while you are writing a pattern. In other words, when you are writing a pattern with the instrument keys in Realtime, it is very difficult to press the instrument keys exactly in time with the beat. The RX8's quantize function will make sure that the notes you enter are moved to the nearest subdivision of a whole note (semibreve). The value 1/16 means that notes entered will be corrected to the nearest 1/16th note (semiquaver). To try this, just press START.

You will hear a click (metronome) every quarter note, with the first beat of each bar accented. Keep pressing the HH CLOSED (for instance) as fast as you can while recording. As the pattern repeats, you will hear what you entered the last time round, but the timing has been corrected for you. To clear the hi-hat notes, just hold down the BEAT CLEAR and instrument key for the whole length of the pattern while it is recording. Now press the STOP/CONTINUE key and then the PATTERN key to return to the main Pattern mode menu.

A quantization of 1/12 means that notes will be moved to the nearest 1/12 whole note (semibreve) or 1/3 quarter note (crotchet), allowing you to enter triplets. Later we'll see how you can use two different quantization settings in the same pattern to get different rhythmic effects.

Click Level

If the metronome is too loud or too soft, it can be corrected by the third Realtime Write sub-job (you will have to enter Realtime Write again by pressing JOB + 2 and then +1/YES). Press JOB and 3 together for the following display:

```
CLICK LEVEL = 63  
REAL.W> 123
```

The volume can be adjusted as if for an instrument (but of course, there is no accent facility). Now we're ready to start recording properly. The bass and snare drums are often a good place to start, followed by the hi-hat and then the other instruments. There is no hard and fast rule about this, though, and if you are writing a pattern based around a tom riff, then the toms are an obvious place to start. From any of the subjobs in the Realtime Write job, press the START button to obtain the following display:

```
RECORD:INT.clock  
PTNOO
```

Tap an instrument button in the timing that you want for this pattern. If the tempo is too fast or too slow, use the TEMPO control to adjust it. Note that if you are writing on an empty pattern, a "w" will appear after the pattern number as soon as data is entered into it. If you make a mistake, you can correct it with the BEAT CLEAR and the appropriate instrument button.

Now add the other instruments as you want, correcting them as necessary as you go along. When you've finished, press STOP/CONTINUE, and the display will return to the main PATTERN mode menu. You can listen to your pattern by pressing START.

Different Quantization values in the same pattern

Though once you have written data into a pattern, the length is fixed, you can vary the quantization between recordings. This can be useful if you want to (for instance) put a triplet hi-hat pattern over a "straight four" bass drum and snare drum pattern. Try it now, using the following procedure:

From the main Pattern mode menu, select an unwritten pattern (without a "w" following the pattern number), then Job 2 (Realtime Write, remembering to press +1/YES after JOB and 2) and then sub-job 2 (quantization). Now make sure that the quantization value is either 1/08, 1/16 or 1/32, and record a simple bass drum and snare drum pattern. Stop recording, re-enter the Realtime Write mode, and change the quantize value (sub-job 2) to 1/12. Start recording, and keep pressing the hi-hat button as fast as you can. The hi-hat notes will be quantized to the nearest 1/12 note, and the effect will be of triplets over a steady 4/4 beat.

Other ideas

When recording a pattern, if you press the ACCENT key together with the instrument key, the accent level set up in the VOICE EDIT stage will be produced. Try using the instrument key and ACCENT for the first notes of each beat, and unaccented notes for the rest.

In the same way, holding down the PITCH key with the

instrument key will shift the pitch by the amount specified in the PITCH SHIFT operation. For interesting effects, try holding down the REVERSE key with an instrument button to reverse the instrument's sound. The EFFECT key works in the same way to produce the sound which you set up in the EFFECT/DETUNE and EFFECT EXPANSION parts of the VOICE EDIT.

More than 12 Voices?

Since there are only 12 instrument keys on the RX8, you might imagine that you're restricted to 12 instruments in any one pattern, but this isn't so at all. Even in the middle of recording you can add instruments, so that the whole of the RX8's 43 instruments can be used in one pattern (in practice, of course, this would be a little superfluous - most people don't want five snare drums in one pattern!).

To see how easy it is to add instruments, start Realtime recording a pattern with the instruments you've set up (basic kit plus timbales and tambourine). Now let's say that we want to add a cowbell to this collection. Without stopping the recording process, press the VOICE ASSIGN key

```
>KEY *****  
ASSIGN> 1234
```

Now press the key to which you wish to assign the cowbell (say the key to which you have already assigned the tambourine):

```
>KEY Tambrn  
ASSIGN> 1234
```

Use the -1/NO and +1/YES keys to select the cowbell, and the VOICE EDIT sub-jobs to change the volume, pitch, etc.

NOTE:

While you are in the VOICE ASSIGN and VOICE EDIT modes, any presses of the instrument keys will not be recorded on the pattern.

To exit from the VOICE EDIT or VOICE ASSIGN modes back to Realtime recording, press the JOB and 0 keys together. You may now add the cowbell (at the quantization rate you were in before you started to assign the new voice). If you want to change the quantization rate, you will have to stop the recording process, press the JOB+2 keys, re-set the quantization rate, and re-press START.

Adding a bass line (the MULTI key)

Now we have a drums and percussion section for a verse pattern, we can add the bass line. To do this, press the MULTI key

```
>SELECT VOICE  
MULTI > 1234
```

Use the -1/NO and +1/YES keys to step through the RX8's voices until you come to Bass 1 or Bass 2 (whichever you prefer):

```
>SELECT VOICE
Bass 1> 1234
```

Now use the ► key to move to the second MULTI sub-job - pitch setting:

```
>PITCH MULTI ?
Bass 1> 1234
```

Press the +1/YES key to obtain the following:

```
>PITCH +01 +12
Bass 1> 1234
```

If you press the instrument keys, you will hear that they all now play a bass note, moving up in semitones. The top left-hand instrument key is the lowest note. Moving along the top row of instrument keys, the pitch increases in semitone steps. The pitch sequence then continues with the left-hand key of the bottom row of instrument keys and goes along the bottom row to the right. The range (the bottom note available from the instrument keys to the top note) can be altered with the -1/NO and +1/YES keys. As with the Pitch Shift function in the VOICE EDIT mode, the pitch set in the VOICE EDIT mode is added to the MULTI pitch range, and if the total value falls above or below the range allowed for the voice, an exclamation mark (!) will be shown after the top or bottom range setting.

Use the JOB and 0 keys together to exit from the MULTI job. Now you can start recording the bass line in exactly the same way that you recorded the drum and percussion patterns. Notice, though, that when you're using a MULTI instrument assignment, using the BEAT CLEAR button and any instrument key to clear spurious notes will clear ALL notes of that voice as long as these buttons are pressed - not just the one assigned to that key.

To restore the original "drum kit" to the instrument keys, you will have to select the fourth job, EXIT MULTI, from MULTI mode. To do this, press the MULTI key, and use the ► key until you get to the following display:

```
>EXIT MULTI ?
Bass 1> 1234
```

Press the +1/YES key. The display will briefly show "EXIT COMPLETE !", and the original drum set will be restored.

Another useful trick

If you have a velocity-sensitive MIDI keyboard (eg a DX7 DX11, YS100 or YS200), this can be used to input notes into the RX8. Make sure that the MIDI OUT of the keyboard is connected to the MIDI IN of the RX8.

Press the SYNC/MIDI button on the RX8 till you see the following display:

```
CH MESSAGE ON
MIDI > 1234567
```

If the CH MESSAGE is OFF, set it to ON with the +1/YES key. Now move to job 2 (JOB+2 keys together). This sets the MIDI Receive channel (1 to 16).

```
RECEIVE CH = 01
MIDI > 1234567
```

Set this number (with the +1/YES and -1/NO keys) so that it matches the Transmit channel of your keyboard. Now move to MIDI job 4 (JOB+4 keys together):

```
NOTE ASSIGN ?
MIDI > 1234567
```

Press the +1/YES key to enter this job.

```
NOTE = VOICE
MIDI.N> 123
```

There are three sub-jobs. The first selects whether notes on the MIDI keyboard are to be assigned to individual RX8 voices (VOICE), or whether a single voice is to be played over two octaves using the C3 to C5 keys on the keyboard (PITCH). Use the -1/NO and +1/YES keys to choose the way in which the MIDI keyboard will play the RX8. For the moment, let's choose the VOICE setting. Use the ► key to move to sub-job 2, note assignment (the following display is an example of the sort of display you will see):

```
BD 1 ♦A 1 (045)
MIDI.N> 123
```

By pressing the instrument keys on the RX8, you can discover (and reset, using the -1/NO and +1/YES keys) which notes on the MIDI keyboard have been assigned to notes on the RX8. To assign MIDI notes to voices not currently selected on the RX8, hold down the PITCH key, and use the +1/YES and -1/NO keys to select an instrument. The notes are displayed as note names (eg C#3) and as MIDI note numbers (eg 061).

The third subjob re-initializes the MIDI note assignments to the default settings, as shown in the table on page 45. To exit from this sub-job, press the SYNC/MIDI key or the PATTERN or SONG key.

What use is all this? The answer is quite simple. Though the RX8 is not equipped with velocity-sensitive pads, it is capable of accepting and recording MIDI key velocity data, so that when recording, you can easily make patterns with realistic dynamics. Try it now, using the Realtime record mode, and play the instruments on the RX8 from the MIDI keyboard. Of course, you can use a non-velocity-sensitive MIDI keyboard to play the RX8, but the effect will be the same as using the RX8's own pads, ie no dynamics.

Playing tunes on the RX8 from a MIDI keyboard

If we choose the PITCH function instead of the VOICE function from sub-job 1 of the MIDI NOTE ASSIGN job, we can play 2 octaves of any given RX8 voice on the MIDI keyboard, with full dynamics. In sub-job 2, use the -1/NO and +1/YES keys to select the voice to be played.

```
VOICE = Bass 1
MIDI.N> 123
```

You may prefer to use this, rather than the MULTI function for certain melodic lines on bass, orchestra or marimba, for example.

Step Writing

In addition to the Realtime write job, where you press the instrument keys in time to a click, there is another way of entering patterns; the Step write job. There are two main reasons why you might want to use this mode: firstly, if you are trying to input a pattern which is too complex to be entered easily in Realtime (for instance, when entering a pattern from written music, it is often difficult to translate the musical notation into actual drumbeats), and secondly, Step writing allows very sophisticated editing of patterns already entered, either in Realtime or Step. To enter Step Write, press the PATTERN key, select a pattern using the number keys or the -1/NO and +1/YES keys (remember that the pattern number will be followed by a "w" if it already contains data), then press the JOB and 3 keys together:

```
STEP WRITE ?
PTN00 > 12345678
```

Confirm that you want to enter Step write by pressing +1/YES. There are two sub-jobs in Step write:

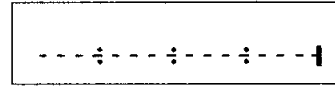
```
LENGTH = 16/16
STEP.W> 12
```

The length is the first subjob, and denotes the length of the pattern in sixteenth notes (semiquavers) in exactly the same way as the Realtime write. If the pattern already contains data (there is a "w" following the pattern number) you cannot alter the pattern length. To enter the second sub-job, Quantization, press the JOB and 2 keys together:

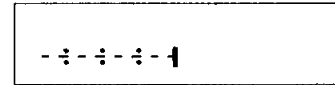
```
QUANTIZE= 1/16
STEP.W> 12
```

In Step write, Quantize can be taken to have a slightly different meaning from the one in Realtime. When in Step mode, the quantization number refers to the number of steps that can be entered per whole note (semibreve). Look at how the RX8 displays one whole note at different quantization values (in these illustrations, a "-" shows a space where a note may be written, a ":" shows quarter-note (crochet) divisions, and a "I" shows the end of the bar):

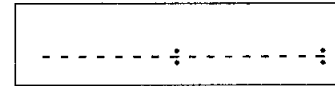
Quantization = 1/16 (default)



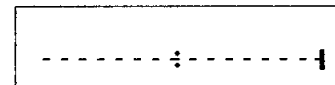
Quantization = 1/8



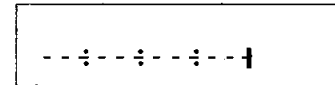
Quantization = 1/32



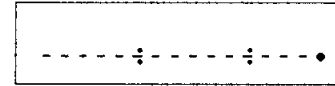
(1/32 quantization must be continued to another screen...)



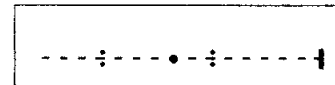
Quantization = 1/12



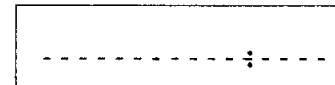
Quantization = 1/24



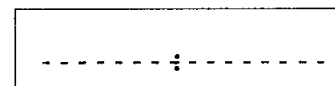
(1/24 quantization must be continued to another screen which overlaps with the first...)



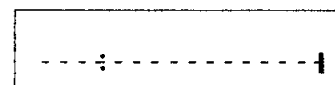
Quantization = 1/48



(1/48 quantization must be continued to another screen...)



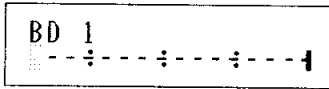
(still with 1/48 quantization, we must move to a third screen...)



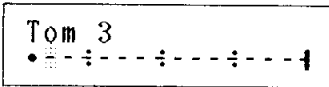
Remember that the Quantization value is the smallest division you can make of a whole note (semibreve).

Getting down to business

Now you understand quantization, we can start writing in Step write mode. Choose 1/16 quantization, and press the START key to obtain the following display:



The name of the instrument may be different from "BD 1", but don't worry. Press any of the instrument keys and see how the name changes. If you press an instrument key more than once, you will see a dot appear on the display, and the cursor will move forward one space:



So, when you have selected an instrument by pressing the instrument key once, you may enter a note at the step where the cursor is flashing and move forward to the next step. To enter a space (or rest), use the ► key. To add other instruments, select the instrument with the appropriate instrument key, and then start entering the notes. Notice that although you can input more than one voice per beat, the display only shows those notes which have been set for the current instrument. You can move backwards inside the bar by using the ◀ key, or jump to the start of the bar by pressing START. If you try to move to a position before the beginning, the display will briefly show "> Top <", and if you try to move past the end, it will show "> End <". To correct a mistake (and we all make them!), press the BEAT CLEAR key along with the appropriate instrument key. The dot will change back to a line.

Notice that as you scroll backwards and forwards through the bar using the ◀ and ► keys, every time you pass a beat, all instruments which have had notes set for that beat will sound. This gives you an idea of how the final pattern will sound.

To listen to your Step-written pattern properly, press STOP/CONTINUE to exit to the main pattern menu. You can then press START to hear the pattern. To re-edit your pattern, press STOP/CONTINUE, then PATTERN and re-enter Step write (JOB+3 and +1/YES followed by START).

Some other useful features

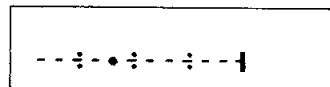
You're not limited to twelve instruments in Step write. Use the VOICE ASSIGN and VOICE EDIT functions to add further voices.

The ACCENT, PITCH, REVERSE, EFFECT and MULTI keys work in exactly the same way as in Realtime writing.

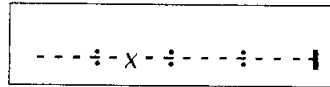
If a voice has been set to POLY in the VOICE EDIT mode, two sounds of the same instrument can be entered at the same beat. Instead of a dot, the display will show a "1".

You can change quantization rates at any time in the Step write procedure by pressing JOB+2, changing the rate, and then repressing START.

If an instrument note has been entered at one quantization rate which cannot be displayed exactly on another (for instance, a note entered at the sixth note of 1/12 cannot be displayed on a quantization rate of 1/16), a "*" will be displayed at the nearest point. The above example would be shown as



in 1/12 quantization, but as



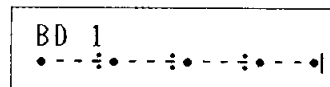
in 1/16 quantization.

Clever tricks you can play in Step write

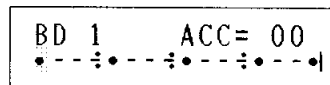
In Step write, it is easy to alter any or all of the following on notes that have already been entered (in Realtime or Step):

ACCENT
PITCH
PAN
EFFECT
REVERSE

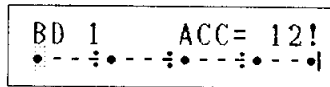
Let's see how this works, using the ACCENT as an example. Here we'll use a bass drum pattern which has already been programmed in 4/4 (16/16), from the instrument keys, with all notes at the same level:



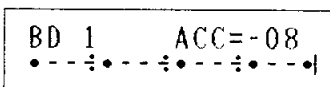
Now move the cursor (◀ and ► keys) so that it covers the first beat of the bar, where we want to insert a heavy accent and then press the ACCENT key:



Now use the +1/YES key to change the accented value for that note of the bar. Notice that if the total of the VOICE LEVEL set up in the VOICE EDIT, and the accent value added in this Step write procedure exceed the maximum (63), an exclamation mark (!) will be displayed after the accent level, showing that no further addition is possible to the level of the voice:



Negative accents can be added (making one note quieter than the rest) in the same way. The last note of this bar might well be quieter, so move the cursor to the end of the bar (notice that all notes now have their accent levels displayed as you step through them) and use the -1/NO key to decrease the volume of this note:

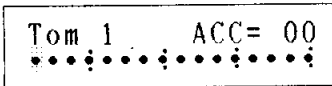


Again, if the total of the VOICE LEVEL set up in the VOICE EDIT, and the accent value added in this Step write procedure fall below the minimum (00), an exclamation mark will be added after the accent level, showing that no further reductions can be

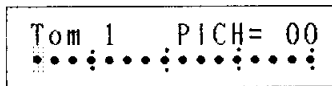
made to the level of the voice. Also notice that as you scroll through the bar with the ◀ and ▶ keys, the notes will be played with their new accent values.

Making a drum roll

Let's use this facility to make a drum roll which goes down in pitch, panning across the stereo field, with every fourth note accented. Start by going to the main PATTERN menu, selecting a blank pattern (without a "w"), going into Step write, and entering sixteen tom notes:



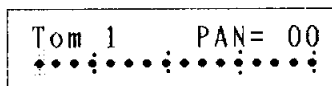
Add an accent to the first note in every quarter-note (crochet), in the same way as we did for the bass drum above. Now use the START key to jump to the beginning of the bar, and press the PITCH key:



Now use the -1/NO and +1/YES keys to select a higher pitch for this note (the pitch is altered in semitone steps). If you make the pitch higher than the maximum available for this voice (ie the total of the pitch value set up here and the value set up in the VOICE EDIT procedure falls above the maximum), an exclamation mark will be displayed after the pitch value, showing that no further increase in pitch is possible. Now move to the next note (use the ▶ key) and set the pitch of this note to a semitone lower than the first. Repeat this procedure throughout the bar.

You can set pitches lower than the original by using the -1/NO key, but when you come to the bottom of the voice's range, an exclamation mark will again be displayed, showing that you cannot lower the pitch any further. Now move to the start of the bar (press START), and use the ▶ key to scroll through, listening to the notes played. You should now have a descending chromatic scale (semitone steps). If you don't, use the +1/YES and -1/NO keys to alter the pitch of the offending notes.

Now we're ready to set up the pan positions in the same way. Press START to move to the top of the bar, and press the ACCENT and PITCH keys together:

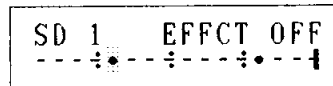


In exactly the same way as we did for accent and pitch, use the -1/NO and +1/YES keys to take the first note to the right side of the stereo image (the higher the number, the more to the right the sound is positioned). Again, an exclamation mark following the pan value will tell you when no further alterations are possible. Now move to the next note (▶ key) and use the +1/YES and -1/NO keys to alter the pan position of this note so that it is positioned to the left of the first note. Repeat this procedure until you come to the end of the bar. Now press STOP/CONTINUE to exit to the main pattern menu. When you press START, you

should hear your pattern of descending toms, moving from right to left of the stereo image, with every fourth note accented.

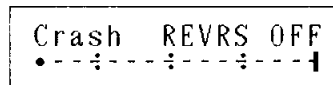
EFFECT, REVERSE and POLY

If you have set up a effect detune and effect expansion in the VOICE EDIT mode, this can also be set in the Step write job. By pressing the EFFECT key while in this job, you will obtain a display similar to the following whenever the cursor is over a note:



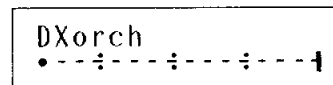
To turn the effect on for a particular note, use the +1/YES key, and to turn it off again, use the -1/NO key. As you step through, you will hear the effect on the selected notes.

In the same way, you can use the REVERSE key to check whether the sound of the voice has been reversed for the notes entered:

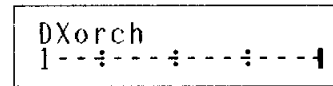


Use the +1/YES key to turn the reverse effect on for selected notes, and the -1/NO key to turn it off. The reversed sound will be audible as you step through the pattern.

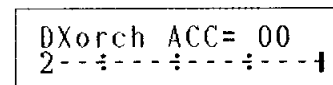
The RX8 is capable of playing two notes of the same voice on the same beat (polyphony). As you will remember, this is set up in the VOICE EDIT section (job 4). When a voice has POLY set to ON in this way, it is possible to examine and alter two notes independently, even if they fall on the same beat. First, let's enter two notes on the same beat (using the DX Orchestra voice which you select using the VOICE ASSIGN button, and set POLY ON using the VOICE EDIT button, job 4). Enter a note on the first beat of the bar:



and use the ◀ key to step back and enter another in the same place. The display will change to:



Now press the ACCENT, PITCH, EFFECT or REVERSE keys, and you will see that the display changes to:



(if you have pressed the ACCENT key). Further presses of any of these keys will change the note displayed from "1" to "2" and back again, and will enable you to edit each note in the 2-note chord individually. When changing from "1" to "2" using the PAN function, it will be necessary to press both the ACCENT

and PITCH keys absolutely simultaneously and release them absolutely simultaneously. As this may be a little tricky to achieve in practice, change from "1" to "2" with the ACCENT or PITCH keys on their own, and then pressing ACCENT and PITCH together. Try making a 2-note chord of the DX Orchestra sound with the notes 1 octave apart and panned hard right and hard left for an exciting effect.

Some more short cuts

When writing a song, it would be very tedious if you had to enter the common parts of similar patterns all the time. Happily, you don't have to. Let's see how this works in practice. Supposing you want two patterns, consisting of snare, bass drum and hi-hat, which will be identical apart from the hi-hat part. Write your first pattern in pattern 10 (using Realtime or Step). Now return to pattern mode (press the PATTERN key), and then the JOB and 6 keys simultaneously:

```
COPY  → PTN** ?
PTN10w> 12345678
```

This means that the data in pattern 10 will be copied to the pattern you choose. Enter the pattern number in place of the asterisks using the number keys (if it's below 10, you'll have to start with a 0, eg "0" "3"). If the pattern contains data already, a "w" will follow the pattern number to warn you that you will overwrite the contents of the pattern. Then press the +1/YES key if you are sure you want to make the copy.

```
Sure? (yes/no)
PTN10w> 12345678
```

Press +1/YES, and the copy will be made and the display will briefly show "COMPLETE!". Of course, pressing -1/NO will not copy the pattern, and you will be returned to the SELECT PATTERN display. You cannot copy an empty pattern, by the way.

Now select the pattern to which you have made the copy (let's say it's 11), and press the JOB and 5 keys together

```
DELETE DXorch ?
PTN11w> 12345678
```

Select the instrument to be deleted using the instrument keys (in this case, press the instrument key for the closed hi-hat), and the display will change to show this. Now press the +1/YES key. You will be asked if you are sure, and if you are, then press the +1/YES key again. Repeat the process for the open hi-hat. Now you can re-enter a different hi-hat part for pattern 11, either in Realtime or Step.

Sometimes you may want to delete a pattern entirely. First, select the pattern to be deleted and then press JOB and 4 together

```
CLEAR PATTERN ?
PTN10w> 12345678
```

Press the +1/YES key to confirm, and you will be asked again if you are sure. Answer +1/YES if you are. Pressing -1/NO will bring you back safely to SELECT PATTERN without the pattern having been erased.

Making a song

As we explained earlier, a song consists of a series of patterns arranged in a certain order. A song can also contain instructions to the RX8 to speed up or slow down (Accelerando and Ritardando), to alter the playback volume up or down, or to repeat sections. Patterns, and these other instructions are collectively known as "parts" of a song.

To enter Song mode, press the SONG button

```
> SNG00 > <:J=---
1234567
```

The space between the ◀ and ▶ marks is for entering the song name once you've written it, and the J= indicates that no initial tempo has been set (we'll come to these functions in a minute).

To select a song, use the number keys. Let's say we're working on song 09, so press "0" and then "9". As with patterns, any song that already contains data will have its number displayed followed by a "w". To start creating or editing a song, we use job 2, so press the JOB and 2 keys together:

```
EDIT SONG ?
SNG09 > 1234567
```

Press +1/YES, and the display will show

```
PART001=PTN**
(PTN)⌘ ⌘ Accel
```

The top line of this display indicates the current part number, and the type of part that it is. In this case, the current part (part 001) is a pattern, but no number has been assigned to the pattern as yet. The bottom line of the display indicates the type of part that will be written next (in this case, the PTN between square brackets is flashing, to show that a pattern will be written next). You can use the ◀ and ▶ keys to choose a different type of part. Although only four types are shown, if the ▶ key is pressed four times (taking it past the end of the display), the other three types will be shown, thus:

```
PART001= -00 /00
(Rit)Vol+ Vol-
```

Use the number keys to select a pattern and the display will change to

```
PART001=PTN00w
(PTN)⌘ ⌘ Accel
```

Notice that the "PTN" between the square brackets stops flashing as the number is entered, showing that the pattern type of part has

been selected. Now press the +1/YES key to move on to the next part. Enter another pattern number, and press +1/YES. You can enter blank pattern numbers, but of course you won't hear anything when they're played. Use the +1/YES and -1/NO keys to scroll backwards and forwards through the song. If you have made a mistake in the pattern number, use the number keys to correct it.

To listen to the song, press the SONG key, and then START. The STOP/CONTINUE key will stop the song, which may be re-started from the beginning by pressing START. Alternatively, you may continue the song from the point at which you stopped it by pressing the STOP/CONTINUE key. To re-enter parts into the song, press JOB and 2 followed by +1/YES again.

Repeats

If a song contains many similar structures (eg every 12-bar verse is to have the same drum part), life could get very tedious, and the chance of making mistakes goes up. To reduce this tedium, the RX8 contains a repeat function, which allows parts to be repeated. The repeat begin mark (||) is placed at the beginning of the section to be repeated, and the repeat end mark (:||) at the end of the section. Additionally, you can specify the number of times that the section is to be repeated. Scroll forward to the end of the song

```
PART012=PTN**
(PTN) | | Accel
```

The repeat begin mark (||) can be entered instead of a pattern at this part of the song. Use the ► key to start the "||" flashing, and notice the change in the display:

```
PART012= | |
PTN (| |) | | Accel
```

Press the +1/YES key, and enter a few drum pattern numbers. Now it's time to end the repeated section. Use the ► key to start the ":||" mark flashing:

```
PART016= | | x 01
PTN (| |) | | Accel
```

Use the number keys to select the number of repeats (remember that if a section is repeated once, it will be played twice) and then press +1/YES to move to the next part.

Speeding up and slowing down (Accelerando and Ritartando)

The RX8 can speed up and slow down playback automatically in the middle of a song. Here's how you do it. At the end of the song, select either "Accel" or "Rit" (with the ► key):

```
PART020=+00 /00
PTN | | | | (Accel)
```

(In this case, we've chosen to speed up). Now enter the amount in quarter notes (crochets) per minute that the song is to speed up,

using the number keys, and then press +1/YES:

```
PART020=+12 /00
PTN | | | | (Accel)
```

The second set of zeroes indicates the number of beats (quarter notes) over which the change in tempo is to take place. A value of 00 means an instant change, and a value of 08 means a change over 2 bars (assuming 4/4 bars). Enter this value with the number keys and the +1/YES key, enter a few patterns as the next few parts and listen to the results by playing your song. Slowing down (ritartando) is handled in exactly the same way.

Volume changes

The Vol+ and Vol- functions work in much the same way as the Accel and Rit functions, except that they work instantly (a gradual crescendo or diminuendo is not really possible). Use the ► key to select either Vol+ or Vol- (here we've chosen Vol-):

```
PART025=Vol-00
PTN | | | | (Accel)
```

Enter a number with the number keys, and confirm it with the +1/YES key. Now enter a few patterns, and play back the song to listen to the results.

Edit Song sub-jobs

In addition to these functions (which only allow you to add parts to the end of a song, there are four sub-jobs which allow you to:

- 1) jump to a part (SEARCH).
- 2) COPY sections of a song to the currently selected part.
- 3) DELETE the currently selected part, and.
- 4) INSERT a new part at the currently selected part.

NOTE:

To enter any of these sub-jobs from the Song Edit job (the job you're currently in), press the JOB and appropriate number key (1 through 4) together.

To re-enter the Song Edit job from these sub-jobs, press START, and to re-enter the Song mode from them, press STOP/CONTINUE.

Of course, if you're in an empty part, at the end of a song, you can't delete or inset at this point, so only sub-jobs 1 and 2 are available to you.

Searching

Enter this sub-job by pressing JOB and 1 together from the Song Edit job.

```
SEARCH PART*** ?
S.EDIT> |234
```

Rather than having to use the +1/YES and -1/NO keys to scroll through a long song, you can use this subjob to jump to a particular part of a song. Enter the part number as a three-digit

number (eg 20 would be entered as "0" "2" "0"). As soon as you have entered the third digit and confirmed it with the +1/YES key, the display will re-enter Song Edit at the chosen part. If the part number specified is greater than the largest part number in the song, the display will briefly show "End of Song!" before returning to the highest part number in the song.

Copying parts

Press JOB and 2 together to enter this sub-job from the Song Edit job.

```
COPY → PART025 ?  
S.EDIT> 1234
```

If you want to copy a part of the song to the current part, press +1/YES, otherwise enter the part to which you want to copy using three numbers (eg part 20 will be "0" "2" "0") and then +1/YES. If you enter a part number higher than the highest part number in the song, the display will briefly show "End of Song!" before asking you to retry.

```
from ***-*** ?  
S.EDIT> 1234
```

The two sets of asterisks indicate the lowest and highest part numbers of the section you are going to copy. Each must be entered as three-digit numbers (as with the SEARCH sub-job), and you need not press +1/YES after the first set. Press +1/YES after the second three-digit number has been entered, and the display will briefly flash "Complete!" before returning to the Song Edit job. If you attempt to copy non-existent parts (the numbers are too high), the display will briefly show "Not Found!" before asking you to try again. You cannot copy a part to itself, or have the first number higher than the second. In either of these cases, the display will briefly show "Illegal Input!" before asking you to try again.

Deleting a part

This is accessed by pressing JOB and 3 together from the Song Edit job.

```
DELETE PART004 ?  
S.EDIT> 1234
```

If you answer +1/YES, you are asked for confirmation (Sure?) before the current part is deleted. You can enter another part to be deleted by using three numbers and +1/YES. The parts following are "moved down" into the space left by the deleted part. In this instance, once Part 4 has been deleted, Part 5 will become the new Part 4, Part 6 the new Part 5, and so on. You will then be asked if you want to delete the new Part 4. If you don't, press the START key to return to the Song Edit job.

Inserting a part

To insert parts into the song, press JOB and 4 together

```
INSERT PART001 ?  
S.EDIT> 1234
```

If you answer +1/YES (optionally preceded by a three-digit number to select a part other than the current part), you will be returned to the Song Edit mode, where you may pick a pattern, tempo change, volume change, or repeat mark and enter it. All parts following will be "moved up" to accommodate the new part. In this example, once Part 1 has been entered, the old Part 1 will become the new Part 2, the old Part 2 the new Part 3, etc.

Song Attributes

You can select three song attributes for each song - whether an initial tempo is to be set for the song, what that tempo is to be, and a name to help you remember the song when you are selecting it. The initial tempo is useful, not only to help you remember what speed a song is to be played, but also, if it is not set, Accelerandos and Ritardandos become cumulative on repeated playbacks of a song, so that an initial tempo setting will always restart the song at the desired speed. To enter these attributes, select JOB+3, followed by +1/YES from the main SONG menu:

Initial Tempo

The first sub-job is the Initial Tempo ON/OFF:

```
INIT.TEMPO ON  
SNG.AT> 123
```

Use the +1/YES key to turn it on, and the -1/NO key to turn it off. To set the tempo value, move to the next sub-job (JOB+2):

```
INIT.TEMPO J=120  
SNG.AT> 123
```

Use the +1/YES and -1/NO keys to set the tempo.

Naming a song

Enter this sub-job with JOB+3:

```
SONG NAME ?  
SNG.AT> 123
```

Answer +1/YES to this question if you want to enter a song name, and the display will then show:

```
NAME -> <  
SNG.AT> 123
```

Eight upper-case (capital) characters are allowed, including letters, numbers and some punctuation. Enter the name by pressing the number keys. As you see on the RX8 itself, each number key has three letters or punctuation marks below it. Successive presses of each key will display the number, then the three letters underneath in succession. Move backwards and forwards through the name with the +1/YES and -1/NO keys. To enter the name "YAMAHA 1", the sequence of key presses would be:

- 8 (twice- to display "Y").
- +1/YES.
- 0 (twice - to display "A").
- +1/YES.

- 4 (twice - to display "M").
- +1/YES.
- 0 (twice - to display "A").
- +1/YES.
- 2 (three times - to display "H").
- +1/YES.
- 0 (twice - to display "A").
- +1/YES.
- 8 (four times - to display a space).
- +1/YES.
- 1 (once - to display "1") .

Exit by pressing the SONG key. You will now see that the song title you have chosen is shown whenever you select the song:

```
>YAMAHA 1<;J=132
SNG02w> 1234567
```

Deleting a song

This is easy. Just press JOB and 4 together from the main SONG menu, then press +1/YES. You will be asked if you are sure. If you are, press +1/YES, otherwise, press -1/NO, and you will be returned to the main song menu.

Saving your work

Though the RX8 allows you to store 20 songs and 100 patterns, which is usually enough for one session, you'll probably want to store patterns and songs for future reference. The RX8 allows you three ways to store them - cassette, memory card and MIDI Bulk dump. For the moment, we'll talk about cassette, and the other methods will be described in "Functions". Use a cassette recorder suitable for data storage (if you must use a hi-fi recorder, make sure any automatic gain control and noise reduction are OFF), and connect the supplied cassette lead from the CASSETTE socket of the RX8 (8-way DIN type) as follows:

Red lead (3.5mm jack plug) to MIC or REC or IN of your cassette recorder.

White lead (3.5mm jack plug) to EAR or PLAY or OUT of your cassette recorder

The black lead (2.5mm jack plug) is not used with the RX8.

To enter cassette mode, press the CARD/CAS button. The display will read

```
Card Not Ready !
CARD.0 12345678
```

Don't worry about this - we're not using a card anyway. Just press CARD/CAS again:

```
CASSETTE SAVE ?
CASS > 123
```

Make sure your tape is at the right point in the cassette recorder, start recording, and then press +1/YES. The display will tell you that you have started to save the data in the RX8 to tape. As a rough guide, this will take about 45 seconds. When this has been

done, the display will briefly show "Complete !" before returning to the Cassette menu. If you find that you are saving on the wrong tape, or you've made the wrong connections (or no connections), you can interrupt the saving process by pressing the STOP/CONTINUE button to get the following display:

```
Save Break !
CASS > 123
```

Any data saved on the tape up to this point will obviously be incomplete, and therefore unusable. Use the JOB+1 keys to access the Save Job again.

Making sure

It's a good idea to make sure that the data has been correctly saved on tape. Rewind the cassette to the point where you started saving, and press JOB and 2 together on the RX8:

```
CASSETTE VERIFY?
CASS > 123
```

Now start playing the tape, and press +1/YES on the RX8:

```
Verifying Now
CASS > 123
```

If the data on tape matches the data in the RX8, then a message will briefly appear, and you will be returned to the "Cassette Verify Message". If there is an error (wrong tape, wrong set of data, or the tape or cassette recorder are not functioning correctly), then the message "Verify Error!" will appear. If this happens, check the following:

- You have the right tape in the cassette recorder.
- No data has been changed in the RX8 since the tape was recorded.
- The volume of the cassette recorder is set correctly (trial and error will tell you what is best).
- If you're using a hi-fi recorder, noise reduction and automatic gain control are OFF.
- The heads of the cassette recorder are clean and are demagnetized

Usually, though, everything will be OK. If you want to stop the Verify process at any time, press the STOP/CONTINUE button, in exactly the same way as for saving.

Getting it all back again

This is the Load job (JOB and 3 together from the Cassette menu)

```
CASSETTE LOAD ?
CASS > 123
```

Make sure the correct tape is in the right place, start it playing, and press +1/YES on the RX8. If everything loads OK, then a message will be displayed briefly on screen. A "Load Error !" message will be displayed if there is a failure of any kind. Failures are due to the same causes as for Verify, so check the

same things. You can halt the load process at any time with STOP/CONT, but:

IF THE TAPE HAS STARTED TO INPUT DATA INTO THE RX8, STOPPING THE TAPE OR THE LOAD PROCESS WILL GIVE AN INCOMPLETE SET OF DATA, WHICH WILL HAVE THE EFFECT OF WIPING OUT THE RX8'S MEMORY.

This dire warning aside, you will find that cassettes are a cheap and relatively quick way of storing RX8 data.

Keeping in time

So far, we've only let the RX8 keep in time with itself. If we want it to keep in time with other instruments, we must synchronize it to them. This can be done through tape or MIDI. For the moment, let's look at MIDI (tape will be covered in the functions). This assumes that you have a sequencer or a unit including a sequencer or sequencing software which will generate MIDI Clock signals (eg YS200, B200, TQ5 or any of the QX series of sequence recorders). Connect the MIDI OUT of the sequencer to the MIDI IN of the RX8. Now press the SYNC/MIDI button on the RX8 until the following appears:

```
CLOCK INTERNAL  
SYNC > 1
```

Press the +1/YES button until the top line reads "SYNC MIDI". Now (making sure that the sequencer's clock is set to "Internal"), play a pre-recorded sequence on the sequencer and see how the RX8 keeps in time, even when the tempo is adjusted on the sequencer.

Not only will the RX8 keep in time, but it will even start at the correct point part of the way through a song (if the sequencer transmits Song Position Pointer data). Scroll through the song on your sequencer, and notice the part number change when a song is selected on the RX8.

The other way around

Connecting the sequencer's MIDI IN to the RX8's MIDI OUT will enable the sequencer's tempo to be controlled by the RX8. Set the RX8's SYNC to INTERNAL (SYNC/MIDI and +1/YES keys), and the sequencer's synchronization to MIDI. Now start playing from the RX8. The sequencer will play along with the RX8, and any Accels or Rits that you've entered in your song will be faithfully copied by the sequencer. If your sequencer does not allow tempo changes withing a song, this can be especially useful.

There are more things you can do with regard to the linking of sequencers and drum machines than this, of course. Some of these functions (this is, after all, a manual on the RX8, not a general treatise on MIDI systems) are discussed in the "Functions" section of this manual, but others you will have to discover from other sources. There are many other books and publications on the market to help you get the most out of your MIDI system.

FUNCTIONS

PATTERN MODE

A **Pattern** is a short rhythmic pattern from 1/16 to 32/16 notes long. In Pattern mode you can select, write, delete and copy patterns, and check the amount of used pattern memory. Press PATTERN, and use the ◀ and ▶ keys to move the cursor to select one of the 8 jobs. You can also press a numeric key 1 to 8 while pressing JOB to jump quickly to the desired job.

```
SELECT PATTERN
PTN00 > 12345678
```

JOBs

- | | |
|--------------------|---|
| 1 SELECT PATTERN | Select a pattern |
| 2 REALTIME WRITE ? | Write or edit a pattern in "realtime" |
| 3 STEP WRITE ? | Write or edit a pattern step-by-step |
| 4 CLEAR PATTERN ? | Clear (erase) a pattern |
| 5 DELETE SD 1 ? | Delete a single voice from a pattern |
| 6 COPY PTN** ? | Copy a pattern to another pattern |
| 7 CLEAR ALL PTNs ? | Clear (erase) all 100 patterns |
| 8 USED MEMORY ??% | Check the amount of used pattern memory |

To enter jobs followed by a question mark "?", select the job and press +1/YES. Some jobs have additional "sub-jobs" inside them which are accessed from the main job in the same way that jobs are accessed, ie by moving the cursor with the ◀ and ▶ keys, or by pressing JOB and the appropriate number key together.

Play the Selected Pattern

Any time while selecting one of these Pattern mode jobs (ie, before you have actually entered a job by pressing +1/YES), you can press START to hear the currently selected pattern.

```
PLAY: INT.clock
PTN00w :next **
```

The asterisks indicate that no next pattern has been selected. Use the number keys or the +1/YES or -1/NO keys to select another pattern to play back. When the pattern currently being played ends, the next pattern you select will begin. For example, if pattern 00 were playing and you selected pattern 09, the display would change as follows:

```
PLAY: INT.clock
PTN00w :next 09w
```

```
PLAY: INT.clock
PTN09w :next **
```

The "w" after the pattern number 00—99 indicates that the pattern has been written: ie, has had data already written to it. Nothing stops you from selecting an unwritten pattern, but you will get only a silent playback! Press STOP/CONTINUE to stop pattern playback.

```
STOP: INT.clock
PTN09w :next **
```

Pressing START will play from the beginning of the pattern. Press STOP/CONTINUE again to continue pattern playback from where you stopped.

Job 1: SELECT PATTERN

Press PATTERN to obtain the following display:

```
SELECT PATTERN
PTN05w> 12345678
```

"w" indicates that the pattern has already had data written to it

Select a pattern 00—99 using the numeric keys or the +1/YES or -1/NO keys.

Job 2: REALTIME WRITE

Realtime Write lets you create (or modify) a pattern by tapping on the instrument keys in real time. The sounds will be recorded in the same timing as you play them. There are three sub-jobs: setting the length of the pattern, setting the quantization, or "precision", and setting the click (metronome) level.

Press PATTERN, then JOB+2 to obtain the following display:

```
REALTIME WRITE ?
PTN11 > 12345678
```

Press +1/YES to enter Realtime Write mode. Use ◀ and ▶ (or JOB+ 1—3) to select any of the three sub-jobs.

Subjob 1: Length

If you are writing a new pattern, the length of the pattern should be set. The length may be 1 through 16 sixteenth notes (semiquavers) long. A blank pattern will be initialized to 16/16. Use the +1/YES and -1/NO keys to set the length of the pattern.

Pattern length 1-32/16

```
LENGTH = 16/16
REAL.W> 123
```

You cannot change the length of an already existing pattern. An error message “! ALREADY SET !” will be displayed.

Subjob 2: Quantization

Quantization determines how the notes you input are “time corrected”.

Quantization 1/8, 1/16, 1/32, 1/12, 1/24, 1/48

```
QUANTIZE= 1/08
REAL.W> 123
```

For example, if you set QUANTIZE to 1/8, all notes you play will be corrected to the nearest 1/8th note (quaver), no matter how inaccurate your original timing.

Subjob 3: Click Level

Click Level sets the volume of the metronome from 00 to 63.

00-63

```
CLICK LEVEL = 54
REAL.W> 123
```

Realtime Write

Press START to begin Realtime Write.

```
RECORD:INT.clock
PTN11
```

The metronome will sound every quarter note (crochet) with the first beat of each bar accented. Tap an instrument key to input notes for that voice. Tapping an instrument key while an ACCENT, PITCH, EFFECT or REVERSE key is pressed will input the note with the corresponding variation. To erase an already recorded voice, hold down the BEAT CLEAR key and the appropriate instrument key in time with the notes you want to erase. While in Realtime Write mode, you can press VOICE EDIT, VOICE ASSIGN, MULTI, or TEMPO to access a sub-function. Pressing an instrument key while in one of these sub-functions will not record the voice. Press JOB + 0 to return to Realtime Write.

Realtime Write via MIDI

In addition to, or instead of using the instrument keys, you can record in real time by playing a MIDI instrument connected to the RX8 MIDI IN. Each different note will be interpreted either as

playing a different RX8 voice or as playing the same RX8 voice with varying pitch over a C3 to C5 range (for details, see NOTE ASSIGN mode). The Note On velocity of the incoming MIDI note determines the volume of each note recorded on the RX8 as follows:

Recorded accent value = (MIDI velocity / 2) - 32

For example if the incoming note has a velocity of 64, it will be recorded as an accent level of 0.

End Realtime Record

Press STOP/CONTINUE to end Realtime Record. You will return to the Pattern Mode menu display.

Job 3: STEP WRITE

In Step Write you can create or edit a Pattern step by step. Press PATTERN, then JOB + 3 (or the ◀ and ▶ keys) to obtain the following display:

```
STEP WRITE ?
PTN00 > 12345678
```

Press +1/YES to enter Step Write mode.

```
LENGTH = 16/16
STEP.W> 12
```

You can now press START to begin step writing, or make settings in the two Step Write mode sub-jobs: Length and Quantization (see below).

Step Write Display

When you press START to begin step writing, the display will show something like the following.

```
Tom 1
: : : : : |
```

The display shows the Pattern divided into steps, the length of which is determined by the Quantize sub-job. When you tap an instrument key, the voice assigned to it will be input, and the cursor position will advance one step. Use the ◀ and ▶ keys to move back and forth through the steps without entering a voice. Thus, to input quarter notes (crochets) when Quantize is set to 1/16 (as above), you would tap the instrument key once and then press the key three times to advance to the next quarter note (crochet).

The Step Write display uses the following characters:

- : : Dividing mark every quarter note (just a convenient indicator)
- |: End of the pattern
- : An empty beat (for the selected instrument)
- o : A beat of the selected instrument
- * : A beat of the displayed instrument, non-displayable

If notes have previously been entered in one quantize setting, it is possible that their position cannot be displayed precisely in

another. For instance, a note previously recorded at 12/16 quantization at 7/12 cannot be displayed exactly in 16/16 quantization, and a * is therefore used.

Step Writing

After you have entered Step Write mode and pressed START to begin writing, the basic procedure is as follows:

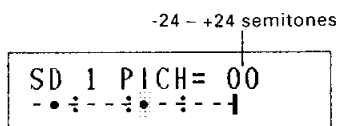
- Select an instrument by pressing an instrument key. The display will change to show all notes currently entered for that instrument.
- Enter a beat by pressing an instrument key. The position will advance one beat.
- Enter a rest by pressing ►.
- Use the ◀ and ▶ keys to move back and forth in the pattern. If you try to move beyond the beginning or end of the pattern, you will get a message of "Top !" or "End !".
- You can jump to the beginning of the pattern by pressing START. As you advance through the pattern, you will hear all the voices.
- If you press an instrument key while pressing EFFECT, REVERSE, ACCENT or PITCH (you can press any or all), the voice will be recorded with the corresponding variation. This can be edited later.

Pattern Editing

To erase a beat, use or to move to the desired beat, hold BEAT CLEAR and press the instrument key for the voice to be erased.

Every note of every voice in a pattern has its own Accent level (+/-63), Pan setting (+/-14), Pitch shift (+/-24), Effect switch (on/off) and

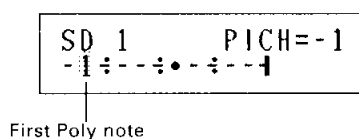
Reverse switch (on/off). Press ACCENT, PAN (ACCENT + PITCH), PITCH, EFFECT or REVERSE and use the +1/YES or -1/NO keys to change each type of setting. (See notes 1 and 2, below.) The following example shows a Pitch edit:



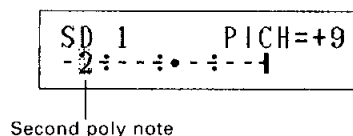
The value specified here will be added to the Pitch value as determined in VOICE EDIT. Every note of every voice in the pattern may have any or all of the above parameters edited.

Note 1:

If you have specified Poly ON for a voice (see Voice Edit), it is possible to enter two notes of a single voice in a single beat. Each press of ACCENT, PITCH, EFFECT, REVERSE, or PAN (ACCENT + PITCH keys) will alternately display the settings for the two notes. For example if you had entered two notes of SD 1 (at different pitches) on the same beat, pressing PITCH would alternately display the pitches of the two notes.

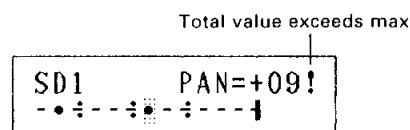


Pressing PITCH will display the second note, so that its pitch may be edited:



Note 2 :

These note-by-note settings for Accent, Pitch and Pan are **added** to the Voice Edit settings for the voice. The total of the Voice Edit setting and the setting for each note may not fall outside the range allowed in Voice Edit. For example, if the PAN for a certain instrument has been set to 15 (full right) in Voice Edit, giving a note a Pan setting above 0 will have no effect, since the maximum value will be exceeded. A "!" mark after the setting in the display will notify you that the displayed setting exceeds the maximum (or minimum).



A different Quantize value can be selected by pressing JOB+2 to return to the Step Write sub-job menu and set a different Quantize value. Press START to begin Step Writing again. Press STOP/CONTINUE to exit Step Write and return to the Select Pattern display.

Note:

At any time in Step Write, you can press

- VOICE EDIT to change voice settings
- MULTI to assign all 12 instrument keys to different pitches or accents of a single voice
- VOICE ASSIGN to assign voices to instrument keys and audio outputs

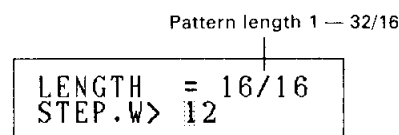
For details, see the sections for VOICE EDIT, MULTI and VOICE ASSIGN. Press JOB+0 to return to wherever you were in Step Write.

STEP WRITE SUB-JOBS

Step Write mode has two sub-jobs: Length and Quantize. Use ◀ and ▶ (or JOB+1 or 2) to select the sub-job.

Subjob 1: LENGTH

If you are writing a new pattern, you will need to set the length of the pattern. Use the +1/YES or -1/NO keys to set the length of the pattern.



You cannot change the length of an already existing pattern (an error message "ALREADY SET!" will be displayed). A pattern that contains no data will be initialized to 16/16.

Subjob 2: QUANTIZE

In Step Write, the Quantize setting determines the interval at which notes are displayed and input.

Quantization 1/8, 1/16, 1/32, 1/12, 1/24, 1/48

```
QUANTIZE= 1/08
STEP.W> 123
```

For example if you set QUANTIZE to 1/16, each step in the display will represent a 16th note (semiquaver). Select a Quantize value that makes it easy for you to enter each part.

Quantize = 1/8

```
BD 3
•-÷•-÷•-÷•-÷
```

As already explained, if the current Quantize setting is not fine enough to indicate the precise position of an already existing beat, a "*" will be displayed.

Job 4: Clear Pattern

The Clear Pattern job lets you clear (erase) an entire pattern. All voices will be erased (use Job 5 to delete individual voices). Press PATTERN, then JOB+4 to obtain the following display:

```
CLEAR PATTERN ?
PTN00w> 12345678
```

When you press +1/YES, you will be asked if you are sure you really want to clear the currently selected pattern.

```
Sure? (yes/no)
PTN00w> 12345678
```

If you are sure you want to clear the pattern, press +1/YES again (to exit safely, press -1/NO).

Job 5: Delete Voice

This job lets you delete all notes of a single voice from a pattern. Press PATTERN, then JOB + 5 to obtain the following display.

Select voice to delete

```
DELETE SD 1 ?
PTN00w> 12345678
```

Press an instrument key to select the voice to be deleted from the pattern, and press +1/YES (to select a voice which is not assigned to an instrument key, use VOICE ASSIGN to assign a voice temporarily to an instrument key). You will be asked if you are sure you want to delete the selected voice.

```
Sure? (yes/no)
PTN00w> 12345678
```

If you are sure you want to delete the voice, press +1/YES again (to exit safely, press -1/NO).

Job 6: Copy Pattern

This job allows you to copy the currently selected pattern to another pattern memory (00—99). For example to make a second, slightly different pattern, you could use this Copy Pattern job, and edit the newly copied pattern. Press PATTERN, then JOB + 6 to obtain the following display:

```
COPY → PTN** ?
PTN00w> 12345678
```

Use the numeric key pad to select the copy destination. For example, if you wanted to copy the currently selected pattern to pattern memory 57, you would press 5, then 7 to obtain the following display:

Copy to this pattern memory

```
COPY → PTN57 ?
PTN00w> 12345678
```

If data already exists in the selected destination pattern, a "w" will notify you of this (eg, "57w"). When you press +1/YES, you will be asked if you are sure. When you press +1/YES, the current pattern (00 in this example) will be copied to the destination pattern memory (57 in this example). Any data previously in pattern memory 57 will be lost.

Job 7: Clear All Patterns

This job allows you to clear all pattern memories (00—99). Press PATTERN, then JOB + 7 to obtain the following display:

```
CLEAR ALL PTNs ?
PTN > 12345678
```

To erase all pattern memories, press +1/YES.

```
Sure? (yes/no)
PTN > 12345678
```

If you are sure you want to delete all patterns, press +1/YES again (to exit safely, press -1/NO).

Job 8: Used Memory

Press PATTERN, then JOB + 8 to obtain the following display indicating how much Pattern memory you have used (memory in the RX8 is divided into Pattern and Song memory):

```
USED MEMORY 089%
PTN > 12345678
```

SONG MODE

A **Song** is a sequence of 1 to 999 **parts**. Each part may be one of the following: a Pattern, a Repeat Begin or End, an Tempo change (Accelerando or Ritardando) or a Volume change (Increase or Decrease).

Part No.	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017
Contents	PTN 00	PTN 01	PTN 02	:	PTN 04	PTN 03	PTN 05	PTN 02	PTN 06	PTN 07	:: x02	Rit 02/04	Vol+ +02	PTN 10	PTN 11	PTN 12	PTN 14

```
>PIRATES.<;J=130
SNG00w> 1234567
```

At any time while selecting one of these Song mode jobs (ie, before you have actually entered a job by pressing +1/YES), you can hear the currently selected song by pressing START.

```
PLAY: >PIRATES.<
Part 001:PTN00w
```

The song will play from beginning to end, and stop. To stop playback before the end of the song is reached, press STOP/CONTINUE. While the song is stopped, you can press any of the main mode switches (PATTERN, SONG, CARD/CAS or SYNC/MIDI) to exit to that mode. Also while the song is stopped, you can use the +1/YES or -1/NO keys to move through the parts, and then press STOP/CONTINUE to continue playback from the current location.

SONG JOBS

In Song mode you can use one of the 7 jobs to create or edit a song. Press SONG, and use the ◀ and ▶ keys to move the cursor to select one of the 7 jobs. You can also press a numeric key while pressing JOB to jump quickly to the desired job.

```
>PIRATES.<;J=130
SNG00w> 1234567
```

JOBs

- | | | |
|---|-------------------|--------------------------------------|
| 1 | SELECT SONG | Select a song |
| 2 | EDIT SONG ? | Create or modify a song |
| 3 | SET ATTRIBUTE ? | Set a song name and initial tempo |
| 4 | CLEAR SONG ? | Clear (erase) an entire song |
| 5 | COPY SONG ? | Copy a song to another song memory |
| 6 | CLEAR ALL SONGS ? | Clear all song memories |
| 7 | USED MEMORY | Check the amount of used song memory |

To enter jobs marked with a question mark "?", select the job and press +1/YES. Some jobs have additional "sub-jobs" inside them. Sub-jobs marked with a question mark "?" are selected in the same way.

Job 1: SELECT SONG

Press SONG to obtain the following display.

```

Song name           Tempo
>PIRATES.<;J=123
SNG00w> 1234567

```

"w" indicates that song data already exists

Select a song 00—19 using the numeric keys. If the selected song already contains data, the display will show a "w" after the song number. If a song name and initial tempo have been assigned (see job 3, Set Attribute), they will be shown in the upper line of the display. If unassigned, the name will be displayed as spaces between ">" and "<" and the tempo will be displayed as "----".

Job 2: EDIT SONG

The Edit Song job lets you create or modify a song. Press SONG, then JOB+2 to obtain the following display:

```
EDIT SONG ?
SNG01w> 1234567
```

Press +1/YES to enter Edit Song mode. The upper left of the screen will show the part number (001 to 999) that you are editing. Each part contains one of the following 7 types of data; a Pattern, a Repeat mark (Begin or End), a Tempo change (Accelerando or Ritardando), or a Volume change (Increase or Decrease).

Part number Contents of part

```
PART001=PTN**
(PTN) 1: 1 Accel
```

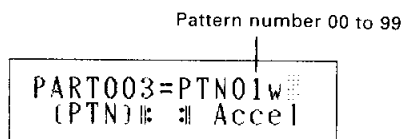
Use ◀ and ▶ to select the contents of the part. Use +1/YES or -1/NO to select a part number. Use ◀ and ▶ to move the "[]" in the lower line to specify the data for that part. You can move beyond the edge of the display to select additional types of data.

```
PART001= -00/00
(Rit)Vol+ Vol-
```

Most types of data require you to enter additional data (pattern number, number of repeats, etc) using the numeric key pad. When you have done so, or when you press +1/YES or -1/NO to select another part number, the currently selected data (pattern number, repeat mark, accelerando, etc.) will be written into the part, and the text in the “[]” will stop blinking.

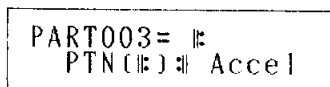
Pattern

Use ◀ and ▶ to select “PTN” and use the numeric key pad to enter a pattern number from 00 to 99. If the pattern contains data, a “w” will be displayed beside the pattern number.

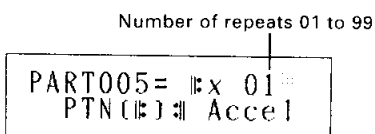


Repeat marks

Use ◀ and ▶ to select “||:” to begin a repeated section. This mark indicates the beginning of the repeat ended by the Repeat End mark.



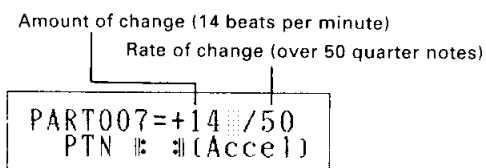
Use ◀ and ▶ to select “:||” and use the numeric key pad to enter a number of repeats (followed by +1/YES). “01” repeats will play the selected section twice.



When playback reaches this mark, it will return to the previous Repeat Begin mark, repeating the section the specified number of times. By “nesting” repeat marks, you can repeat sections within sections.

Tempo Changes (Accelerando and Ritardando)

Use the and keys to select “Accel” or “Rit”. Press +1/YES or -1/NO to move the cursor to left or right, and use the numeric key pad to enter an Amount of tempo change (00 to 99) and a Rate of tempo change (00 to 99 quarter notes (crochets)) over which the tempo is to be changed. A tempo change **amount** of 00 is the same as no change. A tempo change **rate** of 00 gives an instant tempo change. When playback comes to an Accelerando, the current tempo will increase as specified, and will decrease as specified when it reaches a Ritardando.



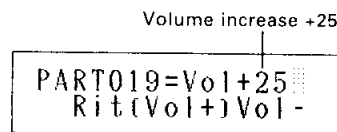
For example if playback came to the above Accelerando, the tempo would gradually increase, until 50 quarter notes later, the tempo will be 14 beats per minute faster than originally.

Note:

Each Accelerando (or Ritardando) in the song affects the **current** tempo. Song mode job 3, Set Attribute, lets you set an initial tempo for the song, ensuring that the song will always begin with the same tempo, and Accelerando or Ritardando will not “accumulate” to make each playback faster or slower.

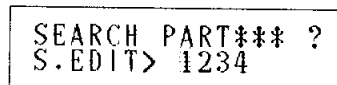
Volume changes (Vol+ and Vol-)

Use ◀ and ▶ to select “Vol+” or “Vol-”, and use the numeric key pad to enter the amount of volume change. When playback comes to this mark, the overall volume will immediately increase (or decrease if “Vol-” has been chosen) by the specified amount.



EDIT SONG SUB-JOBS

Four sub-jobs are available while editing a song (if the song contains no data you will not be able to access these jobs). Press JOB and use ◀ and ▶ to select the sub-job (or go immediately to the desired sub-job by pressing JOB + 1 to 4).

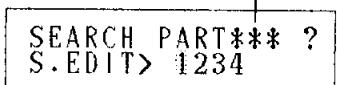


To leave a sub-job and return to song editing, press START. To leave a sub-job and return to the Song Mode menu, press STOP/CONTINUE.

Sub-job 1: SEARCH PART

This sub-job lets you instantly jump to a desired part of the song (instead of holding down the +1/YES or -1/NO keys to move through parts 000 to 999).

Jump to an existing part 000 to 999

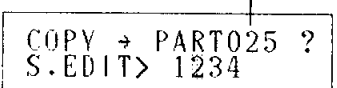


Use the numeric key pad to enter a part number from 000 to 999. When you press +1/YES, you will jump to that part. If the part is beyond the actual end of the song, you will get an error message “End of Song !”.

Sub-job 2: COPY PART

This sub-job lets you copy one or more parts to another point in the song. First you must specify the destination using the numeric key pad (the current part is the default).

Specify the destination part



Then press +1/YES to obtain the following display:

```

from ***-*** ?
S.EDIT> 1234
    
```

Use the numeric key pad to specify the parts to be copied. For example to specify measures 001 to 012, you would press "0", "0", "1", "0", "1", "2". If you make a mistake, enter the six digits again.

```

from 001-012 ?
S.EDIT> 1234
    
```

When you press +1/YES, the Copy Part operation will be executed, and you will jump to the last part of the copy destination.

For example, pressing +1/YES to Copy Parts as shown in the above display would change the song as follows:

Part No.	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020
PTN No.	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20

COPY Parts 01 - 05 to Part 10

Part No.	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020
PTN No.	01	02	03	04	05	06	07	08	09	01	02	03	04	05	15	16	17	18	19	20

Sub-job 3: DELETE PART

This sub-job lets you delete an unwanted part from a song (if you are at the end of a song, i.e. a blank part, this sub-job will not be available).

Part to be deleted

```

DELETE PART023 ?
S.EDIT> 1234
    
```

The display will show the part you were editing, but you can change this using the numeric key pad. When you press +1/YES, you will be asked if you are sure you want to delete this Part. If you are sure you want to delete the part, press +1/YES again (to exit safely, press -1/NO). Succeeding parts will be moved up to fill the gap. After executing Delete Part, you will be returned to the previous display, showing the next part, and asking if you want to delete it (this is convenient when you need to delete two or more successive Parts). You can press +1/YES again to delete this next Part.

The display will initially show the part you were working on, but you can change this using the numeric key pad. When you press +1/YES, you will be returned to the Song Edit job, ready to specify the data for the newly inserted part. (See Song Mode job 2, Song Edit.)

Use ▶ to select data for this part (see Song Edit)

```

PART007=PTN**
(PTN)⏏ ⏏ Accel
    
```

Job 3: SET ATTRIBUTE

The Set Attribute job lets you specify a name and initial tempo for the currently selected song. Press SONG, then JOB + 3 to obtain the following display:

```

SET ATTRIBUTE ?
SNG02w> 1234567
    
```

Press +1/YES to enter Set Attribute mode, and use ◀ and ▶ to select from the three sub-jobs.

Sub-job 1: Initial Tempo ON/OFF

The initial tempo you specify in sub-job 2 (see following) can be switched ON (press +1/YES) or OFF (press -1/NO).

```

INIT.TEMPO OFF
SNG.AT> 123
    
```

Sub-job 4: INSERT PART

This sub-job lets you insert a new part between existing parts (if you are at the end of a song, i.e. a blank part, this sub-job will not be available).

Part to be inserted

```

INSERT PART007 ?
S.EDIT> 1234
    
```

Sub-job 2: Initial Tempo

When Initial Tempo (sub-job 1) is switched ON, the tempo you set here will be set whenever this song begins. Use the +1/YES and -1/NO keys to set an initial tempo of between 40 and 250 beats (quarter notes) per minute.

40 to 250 quarter notes (crochets) per minute

```
INIT. TEMPO J=121
SNG. AT> 123
```

If Initial Tempo (sub-job 1) is switched OFF, the song's tempo at the beginning of this song will be the RX8's current tempo setting, whether set initially using the TEMPO dial, or modified by Tempo marks inside the song. If an Initial Tempo is **not** used, remember that if the song contains Accelerandos and/or Decelerandos that end the song at a different tempo than it began, repeated playback will gradually change the overall tempo of the song. Set the initial tempo with the +1/YES and -1/NO keys.

Sub-job 3: SONG NAME

You can give the currently selected song an eight-character name.

```
SONG NAME ?
SNG. AT> 123
```

Press +1/YES to obtain the following display.

Numeric keys enter characters, +1/YES or -1/NO move the cursor

```
NAME ->YAMAHA 1<
SNG. AT> 123
```

Forty letters, numerals and symbols are available for use in the eight-character song name. Each numeric key has four characters assigned to it (the numeral itself and the three additional characters) printed on the front panel below each key as shown below. Repeatedly press the numeric keys to step through the characters. The +1/YES or -1/NO keys move the cursor left or right.

A B C	D E F	G H I	J K L	M N O
[0]	[1]	[2]	[3]	[4]
P Q R	S T U	V W X	Y Z _	. ' .
[5]	[6]	[7]	[8]	[9]

The "space" character is the fourth press of the numeric 8 key. To cancel your input and return to SONG mode, press STOP/CONTINUE.

Job 4: CLEAR SONG

The Clear Song job lets you clear (erase) the currently selected song. Press SONG, then JOB + 4 to obtain the following display:

```
CLEAR SONG ?
SNG02w> 1234567
```

Press +1/YES to clear (erase) the currently selected song. You will be asked if you are sure you want to clear the song. If you press +1/YES again, the entire song - all parts - will be deleted permanently. To exit safely, press -1/NO.

Job 5: COPY SONG

The Copy Song job lets you copy the selected song to another song memory. Press SONG, then JOB + 5 to obtain the following display:

Copy to this song memory

```
COPY → SONG09w ?
SNG02w> 1234567
```

Copy this song by using the numeric key pad to specify the copy destination (song 00—19). If the selected destination song memory contains data, you will be notified by a "w" following the song number (as in the above display). Press +1/YES and you will be asked if you are sure you want to copy the song. Remember that the song data originally in the copy destination will be lost. When you press +1/YES again the song data (all parts) will be copied to the specified song memory. To exit safely, press -1/NO. The copied song will have the same name and initial tempo as the original.

Job 6: CLEAR ALL SONGS

This job lets you clear (erase) **all** song memories (songs 00 to 19). Press SONG, then press JOB + 6 to obtain the following display:

```
CLEAR ALL SONGs?
SNG > 1234567
```

Press +1/YES, and you will be asked if you are sure you want to clear **all** song memories. When you press +1/YES again, all song memories (including song name and initial tempo) will be cleared. To exit safely, press -1/NO.

Job 7: USED MEMORY

Press SONG, then JOB + 7 to obtain the following display indicating how much song memory you have used.

```
USED MEMORY 092%
SNG > 1234567
```

The display above indicates that you have used 92% of the song memory.

MIDI MODE

Settings in MIDI mode determine how the RX8 will respond to messages received at MIDI IN, and how it will transmit messages from MIDI OUT. Pressing SYNC/MIDI will alternately enter MIDI mode or SYNC mode (see page 15). Press SYNC/MIDI, and use the ◀ and ▶ keys to move the cursor to select one of the 7 jobs. You can also press a numeric key 1 to 7 while pressing JOB to jump to the desired job.

```
CH MESSAGE  OFF
MIDI > 1234567
```

JOBs

- | | |
|---------------------|---|
| 1 CH MESSAGE ON/OFF | Receive and transmit or ignore channel messages |
| 2 RECEIVE CH | Set /receive channel |
| 3 TRANS CH ASSIGN ? | Set a transmit channel for each voice |
| 4 NOTE ASSIGN ? | Assign voices played via MIDI |
| 5 RECEIVE BULK ? | Receive pattern/song/voice bulk data |
| 6 TRANSMIT BULK ? | Transmit pattern/song/voice bulk data |
| 7 ECHO BACK | Retransmit incoming messages or not |

To enter jobs marked with a question mark "?", select the job and press +1/YES.

Job 1: Channel Message

Press SYNC/MIDI to obtain the following display.

```
OFF/ON
CH MESSAGE  OFF
MIDI > 1234567
```

Use the YES/NO keys to turn Channel Message reception OFF/ON. To play RX8 instruments via MIDI or for the RX8 to play other MIDI instruments, (on the MIDI channel specified in job 2), Channel Message reception must be ON. This setting has nothing to do with synchronization. The RX8 can be synchronized to an external MIDI instrument whether or not Channel Message reception is on.

Job 2: Receive Channel

This job selects the MIDI channel (1 to 16) that will play RX8 voices. Press SYNC/MIDI, then JOB+2 to obtain the following display:

```
Reception channel 1 to 16
RECEIVE CH = 01
MIDI > 1234567
```

Use the +1/YES or -1/NO keys to select a Reception Channel (1 to 16) on which to receive Channel Messages. MIDI Notes of this channel that are received at MIDI IN can play RX8 instruments (the channel message reception must be ON. See job 1).

Job 3: Transmit Channel Assign

Each RX8 voice can be assigned a channel on which to transmit a MIDI Note message whenever the RX8 voice is played (channel message reception must be ON. See job 1). For example, the RX8 MIDI OUT can be connected to another Rhythm Programmer or Tone Generator to trigger external sounds from the RX8's rhythm patterns. Press SYNC/MIDI, then JOB+3 to obtain the following display:

```
TRANS CH ASSIGN?
MIDI > 1234567
```

Press +1/YES to obtain the following display.

```
ALL T.CH=**?
MIDI.T> 12
```

Transmit Channel Assign has two sub-jobs; All and Instrument. Use ◀ and ▶ (or JOB + 1 or 2) to select the sub-job.

Sub-job 1: ALL

Use the numeric key pad to enter a MIDI channel 01 to 16 on which **all** voices will transmit.

All voices to transmit on MIDI channel (01 to 16)

```
ALL T.CH=**?
MIDI.T> 12
```

After entering a channel number, press +1/YES to finalize. When played, **all** RX8 voices will transmit Note On/Off messages on this channel from the MIDI OUT terminal. Each voice transmits the note number set for it in job 4, Note Assign.

Sub-job 2: (individual voices)

Here you can select a different transmit channel for **each** RX8 voice. Press an instrument key to select a voice, and use +1/YES or -1/NO to set its transmit channel.

Select each voice (press an instrument key) and set its transmit channel (+1/YES or -1/NO).

```
SD 1  ▶ T.CH=02
MIDI.T> 12
```

To set the transmit channel of a voice that is not currently assigned to an instrument key, press and hold the PITCH key. The arrow in the display will change as follows, and you can use the +1/YES or -1/NO keys to select voices.

Select voice using +1/YES or -1/NO

```
BD 1  ◀ T.CH=02
MIDI.T> 12
```

If after making transmit channel settings for each voice, you set a transmit channel in sub-job 1 (ALL) and press +1/YES to confirm, the individual voice transmit channel settings will be ignored.

Note:

Whenever a RX8 voice is played, whether by tapping on an instrument key or during pattern or song playback, it will transmit a Note On/Off message (with the note number assigned in job 4) from MIDI OUT. If you are not using one of the RX8's voices, you can use VOICE ASSIGN to turn its Stereo Output off so that it would produce no sound, but can be used in a pattern and transmit Note On/Off messages specifically to trigger external devices (synthesizers or tone generators).

Job 4: NOTE ASSIGN

Incoming MIDI notes can play RX8 voices in two ways: either the incoming MIDI note number determines which RX8 voice is sounded (Voice Note) or the incoming MIDI note number sounds a specified RX8 voice at the corresponding pitch (Pitch Note). Press SYNC/MIDI, then JOB + 4 to obtain the following display:

```
NOTE = VOICE
MIDI.N> 123
```

Press +1/YES to obtain the following display:

```
NOTE ASSIGN ?
MIDI > 1234567
```

Note Assign has three sub-jobs: Pitch/Voice note select, Voice note/Pitch voice, and Initialize Voice Note. Note that the function of sub-job 2 depends on the choice you make in sub-job 1.

Sub-job 1: Pitch Note/Voice Note

Selects whether incoming MIDI notes will play different RX8 voices (Voice Note) or the same RX8 voice with different pitches (Pitch Note). Use +1/YES or -1/NO to select Pitch or Voice.

Pitch or Voice

```
NOTE = VOICE
MIDI.N> 123
```

Sub-job 2: Voice Note/Pitch Note

Depending on the selection you made in sub-job 1, this sub-job selects either a **single** voice for pitched play or a Voice Note for **each** voice.

If the PITCH NOTE option has been selected in sub-job 1, then Note On messages from C3 to C5 received at MIDI IN will play the selected voice over a two octave range. Note C4 will play the voice at the original pitch, C5 will play the voice an octave higher, and C3 will play the voice an octave lower. Any pitch settings made in VOICE EDIT will not affect this. In this sub-job, the display will be as follows:

Change the voice by using the instrument keys or the +1/YES and -1/NO keys.

```
VOICE = Bass 1
MIDI.N> 123
```

Use the instrument keys or the +1/YES and -1/NO keys to select the voice which will be played over the two-octave range via MIDI. If VOICE has been selected rather than PITCH, the display will be as follows:

Voice Note (note number)

```
SD 1  ▶ E 2 (052)
MIDI.N> 123
```

Press an instrument key to select a voice, and use +1/YES or -1/NO to set a Voice Note for each voice. Even if a voice is not currently assigned to an instrument key, you can set its Voice Note by pressing and holding the PITCH key. The arrow in the display will change (◀), and you can use the +1/YES or -1/NO keys to select voices.

Hold PITCH and select voice using +1/YES or -1/NO

```
BD 5  ◀ A 1 (045)
MIDI.N> 123
```

The Voice Note number you select here determines the MIDI note to which each voice of the RX8 will respond, and also the MIDI Note number transmitted by each voice from MIDI OUT. In this way each of the RX8's voices can be played independently from a MIDI keyboard.

Sub-job 3: Initialize Voice Notes

This sub-job lets you set all Voice Note numbers to the standard setting shown at the end of this manual.

```
INIT VOICE NOTE?
MIDI.N> 123
```

Press +1/YES, and you will be asked for confirmation. When you press +1/YES again, all Voice Note numbers will be set as shown in the table at the end of the manual. To exit without initializing the Voice Note numbers, press -1/NO.

Job 5: RECEIVE BULK

The Receive Bulk job lets the RX8 receive data from another RX8 (or a MIDI bulk data storage device) connected to MIDI IN. Press SYNC/MIDI, then JOB + 5 to obtain the following display:

```
RECEIVE BULK ?
MIDI > 1234567
```

Press +1/YES to obtain the following display:

```
with Set Up ?
MIDI > 1234567
```

If you answer +1/YES to this, then the setup data (voice assign, etc) will be received. If you answer -1/NO, then only pattern and song data will be received. The display will change to:

```
RECEIVE Ready
MIDI > 1234567
```

Operate the other device (the other RX8 or MIDI bulk storage device) to make it transmit data. When data begins to arrive, the display will show:

```
Receiving
MIDI > 1234567
```

The received RX8 data consists of Pattern, Song (including name and initial tempo) and Voice (all settings in VOICE edit mode) data.

If data not meant for an RX8 arrives, you will get an error message "Different Type!". Such data is ignored. If the arriving data has been corrupted, you will get an error message "Receive Error!". Check MIDI connections and try again. If a Receive Error occurs, all data in the receiving RX8 will be re-initialized. If you have entered Receive Bulk by mistake, you can interrupt the process by pressing STOP/CONTINUE. The display will show "Receive Break!", and you can press any of the mode keys (PATTERN, SONG, SYNC/MIDI or CARD/CAS) to exit.

Job 6: TRANSMIT BULK

The Transmit Bulk job lets you save Pattern, Song and Voice data on another RX8 or to a MIDI bulk data storage device (see note). Press SYNC/MIDI, then press JOB + 6 to obtain the following display:

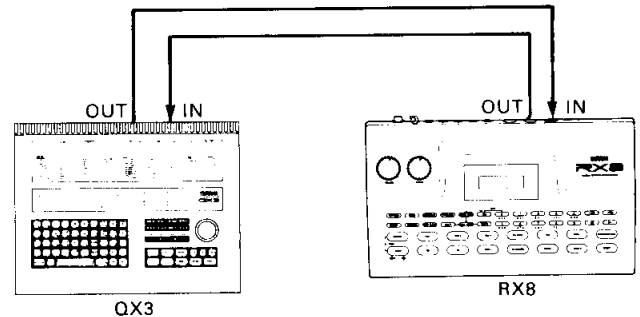
```
TRANSMIT BULK ?
MIDI > 1234567
```

When you press +1/YES (or when a MIDI dump request message is received), transmission will begin, and the display will show:

```
Transmitting
MIDI > 1234567
```

Note:

A MIDI bulk data storage device such as the MDF1 MIDI Data Filer or the QX5FD Digital Sequence Recorder (in the MIDI Data Recorder mode) can be used to store many RX8 setups on a single inexpensive disk.



The QX3 may be used to receive Bulk Data from the RX8 and store it on disk. Later, the data may be retrieved from disk and restored to the RX8.

Job 7: ECHO BACK

If necessary, the messages received at the RX8's MIDI IN can be re-transmitted unchanged from the MIDI OUT terminal — ie, "echoed back", or made to act as a MIDI terminal combining the MIDI IN data with the RX8's own data OUT. Press SYNC/MIDI, then press JOB + 7 to obtain the following display:

```
OFF/ON
ECHO BACK OFF
MIDI > 1234567
```

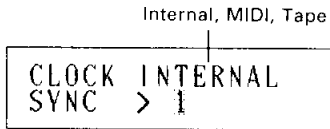
Press +1/YES or -1/NO to turn Echo Back off/on. This function provides the RX8 with an effective THRU terminal. For example, if you are playing the RX8 and a tone generator from a sequencer (or keyboard) that has a single MIDI OUT, you would set the RX8's Echo Back on, and make connections as follows:

Sequencer (or keyboard) MIDI OUT - RX8 MIDI IN,
RX8 MIDI OUT - Tone Generator

SYNC MODE

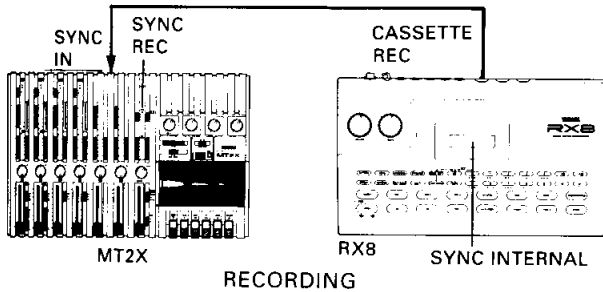
Sync mode settings determine how the RX8 will keep time when playing a pattern or song. Normally the RX8 will use its own clock (INTERNAL clock), but it can also be set to synchronize with another rhythm programmer or sequencer (MIDI clock), or to a FSK synchronization signal recorded on multitrack tape (TAPE clock). Pressing SYNC/MIDI will alternately enter SYNC mode or MIDI mode.

Sync mode has no "jobs", just a single display where you select Internal, MIDI or Tape sync. Press SYNC/MIDI to obtain the following display, and use +1/YES or -1/NO to select the Sync mode.



INTERNAL: The RX8 will keep time with its own internal clock, and will output a MIDI sync signal (F8h timing clock) from MIDI OUT and a FSK (Frequency Shift Key) sync signal from the Cassette OUT connection. If another rhythm programmer or sequencer is connected to the RX8's MIDI OUT and set to MIDI sync, it will be controlled by the RX8's clock.

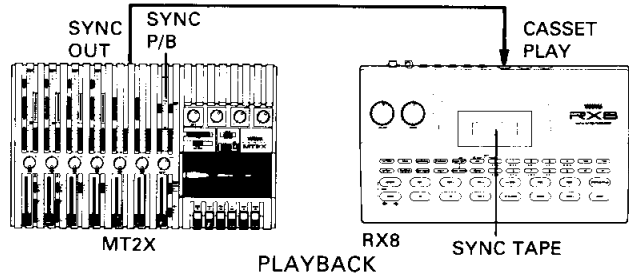
The FSK sync signal from the CASSETTE output can be recorded on one track of a multi-track tape. Later, the RX8 can be set to TAPE sync, and this recorded sync signal (via the RX8's Cassette IN connection) will keep the RX8's tempo in sync with the tape recording.



MIDI: The RX8 will keep time to MIDI sync signals (F8h timing clocks) received at MIDI IN, allowing the RX8 to be controlled by the clock of another rhythm machine or sequencer. The RX8 responds to Song Position Pointer messages, meaning that if your sequencer outputs these messages (both the QX3 and QX5FD have this capability), you can start from any part of a song, and the RX8 will start at the right place, too. The incoming MIDI sync signals will be echoed back from MIDI OUT, allowing other devices to be synchronized.

When MIDI sync is selected, no playback of patterns or songs is possible unless a MIDI clock signal is being received by the RX8, and a FSK sync will **not** be sent from the CASSETTE output.

TAPE: The RX8 will keep time to FSK sync signals received at the CASSETTE input. This allow the RX8 to be synchronized to a multi-track recording which contains a previously recorded FSK sync signal.



When TAPE sync is selected, the RX8 will not output any sync signals, from MIDI OUT or from the cassette OUT.

CASSETTE MODE

Cassette mode lets you save and load RX8 data to a cassette tape. The CARD/CAS key is dual-function. Each press will alternately enter CARD or CASSETTE mode. Press CARD/CAS, till the following display appears:

```
CASSETTE SAVE ?
CASS > 123
```

and use the ◀ and ▶ keys to move the cursor to select one of the 3 jobs. You can also press a numeric key 1—3 while pressing JOB to jump to the desired job.

JOBs

- 1 CASSETTE SAVE Save data from RX8 to cassette
- 2 CASSETTE VERIFY Verify that data has been saved correctly
- 3 CASSETTE LOAD Load data from cassette to RX8

The following Data is saved and loaded in Cassette mode:

- Pattern data
- Song data (including song name and initial tempo)
- Voice data (all settings of Voice Edit mode)
- Setup data (all settings of Voice Assign, Multi Key Assign, MIDI Mode)

It is not possible to save or load individual types of data to cassette.

Cassette Connections

To save and load RX8 data on a cassette, the special cable included with the RX8 should be used to connect a cassette recorder as in the section **Connections**. If possible, use a cassette recorder intended for personal computer data storage.

Job 1: CASSETTE SAVE

Cassette Save lets you save data from the RX8 to a cassette tape. From the following display:

```
CASSETTE SAVE ?
CASS > 123
```

make sure that the cassette recorder is correctly connected, and start recording. Then press +1/YES, and the RX8 will begin transmitting data from the cassette output.

```
Saving Now
CASS > 123
```

When all data has been saved to tape, the display will briefly show "Complete", and return to the "CASSETTE SAVE ?" display.

Note :

You can abort Cassette Save by pressing STOP/CONTINUE. The display will show:

```
Save Break !
CASS > 123
```

Exit the message by pressing ◀ or ▶, or any main mode switch (PATTERN, SONG, CARD/CAS or MIDI/SYNC). Obviously, if you have aborted the Cassette save job, the data on tape will be incomplete, and thus unusable.

Job 2: Cassette Verify

Cassette Verify lets you check whether the data on tape is the same as the data in RX8 memory. It is strongly suggested that this is carried out after each SAVE operation. Press JOB + 2 to obtain the following display:

```
CASSETTE VERIFY?
CASS > 123
```

Press +1/YES and verifying will begin.

```
Verifying Now
CASS > 123
```

The RX8 will wait for data to arrive from tape. Rewind the tape to the beginning of the data, and start the tape playback. If the data on the tape matches the data in RX8 memory, you will be returned to the "CASSETTE VERIFY?" display. If the data on the tape does not match the data in RX8 memory, you will get an error message "Verify Error!" Press ◀ or ▶, or a main mode switch to exit the error message. Since the data was not correctly saved to cassette, you should check your setup, and try again. Check the possible causes given in the **Tutorial** section.

Note:

You can abort the Cassette Verify operation by pressing STOP/CONTINUE. The display will show

```
Verify Break !
CASS > 123
```

Job 3: Cassette Load

Cassette Load lets you load RX8 data from a cassette into RX8 memory. The data from cassette will replace any data that was in RX8 memory. Press JOB + 3 to obtain the following display:

```
CASSETTE LOAD ?
CASS > 123
```

When you press +1/YES, the RX8 will begin waiting for data to arrive from the Cassette input.

```
Loading Now  
CASS > 123
```

When the data has been completely received, you will be returned to the "CASSETTE LOAD ?" display.

An error message "Load Error!" indicates that the data read from cassette into RX8 memory was unusable. The entire RX8 memory has been initialized, and contains **none** of your data. Check your setup and try again.

Note:

You can abort the Cassette Load operation by pressing STOP/CONTINUE. The display will show:

```
Load Break !  
CASS > 123
```

If you press STOP/CONTINUE, you will get an error message "Data Destroyed!", indicating that the data was incompletely read. Since the data already read into RX8 memory is unusable, the entire RX8 memory has been initialized.

CARD MODE

Card mode lets you save and load RX8 data to a memory card. Use a Yamaha MCD32, sold separately. See also Note 2, below. The CARD/CAS key is dual-function. Each press will alternately enter CARD or CASSETTE mode.

Press CARD/CAS, to obtain the following display:

```
SELECT BANK 0
CARD.0> 12345678
```

and use the ◀ and ▶ keys to move the cursor to select one of the 8 jobs. You can also press a numeric key 1 to 8 while pressing JOB to jump to the desired job.

```
SELECT BANK 0
CARD.0> 12345678
```

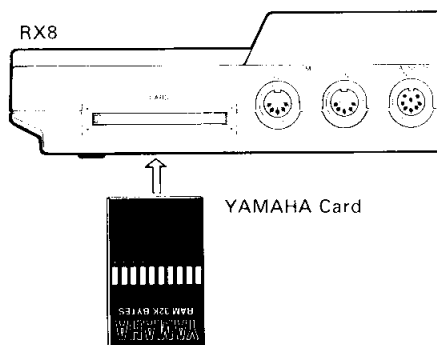
JOBs

1	SELECT BANK	Select a card bank
2	SAVE ALL	Save all RX8 data to a card
3	COMPARE ALL	Compare RX8 internal data with card
4	LOAD ALL	Load all data from card into RX8
5	SAVE PATTERN	Save only patterns from RX8 to card
6	COMPARE PATTERN	Compare RX8 internal patterns with card
7	LOAD PATTERN	Load only patterns from card to RX8
8	FORMAT BANK	Prepare a card for use with the RX8

Jobs 2, 3, and 4 (save/compare/verify "ALL") will save and load the following

- All data, with a choice of whether or not to load "Setup" data.
- Pattern data
- Song data (including song name and initial tempo)
- Voice data (all settings of Voice Edit mode)
- Setup data (all settings of Voice Assign, Multi Key Assign, MIDI Mode)

Jobs 5, 6, and 7 (save/compare/verify "PATTERN") let you save and load individual patterns. Before entering this mode, make sure that a MCD32 memory card is inserted into the rear panel card slot as shown in the following diagram.



Note 1:

When you execute most Save/Load operations in Card mode, a display of the following type will appear:

```
Sure? (yes/no)
CARD.2> 12345678
```

and you will be asked to confirm by pressing +I/YES, or abort the operation by pressing -I/NO. Since any Save/Load operation may overwrite existing data (either in RX8 memory or in card memory), this is your last chance to make sure of what you are doing. When you press +I/YES to execute the operation, the display will briefly show "Executing Now" and you will return to the menu display.

Note 2:

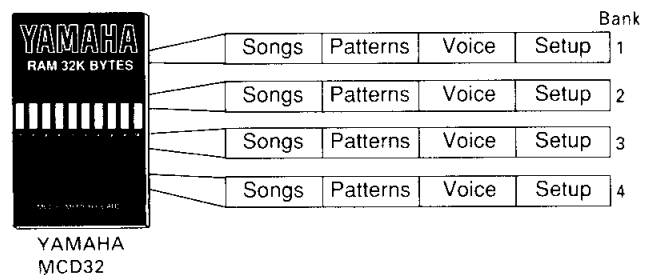
The Yamaha Memory Card MCD32 is also used by other devices than the RX8. Although it is theoretically possible for a single card to contain data for more than one device (in separate banks), we recommend that you use a different memory card for each device, since the memory bank structure used by each device may differ. The RX8 uses RAM cards of 32 kbytes' memory capacity. Even if a memory card is quoted as having a higher capacity, the RX8 will use only 32 kbytes.

Job 1: SELECT BANK

A memory card can contain 4 complete independent sets of RX8 data. The Select Bank job lets you choose which bank you will use. From the following display:

```
SELECT BANK 2
CARD.2> 12345678
```

use +I/YES or -I/NO or the numeric key pad to select a card bank 0 to 3. Each bank can store the entire contents of the RX8 memory. Notice that the lower line of the display indicates the selected card bank in all jobs of CARD mode.



Job 2: SAVE ALL

Save All will store the entire contents of the RX8 memory in the currently selected bank of a card. Press JOB + 2 to obtain the following display:

```
SAVE    ALL    ?  
CARD.2> 12345678
```

Press +1/YES to obtain the following display:

```
with Set Up ?  
CARD.2> 12345678
```

If you press +1/YES, the setup data (settings for voice assign, multi key assign, and MIDI mode) will be saved to the card along with pattern, song and voice data. If you press -1/NO, only pattern, song and voice data will be saved to the card. Next you will be asked if you are sure you want to save data to the card. Remember that this will replace whatever data was previously in that bank of the card. You will be asked to confirm the operation, so press +1/YES to execute or -1/NO to exit safely.

Job 3: Compare All

Compare All lets you compare the data in RX8 memory with the data in the currently selected card bank. It is a good idea to use this after Save All (job 2) to check that data has been correctly saved to the card. Press JOB + 3 to obtain the following display:

```
COMPARE ALL    ?  
CARD.2> 12345678
```

Press +1/YES to obtain the following display:

```
with Set Up ?  
CARD.2> 12345678
```

If you Saved **with** Set Up data, press +1/YES. If you Saved **without** setup data, press -1/NO. The display will briefly show "Executing Now" and return to the job menu. If the data in the card does not match the data in RX8 memory, you will get an error message of "Verify Error !".

Job 4: LOAD ALL

Load All will load the entire contents of the selected card bank into the RX8 memory (whatever data was previously in RX8 memory will be lost). Press JOB+4 to get the following screen.

```
LOAD    ALL    ?  
CARD.2> 12345678
```

When you press +1/YES you will be asked whether to load Setup data as well.

```
with Set Up ?  
CARD.2> 12345678
```

If you press +1/YES, pattern, song, voice, and setup data (voice assign, multi key assign, and multi mode settings) will be loaded from card into RX8 memory, and the previous RX8 setup settings will be lost. If you press -1/NO, only pattern, song and voice data will be loaded. You will be asked to confirm the operation, so press +1/YES to execute or -1/NO to exit safely.

Job 5: SAVE PATTERN

Save Pattern lets you save individual patterns from RX8 memory to the individual memory locations of a memory card. The Save Pattern job and the related Compare Pattern and Load Pattern jobs let you build up a collection of favorite patterns on a memory card. **Before entering this job, you must first select the pattern in RX8 memory that you want to copy. Press PATTERN and select a pattern.** For details see PATTERN mode job 1, Select Pattern. Then press CARD, then JOB + 5 to obtain the following display.

Currently selected RX8 pattern (source)

```
SAVE PTN02w*** ?  
CARD.2> 12345678
```

Each bank of a memory card has the same memory space as the RX8 itself. You can save any RX8 pattern memory (00 to 99) into any card pattern memory (00 to 99). Use the numeric key pad to select the copy destination.

Card memory pattern (destination)

```
SAVE PTN02w+10w ?  
CARD.2> 12345678
```

If the selected destination memory is not blank, a "w" tells you that it has already been Written to. Be sure to check that you are not writing over a pattern you really wanted to keep on card. In the above example, pattern 10 in card memory already contains a pattern, and if a different pattern is saved into that location of the card, the original data will be lost.

Press +1/YES to execute. You will be asked to confirm the operation, so press +1/YES to execute or -1/NO to exit safely.

Job 6: COMPARE PATTERN

After saving a single pattern to card memory, it is a good idea to use this Compare Pattern job to check whether it has been correctly saved. Press JOB + 6 to obtain the following display.

Currently selected RX8 pattern (source)

```
CMPR PTN02w=*** ?  
CARD.2> 12345678
```

The currently selected pattern will be shown to the left of the “=”. If you have just come from job 5, Save Pattern, this will be the pattern you just saved. Use the numeric key pad to specify a card memory pattern (00 to 99) to compare.

Compare with card pattern

```
CMPR PTN02w=10w?  
CARD.2> 12345678
```

Press +1/YES to execute the compare operation. If the two patterns are the same, you will be returned to the CARD menu display with a brief “Compare OK !” message. If not, you will get one of the error messages listed at the end of this manual.

Job 7: LOAD PATTERN

Load Pattern lets you load a single pattern from card memory into RX8 memory. Before entering this job, you must first select the pattern in RX8 memory to which you will copy the pattern from card. Press PATTERN and select a pattern. Select Pattern). Then press CARD/CAS, then JOB+7 to obtain the following display:

Currently selected RX8 pattern (destination)

```
LOAD PTN12w←** ?  
CARD.2> 12345678
```

Use the numeric key pad to choose a card pattern memory 00 to 99.

Card pattern memory (source)

```
LOAD PTN12w+10w?  
CARD.2> 12345678
```

To load the selected pattern from card into RX8 memory, press +1/YES. Then press the +1/YES key if you are sure you want to make the copy.

Job 8: FORMAT BANK

The RX8 stores four complete and independent sets of data in a single Yamaha MCD32 memory card by dividing the card into four **banks**. Before a memory card can be used to store RX8 data, it must be **formatted** to accept RX8 data. Each bank must be formatted separately. When a card bank is formatted, it is given the same data as the initial setting of the RX8, ie formatting will erase any previous data in that bank of the card. Before entering this job, use job 1 to select the bank you wish to format. Then press JOB + 8 to obtain the following display:

```
FORMAT BANK ?  
CARD.2> 12345678
```

Press +1/YES to format the selected bank of the card. You will be asked to confirm the format operation, so press +1/YES to

format (this will erase any previous data in that bank of the card) or press -1/NO to exit without formatting.

VOICE EDIT

Voice Edit is a "sub function" which can be accessed from inside any of the main modes to modify the sound of each of the forty-three RX8 voices independently. For example, you can press VOICE EDIT while recording, change voice settings, and press JOB + 0 to return to where you were recording.

Press VOICE EDIT, and use the ◀ and ▶ keys to move the cursor to select one of the 6 jobs. You can also press a numeric key 1 to 6 while pressing JOB to jump to the desired job. To return to the mode from which you came, press JOB+0.

```
>VOICE LEVEL =55
BD 1 > 123456
```

JOBS

- 1 LEVEL, ACCENT LEVEL Set normal and accented levels
- 2 PAN Set pan position
- 3 PITCH, PITCH SHIFT Set normal and shifted pitch
- 4 POLY Set polyphony ON/OFF
- 5 DETUNE Set amount of detune (for Effect)
- 6 STEREO EXPAND Set stereo expand (for Effect) ON/OFF

Each voice has its own Voice Edit settings. At any time in Voice Edit mode, press an instrument key to select a voice, and make settings using the following 6 jobs.

Job 1: VOICE LEVEL

This job sets the level (volume) of the voice (and also the level produced when the voice is played while pressing ACCENT). Press VOICE EDIT to obtain the following display.

Level 00—63

```
>VOICE LEVEL =55
BD 1 > 123456
```

Use the +1/YES or -1/NO keys to set the level (00—63). This level applies to all outputs: Stereo, Phones, and both Individual outputs. Press the ACCENT key to set the change in level for the voice when played while the ACCENT key is pressed.

Accent -63 —+63

```
>ACC.LEVEL =+10!
BD 1 > 123456
```

Use the +1/YES or -1/NO keys to set an Accent level for the selected voice. The sum of the Accent Level and the Voice Level is limited by the limits of the Voice Level (00—63). If the sum of the Voice Level exceeds the maximum Voice Level of 63 or falls below the minimum Voice Level of 00, a "!" is displayed after the Accent level.

Job 2: PAN

This job sets the Pan position of the voice when it is sent to the stereo and PHONES outputs. Press VOICE EDIT, then JOB + 2 to obtain the following display:

Pan position 01—15

```
>PAN(L.....R)=07
BD 1 > 123456
```

Use the +1/YES or -1/NO keys to set a Pan position from 1 (far left) through 8 (center) to 15 (far right) for the selected voice. If the voice is sent to an individual output, this setting has no effect.

Job 3: PITCH

This job sets the Pitch of the voice (and also a pitch shift, produced when the voice is played while pressing PITCH). Press VOICE EDIT, then JOB + 3 to obtain the following display.

-1200 +1200 cents

```
>PITCH=+0800CENT
BD 1 > 123456
```

Use the +1/YES or -1/NO keys to set a Pitch from -1200 to +1200 in steps of 10 cents (100cents=1 semitone) for the selected voice. Press the PITCH switch to set the pitch change that will be applied to a voice when it is played while pressing PITCH.

-24 —+24 semitones

```
>PITCH SHIFT=+08!
BD 1 > 123456
```

Use the +1/YES or -1/NO keys to set a Pitch Shift of -24 to +24 semitones for the selected voice. For example in the above display, +8 semitones (800 cents) will be added to the pitch of the Bass Drum 1 when it is played while the PITCH key is pressed. The sum of the Pitch and the Pitch Shift is limited to one octave (1200 cents) up or down from the original pitch. If the pitch set here exceeds the maximum or falls below the minimum, a "!" is displayed after the Pitch Shift level.

Job 4: POLY

Poly On allows you to produce up to two simultaneous notes with a single voice. For example as mentioned in Pattern Mode, Step Write, a single beat could contain two notes of different pitches played by the same voice. Press VOICE EDIT, then JOB + 4 to obtain the following display:

```
OFF/ON
  |
>POLY OFF
BD 1 > 123456
```

Use +1/YES or -1/NO to turn Poly Off/On for the selected voice.

Job 5: EFFECT/DETUNE

When a voice is played while the EFFECT key is pressed, it is mixed with a slightly detuned duplicate voice to create a flanging-type effect. This job sets the Detune amount of the voice. Press VOICE EDIT, then JOB + 5 to obtain the following display:

```
1-3
  |
>EFFECT/DETUNE=1
BD 1 > 123456
```

Use +1/YES or -1/NO to set a Detune value of 1—3 for the selected voice. When set to 3 and the voice is played while pressing EFFECT, the maximum detuned effect will be heard. See also the next job, Effect Expand.

Job 6: EFFECT/EXPAND

The detune effect explained above is produced by mixing two detuned duplicate voices. Normally, these two voices will both be positioned together, at the stereo position specified in Pan (Voice Edit job 2). However by setting Effect/Expand to On, you can make the two detuned voices appear at far left and far right. Press VOICE EDIT, Then JOB + 6 to obtain the following display:

```
OFF/ON
  |
>EFFECT/EXP OFF
BD 1 > 123456
```

Use the +1/YES or -1/NO keys to turn Effect/Expand OFF or ON for the selected voice. Effect/Expand applies only when the voice is played while pressing the EFFECT key. When Effect/Expand is On, the Pan setting (Voice Edit job 2) is overridden. The Individual Output of a voice (if this has been set), will always output the two mixed detuned voices regardless of whether Effect/Expand is ON or OFF.

VOICE ASSIGN

Voice Assign is a "sub-function" which can be accessed from inside any of the main modes to change the voice assigned to each of the 12 instrument keys, and assign audio outputs for each voice. For example while recording a pattern, you might need to assign other instruments to the 12 instrument keys. In this case, you would press VOICE ASSIGN, change KEY ASSIGN (job 1) settings, and press JOB + 0 to return to where you were recording.

Press VOICE ASSIGN, and use the ◀ and ▶ keys to move the cursor to select one of the 4 jobs. You can also press a numeric key 1 to 4 while pressing JOB to jump to the desired job. To return to the mode from which you came, press JOB + 0.

```
>KEY *****
ASSIGN> 1234
```

- 1 KEY ASSIGN Assign a voice to each instrument key
- 2 INDIV OUT 1 Assign a voice to Individual Out 1
- 3 INDIV OUT 2 Assign a voice to Individual Out 2
- 4 STEREO OUT Assign Stereo Out for each instrument ON/OFF

Each voice has its own Voice Edit settings. At any time in Voice Edit mode, press an instrument key to select a voice, and make settings in the following 4 jobs.

Job 1: KEY ASSIGN

This job assigns a voice to each of the 12 instrument keys. Press VOICE ASSIGN to obtain the following display:

Voice assigned to instrument key

```
>KEY *****
ASSIGN> 1234
```

Press an instrument key and use +1/YES or -1/NO to select the voice. If Multi-key assign is selected, you will not be able to make settings in this job. See the section on Multi-key assign.

Job 2: INDIVIDUAL OUT 1

You can select a voice to be output from the rear panel INDIV OUT 1. This can be used to process just one specific voice with a signal processor. Press VOICE ASSIGN, then JOB + 2 to obtain the following display:

Voice assigned to Individual Out 1

```
>INDIV 1=BD 1
ASSIGN> 1234
```

Use +1/YES or -1/NO to select a voice to output from INDIV OUT 1. If you continue pressing -1/NO, "OFF" will be selected instead of a voice, and nothing will be sent from INDIV OUT 1.

Assigning a voice to an Individual Out does not affect its Stereo or Phones output. If you do not want the voice to be output from both an Individual output and the Stereo Output, use job 4, Stereo Out to switch its stereo output off.

Job 3: INDIVIDUAL OUT 2

This is exactly the same as job 2 except that the selected voice will be output from INDIV OUT 2. Press VOICE ASSIGN, then JOB + 3 to obtain the following display.

```
>INDIV 2=BD 1 !
ASSIGN> 1234
```

If you assign the same voice to both Individual Outputs, the screen for Individual Out 2 will show a "!", as in the above display.

Job 4: STEREO OUT

The stereo output can be switched off/on for each voice. For example, if you have assigned a voice to be output from an Individual Output, you may wish to turn off its Stereo Output. Press VOICE ASSIGN, then JOB + 4 to obtain the following display.

Off/On

```
>SD 1 ◆STRO ON
ASSIGN> 1234
```

Press an instrument key to select the voice assigned to it, and use +1/YES or -1/NO to select Stereo Out OFF/ON. If you press and hold the PITCH key, the arrow in the display will reverse direction, and you can use +1/YES or -1/NO to select voices that are not currently assigned to any instrument key.

Select a voice

```
>BD 1 ◆STRO OFF
ASSIGN> 1234
```

Voices for which Stereo Out has been switched OFF will not be output from the Stereo Output or from the Phones output.

MULTI KEY ASSIGN

Multi assign is a "sub-function" - it can be accessed from inside any of the main modes to assign a single voice to all 12 instrument keys. Normally, each of the 12 instrument keys plays a different voice, but Multi assign lets you use all 12 instrument keys to play a **single** voice, either with different pitches or different accents for each key. This makes it easy to enter melodic parts, or parts with diverse accents.

Press MULTI and use the ◀ and ▶ keys to move the cursor to select one of the 4 jobs. You can also press a numeric key 1 to 4 while pressing JOB to jump to the desired job. To return to the mode from which you came, press JOB + 0.

```
>SELECT VOICE
MULTI > 1234
```

JOBS

- 1 SELECT VOICE Select the voice to be Multi-assigned
- 2 PITCH MULTI Assign the 12 keys to pitches
- 3 ACCENT MULTI Assign the 12 keys to accents
- 4 EXIT MULTI Return the 12 keys to 12 voices

Job 1: SELECT VOICE

This job selects the voice to be multi-assigned to the 12 instrument keys. Press MULTI to obtain the following display.

```
>SELECT VOICE
MULTI > 1234
```

Use an instrument key or +1/YES or -1/NO to select a voice to be multi-assigned.

```
>SELECT VOICE
Bass 1 > 1234
```

Select voice

The selected voice can be played from the 12 instrument keys **either** as 12 pitches (job 2, Pitch Multi) **or** as 12 accents (job 3, Accent Multi).

Job 2: Pitch Multi

This job assigns the instrument keys to play 12 different pitches of the selected voice.

```
>PITCH MULTI ?
Bass 1 > 1234
```

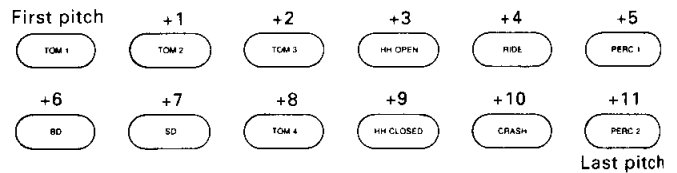
Press +1/YES to select Pitch Multi. If Job 3, Accent Multi has already been selected, you will be asked if you are sure you want

to enter Pitch Multi. The display will show:

```
Pitch range
>PITCH ±00 +11
Bass 1 > 1234
```

Use +1/YES or -1/NO to scroll the 12-note pitch range over a range of -24 to +24 semitones. For example, in the above display, the 12 instrument keys will play the "Bass 1" voice over the range of its original pitch to 11 semitones higher.

```
>PITCH ±00 +11
      ↑      ↑
First pitch Last pitch
```



The pitch range is limited to an octave up or down from the original pitch. If any of the 12 instrument keys in the range specified go beyond the pitch range of the instrument, the display will show an "!" to notify you.

Job 3: ACCENT MULTI

This job assigns the instrument keys to play 12 different accents of the selected voice.

```
>ACCENT MULTI ?
Bass 1 > 1234
```

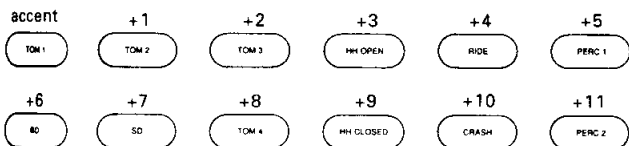
Press +1/YES to assign Accent Multi. If job 2, Pitch Multi has already been selected, you will be asked if you are sure you want to enter Accent Multi. The display will show:

```
Accent step -5 — +5
>ACCENT STEP = +2
Bass 1 > 1234
```

Use +1/YES or -1/NO to set the difference in Accent level (-5 to +5) for each of the instrument keys. For example, if you have selected +2, the 12 keys will each have an accent that becomes successively stronger by 2 for each key.

>ACCENT STEP=-3

Displayed



The total level of a voice (accent + level) is limited to 00 to 63, and if the accent step specified results in one or more of the 12 keys exceeding this range, the display will show an "!" to notify you.

Job 4: EXIT MULTI

This job returns the 12 instrument keys to their normal assignments. Press

JOB+4 to obtain the following display:

>EXIT MULTI ?
Bass 1> 1234

If you press +1/YES, the message "> EXIT COMPLETE !" will be displayed briefly, and the 12 instrument keys will return to their original assignments.

TEMPO

Tempo mode is a "sub-function" which can be accessed from inside any of the main modes to set the tempo. For example, you can press TEMPO while recording, adjust the tempo, and press JOB+0 to return to where you were recording.

Tempo mode has no "jobs", just a single display to set the tempo. Press TEMPO to obtain the following display:

>TEMPO
J=120
Tempo = 40-250

Use the +1/YES or -1/NO keys on the rotary Tempo control to adjust the tempo over a range of 40 to 250 beats per minute.

SUPPLEMENTARY INFORMATION

ERROR MESSAGES

The RX8 displays the following messages when it encounters an unexpected condition:

Memory Full !

While creating, editing or copying a pattern or song, you have exceeded the capacity of the pattern or song memory.

Too Large PTN !

While creating or editing a pattern, you have exceeded the capacity of a single pattern. There is a limit to the complexity of a single pattern.

Illegal Input !

In Song Edit mode, Copy Part job, the copy destination was one of the copy source parts.

Not Found !

In Song Edit mode, Copy Part, Insert Part or Delete Part jobs, nonexistent (unwritten) part numbers were specified.

Part Overflow !

In Song Edit mode, Copy Part job, copying would result in more than 999 parts.

MIDI Buffer Full !

The RX8 has received MIDI data faster than it was able to process it.

Change Battery !

The RX8's internal memory backup battery voltage has dropped below 2.2 V. Contact your local Yamaha dealer for a replacement.

No Battery !

The RX8's internal memory backup battery voltage has dropped below 1.5V, and **internal data is no longer backed up**. Contact your local Yamaha dealer for a replacement **immediately**.

No Card Battery !

The backup battery in the memory card inserted into the RX8's rear panel CARD slot has dropped below 2.2V. Purchase and install a replacement battery in the card as explained in the card instructions.

Note:

Press any main mode switch to exit from the "MIDI Buffer Full" message. Press +1/YES to exit from the above low battery warning messages.

VOICES

Below is a list of the voices in the RX8, together with some of their default settings (ie when the RX8 has just ben initialized):

Name	Description	Volume	Accent	Pan	MIDI note
BD 1	Bass drum	63	+06!	08	A1 (45)
BD 2	Bass drum	63	+06!	08	G#1 (44)
BD 3	Bass drum	63	+06!	08	D#1 (39)
BD 4	Bass drum	63	+06!	08	D1 (38)
BD 5	Bass drum	63	+06!	08	C#1 (37)
SD 1	Snare drum	52	+06	08	E2 (52)
SD 2	Snare drum	50	+06	08	C#2 (49)
SD 3	Snare drum	55	+06	08	G#0 (32)
SD 4	Snare drum	58	+06!	08	G0 (31)
SD 5	Snare drum	55	+06	08	F#0 (30)
Rim	Snare rimshot	45	+06	08	D#2 (51)
Tom 1	1st tom	50	+06	04	F2 (53)
Tom 2	2nd tom	50	+06	07	D2 (50)
Tom 3	3rd tom	50	+06	10	C2 (48)
Tom 4	4th tom	50	+06	13	B1 (47)
Tom 5	5th tom	60	+06!	06	A-1 (21)
Tom 6	6th tom	60	+06!	07	G#-1 (20)
Tom 7	7th tom	58	+06!	10	G-1 (19)
Tom 8	8th tom	56	+06	13	F#-1 (18)
HHclos	Closed hi-hat	49	+06	03	A2 (57)
HHopen	Open hi-hat	48	+06	03	B2 (59)
Cup	Ride cymbal (bell/cup)	47	+06	13	D3 (62)
Edge	Ride cymbal (edge)	43	+06	11	D#3 (63)
Crash	Crash cymbal	48	+06	05	C3 (60)
Bass 1	Bass guitar (slap)	60	+06!	08	C-1 (12)
Bass 2	Bass guitar (pull)	60	+06!	08	C#-1 (13)
Marimb	DX marimba voice	45	+06	08	E-2 (04)
DXorch	DX orchestral hit	50	+06	08	F-2 (05)
Claps	Handclaps	57	+06	08	F#2 (54)
Cowbel	Cowbell	46	+06	08	G2 (55)
Tambrn	Tambourine	50	+06	08	A#2 (58)
Shaker	Shaker	50	+06	08	G#2 (56)
CgaHMT	High muted conga	45	+06	08	F#3 (66)
CgaHOP	High open conga	45	+06	08	F3 (65)
Cga LO	Low conga	40	+06	08	E3 (64)
Bgo HI	High bongo	55	+06	08	G#3 (68)
Bgo LO	Low bongo	48	+06	08	G3 (67)
TimblH	High timbale	45	+06	08	A#3 (70)
TimblL	Low timbale	45	+06	08	A3 (69)
Ago HI	High agogo	48	+06	08	D#4 (75)
Ago LO	Low agogo	48	+06	08	D4 (74)
Cuica	Cuica	40	+06	08	F4 (77)
Whstl	Whistle	40	+06	08	F#4 (78)

Notes:

The default accent level is always set at +06. Sometimes this level added to the default level may exceed 63. In these cases, the value "+06" has been shown followed by an exclamation mark ("!").

The default pitch shift level is always set to -05 for every voice.

By default, POLY is set to OFF for every voice.

By default, the EFFECT/DETUNE is set to 1 for every voice, and the EFFECT/EXPANSION is set OFF for every voice.

SPECIFICATIONS

Voices	43 voices, PCM sampled, 16-bit resolution
Tuning	± 1 octave in 10-cent steps
Display	2 \times 16 backlit LCD
Pattern memory	100 patterns
Song memory	20 named songs (up to 999 parts/song)
Synchronization	Tape (FSK), MIDI, Internal
Internal storage	Lithium battery-backed RAM
External storage	Tape, Yamaha memory card, MIDI Bulk Dump
Outputs	L, R stereo mix + 2 individual outputs + Phones, Cassette
MIDI	IN, OUT (with internal MIDI ECHO)
Power consumption	5W
Power requirements	U.S. & Canadian models: 120V, 50/60Hz (with PA1505 15V Voltage convertor) General Models: 220-240V, 50Hz
Dimensions (W \times D \times H)	351 \times 207 \times 59(mm) 13.8 \times 8.1 \times 2.3 (inches)
Weight	1.2kg (2.6lb)
Included items	PA1505 power adaptor, cassette lead

THIS DIGITAL APPARATUS DOES NOT EXCEED THE "CLASS B" LIMITS FOR RADIO NOISE EMISSIONS FROM DIGITAL APPARATUS SET OUT IN THE RADIO INTERFERENCE REGULATION OF THE CANADIAN DEPARTMENT OF COMMUNICATIONS.

LE PRESENT APPAREIL NUMERIQUE N'EMET PAS DE BRUITS RADIOELECTRIQUES DEPASSANT LES LIMITES APPLICABLES AUX APPAREILS NUMERIQUES DE LA "CLASS B" PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOELECTRIQUE EDICTE PAR LE MINISTERE DES COMMUNICATIONS DU CANADA.

MIDI FORMATS

The RX8 will respond (as shown in the MIDI Implementation chart) to the following MIDI commands (the MIDI Mode is always 3 - OMNI OFF, POLY):

Note ON with velocity.

A Note OFF message should be sent at least 100ms following the Note ON message. Note ON and OFF messages may also be transmitted.

```
1001nnnn    Note ON (nnnn = channel number)
0kkkkkkkk  Note number (0-127)
0vvvvvvvv  Velocity (1-127)
```

The velocity is translated into Accent values on the RX8 using the following formula:

$$\text{Accent} = (\text{Velocity} - 64) / 2$$

Thus, a velocity of 64 will give an Accent value of 0. A velocity value of 127 will give an accent of +31, and one of 0 will give a value of -32.

Continuous controller 10

This controller is used for PAN control (when in MIDI NOTE=PITCH mode). Using this controller will alter the pan position of the notes played in this mode.

```
1-11nnnn    Controller message (nnnn = channel
              number)
00001010    Continuous controller 10 (pan)
0ppppxxx    1 byte of controller data
```

pppp here corresponds to the PAN position of the note (0 to 15)

Program Change

Sending a Program Change message to the RX8 when in MIDI NOTE=PITCH mode will change the voice assigned for pitch playing on a MIDI keyboard. A Program Change=00 will select Bass drum 1, and a Program Change=42 will select the whistle, for instance.

```
1100nnnn    Program change (nnnn = channel
              number)
0pppppppp    Program (voice) number
```

MIDI Real Time messages

The Clock signals keep the RX8 in time with an external MIDI clock. The Start, Continue, and Stop commands perform the same function as the keys on the RX8 front panel.

```
11111000    Timing Clock
11111010    Start
11111011    Continue
11111100    Stop
```

MIDI System Common message Song Position Pointer

This data is received by the RX8, and enables the position in a song to match that as selected remotely by a sequencer.

```
11110010    Song Position Pointer
01111111    Data (LSB)
0hhhhhhh    Data (MSB)
```

MIDI System Common message Song Select

This data is also transmitted by the RX8 and enables songs to be selected remotely.

```
11110011    Song Select
0sssssss    Song number (00-19)
```

MIDI System Exclusive Bulk Dump

This data is transmitted by and received from the RX8 in the following format:

```
11110000    System Exclusive
01000011    Yamaha ID (43h)
00000000    Substatus and device number
01111110    Format (7Eh)
0bbbbbbb    Byte Count MSB
0bbbbbbb    Byte Count LSB
01001100    Header "L"
01001101    Header "M"
01000000    Header " "
01000000    Header " "
00111000    Header "8"
00110101    Header "5"
00110010    Header "2"
00110111    Header "7"
00100000    Header " "
00100000    Header " "
00100000    Header " "
0ddddddd    data
.
.
.
0ddddddd    data
0ccccccc    Check Sum
11110111    EOX (End of System Exclusive)
```

The Check Sum is calculated by taking the last 7 bits of the 2's complement sum of the data bytes (in other words, the last 7 bits of the sum of data bytes added to the check sum must equal zero). If the System Exclusive Bulk Data to be transmitted exceeds 4 kbytes, the Byte Count and header are repeated after the Check Sum for the first 4 kbytes, and a separate Check Sum is calculated for the next 4 kbytes before an EOX is sent.

System Exclusive Dump

When the RX8 shows the following display:

```
TRANSMIT BULK ?  
MIDI > 1234567
```

a Transmit Bulk Request may be sent to simulate pressing the +1/
YES key on the RX8. The format is as follows:

11110000	System Exclusive
01000011	Yamaha ID
00100000	Substatus and device
01111110	Format number
11111111	EOX

Function ...	Transmitted	Recognized	Remarks
Basic Default	: 1 - 16	: 1 - 16	: memorized
Channel Changed	: 1 - 16	: 1 - 16	:
Mode Default	: 3	: 3	:
Mode Messages	: x	: x	:
Mode Altered	: *****	: x	:
Note Number : True voice	: 0 - 127 : *****	: 0-127/60-84 : x	: *1
Velocity Note ON	: o 9nH,v=1-127	: o v=1-127	:
Velocity Note OFF	: x 8nH,v=64	: x	:
After Key's	: x	: x	:
Touch Ch's	: x	: x	:
Pitch Bender	: x	: x	:
Control Change	: 10 : x	: o	: Pan : Note# asgn:pitch:
Prog Change : True #	: x : *****	: o	: Note# asgn:pitch:
System Exclusive	: o	: o	:
System : Song Pos	: x	: o	:
System : Song Sel	: o 0 - 19	: o 0 - 19	:
Common : Tune	: x	: x	:
System :Clock	: o	: o	:
Real Time :Commands	: o	: o	:
Aux :Local ON/OFF	: x	: x	:
Aux :All Notes OFF	: x	: x	:
Mes- :Active Sense	: o	: x	:
sages:Reset	: x	: x	:
Notes: *1 = When Note number assign switch is set to VOICE, a different voice sounds by each note.(Note # range: 0-127) When Note number assign switch is set to PITCH, single selected voice sounds over a two-octave range. (Note# range: : 60-84, Pitch range: C3-C5)			

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

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