YAMAHA

RHYTHM PROGRAMMER

RY30

OPERATING MANUAL

FCC INFORMATION (U.S.A.)

1. IMPORTANT NOTICE: DO NOT MODIFY THIS UNIT!
   This product, when installed as indicated in the instructions contained in this manual, meets FCC requirements. Modifications not expressly approved by Yamaha may void your authority, granted by the FCC, to use the product.
2. IMPORTANT: When connecting this product to accessories and/or another product use only high quality shielded cables. Cable/s supplied with this product MUST be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorization to use this product in the USA.
3. NOTE: This product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class "B" digital devices. Compliance with these requirements provides a reasonable level of assurance that your use of this product in a residential environment will not result in harmful interference with other electronic devices. This equipment generates/uses radio frequencies and, if not installed and used according to the instructions found in the users manual, may cause interference harmful to the operation of other electronic devices. Compliance with FCC regulations does not guarantee that interference will not occur in all installations. If this product is found to be the source of interference, which can be determined by turning the unit "OFF" and "ON", please try to eliminate the problem by using one of the following measures:

   Relocate either this product or the device that is being affected by the interference.

   Utilize power outlets that are on different branch (circuit breaker or fuse) circuits or install AC line filter/s.

   In the case of radio or TV interference, relocate/reorient the antenna. If the antenna lead-in is 300 ohm ribbon lead, change the lead-in to co-axial type cable.

   If these corrective measures do not produce satisfactory results, please contact the local retailer authorized to distribute this type of product. If you can not locate the appropriate retailer, please contact Yamaha Corporation of America, Electronic Service Division, 6600 Orangethorpe Ave, Buena Park, CA 90620

* This applies only to products distributed by YAMAHA CORPORATION OF AMERICA.

Dette apparat overholder det gaeldende EF-direktiv vedrørende radiostøj.

Cet appareil est conforme aux prescriptions de la directive communautaire 87/308/CEE.

Diese Geräte entsprechen der EG-Richtlinie 82/499/EWG und/oder 87/308/EWG.

This product complies with the radio frequency interference requirements of the Council Directive 82/499/EEC and/or 87/308/EEC.

Questo apparecchio è conforme al D.M.13 aprile 1989 (Direttiva CEE/87/308) sulla soppressione dei radiodisturbi.

Este producto está de acuerdo con los requisitos sobre interferencias de radio frequencia fijados por el Consejo Directivo 87/308/CEE.

YAMAHA CORPORATION

IMPORTANT NOTICE FOR THE UNITED KINGDOM

Connecting the Plug and Cord

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

Blue: NEUTRAL
Brown: LIVE

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK. The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.
Making sure that neither core is connected to the earth terminal of the three pin plug.

CANADA

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 "CLASSE B" PRESCRITES DANS LE REGLEMENT SUR LE BROUILLAGE RADIOELECTRIQUE EDICTE PAR LE MINISTERE DES COMMUNICATIONS DU CANADA.

* This applies only to products distributed by YAMAHA CANADA MUSIC LTD.

Litiumbatteri!
Bör endast bytas av servicepersonal.
Explosionsfara vid felaktig hantering.

VAROITUS!
Lithiumparisto, Räjähdysvaara.
Pariston saa vaihtaa ainoastaan alan ammattimies.

ADVARSEL!
Lithiumbatteri!
Eksplosionsfare. Udskiftning må kun foretages af en sagkyndig, – og som beskrevet i servicemanualen.

SPECIAL MESSAGE SECTION

This product utilizes batteries or an external power supply (adapter). DO NOT connect this product to any power supply or adapter other than one described in the manual, on the name plate, or specifically recommended by Yamaha.

WARNING: Do not place this product in a position where anyone could walk on, trip over, or roll anything over power or connecting cords of any kind. The use of an extension cord is not recommended! If you must use an extension cord, the minimum wire size for a 25' cord (or 1 cm) is I8 AWG. NOTE: The smaller the AWG number, the larger the current handling capacity. For longer extension cords, consult a local electrician.

This product should be used only with the components supplied MMM a cart, rack, or stand that is recommended by Yamaha. If a cart, etc., is used, please observe all safety markings and instructions that accompany the accessory product.

SPECIFICATIONS SUBJECT TO CHANGE: The information contained in this manual is believed to be correct at the time of printing. However, Yamaha reserves the right to change or modify any of the specifications without notice or obligation to update existing units.

Do not attempt to service this product beyond that described in the user-maintenance instructions. All other servicing should be referred to qualified service personnel.

This product, either alone or in combination with an amplifier and headphones or speaker/s, may be capable of producing sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist. IMPORTANT: The louder the sound, the shorter the time period before damage occurs.

Some Yamaha products may have benches and/or accessory mounting fixtures that are either supplied with the product or as optional accessories. Some of these items are designed to be dealer assembled or installed. Please make sure that benches are stable and any optional fixtures (where applicable) are well MMM BEFORE using. Benches supplied by Yamaha are designed for MMM only. No other uses are recommended.

NOTICE: Service charges incurred due to lack of knowledge relating to how a function or effect works (when the unit is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owners responsibility. Please study this manual carefully and consult your dealer before requesting service.

ENVIRONMENTAL ISSUES: Yamaha strives to produce products that are both user safe and environmentally friendly. We sincerely believe that our products and the production methods used to produce them, meet these goals. In keeping with both the letter and the spirit of the law, we want you to be aware of the following:

Battery Notice: This product MAY contain a small non-rechargeable battery which (if applicable) is soldered in place. The average life span of this type of battery is approximately five years. When replacement becomes necessary, contact a qualified service representative to perform the replacement.

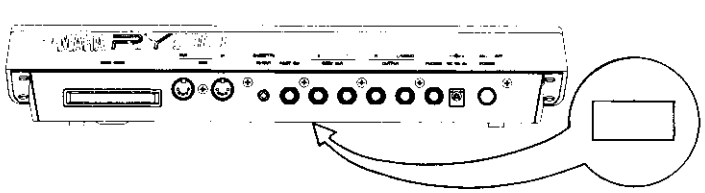
This product may also use "household" type batteries. Some of these may be rechargeable. Make sure that the battery being charged is a rechargeable type and that the charger is intended for the battery being charged.

When installing batteries, do not mix old batteries with new, or with batteries of a different type. Batteries MUST be installed correctly. Mismatches or incorrect installation may result in overheating and battery case rupture.

Warning: Do not attempt to disassemble, or incinerate any battery. Keep all batteries away from children. Dispose of used batteries promptly and as regulated by the laws in your area. Note: Check with any retailer of household type batteries in your area for battery disposal information.

Disposal Notice: Should this product become damaged beyond repair, or for some reason its useful life is considered to be at an end, please observe all local, state, and federal regulations that relate to the disposal of products that contain lead, batteries, plastics, etc. If your dealer is unable to assist you, please contact Yamaha directly.

NAME PLATE LOCATION: The graphic below indicates the location of the name plate for this model. The model number, serial number, power requirements, etc., are located on this plate. You should record the model number, serial number, and the date of purchase in the spaces provided below and retain this manual as a permanent record of your purchase.



Model _____

Serial No. _____

Purchase Date _____

PLEASE KEEP THIS MANUAL

Congratulations!

You are the proud owner of one of the best-sounding, most versatile, and easily programmable drum machines ever conceived.

In contrast to drum machines that sound strictly mechanical, and others that offer a degree of artificial pre-programmed "feel," the Yamaha RY30 Rhythm Programmer actually allows the user to determine how the rhythm feels in a simple, intuitive way. A special "RY30 control wheel" allows the pitch, decay, panning, filter, balance or timing individual instruments to be varied while you monitor the resultant sound in real time. This makes programming the RY30 a more "musical" process than having to deal with a multitude of numbers and hieroglyphic parameters. The RY30's 12 instrument pads also feature full velocity sensitivity for even more expressive power.

Another advantage of the RY30 is stunning sound quality. It features 16-bit AWM2 (2nd-generation Advanced Wave Memory) tone generation with programmable digital filtering and wave layering capability. A wide range of editable parameters include filter frequencies, envelopes, volume, pitch, panning, and more. The RY30 allows the user to refine each voice to ideally fit specific musical requirements. On-board memory contains 128 voices, 100 preset patterns, 100 user patterns, 2 demo songs and 20 songs, while plug-in cards offer unlimited potential for expansion.

To enhance the versatility of the RY30 and support its vast performance potential, Yamaha is preparing a range of data cards that will provide a colorful range of voices and patterns.

In order to take full advantage of the many features and extraordinary performance provided by the RY30, we urge you to read through the manually carefully while trying out the features and functions described. See "About the Manual" on page 3 for more details on how the manual is organized and how it can be used most effectively.

CONTENTS

TUTORIALS SECTION

REFERENCE SECTION

TUTORIALS SECTION

About the Manual

This operation manual is broadly divided into two main sections — TUTORIALS and REFERENCE.

What's In the TUTORIALS Section

The TUTORIALS section contains 8 separate tutorials that take you through the main features and procedures you will need to know to become familiar with your RY30:

1. SETTING UP YOUR SYSTEM [page 13]
   Make basic audio and MIDI connections to the RY30 — and listen to the demos when you're set up.

2. THE PRESET VOICES [page 17]
   How to play the RY30 voices, and how to select different "pad banks" containing different sets of instruments.

3. PLAYING PATTERNS [page 19]
   Playing the preset patterns.

4. RECORDING & EDITING PATTERNS [page 21]
   Using the Real-time Record, Step Record, Parameter Record, and Clock Move modes to create and edit your own patterns.

5. RECORDING, EDITING & PLAYING SONGS [page 32]
   As the title says — how to record, edit, and play complete songs consisting of a sequence of patterns.

6. VOICE EDITING FUNDAMENTALS [page 41]
   The RY30 has sophisticated voice editing capabilities — this section explains how the voices are organized so you'll be able to us the VOICE EDIT mode functions to create your own sounds.

7. RECORDING & USING MACROS [page 43]
   Key macros help to make using the RY30 a smooth, fast process. This section describes how you kan record and reproduce key sequences to perform complicated tasks by simply "playing" a macro.

8. MULTI CHANNEL MIDI DRIVE [page 45]
   An introduction to the RY30's advanced MIDI control capabilities.

We recommend that you go through the tutorials in sequence while actually carrying out procedures on your RY30. Once you've gone through the entire TUTORIALS section in this way, you should be familiar enough with the RY30 to need only the REFERENCE section in future.

What's In the REFERENCE Section

The REFERENCE section is the "nuts and bolts" section of the manual, individually describing each of the RY30's many functions in detail. The REFERENCE section is divided into five sub-sections, each describing the various functions within a particular RY30 mode.

1. PATTERN MODE [Page 49]
2. SONG MODE [Page 61]
3. UTILITY MODE [Page 67]
4. VOICE EDIT MODE [Page 79]
5. PAD BANK MODE [Page 97]

Once you have become familiar with the way the RY30 works by going through the TUTORIALS section, you should only need to refer to the REFERENCE section from time to time to get details on functions you've never used before, or refresh your memory about functions that you don't use very often.

Each sub-section of the REFERENCE section has its own table of contents, so you should be able to locate any particular function quickly and easily. Functions and references can also be located by referring to the INDEX at the back of the manual.

Precautions

!! PLEASE READ THIS BEFORE PROCEEDING !!

1. **Avoid Excessive Heat, Humidity, Dust and Vibration**

   Keep the unit away from locations where it is likely to be exposed to high temperatures or humidity — such as near radiators, stoves, etc. Also avoid locations which are subject to excessive dust accumulation or vibration which could cause mechanical damage.

2. **Avoid Physical Shocks**

   Strong physical shocks to the unit can cause damage. Handle it with care.

3. **Do Not Open The Case Or Attempt Repairs Or Modifications Yourself**

   This product contains no user-serviceable parts. Refer all maintenance to qualified Yamaha service personnel. Opening the case and/or tampering with the internal circuitry will void the warranty.

4. **Make Sure Power Is Off Before Making Or Removing Connections**

   Always turn the power OFF prior to connecting or disconnecting cables.

5. **Handle Cables Carefully**

   Always plug and unplug cables by gripping the connector, not the cord.

6. **Clean With a Soft Dry Cloth**

   Never use solvents such as benzine or thinner to clean the unit. Wipe clean with a soft, dry cloth.

7. **Always Use the Correct Power Supply**

   Always use the supplied AC Adaptor to power your RY30 or, if the original adaptor is lost or broken, a replacement or equivalent type obtained from your Yamaha dealer. Also, make sure that the adaptor you have is appropriate for the AC mains supply voltage in the area where you intend to use the RY30 (the correct INPUT voltage is marked on the adaptor).

8. **Electrical Interference**

   Since the RY30 contains digital circuitry, it may cause interference and noise if placed too close to TV sets, radios or similar equipment. If such a problem does occur, move the RY30 further away from the affected equipment.

9. **MIDI Cables**

   When connecting to RY30 to MIDI equipment, be sure to use high-quality cables made especially for MIDI data transmission. Also avoid cables longer than about 15 meters, as longer cables can pick up electrical noise that can causes data errors.

10. Memory Backup

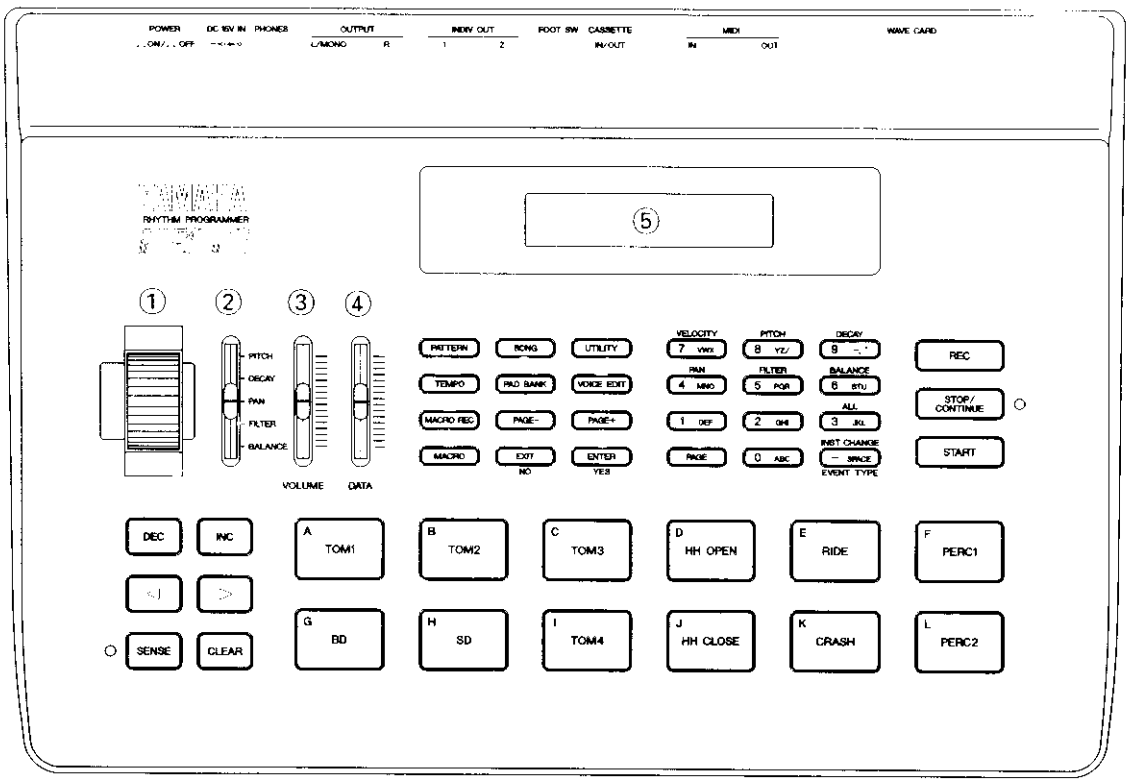
The RY30 contains a special long-life battery that retains the contents of its internal RAM memory even when the power is turned OFF. The backup battery should last for approximately 5 years. When the backup battery finally fails the contents of the RY30 memory will be lost. When this happens, have the backup battery replaced by qualified Yamaha service personnel. DO NOT ATTEMPT TO REPLACE THE BACKUP BATTERY YOURSELF!

IMPORTANT!: We recommend that you use the RY30 MIDI Bulk Transmit function to transfer important data to a MIDI data recorder or other storage device for safe long-term storage. The RY30 also features a cassette interface that can be used to store data to a standard cassette recorder.
Yamaha cannot be held responsible for data loss caused by battery failure or improper operation of the RY30!

11. Third-party Software

Yamaha can not take any responsibility for software produced for this product by third-party manufacturers. Please direct any questions or comments about such software to the manufacturer or their agents.

■ Front Panel



① Control Wheel

This is the key to RY30's remarkably intuitive programming capabilities. The control wheel can be used while programming in the RY30 real-time record (page 21), step record (page 24), parameter record (page 28), or clock move (page 30) modes to modify the pitch, decay, panning, filter cutoff frequency, wave balance, or timing of a selected instrument.

② Parameter Selector

This selector determines the parameter to be modified by the control wheel in the real-time record, step record, and parameter record modes. The wheel is used to modify timing when the clock move mode is used.

③ [VOLUME] Control

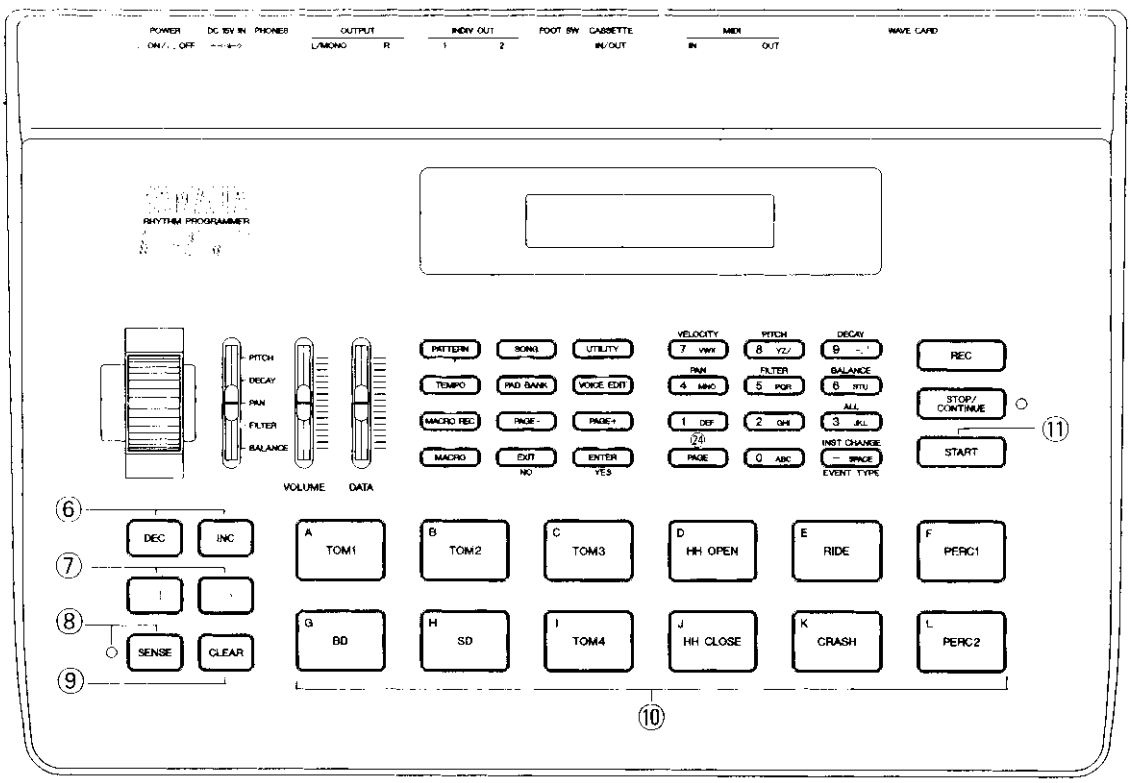
Adjusts the volume of the sound delivered via the rear-panel OUTPUT (L/MONO and R) jacks and the PHONES jack.

④ [DATA] Control

The fast, easy way to select patterns or songs, change the tempo values, edit voice parameter values, and more. In general, moving the [DATA] control upward (away from you) increases the value of the selected parameter, while downward movement decreases the value. Fine single-step adjustments can be carried out using the [INC] and [DEC] keys.

⑤ Liquid Crystal Display Panel (LCD)

This 24-character × 2-line backlit liquid crystal display panel shows all the titles, parameters, and prompts you need to operate the RY30 with optimum ease and efficiency. In the RY30, each screen full of information is known as a display "page," and the various display pages in each mode are accessed via the [PAGE–] and [PAGE+] keys or the [PAGE] key, described below.



⑥ **[DEC] and [INC] Keys**
The [DEC] and [INC] keys are used in conjunction with the [DATA] control to select patterns or songs, to change tempo values, and to generally edit parameter values in any of the RY30 modes. Either key can be pressed briefly for single stepping in the specified direction, or held for continuous scrolling.

⑦ **CURSOR [◁] and [▷] Keys**
Moves the screen cursor from parameter to parameter in many of the RY30 display pages.

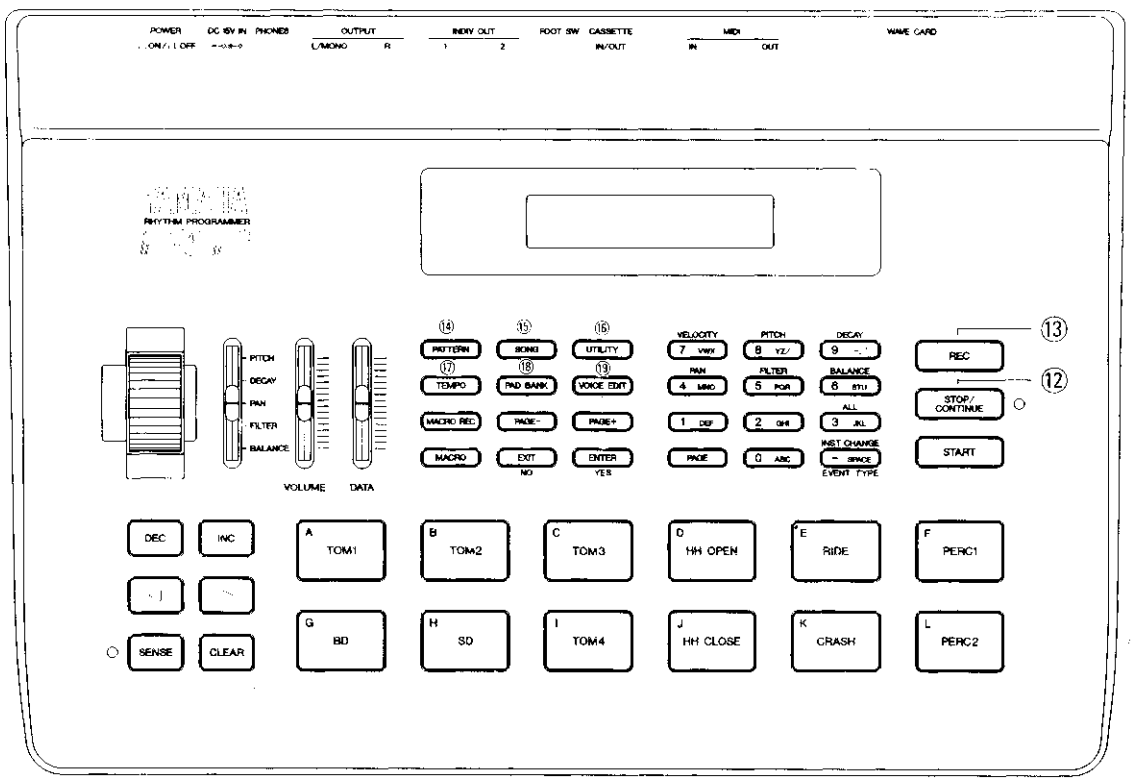
⑧ **[SENSE] Key & Indicator**
This key alternately turns the instrument pad velocity sensitivity on (LED lit) or off (LED off). When velocity sensitivity is on, the volume and sound of the instruments played via the pads will vary according to how hard you tap the pads.

⑨ **[CLEAR] Key**
The [CLEAR] key is used primarily to erase mistaken or unwanted notes when recording patterns in the real time and step record modes (pages 21 and 24), to reset parameters when using the parameter record mode (page 28), and to clear parts of a song in the song mode (page 32).

⑩ **Instrument Pads**
The RY30's 12 instrument pads — A through L — allow the associated instruments to be played and entered into patterns being recorded.

Please note that the instrument names on the pads will not always correspond exactly to the instrument played. The RY30 has 12 internal and 4 internal/card "pad banks," plus a special "pitch multi" pad bank, that assign completely different sets of instruments to the pads — and more can be loaded from external data cards.

⑪ **[START] Key**
Starts playback (or recording if a record standby mode has been selected) of the selected pattern or song.



⑫ **[STOP/CONTINUE] Key**
Stops playback or recording. If you press the [STOP/CONTINUE] key again after stopping a pattern or song, playback will resume from the point at which it was stopped. The [START] key described above will always start the pattern or song from the beginning.

⑬ **[REC] Key**
Engages record standby when the pattern mode is selected. You can then select the desired pattern record mode — real time, step, parameter record, or clock move — via the [INC] and [DEC] keys or [DATA] control, and start recording by pressing the [START] key.

When the song mode is selected the [REC] engages record or edit standby — you then select record or edit via the [INC] and [DEC] keys or [DATA] control, and start recording or editing by pressing the [START key].

⑭ **[PATTERN] Key**
Selects the RY30 pattern mode, in which patterns can be selected, played, recorded, or modified.

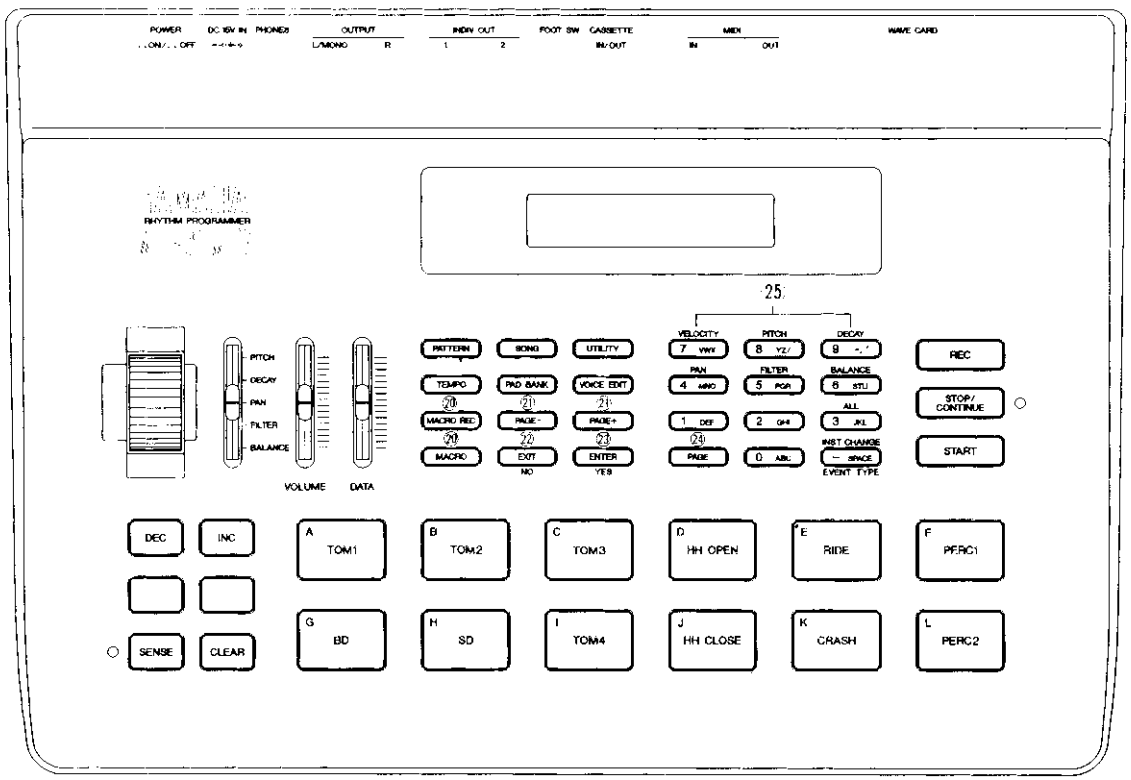
⑮ **[SONG] Key**
Selects the RY30 song mode, in which songs can be selected, played, recorded, and edited.

⑯ **[UTILITY] Key**
Selects the UTILITY mode which provides access to all system, MIDI, cassette, and card utility functions.

⑰ **[TEMPO] Key**
Moves the display cursor to the tempo parameter in the pattern or song modes, allowing the tempo to be varied by using the [DATA] control, the numeric keys, or the [INC] and [DEC] keys. Press the [TEMPO] key again after the tempo has been adjusted to return the cursor to its previous position.

⑱ **[PAD BANK] Key**
Selects the pad bank mode in which the various pad banks can be selected and re-programmed (page 17, 97).

⑲ **[VOICE EDIT] Key**
Selects the voice edit mode in which any of the RY30 voices can be edited to create instruments ideally suit to your own musical needs (page 41, 79).



⑳ **[MACRO REC] & [MACRO] Keys**
The RY30 allows you to record up to 10 key "macros" that can make it quick and easy to access functions or parameters that you use frequently. The [MACRO REC] key engages the macro record function that lets you record, view, or name a key sequence (page 43), while the [MACRO] key allows you to execute any of the macros you have recorded (page 44).

㉑ **[PAGE–] and [PAGE+] Keys**
As mentioned in the "Liquid Crystal Display Panel" description, the [PAGE–] and [PAGE+] keys are used to select that various display pages available in the pattern, song, utility, voice edit, pad bank, and song edit modes.

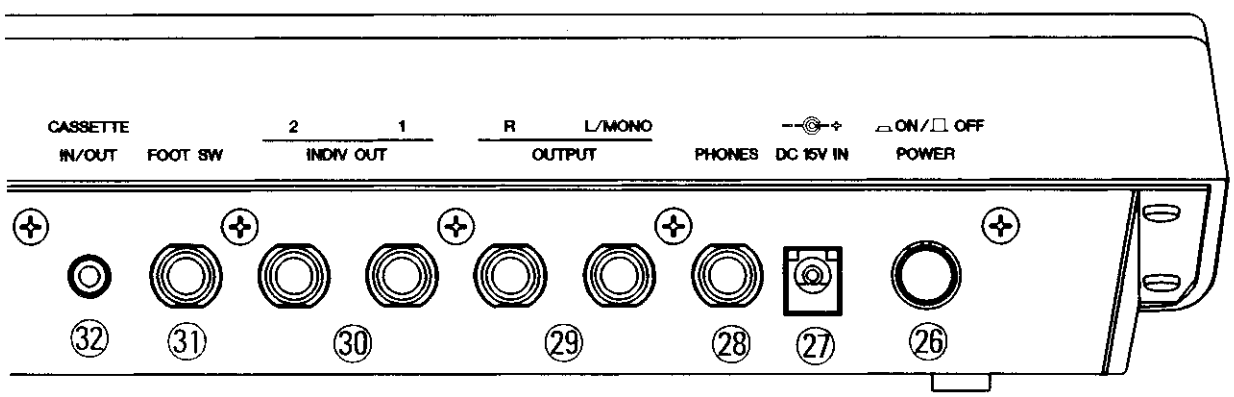
㉒ **[EXIT] Key**
The [EXIT] key makes it possible to abort certain operations that may change data in the internal memory, and to exit from certain functions or function groups.

㉓ **[ENTER] Key**
The [ENTER] key is used to confirm execution of certain operations that may change data in the internal memory, and to access certain groups of functions.

㉔ **[PAGE] Key**
The [PAGE] provides an alternative to the [PAGE–] and [PAGE+] keys for accessing specific display pages. Rather that stepping through the pages using the [PAGE–] and [PAGE+] keys, the [PAGE] key lets you go directly to a specified page number. The [PAGE] key also accesses some sub-functions in the pattern record modes.

㉕ **Numeric Keys**
These allow direct input of pattern and song numbers, tempo values, and other numeric parameter values. The numeric keys are also used to input characters for pattern, song, voice, and macro names. They also allow selection of parameters to be modified in the step record mode (page 26) and in the pattern parameter copy job (page 57) — refer to the brown labels printed above the keys.

■ Rear Panel



㉖ **[POWER] Switch**
Press to turn the RY30 power ON or OFF.

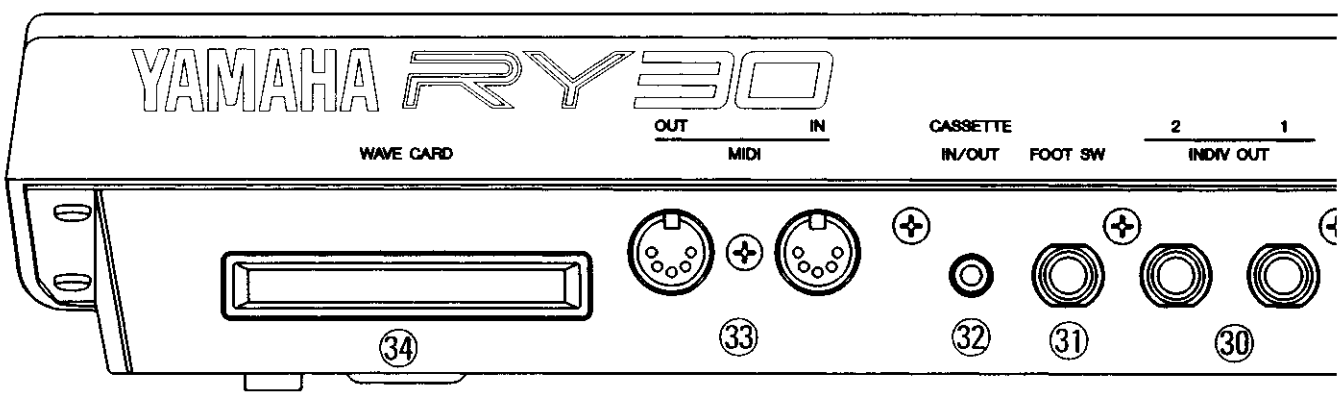
㉗ **DC 15V 500mA IN Jack**
The DC output cable from the supplied AC Adaptor should be connected here. When connecting the power supply, make sure that the RY30 POWER switch is in the OFF position (extended), then plug the AC adaptor output cable into the DC 15V 500mA IN jack, and finally the adaptor's AC plug into a convenient AC wall outlet.

CAUTION!
Do not attempt to use a different AC adaptor to power the RY30. The use of an incompatible adaptor may cause irreparable damage to the RY30, and might pose a serious shock hazard!

㉘ **PHONES Jack**
Accepts a standard pair of stereo headphones (1/4" stereo phone plug) for headphone monitoring of the RY30 sound without the need for external amplification equipment.

㉙ **OUTPUT L/MONO & R Jacks**
These are the main stereo outputs from the RY30. If a plug is inserted only into the L/MONO jack of an output pair, the left and right-channel signals are combined and delivered via this jack (for connection to a monaural sound system). Instruments can be individually assigned to these outputs only, these outputs and either or both of the INDIV outputs described below, or either or both of the INDIV outputs only (page 90). The [VOLUME] control controls the level of the signal sent to these jacks.

㉚ **INDIV OUT 1 & 2 Jacks**
Each RY30 instrument can be assigned to both, either, or neither of these jacks in addition to the stereo outputs described above. Further, the level at which each instrument will be delivered via these jacks can be controlled independently of the stereo outputs (page 90). The [VOLUME] control does not affect the INDIV OUT jack signal.



㉛ FOOT SW Jack
An optional Yamaha FC4 or FC5 footswitch plugged into this jack can be used to start and stop pattern or song playback and recording in the same way as the panel [START] and [STOP/CONTINUE] keys. Press the switch once to start playback from the beginning of the pattern or song, and again to stop playback.

㉜ CASSETTE IN/OUT Jack
This jack allows the RY30 to be interfaced to a standard cassette recorder via a mini-plug "y" cable (stereo mini-plug → 2 mono mini plugs), so that data can be economically stored to and retrieved from cassette tape as required (page 69).

㉝ MIDI IN and OUT Connectors
The MIDI IN connector receives the data from a sequencer or other MIDI keyboard which is to control the RY30. The MIDI OUT connector transmits data corresponding to all instrument pad, pattern, and song operations, or bulk data when one of the MIDI bulk dump transmission functions are executed (page 74).

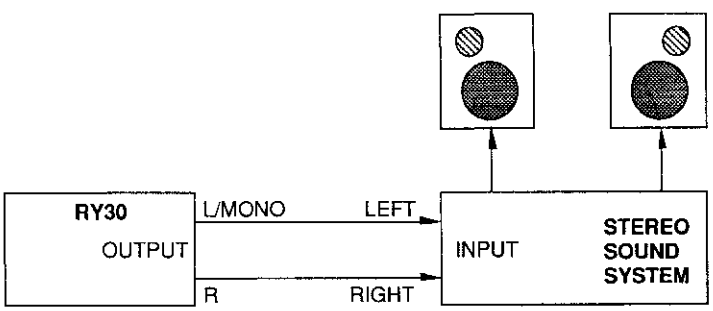
㉞ WAVE CARD Slot
The WAVE CARD slot accepts pre-programmed data cards containing wave, voice, and pattern data for the RY30. The card data can be loaded into the RY30 by using the CARD DATA LOAD function described on page 69.

Setting Up Your System

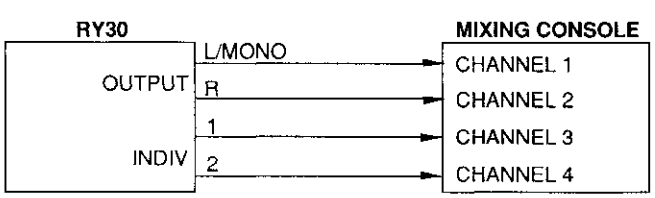
What you will connect the RY30 to, and what you will connect to the RY30, will depend entirely on your individual requirements, and it would be impossible to cover all possibilities here. The following are a few examples to help you get started.

● Audio Connections

If your RY30 is to be connected to a stereo sound system only, use the OUTPUT L/MONO and R jacks. These are the main stereo outputs from the RY30, and the ones controlled by the panel [VOLUME] control. If you have a monaural sound system, connect only the L/MONO jack.



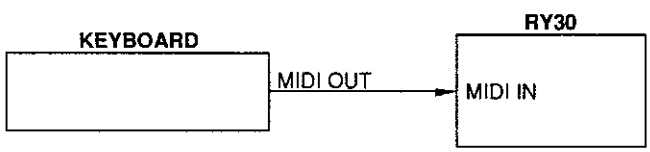
If you plan to use the RY30 with a mixing console or an integrated multi-track recorder/mixer, you might want to take advantage of the INDIV OUT 1 and 2 output jacks in addition to the OUTPUT L/MONO and R output jacks. These four outputs can be connected to separate input channels of the mixer. You could use the OUTPUT ASSIGN function (page 90) to assign instruments you want to process separately to the INDIV OUT jacks — bass drum and snare, for example — while the remaining instruments are delivered in stereo to the OUTPUT L/MONO and R outputs.



CAUTION!!: Make sure that both the RY30 and your sound system are turned OFF when making connections.

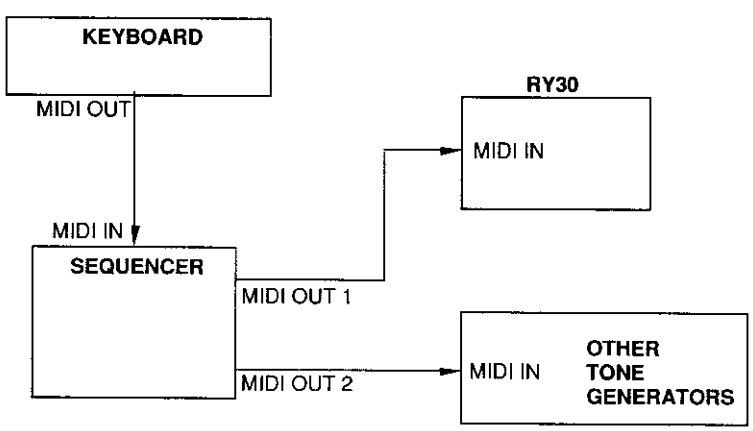
● MIDI Connections

Although the RY30 has velocity-sensitive instrument pads that can be used for playing and programming, you might prefer to use a MIDI keyboard to play the RY30 instruments. This can be accomplished by connecting the MIDI OUT connector of the keyboard to the MIDI IN connector of the RY30. You'll also have to make sure that the receive channels of the RY30 are set to match the transmit channel of your keyboard. We say "receive channels" rather than the singular because the RY30 allows each voice to be set to receive on a different channel. This advanced Multi Channel MIDI Drive capability is discussed in more detail on page 45.

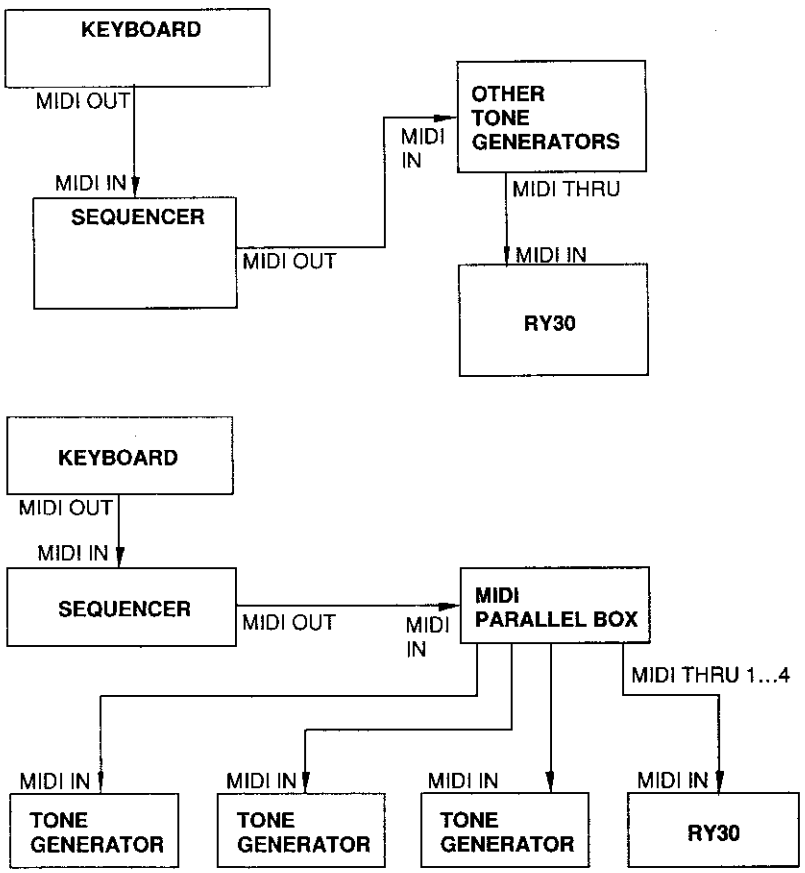


More complex MIDI systems may require the RY30 to be interfaced to a sequencer and perhaps MIDI tone generators and other devices in addition to a master keyboard. In such cases the location of the RY30 in the MIDI chain will have to be planned carefully, since the RY30 does not have a MIDI THRU connector.

If your sequencer provides multiple MIDI OUTs, the RY30 can simply be connected to one while your other tone generators, etc., are connected to the other(s).



If your sequencer only has a single MIDI OUT, however, the most logical place for your RY30 is at the end of the MIDI chain, after the other tone generators. If there will be more than about 3 or 4 devices in the chain, however, it is a good idea to use a MIDI parallel or distribution box to minimize the possibility of delays.



● System Power-on Procedure

Believe it or not, there's a right way and a wrong way to turn on the components in any music system.

In general, instruments and preamplifiers/mixers should always be turned on before subsequent power amplifiers, and preamplifier/mixer master volume controls should be turned all the way down when the system is being powered up. Failure to do this properly can result in damage to your power amplifiers and speakers.

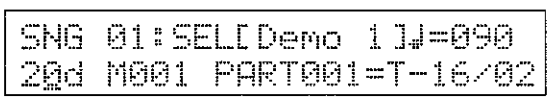
Also, MIDI transmitting devices should be turned on before the associated receiving device.

1. Make sure your sound system's volume control(s) and the RY30 volume control are turned all the way down prior to turning power on.
2. Turn on the master keyboard (if used).
3. Turn on the sequencer (if used).
4. Turn on the RY30.
5. Turn on the sound system.
6. Raise the sound system volume to a reasonable level.
7. Gradually raise the RY30 [VOLUME] control while playing the pads to set the desired listening level.

● Listen to the Demo

The RY30 is programmed with two demonstration songs that you might enjoy listening to after setting up your system. Take a short break and enjoy the demo:

1. Press the [SONG] key to select the song mode, then use the [DATA] control to select song number 20 or 21 (song numbers 20 and 21 are demo songs — indicated by a "d" to the right of the song number).



2. Press the [START] key to start demo playback. The demo songs will play in sequence repeatedly until the [STOP] key is pressed.

3. Press the [STOP] key when you want to stop demo playback, and then the [PATTERN] key to return to the pattern mode.

The Preset Voices

The RY30 has 96 preset voices that you can use in patterns and songs. The voices can be played via the RY30's 12 instrument pads, or a MIDI keyboard or other MIDI instrument connected to the MIDI IN connector. We'll discuss MIDI control in more detail on page 45. For now, let's listen to the preset voices by playing the RY30's own instrument pads.

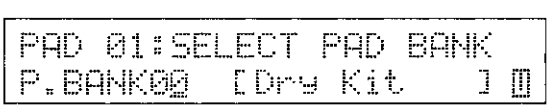
1. After making the necessary connections (see page 13) and turning the RY30 on, set the [VOLUME] control about half way between its lowest and highest settings.

2. Tap the instrument pads. You should hear the 12 instruments currently assigned to the pads.
   If the [SENSE] key indicator is lit, you'll be able to control the loudness (and in most cases the timbre) of the sound according to how hard you play the pads. Press the [SENSE] key so that its indicator goes out, then play the pads again and listen to the difference. Press the [SENSE] key again to turn velocity sensitivity back on.

● The Pad Banks

The RY30 has 12 internal "pad banks" that are essentially different sets of instruments assigned to the instrument pads. You played one of the pad banks if you followed the steps given above. Here's how you can select and play the others:

1. Press the [PAD BANK] key. A display similar to the following should appear.



   The underline cursor should be under the bank number as shown in the example display above. If it is not, move it there by pressing the [◁] cursor key as many times as necessary.

2. Press the [INC] key once to select the next pad bank, then play the instrument pads to hear the instruments assigned to that bank. Also note that the pad bank name appears to the right of the bank number. Use the [INC] and [DEC] keys to select the other available pad banks and try out the voices they contain. You can also use the [DATA] slider or the numeric keys to select different pad bank numbers.

   You should be able to select a total of 17 different pad banks — 00 through 16. Numbers 00 through 11 are the internal banks, 12 through 15 are internal/card banks that can also be loaded from external cards (see page 69), and number 16 is a "pitch multi" bank in which the same instrument is assigned to all 12 pads, but each pad plays the instrument at a different pitch (the 12 pads cover an octave in semitone steps).
   The PAD BANK MODE functions — described on pages 97 through 101 of the REFERENCE section of this manual — allow you to make your own instrument-to-pad assignments to create custom drum and percussion kits that suit your individual musical requirements.

Initial Pad Bank Assignments

When the RY30 is initially shipped, the internal pad banks are set up as follows:

0 Dry kit

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 34 Tom Dry1	B 35 Tom Dry2	C 36 Tom Dry3	D 56 Hat Opn2	E 61 Edge→Cap	F 30 Snr Side
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 1 Kik Dry2	H 15 Snr Dry1	I 37 Tom Dry4	J 55 Hat Cls2	K 60 Crash	L 60 Shaker

1 Room kit

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 42 Tom Rom1	B 43 Tom Rom2	C 44 Tom Rom3	D 53 Hat Opn1	E 62 Ride	F 51 Hat Qtr1
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 10 Kik Rom3	H 26 Snr Rom4	I 45 Tom Rom4	J 50 Hat Cls1	K 63 Ride Cup	L 28 Snr Rim 1

2 Power kit

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 38 Tom Pow1	B 39 Tom Pow2	C 40 Tom Pow3	D 63 Hat Opn1	E 62 Ride	F 64 Cym Rev
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 3 Kik Gat1	H 24 Snr Rom2	I 41 Tom Pow4	J 52 Hat Hlf1	K 60 Crash	L 59 China

3 process1

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 42 Tom Rom1	B 43 Tom Rom2	C 44 Tom Rom3	D 56 Hat Opn2	E 61 Edge→Cap	F 94 Scratch
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 5 Kik Pro1	H 20 Snr Pro1	I 45 Tom Rom4	J 55 Hat Cls2	K 59 China	L 95 Sfx Rev

4 process2

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 34 Tom Dry1	B 35 Tom Dry2	C 36 Tom Dry3	D 53 Hat Opn1	E 62 Ride	F 86 Sfx Metl
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 12 Kik Tek2	H 19 Snr Gat1	I 37 Tom Dry4	J 54 Hat Pad1	K 60 Crash	L 88 Sfx Log

5 Analog kit

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 13 Kik Ana1	B 32 Snr Ana1	C 46 Tom Tek A	D 58 Hat Opn3	E 81 Tambrine	F 67 Clap
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 14 Kik Ana2	H 33 Snr Ana2	I 47 Tom Tek B	J 57 Hat Cls3	K 70 Cabasa	L 78 Cowbel2

6 Perc 1

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 76 Cga Heel	B 75 Cga Slap	C 71 Clave	D 68 Bongo Hi	E 69 Bongo Lo	F 66 Agogo Lo
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 74 Cga Mute	H 72 Conga Hi	I 73 Conga Lo	J 83 Timbl Lo	K 82 Timbl Hi	L 65 Agogo Hi

7 Perc 2

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 77 Cowbel1	B 84 Triangle	C 85 Whistle	D 55 Sfx Mod	E 90 Sfx Pip	F 92 Sfx Wet
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 87 Sfx Afro	H 88 Sfx Log	I 79 Guiro	J 48 Tom TekC	K 49 Tom TekD	L 91 Sfx Rezz

8 Other BD

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 0 Kik Dry1	B 1 Kik Dry2	C 2 Kik Dry3	D 3 Kik Gat1	E 4 Kik Gat2	F 7 Kik Rev1
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 5 Kik Pro1	H 6 Kik Pro2	I 8 Kik Rom1	J 9 Kik Rom2	K 11 Kik Tek1	L 12 Kik Tek2

9 Other SD

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 16 Snr Dry2	B 17 Snr Dry3	C 18 Snr Dry4	D 19 Snr Gat1	E 20 Snr Pro1	F 21 Snr Rev1
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 22 Snr Rev2	H 23 Snr Rom1	I 25 Snr Rom3	J 27 Snr Rom5	K 31 Snr Tek1	L 29 Snr Rim2

10 All Cymbal

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 60 Crash	B 62 Ride	C 63 Ride Cup	D 61 Edge→Cap	E 59 China	F 56 Hat Opn2
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 50 Hat Cls1	H 51 Hat Qtr1	I 52 Hat Hlf1	J 53 Hat Opn1	K 54 Hat Ped1	L 55 Hat Cls2

11 SFX

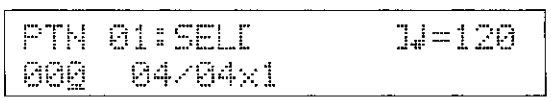
TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 93 Sfx Blow	B 95 Sfx Rev	C 91 Sfx Rezz	D 86 Sfx Metl	E 88 Sfx Log	F 90 Sfx Pip
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 94 Scratch	H 31 Snr Tek1	I 89 Sfx Bass	J 87 Sfx Afro	K 64 Cym Rev	L 92 Sfx Wet

*See the "RY30 VOICE LIST on page 94 for more information on the individual voices.

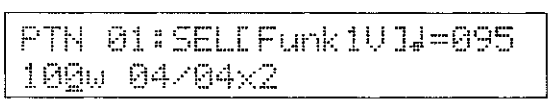
Playing Patterns

The RY30 has 100 preset rhythm patterns — pattern numbers 100 through 199 — that you can use "as is" or edit to create original variations. Here's how you can select and listen to the various preset patterns:

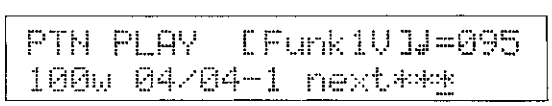
1. Press the [PATTERN] key to select the pattern mode (if it is not already selected). A display similar to the following should appear:



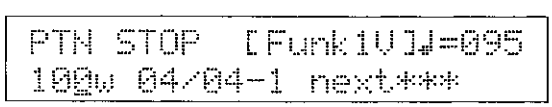
2. You can now use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select a pattern number between 000 and 199. Select pattern number 100 — the first preset pattern. The pattern name will be shown inside the square brackets on the top line of the display.



3. Press the [START] key to start playback of the selected pattern. The pattern will play continuously. The LED to the right of the [STOP/CONTINUE] key will flash at the current tempo during playback.



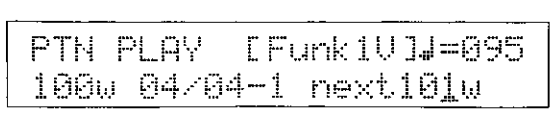
4. Press the [STOP/CONTINUE] key to stop playback.



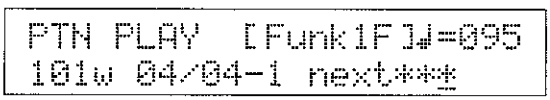
If you press the [STOP/CONTINUE] key again after stopping the pattern, playback will resume from the point at which it was stopped. The [START] key will always start the pattern from the beginning.

A new pattern number can be selected even while a previous pattern is playing. In this case, the new pattern will begin playing once the previous pattern has finished. During playback both the current pattern number and the "next" pattern number are shown on the display.

If, for example, you select pattern 101 while pattern 100 is playing (press the [INC] key once), "101" will be displayed as the next pattern number until the current run-through of pattern 100 finishes ...

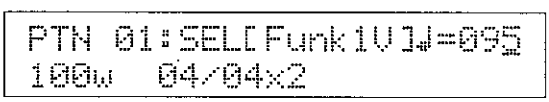


Then pattern 101 will begin playing.



Tempo Control

The tempo can be changed at any time — while a pattern is playing or while playback is stopped — by pressing the [TEMPO] key and then using the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select the desired tempo. The underline cursor will move to the tempo parameter when the [TEMPO] key is pressed.



Press the [TEMPO] key again to return the cursor to its previous position.

NOTE: *Each pattern has a "recommended" tempo which is automatically called when the pattern is selected.*

Recording & Editing Patterns

The RY30 provides four different modes for recording and editing patterns:

1. **Real-time record**
2. **Step record**
3. **Parameter record**
4. **Clock move.**

Of these only the first two — real-time record and step record — can be used to create new patterns. The parameter record and clock move modes are used to edit and modify patterns already created using either or both of the other modes.

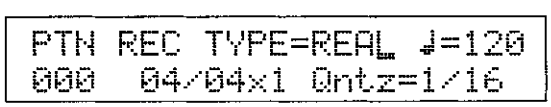
● Real-time Record

Real-time record allows you to enter patterns in "real time" via the RY30 instrument pads or a MIDI keyboard connected to the MIDI IN connector. Here's an example of the real-time record procedure using the RY30 instrument pads.

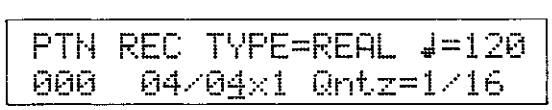
1. Select a pattern number between 000 and 099 (these are the RAM pattern numbers that you can record and edit).

2. Select the pad bank that contains the instruments that you intend to use in the pattern. You can always switch pad banks later to add different instruments to the pattern.

3. Press the [REC] key to engage the record-ready mode. A display similar to the following will appear.



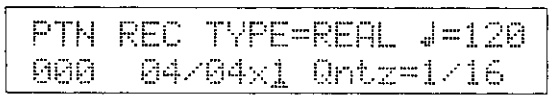
4. The default time signature is 4/4. If you want to set a different time signature, use the [◁] and [▷] cursor keys to move the underline cursor to the time signature parameter, then use the [INC] and [DEC] keys or the [DATA] slider to select the required time signature.



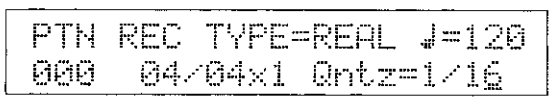
   The available time signatures are as follows:

   - 1/4 ... 8/4
   - 1/8 ...16/8
   - 1/16 ... 32/16

5. The default pattern length is 1 measure, but you can choose to record a pattern of 2, 3, or 4 measures. Use the [◁] and [▷] cursor keys to move the underline cursor to the pattern length parameter, then use the [INC] and [DEC] keys or the [DATA] slider to select the required length.



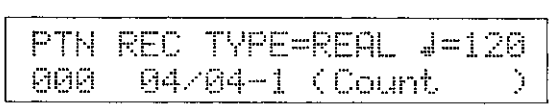
6. The default quantize value is 1/16. You can select other values by using the [◁] and [▷] cursor keys to move the underline cursor to the quantize parameter, then the [INC] and [DEC] keys or the [DATA] slider to select the required quantize value.



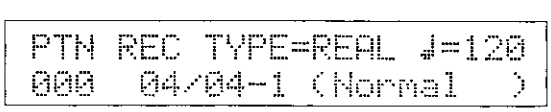
The available quantize values are

- 1/08 = 8th notes.
- 1/16 = 16th notes.
- 1/32 = 32nd notes.
- 1/12 = 4th-note triplets.
- 1/24 = 8th-note triplets.
- 1/48 = 16th-note triplets.
- 1/96 = the finest possible resolution.

7. Press [START] to begin recording. The RY30 will give you a 1-measure count-in during which nothing will be recorded. "Count" will appear in the brackets on the bottom display line.



8. You can start recording as soon as the count measure has finished or, since the pattern cycles continuously while recording, you can wait till the top of the pattern comes round again. "Normal" will appear in the brackets on the bottom display line when normal recording begins.



If you have selected a pattern length of 2, 3, or 4 measures, the current measure is indicated by the measure number to the right of the time-signature on the display.

9. Play the instrument pads to record your pattern (make sure the [SENSE] key indicator is lit if you want to record dynamics at the same time).
You don't have to record everything in one pass. You could, for example, record the bass and snare on one pass, the record the hi-hat part on the next or a later pass. The pattern will continue to cycle as long as the real-time record mode is engaged, so you can add parts whenever you're ready. Just remember that a maximum of 8 different instruments can be recorded on the same beat.

10. Press [STOP/CONTINUE] to stop recording and return to the normal pattern mode display.

Switching Pad Banks While Recording

You can select other pad banks to access different instruments while recording. Press [PAD BANK], select the desired pad bank number, then press [EXIT] to return to the real-time record display and continue recording.

Erasing Mistakes

A wrong instrument or an instrument entered at the wrong timing can be cleared while recording by holding the [CLEAR] key and pressing the appropriate instrument pad at the timing of the note(s) you want to clear.

You can actually clear an entire part from a pattern by holding the [CLEAR] key and instrument pad for a complete pass through the pattern.

Modifying Parameters As You Record

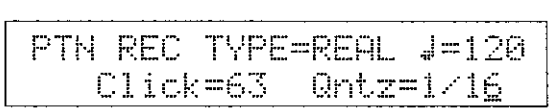
The RY30 control wheel can be used to modify any of the parameters described below as you record.

Simply set the wheel parameter selector to the desired parameter, move the wheel by an appropriate amount in the desired direction, then enter the note(s) by playing the instrument pads.

- PITCH: Rolling the wheel upward (away from you) raises the pitch of notes entered, and rolling the wheel down (toward you) lowers the pitch of notes entered.
- DECAY: Rolling the wheel upward lengthens the decay of notes entered, and rolling the wheel down shortens the decay of notes entered.
- PAN: Rolling the wheel upward pans notes to the right, and rolling the wheel down pans notes to the left.
- FILTER: Rolling the wheel upward increase the filter cutoff frequency, and rolling the wheel down decreases the filter cutoff frequency.
- BALANCE: Rolling the wheel upward increases the level of WAVE 1 while decreasing the level of WAVE 2, and rolling the wheel down has the opposite effect. See "Voice Editing Fundamentals" beginning on page 41 for a discussion of voice waves.

Change Click Volume or Quantize While Recording

If you press the [PAGE] key during real-time recording, a display like the following will appear.



You can use the [◁] and [▷] keys to move the underline cursor to the click or quantize parameter, and then the [INC] and [DEC] keys or [DATA] slider to change the value as required. The click parameter can also be changed via the numeric keys.

The click volume parameter goes from 00 (no click sound) to 63 (maximum click volume).

The same quantize values as described above are available. This capability is handy when you want to change to a quantize value that is more suited to a new part to be entered without having to exit and re-enter the real-time record mode.

Press the [EXIT] key to return to the normal real time record display.

Overdubbing & Editing in Real Time Record

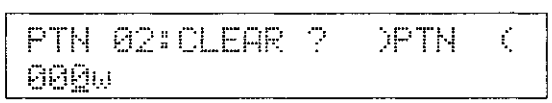
Overdubbing simply means adding new instruments or parts to a previously recorded pattern without affecting the existing data. This can be done by engaging the real time record mode for a previously recorded pattern and entering the new material in the same way as if you were recording a new pattern. The only difference is that you cannot set a new time signature or length for an existing pattern.

The same applies to editing in the real time record mode. Simply use the [CLEAR] key to remove unwanted material as described above, and add new material in the normal way. More detailed editing can be carried out in the step record mode, described below.

Clearing the Entire Pattern

If things aren't going as planned and it's better just to scrap the whole pattern and start again, use the PATTERN CLEAR function (page 53):

1. After stopping the pattern press the [PAGE+] key once to call the CLEAR PATTERN page.



2. Press the [ENTER] key *twice*.

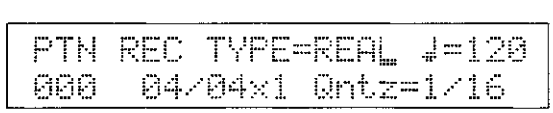
3. After the "Complete !" display appears briefly, press the [PATTERN] or [EXIT] key to go back to the main pattern page, then start recording again.

● Step Record

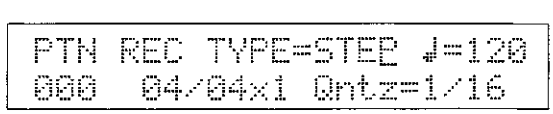
The step record mode is handy when you have a clear idea of how your pattern is to be construction — either mental or written. You can enter notes and change parameters with maximum precision and control. The step record mode also makes it possible to enter extremely complex patterns that would be difficult or impossible to play in real time.

There's no reason why you can't combine the real-time and step record methods, recording the basic parts of a pattern in the real-time mode, for example, then switching to the step record mode to record complex embellishments and edit parameters.

1. As with the real-time record procedure, select a pattern number (000 through 099), select the pad bank you want to use, then press the [REC] key to engage the record-ready mode.

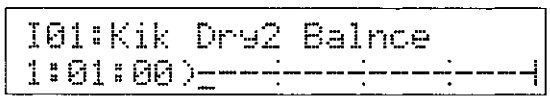


2. Press the [INC] key to select the step record mode.

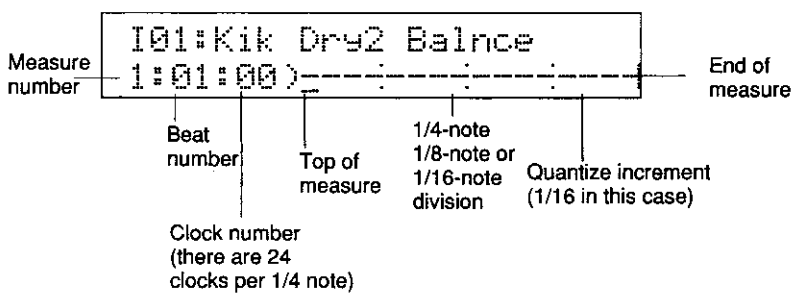


3. Set the time signature, pattern length, and quantize value as described in steps 4, 5, and 6 of the real-time record procedure (page 21) if you want to change any of the default settings.

4. Press the [START] key to engage the step record mode.



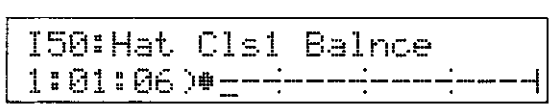
The bottom line of the display shows, from left to right, the measure, beat, and clock numbers corresponding to the current entry (cursor) location, and a graphic representation of all or part of the pattern to be entered. The various elements of the display are as follows:



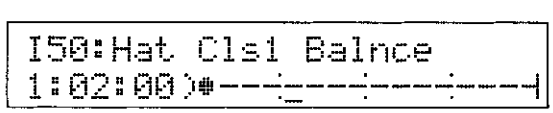
5. To enter a note, use the [◁] and [▷] keys to move the cursor to the appropriate location on the measure display, then press an instrument pad.

Example:

To enter the closed hi-hat on every 1/4 note in the example display shown above, begin by tapping the hi-hat pad (make sure an appropriate pad bank is selected) while the cursor is located at the top of the measure.

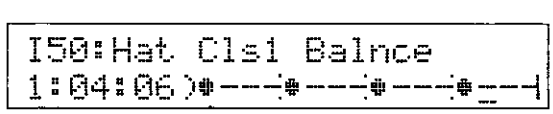


A dot will appear where the hi-hat was entered, and the cursor will advance to the next quantize increment (in this case corresponding to the second 1/16th note in the measure). Now move the cursor ahead to the second 1/4 note by pressing the [▷] key 3 times.



Press the hi-hat pad again to enter the second hi-hat beat.

Repeat for the remaining two hi-hat beats of the measure.



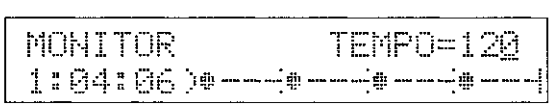
NOTE: Notes that do not fall precisely on the currently selected quantize increments will be displayed as "×" rather than "●". This will happen, for example, if you record an instrument with 1/12 quantization and then switch to 1/16 quantization.

6. To enter a different instrument simply press the corresponding instrument pad. The display will only show occurrences of the instrument currently being entered. You can switch to the display for a different instrument without actually entering a note by holding the numeric [–] key (look for the "INST CHANGE" label above the key) while tapping the instrument pad corresponding to the instrument you want to display. You can also select an instrument by using the [INC] and [DEC] keys or the [DATA] control while holding the [–] key.

7. Once you've entered all the required parts, press the [STOP/CONTINUE] key to exit from the step record mode and return to the normal pattern display. You can also use the MONITOR mode to hear you pattern without exiting step record (see below).

Check On Your Progress with the MONITOR Mode

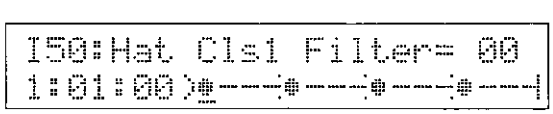
While still in the step record mode you can hear how your pattern sounds by simply pressing the [START] key. This activates the step record MONITOR mode.



The [INC] and [DEC] keys, [DATA] control or numeric keys can be used to change the tempo setting to hear how the pattern sounds at different speeds. Press the [STOP/CONTINUE] key once to return to the step record display.

Modifying Parameters in Step Record

When the cursor is placed at a position containing a note, the value of the selected parameter for that note will be displayed in the upper right-hand corner of the display. The Velocity, Pitch, Decay, Pan, Filter, and Balance parameters can be selected in the step record mode by pressing the numeric [7], [8], [9], [4], [5], or [6] keys, respectively.



The selected parameter for the note at the cursor position can then be edited by using the [INC] and [DEC] keys or the [DATA] control. The ranges and effects of the various parameters are as follows:

● VELOCITY
Range: 01 ... 64.
The higher the velocity value the higher the velocity (affecting volume and timbre) of the note at the cursor position.

● PITCH
Range: –60 ... 00 ... +60.
Positive values raise the pitch of the note at the cursor position, and negative values lower the pitch of the note at the cursor position.

● DECAY
Range: –63 ... 00 ... +63.
Positive values lengthen the decay of the note at the cursor position, and negative values shorten the decay of the note at the cursor position.

● PAN
Range: –32 ... 00 ... +32.
Positive values pan the note at the cursor position to the right, and negative values pan the note at the cursor position to the left.

● FILTER
Range: –63 ... 00 ... +63.
Positive values raise the filter cutoff frequency of the note at the cursor position, and negative values lower the filter cutoff filter frequency of the note at the cursor position.

● BALANCE
Range: –63 ... 00 ... +63.
Positive values increase the level of WAVE 1 in relation to WAVE 2 for the note at the cursor position, and negative values increase the level of WAVE 2 in relation to WAVE 1 for the note at the cursor position. See "Voice Editing Fundamentals" beginning on page 41 for a discussion of voice waves.

If the same instrument has been entered twice at the same location, a "1" or "2" will appear on the display instead of the usual dot, indicating the 1st or 2nd occurrences of that instrument, respectively. Any of the numeric keys used to select the various parameters mentioned above can be used to alternately select "1" and "2", and the corresponding parameter values.

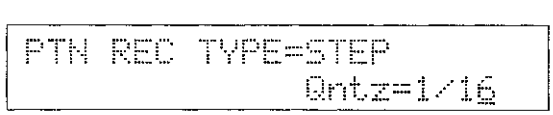
It is also possible to directly modify the pitch, decay, pan, filter and balance parameters for each note in the same way as in the real time record mode: set the wheel parameter selector to the desired parameter, move the wheel by an appropriate amount in the desired direction, then enter the note by playing the instrument pads (see "Modifying Parameters As You Record" on page 23).

Erasing Mistakes in Step Record

An unwanted note can be cleared in the step record mode by placing the cursor under the offending note, holding the [CLEAR] key, and pressing the appropriate instrument pad.

Change the Quantize Value While Recording

If you press the [PAGE] key during step recording, a display like the following will appear.



You can now use the [INC] and [DEC] keys or [DATA] slider to change the quantize value as required. This capability is handy when you want to change to a quantize value that is more suited to a new part to be entered without having to exit and re-enter the step record mode.

Press the [EXIT] key to return to the normal step record display.

Give Your Pattern a Name

If you press the [PAGE] key and then the [PAGE+] key during step recording, a display like the following will appear.

```
PTN REC TYPE=STEP
        NAME = [_       ] 0
```

Use the [◁] and [▷] keys to move the cursor to one of the 6 available character locations within the NAME brackets. Use the numeric keys, the [INC] or [DEC] keys, or the [DATA] slider to enter the characters for the voice name.

Each numeric key accesses four different characters — its number and the remaining three characters printed on the key. The characters printed on the key are called in sequence each time the key is pressed. To enter the letter "H", for example, press the [2] key three times. The [CLEAR] key switches between upper and lower case characters — indicated by a reverse (white on black) "U" for upper or "L" for lower to the right of the new voice name.

The [INC] and [DEC] keys and the [DATA] slider access a complete list of lower and upper case characters, plus a range of symbols not available via the numeric keys. The complete list of characters is given below:

```
(Space) !"#$%&'()*+,-./0123456789:;<=>?@
ABCDEFGHIJKLMNOPQRSTUVWXYZ[¥]^_`
abcdefghijklmnopqrstuvwxyz{|}→←
```

Press the [EXIT] key to return to the normal step record display. Your original pattern name will be displayed in the brackets on the top display line when that pattern is selected.

● Parameter Record

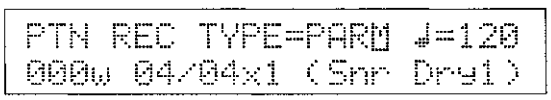
The parameter record and clock move modes allow you to refine and polish the sound of your pattern quickly and easily. In the parameter record mode, you can make subtle (or not-so-subtle) changes to pitch, decay, pan position, filter cutoff frequency, and wave balance by simply operating the RY30 control wheel while monitoring the results in real time.

1. Select a pattern that has already been recorded, then press the [REC] key to engage the record-ready mode.

```
PTN REC TYPE=REAL ♩=120
000w 04/04x1 Qntz=1/16
```

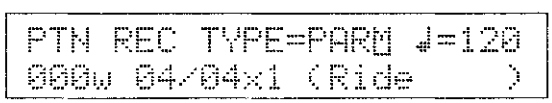
Please note that the small "w" to the right of the pattern number indicates that the pattern contains data.

2. Press the [INC] key twice to select the parameter modify mode.

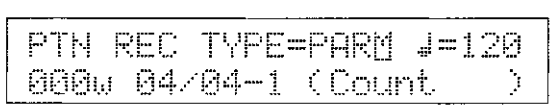


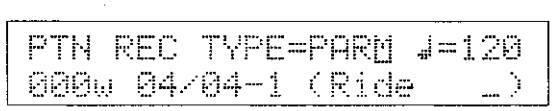
3. Press the instrument pad corresponding to the instrument you want to modify (if the instrument is not in the current bank press the [PAD BANK] key, select the appropriate pad bank, and then press [EXIT] to return to the previous display). An instrument can also be selected by moving the cursor to the voice name and using the [INC] and [DEC] keys or [DATA] slider. The name of the selected instrument will appear in the parentheses on the bottom line of the display.

   If you select the ride cymbal, for example, the display will look something like this:



4. Press the [START] key to engage the parameter record mode. The selected pattern will begin playing and you can begin modifying parameters after a one-measure count-in ("Count" will appear in the parentheses during the count-in, then the instrument name will reappear when parameter record begins).





5. Select the parameter you want to modify using the wheel parameter selector, then roll the wheel up or down by the appropriate amount at the timing of the note or notes you want to modify. The [CLEAR] key resets the selected parameter to its "center" value for notes that occur while it is pressed.

- PITCH: Rolling the wheel upward (away from you) raises the pitch of the selected instrument, and rolling the wheel down (toward you) lowers the pitch.

- DECAY: Rolling the wheel upward lengthens the decay of the selected instrument, and rolling the wheel down shortens the decay.

- PAN: Rolling the wheel upward pans the selected instrument to the right, and rolling the wheel down pans the instrument to the left.

- FILTER: Rolling the wheel upward increase the filter cutoff frequency of the selected instrument, and rolling the wheel down decreases the filter cutoff frequency.

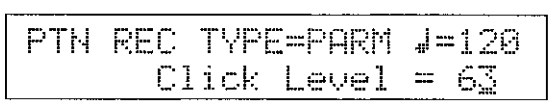
- BALANCE: Rolling the wheel upward increases the level of WAVE 1 while decreasing the level of WAVE 2, and rolling the wheel down has the opposite effect. See "Voice Editing Fundamentals" beginning on page 41 for a discussion of voice waves.

6. You can press an instrument pad, use the [INC] and [DEC] keys, or use the [DATA] control to select a different instrument (you can also select an entirely different pad bank if necessary), and use the wheel parameter selector to select a different parameter at any time in the parameter record mode.

NOTE: *The UTILITY mode WHEEL RANGE job described on page 76 allows you to independently set the wheel range for the pitch, decay, pan, filter, and balance parameters, so you can select the best wheel "sensitivity" for your own requirements.*

Change Click Volume During Parameter Modify Recording

If you press the [PAGE] key during parameter a display like the following will appear.



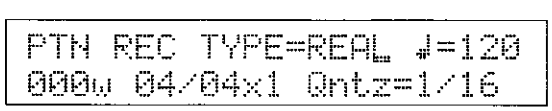
Use the [INC] and [DEC] keys, the numeric keys, or the [DATA] slider to change the click (metronome) volume as required. The click volume parameter goes from 00 (no click sound) to 63 (maximum click volume).

Press the [EXIT] key to return to the normal parameter record display.

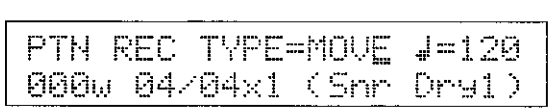
● Clock Move

Subtle shifts in note timing are what give vitality and warmth to "live" sound. The clock move mode lets you modify note timing to suit your own requirements by operating the RY30 control wheel while monitoring the results in real time.

1. Select a pattern that has already been recorded, then press the [REC] key to engage the record-ready mode.

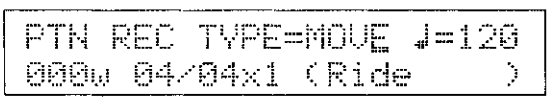


2. Press the [INC] key three times to select the clock move mode.

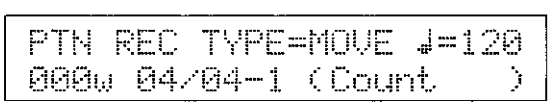


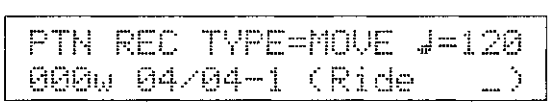
3. Press the instrument pad corresponding to the instrument you want to move (if the instrument is not in the current bank press the [PAD BANK] key, select the appropriate pad bank, and then press [EXIT] to return to the previous display). An instrument can also be selected by moving the cursor to the instrument name and using the [INC] and [DEC] keys or the [DATA] control. The name of the selected instrument will appear in the parentheses on the bottom line of the display.

   If you select the ride cymbal, for example, the display will look something like this:



4. Press the [START] key to engage the clock move mode. The selected pattern will begin playing and you can begin modifying the timing after a one-measure count-in ("Count" will appear in the parentheses during the count-in, then the instrument name will reappear when parameter modify begins).



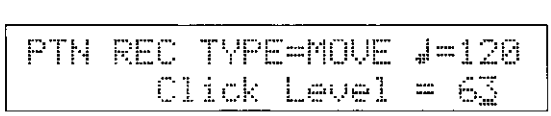


5. Move the wheel upward to move the timing of notes forward (i.e. the notes will occur earlier), or downward to move the timing backward (i.e. the notes will occur later). Only notes of the selected instrument that occur while the wheel is not in its center position will be affected — that means you have to move the wheel up or down just before the target note occurs, then release it before notes you don't want to move occur. The note(s) will be moved by one "clock" — that's 1/24th of a quarter note — in the specified direction on each pass (i.e. the amount by which the wheel is moved does not affect that amount of time by which the notes are moved). You may have to move a note several times in the same direction to achieve the desired effect.

6. You can select a different instrument (you can also select an entirely different pad bank if necessary) at any time in the clock move mode.

Change Click Volume During Clock Move Recording

Click volume can be adjusted in the clock move in the same way as it can in the parameter modify mode: press the [PAGE] key, then use the [INC] and [DEC] keys, the numeric keys, or the [DATA] slider to change the click (metronome) volume as required (00 ... 63).



Press the [EXIT] key to return to the normal clock move display.

Recording, Editing & Playing Songs

In the RY30 "songs" are created by first specifying a sequence of patterns in the song record mode, and then any necessary repeats, tempo changes, or velocity changes in the song edit mode.

Obviously, the first step in creating any song is to record the patterns you need for introductions, breaks, choruses, verses, etc., in the pattern mode. These can then be assembled in the song mode using the procedures outlined below.

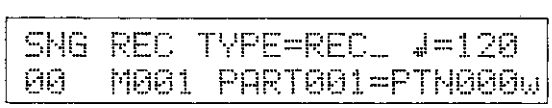
● Song Record

Although you can create and edit songs entirely in the song edit mode (described below) the song record mode lets you hear the patterns as they're selected, making the job of setting up the basic sequence of patterns for your song much easier.

1. Press the [SONG] key to select the song mode.

2. Select a song number between 00 and 19 using the [INC] and [DEC] keys, the [DATA] control, or the numeric keys.

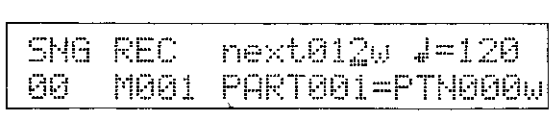
3. Press the [REC] key to engage the song record ready mode.

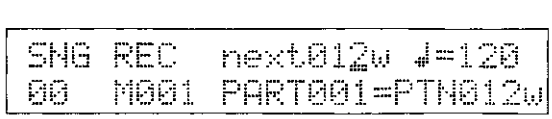


From left to right the bottom line of the display shows the song number, the current measure number, the part number (a "part" is a pattern or other event such as a repeat sign, a tempo change, or a velocity change), and the pattern number or event that has been assigned to that part. Please note that only patterns can be entered in the song record mode. Other events can be entered in the song edit mode (page 34).

4. Press the [START] key to begin recording. Pattern 000 will begin playing and its number will flash on the bottom line of the display.

5. You can now select the first pattern to be recorded using the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys. A newly selected pattern number will be displayed as the "next" pattern on the upper line of the display until the currently playing pattern ends.





6. When a pattern has been selected, press the [ENTER] key — the PART number will advance by one and you can select and enter the next pattern number in the same way.

7. Continue selecting and entering patterns in this manner until your pattern is complete.

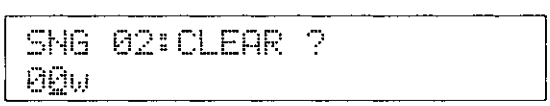
8. Press the [STOP/CONTINUE] key to exit the song record mode and return to the normal song mode display.

NOTE: *You can delete the previously entered pattern and move back one part by pressing the [CLEAR] key.*

Clearing the Entire Song

If you want to scrap the whole song and start again, use the SONG CLEAR function (page 63):

1. After stopping the song press the [PAGE+] key once to call the SONG CLEAR page.



2. Press the [ENTER] key *twice*.

3. After the "Complete !" display appears briefly, press the the [SONG] key or the [EXIT] key to go back to the main song page, then start recording again.

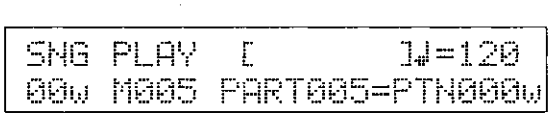
● Song Play

Selecting and playing a song is essentially the same as selecting and playing a pattern (page 19).

1. Press the [SONG] key to select the song mode (if it is not already selected). A display similar to the following should appear:

2. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select a song number between 00 and 19.

3. Press the [START] key to start playback of the selected song. The song will play through to the end and then stop. The LED to the right of the [STOP/CONTINUE] key will flash at the current tempo during playback. The measure and part numbers on the bottom line of the display will advance as playback of the song progresses.



4. Press the [STOP/CONTINUE] key if you want to stop playback before the end of the song is reached.

If you press the [STOP/CONTINUE] key again after stopping the song, playback will resume from the point at which it was stopped. The [START] key will always start the song from the beginning.

Tempo Control

The tempo can be changed at any time — while a song is playing or while playback is stopped — by pressing the [TEMPO] key and then using the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select the desired tempo. The underline cursor will move to the tempo parameter when the [TEMPO] key is pressed.

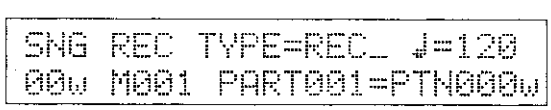
Press the [TEMPO] key again to return the cursor to its previous position.

● Song Edit

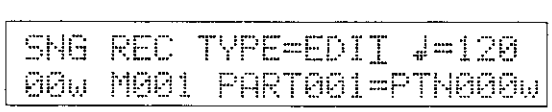
In the song edit mode you can change part numbers, delete parts, insert parts, copy parts, set an initial tempo for the song, and give the song a name. In addition to new parts, you can insert other events including begin repeat and end repeat signs, tempo changes, or velocity changes. Here's the general procedure:

1. In the song mode select the song you want to edit (00 ... 19) using the [INC] and [DEC] keys, the [DATA] control, or the numeric keys.

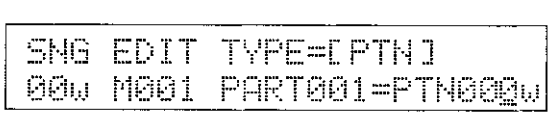
2. Press the [REC] key to engage the song record ready mode.



3. Press the [INC] key once to select the song edit standby mode.



4. Press the [START] key to engage the song edit mode.



5. Select the part you want to edit by moving the cursor to the PART parameter and using the [INC] and [DEC] keys or the [DATA] control to select the desired part. You can also directly enter a part number via the numeric keys.

If you step past the last part in the song the next part number will appear and the TYPE and event parameters will flash, indicating that no data has yet been specified. You can then enter a new part number or any other event as described below.

6. If the selected part is a pattern that you want to change to a different pattern number, simply move the cursor to the PTN parameter by pressing the [▷] key, enter the new pattern number (the new pattern number will flash), then press the [ENTER] key. The selected pattern number will be entered and the edit location will automatically advance to the next part number.

7. If you want to delete, insert, or copy parts, use the [PAGE–] and [PAGE+] keys to locate the appropriate edit job and follow the instructions given for the selected job in the "Song Edit Jobs" section that follows. Edit jobs are also provided for setting an initial tempo for the song, and for giving the song a name.

8. To enter repeats, tempo changes, or velocity changes, use the "Insert" job described in the "Song Edit Jobs" section t on insert the appropriate song event, described in the "Song Events" section (page 38).

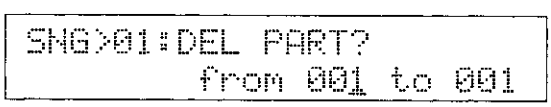
9. Pres the [STOP/CONTINUE] key to exit from the song edit mode and return to the normal song mode display.

● Song Edit Jobs

From the song edit mode it is possible to access any of the 5 song edit jobs described below by using the [PAGE–] and [PAGE+] keys.

Delete

This edit job allows you to delete a single part or a range of parts from the song.



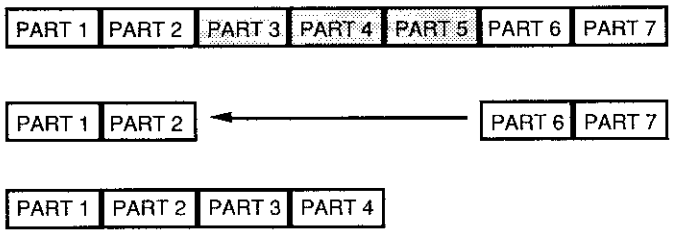
Specify a single part or a range of parts to delete by moving the cursor to the "from" and "to" parameters using the [◁] and [▷] keys, and entering the appropriate part numbers via the [INC] and [DEC] keys, the [DATA] control, or the numeric keys.

When you've specified the part or range of parts to be deleted, press the [Enter] key. "Sure" will appear on the upper line of the display. Confirm your intention to delete the part(s) by pressing the [ENTER] key again. This actually executes the delete operation and "Complete!" will appear on the display briefly when the operation is finished.

The RY30 will automatically return to the song edit mode.

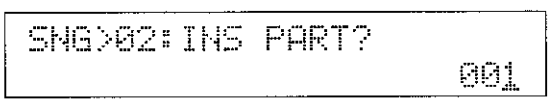
Example:

If you delete parts 3 through 5, all subsequent parts are moved back to take their place, as shown below.



Insert

The insert job allows you to insert a new part — pattern, repeat, tempo change, or velocity change — at any point in the song.



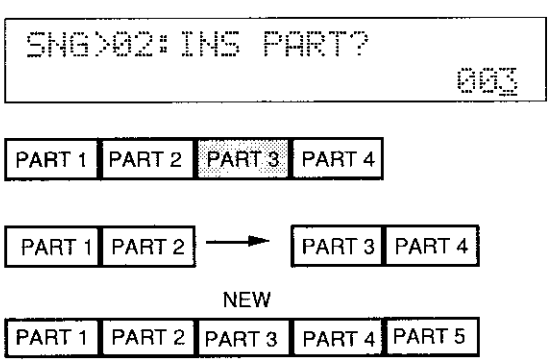
Use the [INC] and [DEC] keys, the [DATA] control, or the numeric keys to select the part at which you want to insert a new event.

Press the [Enter] key. "Sure" will appear on the upper line of the display. Confirm your intention to insert at the specified location by pressing the [ENTER] key again. This actually executes the insert operation and "Complete!" will appear on the display briefly when the operation is finished.

The RY30 will automatically return to the song edit mode.

Example:

Here's what happens when you insert at part 3:



When the insert operation is executed the existing part 3 and all subsequent parts are moved up, leaving space for a new part 3 which should be recorded immediately after the insert operation is executed (while the TYPE and event parameters are flashing).

Copy

The copy job makes it easy to construct a song by copying verses, breaks, choruses, and other musical segments to new locations.

```
SNG>03:CPY PART?
        001 - 001 → 001
```

From left to right, the first two parameters on the bottom line of the display specify the range of parts to be copied, and the parameter to the right of the arrow specifies the destination part number to which the specified parts are to be copied. Use the [◁] and [▷] keys to move the cursor to the various parameters and set as required. To copy parts 3 through 7 to part 19, for example, set up the parameters like this:

```
SNG>03:CPY PART?
        003 - 007 → 019
```

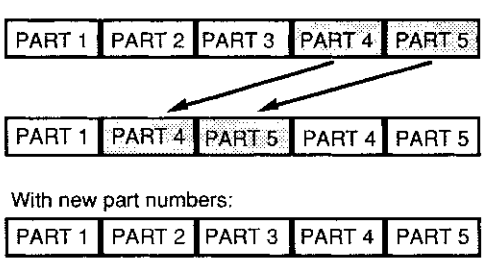
Press the [Enter] key. "Sure" will appear on the upper line of the display. Confirm your intention to copy the parts by pressing the [ENTER] key again. This actually executes the copy operation and "Complete!" will appear on the display briefly when the operation is finished.

The RY30 will automatically return to the song edit mode.

Example:

Here's what happens if you copy parts 4 through 5 to part 2:

```
SNG>03:CPY PART?
        004 - 005 → 002
```



Of course you can also copy parts to the end of the current song. If you song has 20 parts, for example, you could copy parts 1 through 8 to part 21.

Initial Tempo

This job sets an initial tempo from which the song will always start. This allows the song to always start at the same tempo regardless of any tempo changes made before the song is started.

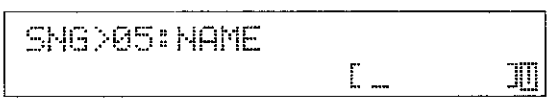
```
SNG>04:INITIAL TEMPO
                OFF ♩=120
```

With the cursor at the ON/OFF parameter, use the [INC] key or the [DATA] control to turn the function ON if you want the initial tempo to be active. Press [▷] to move the cursor to the tempo parameter, and use the [INC] and [DEC] keys, the [DATA] control, or the numeric keys to enter the desired initial tempo.

Press the [EXIT] key to return to the song edit mode, or use the [PAGE–] and/or [PAGE+] keys to locate another job if necessary.

Song Name

Well-thought-out names make it easier to identify songs.



Use the [◁] and [▷] keys to move the cursor to one of the 6 available character locations within the NAME brackets. Use the numeric keys, the [INC] or [DEC] keys, or the [DATA] slider to enter the characters for the voice name see "Give Your Pattern a Name" on page 28 for details on how to use the numeric keys and a list of the available characters). Your original pattern name will be displayed in the brackets on the top display line when that song is selected.

Press the [EXIT] key to return to the song edit mode, or use the [PAGE–] and/or [PAGE+] keys to locate another job if necessary.

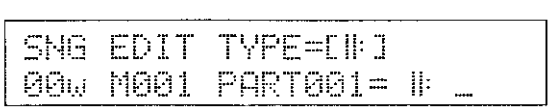
● Song Events

In addition to pattern numbers, the RY30 provides the following events for use in songs. Normally you'll use the Insert job described in the previous section to insert any of these events in the required location.

The different event types are specified by the TYPE parameter on the top line of the song edit display, and are selected in sequence by pressing the numeric [–] key (look for the "EVENT TYPE" label below the key).

Please note that the event types listed below can only be selected for a part number that does not already contain data — i.e. a part cleared by an Insert operation, or the part after the last existing part in the song. In either case, the TYPE and event parameters will flash to indicate that the part does not contain data.

Begin Repeat



Insert a begin repeat event before a part or group of parts you want to repeat one or more times. A begin repeat must always be accompanied by an end repeat event (see below) which defines the end of the song segment to be repeated.

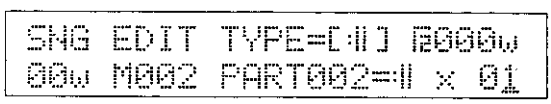
After selecting the Begin Repeat event, press the [ENTER] key to actually enter it into the current part number and advance to the next part number.

End Repeat

An End Repeat event must be inserted immediately after a part or group of parts you want to repeat one or more times. An End Repeat event must always be accompanied by a Begin Repeat event (see above) which defines the beginning of the repeat segment.

The number following the End Repeat symbol on the lower display line sets the number of times the defined segment will be repeated (range: × 01 ... 99).

If the part immediately before the End Repeat event is a pattern, the pattern number parameter that appears on the upper line of the display lets you specify a second ending for the repeat segment — i.e. the pattern specified here will play instead of the normal pattern at the end of the last repeat.



After selecting the Begin Repeat event and setting the parameters as required, press the [ENTER] key to actually enter it into the current part number and advance to the next part number.

Increase Tempo

An Increase Tempo event can be used to create a sudden or gradual increase in tempo — for an "accelerando" type effect.

The number to the left of the slash is the amount by which the tempo is to be increased in beats per minute (range: 00 ... 99). The number to the right of the slash determines how long it takes to reach the specified new tempo in 1/4 notes (range: 00 ... 99).

After selecting the Increase Tempo event and setting the parameters as required, press the [ENTER] key to actually enter it into the current part number and advance to the next part number.

Example:

To increase the tempo by 20 beats per minute over a period of two 4/4 measures, for example, insert the following tempo increase event immediately before the measure at which you want the tempo increase to begin:

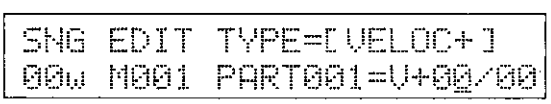
Decrease Tempo

This event has the opposite effect to the Increase Tempo event described above. A Decrease Tempo event can be used to create a sudden or gradual decrease in tempo — for a "ritardando" type effect.

The number to the left of the slash is the amount by which the tempo is to be decreased in beats per minute (range: 00 ... 99). The number to the right of the slash determines how long it takes to reach the specified new tempo in 1/4 notes (range: 00 ... 99).

After selecting the Decrease Tempo event and setting the parameters as required, press the [ENTER] key to actually enter it into the current part number and advance to the next part number.

Increase Velocity



An increase velocity event can be used to create a sudden or gradual increase in overall volume — for a "crescendo" type effect.

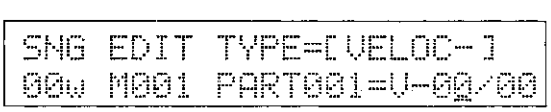
The number to the left of the slash is the amount by which the velocity is to be increased (range: 0 ... 63). The number to the right of the slash determines how long it takes to reach the specified new velocity in 1/4 notes (range: 00 ... 99).

After selecting the Increase Velocity event and setting the parameters as required, press the [ENTER] key to actually enter it into the current part number and advance to the next part number.

Example:

To increase the velocity by 10 over a period of one 4/4 measure, for example, insert the following velocity increase event immediately before the measure at which you want the velocity increase to begin:

Decrease Velocity



This event has the opposite effect to the increase velocity event described above. An decrease velocity event can be used to create a sudden or gradual decrease in overall volume — for a "decrescendo" type effect.

The number to the left of the slash is the amount by which the velocity is to be decreased (range: 0 ... 63). The number to the right of the slash determines how long it takes to reach the specified new velocity in 1/4 notes (range: 00 ... 99).

After selecting the Decrease Velocity event and setting the parameters as required, press the [ENTER] key to actually enter it into the current part number and advance to the next part number.

Voice Editing Fundamentals

In addition to the advanced Yamaha AWM2 (2nd-generation Advanced Wave Memory) technology used to sample, store, and reproduce the waveforms used by the RY30, the extraordinary depth and richness of the voices can be attributed to a sophisticated and very versatile voice architecture.

RY30 voices can be based on a single waveform ("wave"), or a combination of two completely different waveforms "layered" for extra depth and tonal complexity. Such "2-layer" voices make it possible to produce extremely realistic voices by combining two essential components of a sound in the right proportions (e.g. the head/body and snare components of a snare drum sound, as described in the example below). You can also combine waves that normally are not associated with each other to create completely new sounds.

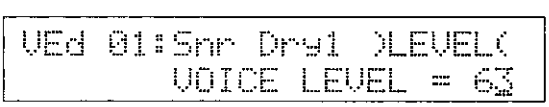
Making this voice architecture even more versatile is the capability to independently edit a wide range of parameters for each wave. Here's an example of how changing the levels of the waves in a voice can effect the sound:

Example:

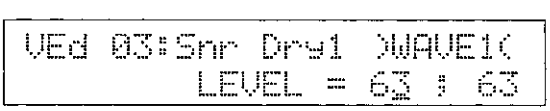
1. *Enter the PAD BANK mode and select pad bank 00 (Dry) as described on page 17.*

2. *Press the [VOICE EDIT] key to enter the voice edit mode.*

3. *Tap the SD instrument pad to select the snare drum.*

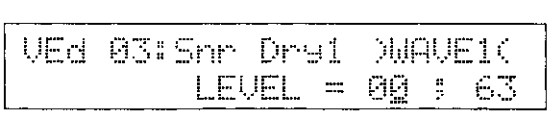


4. *Press the [PAGE+] key twice to go to the WAVE LEVEL page.*

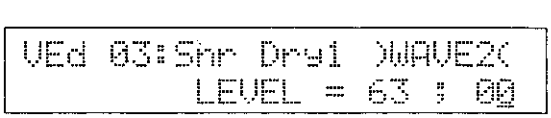


The "Snr Dry1" voice that is currently selected is actually composed of two different snare waves. The WAVE LEVEL function that you have just selected lets you change the level of each wave. The value to the left of the semicolon on the bottom line of the display is the level of WAVE 1, and the value to the right of the semicolon is the level of WAVE 2.

5. *Use the [◁] and [▷] keys to move the cursor to the WAVE 1 (left of semicolon) or WAVE 2 (right of semicolon) level parameter, then use the [DATA] control to change the level of the selected wave while playing the SD instrument pad so you can hear the results. Try turning one wave off (LEVEL = 00) so you can hear only the other wave.*



WAVE 2 only



WAVE 1 only

Note that WAVE 1 is a dry, mostly-snares sound, while WAVE 2 is a fuller head-and-body sound with a touch of ambience.

6. *Set both waves back to their maximum levels (63), then press the RIDE instrument pad to select the ride cymbal voice. Try changing the levels of the ride cymbal waves and you'll find that WAVE 1 is mostly the cup sound while WAVE 2 is the edge sound. The combination produces a very live, realistic ride cymbal sound.*

7. *Reset the WAVE 1 level to 50 and the WAVE 2 level to 63, then experiment with the wave levels in other voices, if you like, to get a better feel for what layering can do.*

8. *When you're done experimenting, or [EXIT] with the wave levels, Press the [PATTERN], [SONG] key to go back to the pattern or song mode, respectively.*

The RY30's 96 voices are composed of 174 separate waves which are available to you in the voice edit mode. In addition to assigning any one or two of these waveforms to a voice and adjusting their level, the RY30 lets you independently control panning, pitch, decay, digital filtering, velocity sensitivity, pitch envelope generator level and rate, and more parameters for each wave. For full details on all voice editing functions refer to the "VOICE EDIT MODE" beginning on page 79 of the REFERENCE section.

NOTE: *If in the process of experimenting with the various voice edit parameters you lose track of the original settings, the "LOAD PRESET VOICES" job described on page 76 of the REFERENCE section lets you re-load all of the preset voices in their original form. The "VOICE COPY" function described on page 91 lets you re-load a single preset voice.*

Recording & Using Macros

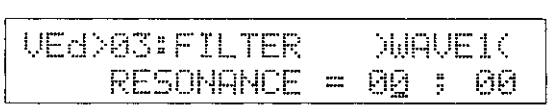
As you become more familiar with the RY30 and learn to use its many features and functions, you will no doubt find that you need to access certain functions more frequently than others, depending on your individual programming requirements. The RY30's macro capability allows you to record up to 10 key macros so you can access the most frequently-used functions by simply specifying the corresponding macro number.

● Recording a Macro

As an example of how handy macros can be, accessing the VOICE EDIT mode FILTER RESONANCE job from any other mode requires eight or ten keystrokes, depending on the access method you use:

10-step Method
1. [VOICE EDIT]
2. [PAGE+]
3. [PAGE+]
4. [PAGE+]
5. [PAGE+]
6. [PAGE+]
7. [PAGE+]
8. [ENTER]
9. [PAGE+]
10. [PAGE+]

8-step Method
1. [VOICE EDIT]
2. [PAGE]
3. [0]
4. [7]
5. [ENTER]
6. [ENTER]
7. [PAGE+]
8. [PAGE+]



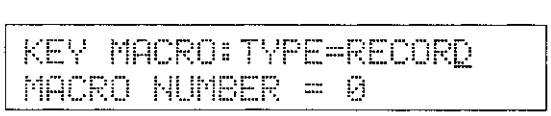
Try it. You'll agree that you won't want to go through the whole process every time you use this particular function if you need it frequently.

Here's how you can record a key macro that will let you access the above function with just two keystrokes.

Example:

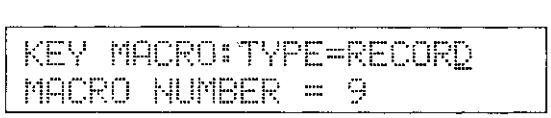
1. *Select a mode from which you may want to start the keystroke sequence — pattern, song, utility, etc.*

2. *Press [MACRO REC].*

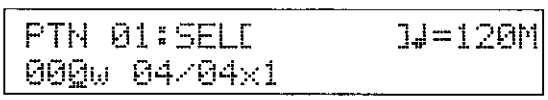


3. *Make sure "TYPE" on the upper display line is set to "RECORD." If not, press the [DEC] key once or twice until "RECORD" appears.*

4. *Select the macro number you want to record — 0 through 9 — by pressing the appropriate numeric key. Let's use macro number 9 for this example.*



5. *Press [ENTER] to begin recording. "M" will appear to the right of the upper display line to indicate that macro recording is active. If you started with the pattern mode selected the display might look something like this:*



6. *Execute the required keystroke sequence (for this example use either the 10- or 8-step method given above).*

7. *Press the [MACRO REC] key to exit the macro record mode.*

● Playing a Macro

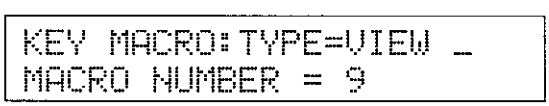
Any macro can be played simply by pressing the [MACRO] key and then the appropriate numeric key.

To play the macro recorded in the example given above, press [MACRO] and then [9] and you'll be taken directly to the VOICE EDIT mode FILTER RESONANCE job.

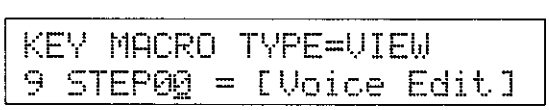
● Other Macro Functions

In addition to "RECORD," which we used in the preceding example, the [INC] and [DEC] keys can be used to select the "VIEW" or "NAME" function after pressing the [MACRO REC] key.

View



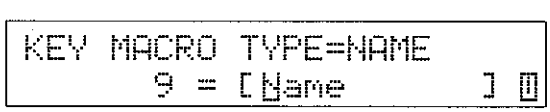
This function is used to view or check the contents of a macro. After selecting "VIEW" and the macro number you want to view, press the [ENTER] key.



This is what the display should look like if you selected the macro we recorded in the example above (macro number 9) for viewing. From left to right, the bottom line of the display indicates that macro number 9 is being viewed, and that step 00 of the key sequence is the [Voice Edit] key. You can now use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to step forwards or backwards through the keystrokes (steps) in the macro to check their contents.

Press [EXIT] to exit from the VIEW function and return to the initial key macro display.

Name



This function allows you to give the selected macro a name. The characters for the name are entered in exactly the same way as for pattern or song names (pages 28 and 38).

Press [EXIT] to exit from the NAME function and return to the initial key macro display.

Multi Channel MIDI Drive

Since the individual requirements for MIDI systems are so varied and complex, we won't even attempt to go into the details here. We would, however, like to point out some of the advanced MIDI control capabilities that the RY30 offers.

● Multi-channel Receive

The UTILITY mode MIDI RECEIVE CHANNEL job (page 71) allows different MIDI channels to be set up to respond to MIDI note messages (i.e. the MIDI messages that are transmitted by a keyboard or sequencer when notes are played) in three different ways:

PLAY VOICES

This is the "Standard" rhythm programmer MIDI capability. It allows an external keyboard, for example, to be used to play the RY30 voices with full keyboard touch response. Each key plays a different voice. This same capability allows the RY30 to be "played" by a MIDI sequencer or computer.

The "VOICE NOTE ASSIGN TABLE SETUP" job described on page 72 determines which voices are played by which MIDI note numbers.

CONTROL PITCH:

In this case an external keyboard or other controller will play a single instrument at different pitches — like having a tuned drum. Of course, several channels can be assigned for pitch control, each controlling a different instrument.

The "PITCH NOTE ASSIGN" job described on page 73 determines which voice will be played.

SELECT PATTERNS:

A MIDI note-on event received on a channel that is set up in this way causes the pattern number assigned to that note number to be selected. The "PATTERN NOTE ASSIGN" job described on page 74 determines which patterns correspond to which note numbers.

Here's an example of a potentially useful 6-channel setup:

Channel 1	Play voices — different note numbers play different voices.
Channel 2	Pitch control of a tom-tom voice.
Channel 3	Pitch control of a conga voice.
Channel 4	Pitch control of an electronic drum voice.
Channel 5	Pitch control of the bass voice.
Channel 6	Pattern selection — different note numbers select different patterns.

All this means that you're no longer constrained by patterns, songs, or pitches defined within the rhythm programmer itself. All these factors are available for external control, allowing the RY30 to adapt to even the most complex MIDI control requirements.

● Multi-channel Transmit

In addition to an overall transmit channel specified by the "TRANSMIT" channel job described on page 72, the "VOICE TRANSMIT CHANNEL job (page 72) allows different MIDI transmit channels to be assigned to the 96 internal and 32 internal/card voices. This means that up to 16 different RY30 voice or groups of voices can control separate external MIDI tone generators or other devices on the corresponding channels.

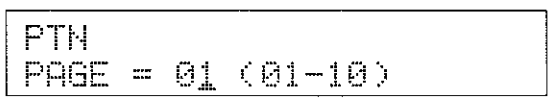
REFERENCE SECTION

PATTERN MODE

ACCESSING THE PATTERN MODE FUNCTIONS

From the pattern mode (selected by the [PATTERN] key), use the [PAGE–] and [PAGE+] keys to select the desired function "page." Pattern jobs 1 through 6 are accessed through the PATTERN JOB SELECT page. Pressing the [PATTERN] key will always return you directly to page 01 (PATTERN SELECT).

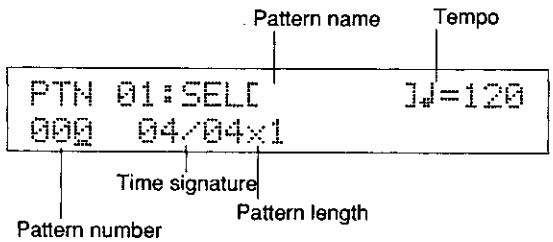
An alternative method is to press the [PAGE] key and enter the desired page number via the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys.



Once the page number has been entered, press the [ENTER] key to go directly to that page.

PATTERN SELECT

Pattern mode/Page 01



Summary: Selects a pattern number between 0 and 199 for playback. Pattern numbers 0 through 99 can also be selected for recording, or editing.

Settings: Pattern name: see page 28
Tempo: see page 20
Pattern number: 000 ... 199
Time signature: see page 21
Pattern length: see page 21

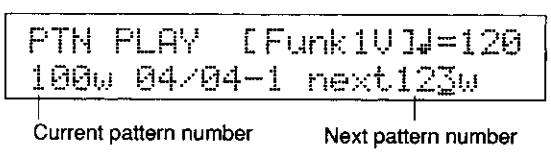
Procedure: Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select the desired pattern number.

The selected pattern can be played by pressing the [START] key and stopped by pressing the [STOP/CONTINUE] key. If you press the [STOP/CONTINUE] key again after stopping the pattern, playback will resume from the point at which it was stopped. The [START] key will always start the pattern from the beginning.

Notes: *More details on selecting and playing patterns are given in the TUTORIALS section, beginning on page 19. For pattern recording and editing procedures see page 21.*

Patterns 0 through 99 are in RAM memory and can be recorded and edited by the user. Patterns 100 through 199 are presets residing in ROM memory which can not be re-recorded or edited.

A new pattern number can be selected even while a previous pattern is playing. In this case, the new pattern will begin playing once the previous pattern has finished. During playback both the current pattern number and the "next" pattern number are shown on the display.



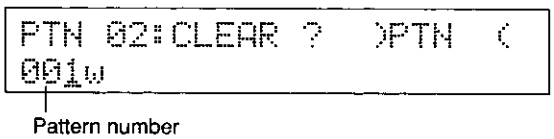
A small letter "w" appearing to the right of the pattern number indicates that the pattern contains data. Pattern numbers with no "w" are blank or have been cleared using the PATTERN CLEAR function described next.

RY30 PRESET PATTERN LIST

Pattern #	Name	Time Signature	Pattern Tempo	# Bars	Pattern #	Name	Time Signature	Pattern Tempo	# Bars
100	Funk1V	4/4	95	2	150	Shuf2F	4/4	80	2
101	Funk1F	4/4	95	2	151	Shuf2C	4/4	80	2
102	Funk1C	4/4	95	2	152	Shuf3V	4/4	114	2
103	Funk2V	4/4	120	2	153	Shuf3F	4/4	114	2
104	Funk2F	4/4	120	2	154	Shuf3C	4/4	114	2
105	Funk2C	4/4	120	2	155	FusioV	7/8	114	2
106	Tek1V	4/4	120	2	156	FusioF	7/8	114	2
107	Tek1F	4/4	120	2	157	FusioC	7/8	114	2
108	Tek1C	4/4	120	2	158	Hip1V	4/4	98	2
109	Tek2V	4/4	120	2	159	Hip2V	4/4	98	2
110	Tek2F	4/4	120	2	160	Rap1V	4/4	108	2
111	Tek2C	4/4	120	2	161	Rap2V	4/4	104	2
112	Euro1V	4/4	115	1	162	Rap3V	4/4	120	2
113	Euro1F	4/4	115	1	163	NuAgeV	4/4	94	1
114	Euro1C	4/4	115	1	164	NuAgeF	4/4	94	1
115	Euro2V	4/4	115	1	165	NuAgeC	4/4	94	1
116	Euro2F	4/4	115	1	166	Blld1V	6/4	120	2
117	Euro2C	4/4	115	1	167	Blld1F	6/4	120	2
118	Hous1V	4/4	123	2	168	Blld1C	6/4	120	2
119	Hous1F	4/4	123	2	169	Blld2V	4/4	120	2
120	Hous1C	4/4	123	2	170	Blld2F	4/4	120	2
121	Hous2V	4/4	120	2	171	Blld2C	4/4	120	2
122	Hous2F	4/4	120	2	172	AfricV	4/4	120	2
123	Hous2C	4/4	120	2	173	AfricF	4/4	120	2
124	Hous3V	4/4	93	1	174	AfricC	4/4	120	2
125	Hous3F	4/4	93	1	175	Jazz1V	4/4	196	2
126	Hous3C	4/4	93	1	176	Jazz1F	4/4	196	2
127	DanceV	4/4	113	2	177	Jazz1C	4/4	196	2
128	Rock1V	4/4	160	2	178	Jazz2V	6/4	120	2
129	Rock1F	4/4	160	2	179	Jazz2F	6/4	120	2
130	Rock1C	4/4	160	2	180	Jazz2C	6/4	120	2
131	Rock2V	4/4	120	1	181	Regg1V	4/4	124	2
132	Rock2F	4/4	120	1	182	Regg1F	4/4	124	2
133	Rock2C	4/4	120	1	183	Regg1C	4/4	124	2
134	MetalV	4/4	164	2	184	Regg2V	4/4	120	2
135	MetalF	4/4	164	2	185	Regg2F	4/4	120	2
136	MetalC	4/4	164	2	186	Regg2C	4/4	120	2
137	ZydecV	4/4	184	2	187	Latn1V	4/4	118	2
138	ZydecF	4/4	184	2	188	Latn1F	4/4	118	2
139	ZydecC	4/4	184	2	189	Latn1C	4/4	118	2
140	R&B1V	4/4	98	2	190	Latn2V	4/4	120	1
141	R&B1F	4/4	98	2	191	Latn2F	4/4	120	1
142	R&B1C	4/4	98	2	192	Latn2C	4/4	120	1
143	R&B2V	4/4	92	2	193	SambaV	4/4	114	1
144	R&B2F	4/4	92	2	194	SambaF	4/4	114	1
145	R&B2C	4/4	92	2	195	SambaC	4/4	114	1
146	Shuf1V	4/4	136	2	196	BossaV	4/4	130	2
147	Shuf1F	4/4	136	2	197	SongoV	4/4	108	2
148	Shuf1C	4/4	136	2	198	SongoF	4/4	108	2
149	Shuf2V	4/4	80	2	199	SongoC	4/4	108	2

PATTERN CLEAR

Pattern mode/Page 02



Summary: Clears (erases) the selected pattern.

Settings: Pattern number: 000 ... 099

Procedure: Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select the pattern number to be cleared.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to clear the pattern or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the pattern has been cleared.

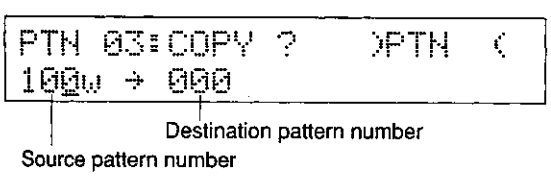
Notes: *This is the main method you'll use to get rid of unwanted patterns. It's also handy to be able to clear a pattern you're working on if you don't like the way things are going and want to start again from scratch.*

Patterns 100 through 199 are presets and can not be cleared.

If you attempt to clear a pattern that contains no data, the "!No Data Converted!" error message will appear on the display.

PATTERN COPY

Pattern mode/Page 03



Summary: Copies the pattern data from the specified source pattern number to the specified destination pattern number.

Settings: Source pattern number: 000 ... 199
Destination pattern number: 000 ... 099

Procedure: Use the [◁] and [▷] keys to move the cursor to the source or destination pattern number. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the appropriate pattern numbers.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to copy the pattern or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the pattern has been copied.

Notes: *The ability to copy patterns is particularly useful when you want to create variations on existing patterns. Copy the pattern you want to modify to a new pattern number, then edit the pattern using the real-time, step, parameter record, or clock move record mode. Recording and editing procedures are discussed in detail beginning on page 21.*

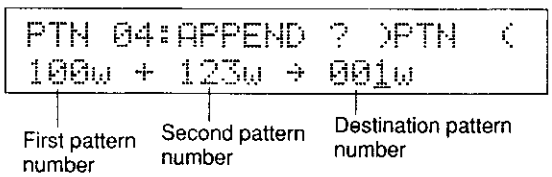
Any previous data in the destination pattern number will be erased and replaced by the copied pattern.

If you specify a source pattern that contains no data, the "!No Data Converted!" error message will appear on the display when the operation is executed, and the operation will be cancelled.

"! Memory Full !" will appear on the display if there is not enough pattern memory available to complete the operation.

PATTERN APPEND

Pattern mode/Page 04



Summary: Appends the pattern from the second pattern number to the end of the first pattern number and stores the result to the destination pattern number.

Settings: First pattern number: 000 ... 199
Second pattern number: 000 ... 199
Destination pattern number: 000 ... 099

Procedure: Use the [◁] and [▷] keys to move the cursor to the first, second, or destination pattern number. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the appropriate pattern numbers.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to append and store the pattern or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the patterns have been appended and stored.

Notes: *Since the maximum length of any pattern is 4 measures, the total length of the two patterns to be joined by the pattern append function must be no more than 4 measures. Both the first and second patterns must also have the same time signature.*

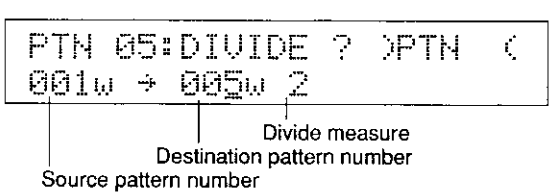
Any previous data in the destination pattern number will be erased and replaced by the appended pattern.

"! Memory Full !" will appear on the display if there is not enough pattern memory available for the appended.

If the pattern produced by the append operation is too large, "!Too Large Pattern!" will appear on the display. If either of the specified source patterns contain no data, the "Illegal Input !" error message will appear. If the source and destination patterns contain no data, the "! No Data Converted !" error message will appear.

PATTERN DIVIDE

Pattern mode/Page 05



Summary: Divides the source pattern at the specified divide measure, leaving the first part of the pattern in the source pattern number and storing the second part of the pattern in the destination pattern number.

Settings: Source pattern number: 000 ... 099
Destination pattern number: 000 ... 099
Divide Measure: 2 ... 4

Procedure: Use the [◁] and [▷] keys to move the cursor to the source or destination pattern number, or to the divide measure parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the selected parameter as required.

Press the [ENTER] key — "Sure" will appear on the display56

Press the [ENTER] key again to divide the pattern or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the pattern has been divided.

Notes: *This is a great way to slice off a section of a pattern you want to use by itself, or as a basis for a new pattern.*

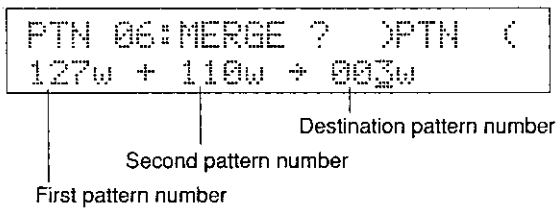
Any previous data in the destination pattern number will be erased and replaced by the second part of the divided pattern.

If you specify a source pattern that contains no data, the "!No Data Converted!" error message will appear on the display when the operation is executed, and the operation will be cancelled.

"! Memory Full !" will appear on the display if there is not enough pattern memory available to complete the operation.

PATTERN MERGE

Pattern mode/Page 06



Summary: Merges the patterns from the first and second pattern numbers and stores the result to the destination pattern number.

Settings: First pattern number: 000 ... 199
Second pattern number: 000 ... 199
Destination pattern number: 000 ... 099

Procedure: Use the [◁] and [▷] keys to move the cursor to the first, second, or destination pattern number. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the appropriate pattern numbers.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to merge and store the patterns or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the patterns have been merged and stored.

Notes: *This function allows you to work on components of a pattern separately and then merge them when they're perfect. You could, for example, create a basic kick, snare, and hi-hat pattern in one pattern number, then use a separate pattern number to record percussion instruments such as timbales. This way you can work on the various parts without a lot of audio "clutter." When the parts are refined to perfection, merge them together.*

Both the first and second patterns must have the same time signature and number of measures.

If a mis-matched time signature is entered, the "Illegal Input!" error message will appear.

Any previous data in the destination pattern number will be erased and replaced by the appended pattern.

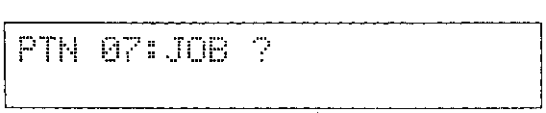
If you specify a source pattern that contains no data, the "!No Data Converted!" error message will appear on the display when the operation is executed, and the operation will be cancelled.

"! Memory Full !" will appear on the display if there is not enough pattern memory available to complete the operation.

If the pattern size limit is exceeded, the "!Too Large Pattern!" error message will appear.

PATTERN JOB SELECT

Pattern mode/Page 07

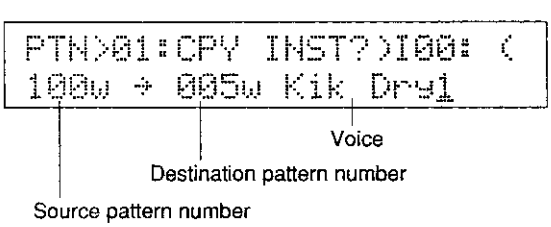


Summary: Allows any of the six pattern jobs described below to be selected.

Settings: None

Procedure: Press [ENTER] and then use the [PAGE–] and [PAGE+] keys to select the desired job.
Press [EXIT] to exit from the pattern job mode and return to "JOB ?" display (page 07).

- ***JOB 01: PATTERN INST COPY***



Summary: Copies the part played by the selected voice from the source pattern to the destination pattern.

Settings: Source pattern number: 000 ... 199
Destination pattern number: 000 ... 099
Voice: Any voice used in the source pattern — I00 ... I95 (internal), C00 ... C31 (card)

Procedure: Use the [◁] and [▷] keys to move the cursor to the source or destination pattern number, or to the voice parameter (the voice number appears on the top line of the display when the voice parameter is selected). Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the parameters as required. The instrument pads can be used to select the voice to be copied.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to copy the voice or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the voice has been copied.

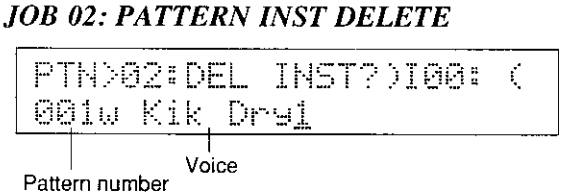
Notes: *If, for example, you have a great hi-hat line in one pattern that you want to use in a different pattern, the PATTERN VOICE COPY function lets you copy only the desired hi-hat part from the original pattern to the new pattern.*

The selected voice is copied to the destination pattern without altering the data already in the destination pattern.

If you specify a source pattern that does not contain the selected voice, the "!No Data Converted!" error message will appear on the display when the operation is executed, and the operation will be cancelled.

"! Memory Full !" will appear on the display if there is not enough pattern memory available to complete the operation. If the pattern produced by the copy operation is too large, "! Too Large Pattern !" will appear on the display.

- ***JOB 02: PATTERN INST DELETE***



Summary: Clears (erases) the selected voice from the specified pattern.

Settings: Pattern number: 000 ... 099
Voice: Any voice used in the source pattern — I00 ... I95 (internal), C00 ... C31 (card)

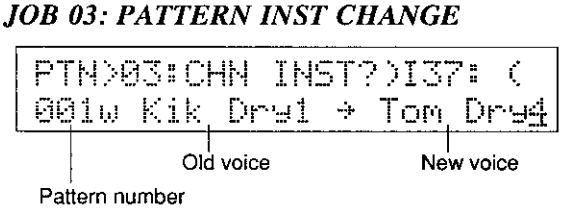
Procedure: Use the [◁] and [▷] keys to move the cursor to the pattern number or voice parameter (the voice number appears on the top line of the display when the voice parameter is selected). Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the parameters as required. The instrument pads can be used to select the voice to be cleared.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to clear the voice or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the voice has been cleared.

Notes: *Although you could use the [CLEAR] key to remove all occurrences of the same instrument from a pattern (see page 23), this job makes clearing an entire instrument much easier.*

If you specify a pattern that does not contain the selected voice, the "!No Data Converted!" error message will appear on the display when the operation is executed, and the operation will be cancelled.

- ***JOB 03: PATTERN INST CHANGE***



Summary: Allows a voice used in the selected pattern to be changed to any other voice.

Settings: Pattern number: 000 ... 099
Old voice: Any voice used in the source pattern — I00 ... I95 (internal), C00 ... C31 (card)
New voice: I00 ... I95 (internal), C00 ... C31 (card)

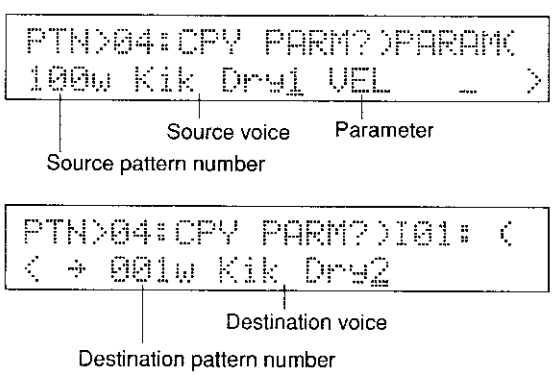
Procedure: Use the [◁] and [▷] keys to move the cursor to the pattern number or voice parameter (the voice number appears on the top line of the display when the voice parameter is selected). Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the parameters as required. The instrument pads can be used to select the old and new voice.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to change the voice or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the voice has been changed.

Notes: This function makes it possible to exchange one snare for another, for example, without having to re-record the entire part.

If you specify a pattern that does not contain the selected voice, the "!No Data Converted!" error message will appear on the display when the operation is executed, and the operation will be cancelled.

- ***JOB 04: PATTERN PARAMETER COPY***



Summary: Copies the specified parameter (or all parameters) from the selected source voice to the specified voice in the destination pattern if the destination voice occurs at the same timing as the source voice.

Settings: Source pattern number: 000 ... 199
Source voice: Any voice used in the source pattern — I00 ... I95 (internal), C00 ... C31 (card)
Parameter: VELOCITY, PITCH, DECAY, PAN, FILTER, BALANCE, ALL
Destination pattern number: 000 ... 099
Destination voice: Any voice used in the destination pattern — I00 ... I95 (internal), C00 ... C31 (card)

Procedure: Use the [◁] and [▷] keys to move the cursor to the desired parameter (the ">" and "<" symbols at the ends of the display screens indicate that more parameters can be accessed by moving the cursor past the indicated end of the current screen). Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the parameters as required. The instrument pads can be used to select the source and destination voices.

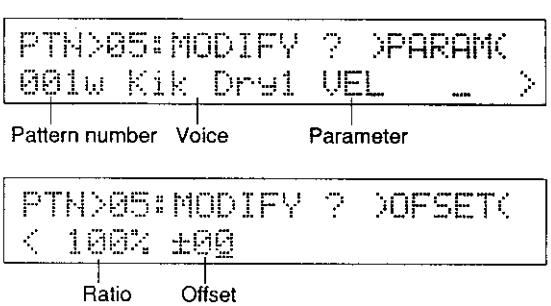
Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to copy the parameter or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the parameter has been copied.

Notes: If you specify a source pattern that does not contain the selected voice, the "No Data Converted" error message will appear on the display when the operation is executed, and the operation will be cancelled.

If the pattern size limit is exceeded, the "!Too Large Pattern!" error message will appear.

"! Memory Full !" will appear on the display if there is not enough pattern memory available to complete the operation.

- ***JOB 05: PATTERN PARAMETER MODIFY***



Summary: Allows the value of the specified parameter of the selected voice in any pattern to be modified.

Settings: Pattern number: 000 ... 099
Voice: Any voice used in the pattern — I00 ... I95 (internal), C00 ... C31 (card)
Parameter: VELOCITY, PITCH, DECAY, PAN, FILTER, BALANCE
Ratio: 000 ... 200%
Offset: VELOCITY ..... –32 ... +31
DECAY ..... –63 ... +63
PAN ..... –32 ... +32
PITCH ..... –60 ... +60
FILTER ..... –63 ... +63
BALANCE ..... –63 ... +63

Procedure: Use the [◁] and [▷] keys to move the cursor to the desired parameter (the ">" and "<" symbols at the ends of the display screens indicate that more parameters can be accessed by moving the cursor past the indicated end of the current screen). Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the parameters as required. The instrument pads can be used to select the voice.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to modify the parameter or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the parameter has been modified.

Notes: *This function makes it possible to modify the sound of a voice within a pattern without actually editing the voice.*

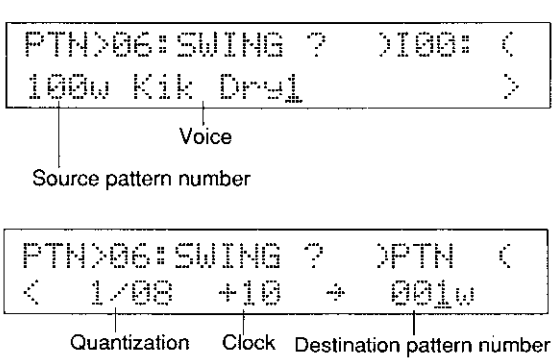
The velocity value functions as an "offset" from the standard setting of +32.

If you specify a pattern that does not contain the selected voice, the "No Data Converted" error message will appear on the display when the operation is executed, and the operation will be cancelled.

If the pattern size limit is exceeded, the "!Too Large Pattern!" error message will appear.

"! Memory Full !" will appear on the display if there is not enough pattern memory available to complete the operation.

- ***JOB 06: SWING***



Summary: Sets the amount of "swing" feel applied to the specified voice of the specified pattern.

Settings: Source pattern number: 000 ... 199
Voice: Any voice used in the pattern — I00 ... I95 (internal), C00 ... C31 (card)
Clock: –11 ... +11 (Quantization 1/08),
–5 ... +5 (Quantization 1/16)
Destination pattern number: 000 ... 099

Procedure: Use the [◁] and [▷] keys to move the cursor to the desired parameter (the ">" and "<" symbols at the ends of the display screens indicate that more parameters can be accessed by moving the cursor past the indicated end of the current screen). Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the parameters as required. The instrument pads can be used to select the voice.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to applied the specified swing parameters and copy the resultant pattern, or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the swing operation has finished.

Notes: *If you specify a pattern that does not contain the selected voice, the "!No Data Converted!" error message will appear on the display when the operation is executed, and the operation will be cancelled.*

If the pattern size limit is exceeded, the "!Too Large Pattern!" error message will appear.

"! Memory Full !" will appear on the display if there is not enough pattern memory available to complete the operation.

CLEAR ALL PATTERNS

Pattern mode/Page 08

```
PTN 08:CLR ALL ?
```

Summary: Clears (erases) all user patterns (i.e. patterns 000 ... 099).

Settings: None

Procedure: Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to clear the patterns or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the patterns have been cleared.

Notes: This function wipes out all 100 user patterns at once, so be sure there's nothing you want to keep in the pattern memory before you go ahead and CLEAR ALL PATTERNS. For long-term storage you can always store the data on cassette tape (see the "CASSETTE SAVE," "CASSETTE VERIFY," and "CASSETTE LOAD" functions on page 70), or dump the data to a MIDI storage device using the "BULK TRANSMIT function described on page 74.

Patterns 100 through 199 are presets and are not cleared.

PATTERN USED MEMORY

Pattern mode/Page 09

```
PTN 09:USED MEMORY
                  001%
```

Summary: Shows the amount of pattern memory currently in use.

Settings: None

Procedure: The amount of pattern memory currently in use is displayed in percent.

Notes: A display of "000%" means that no memory is used. "050%" means that about half the available pattern memory is in use. When memory usage reaches "090%" or more you are reaching the end of the available memory and may have to delete unwanted patterns to make room for new data.

PATTERN SCOPE

Pattern mode/Page 10

```
PTN 10:PTN SCOPE>PTN  (
001w   NOT USED IN SONG
```

Pattern number

Summary: Shows whether the specified pattern is or is not used in a song.

Settings: Pattern number: 000 ... 199

Procedure: Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select the pattern number about which the status information is required. "USED IN SONG" or "NOT USED IN SONG" will be shown on the display.

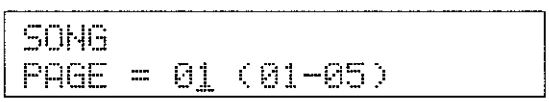
Notes: This is a convenient way to find out if a pattern is used in a song or not — before you clear the pattern!

SONG MODE

ACCESSING THE SONG MODE FUNCTIONS

From the song mode (selected by the [SONG] key), use the [PAGE–] and [PAGE+] keys to select the desired function "page." Pressing the [SONG] key will always return you directly to page 01 (SONG SELECT).

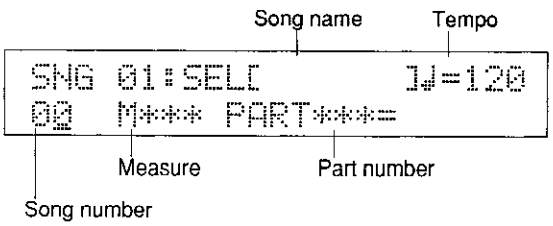
An alternative method is to press the [PAGE] key and enter the desired page number via the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys.



Once the page number has been entered, press the [ENTER] key to go directly to that page.

SONG SELECT

Song mode/Page 01



Summary: Selects a song number between 0 and 19 for playback, recording, or editing. This mode also allows location of any specified measure or part number.

Settings: Song name: see page 38
Tempo: see page 34
Song number: 00 ... 21
Measure: 001 ... 999
Part number: 001 ... 999

Procedure: Use the [◁] and [▷] keys to move the cursor to the song number, measure, or part number parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the selected parameter.

The selected song can be played by pressing the [START] key and stopped by pressing the [STOP/CONTINUE] key. If you press the [STOP/CONTINUE] key again after stopping the song, playback will resume from the point at which it was stopped. The [STOP/CONTINUE] key will also start playback from a selected measure or part location. The [START] key will always start the song from the beginning.

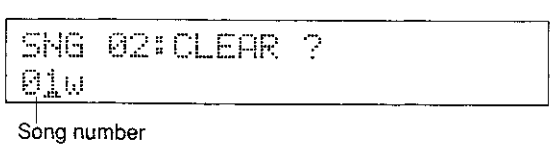
Notes: *More details on selecting and playing songs are given in the TUTORIALS section, beginning on page 32. For song recording procedures see page 32. For editing procedures see page 34.*

A small letter "w" appearing to the right of the song number indicates that the pattern contains data. Song numbers with no "w" are blank or have been cleared using the SONG CLEAR function described next.

Song numbers 20 and 21 are demo songs (see page 16). These song numbers cannot be used for recording.

SONG CLEAR

Song mode/Page 02



Summary: Clears (erases) the selected song.

Settings: Song number: 00 ... 19

Procedure: Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select the song number to be cleared.

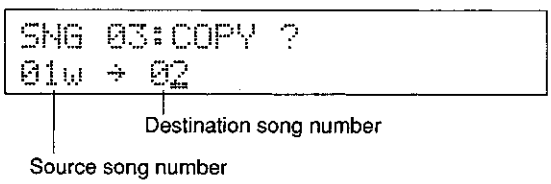
Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to clear the song or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the song has been cleared.

Notes: *This is the main method you'll use to get rid of unwanted songs. It's also handy to be able to clear a song you're working on if you don't like the way things are going and want to start again from scratch.*

If you attempt to clear a song that contains no data, the "!No Data Converted!" error message will appear on the display.

SONG COPY

Song mode/Page 03



Summary: Copies the song data from the specified source song number to the specified destination song number.

Settings: Source song number: 00 ... 19
Destination song number: 00 ... 19

Procedure: Use the [◁] and [▷] keys to move the cursor to the source or destination song number. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the appropriate song numbers.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to copy the song or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the song has been copied.

Notes: *The ability to copy songs is particularly useful when you want to create variations on existing songs. Copy the song you want to modify to a new song number, then edit the song as described on page 34.*

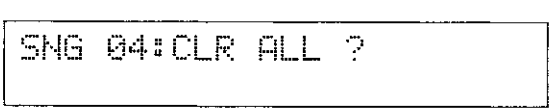
Any previous data in the destination song number will be erased and replaced by the copied song data.

If you specify a source song that contains no data, the "!No Data Converted!" error message will appear on the display when the operation is executed, and the operation will be cancelled.

"! Memory Full !" will appear on the display if there is not enough song memory available to complete the operation.

CLEAR ALL SONGS

Song mode/Page 04



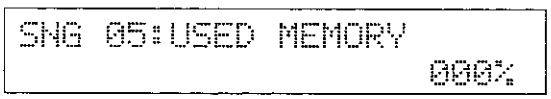
Summary: Clears (erases) all songs.

Settings: None

Procedure: Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to clear the songs or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the songs have been cleared.

Notes: *This function wipes out all 20 songs at once, so be sure there's nothing you want to keep in the song memory before you go ahead and CLEAR ALL SONGS. For long-term storage you can always store the data on cassette tape (see the "CASSETTE SAVE," "CASSETTE VERIFY," and "CASSETTE LOAD" functions on pages 69 and 70), or dump the data to a MIDI storage device using the "BULK TRANSMIT function described on page 74.*

SONG USED MEMORY



Summary: Shows the amount of song memory currently in use.

Settings: None

Procedure: The amount of song memory currently in use is displayed in percent.

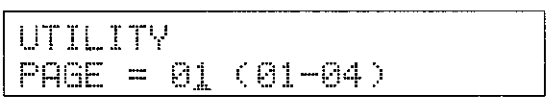
Notes: *A display of "000%" means that no memory is used. "050%" means that about half the available song memory ies in use. When memory usage reaches "090%" or more you are reaching the end of the available memory and may have to delete unwanted songs to make room for new data.*

UTILITY MODE

ACCESSING THE UTILITY MODE FUNCTIONS

From the utility mode (selected by the [UTILITY] key), use the [PAGE–] and [PAGE+] keys to select the desired function "page." Cassette jobs 1 through 3 are accessed through the CASSETTE JOB SELECT page. MIDI jobs 1 through 13 are accessed via the MIDI JOB SELECT page. System jobs 1 through 5 are accessed via the SYSTEM JOB SELECT page. Pressing the [UTILITY] key will always return you directly to page 01 (CARD DATA LOAD).

An alternative method is to press the [PAGE] key and enter the desired page number via the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys.



Once the page number has been entered, press the [ENTER] key to go directly to that page.

CARD DATA LOAD

Utility mode/Page 01

```
UTL 01:LOADCARD?
TYPE = VOICE      _
```

Type

Summary: Loads all voice data or all voice and sequence data from an appropriate wave card plugged into the rear-panel WAVE CARD slot.

Settings: Type: VOICE, VOICE & SEQ

Procedure: After making sure that an appropriate data card is properly plugged into the RY30 WAVE CARD slot, use the [INC] and [DEC] keys to select "VOICE" (voice data only) or "VOICE & SEQ" (all voice and sequence data).

Press the [ENTER] key. "Sure" will appear on the display. Press the [ENTER] key again to load the selected data, or press the [EXIT] key to cancel the operation. "Complete!" will appear on the display briefly once the data has been loaded.

Notes: A single wave data card may hold as many as 32 different voices and several patterns. Refer to the instructions supplied with your wave data card for details on the card's contents and other important information.

The "Load error!" message will appear on the display briefly if you attempt to load data when no card is inserted in the WAVE CARD slot, or the card used is not compatible with the RY30.

When the card data is loaded, the data in the RY30 card voice, card pad bank, pattern, and song memories is replaced by the new data.

Data can also be loaded from some SY77, TG77, SY55, and TG55 cards (no sequence data).

CASSETTE JOB SELECT

Utility mode/Page 02

```
UTL 02:CASSETTE ?
```

Summary: Allows any of the three cassette jobs described below — save, verify, and load — to be selected.

Settings: None

Procedure: Press [ENTER] and then use the [PAGE–] and [PAGE+] keys to select the desired job.

Press [EXIT] to exit from the cassette job mode and return to "CASSETTE ?" display (page 02).

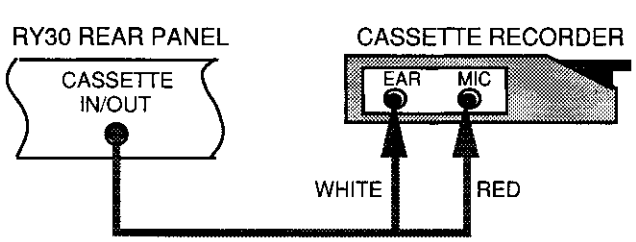
- ***JOB 01: CASSETTE SAVE***

```
UTL>01:SAVE ?
```

Summary: Saves all pattern, song, voice, and setup data to a standard cassette deck connected to the rear-panel CASSETTE IN/OUT jack. The saved data can later be re-loaded using the CASSETTE LOAD job described on page 70.

Settings: None

Procedure: Use a miniature stereo phone plug "y" cable to connect the rear-panel CASSETTE IN/OUT jack to the earphone and microphone or input jacks of a cassette recorder. Any standard cassette recorder of reasonable high quality can be used, but a cassette recorder specifically designed for data recording is highly recommended.



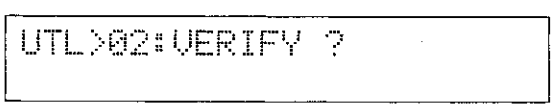
Load a good quality cassette tape into the recorder, run the pate to a point past the leader, engage the record mode, then press the RY30 [ENTER] key. "Cassette Saving Now!" will appear on the display while the data is being recorded.

When "Complete!" appears on the display, stop the cassette recorder.

Notes: Data saved by this job includes all pattern data, all song data (including song names and initial tempos), all voice data including all editable voice parameters, and all setup data (i.e. MIDI function settings and PAD BANK settings).

The cassette save operation can be interrupted at any time by pressing the [STOP/CONTINUE] key. If this is done, "Break!" will appear on the display.

- ***JOB 02: CASSETTE VERIFY***



Summary: Compares the data recorded on the cassette tape with that in the RY30 memory to verify that a save operation has been successful.

Settings: None

Procedure: Cassette recorder connections are the same as for JOB 01: CASSETTE SAVE.

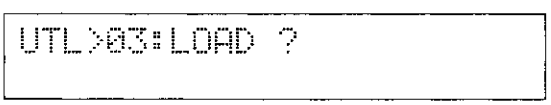
Rewind the tape to a point before the beginning of the recorded data, press the RY30 [ENTER] key, then start playback of the cassette. "Cassette Verifying Now!" will appear on the display while the RY30 is reading the data from the cassette and comparing it with the data in memory. "Complete!" will appear once the verify operation has been finished and the cassette data proves to be OK.

If an error in the data is detected, the "Verify Error!" message will appear on the display. If this happens, try saving and verifying the data again. If the error persists, you may need to adjust the level settings of your cassette recorder or use a different tape.

Notes: It is important to use the cassette verify job immediately after saving data using the cassette save job, otherwise any changes you make to the RY30 memory contents after saving the data might be interpreted by the RY30 as a verify error.

The cassette verify operation can be interrupted at any time by pressing the [STOP/CONTINUE] key. If this is done, "Break!" will appear on the display.

- ***JOB 03: CASSETTE LOAD***



Summary: This job reloads data you have previously saved to cassette tape using the CASSETTE SAVE function described on page 69.

Settings: None

Procedure: Cassette recorder connections are the same as for JOB 01: CASSETTE SAVE.

Rewind the tape to a point before the beginning of the recorded data and press the RY30 [ENTER] key. "Sure" will appear on the display. Press the [ENTER] key again, then start playback of the cassette. "Cassette Loading Now!" will appear on the display while the RY30 is loading the data from the cassette. "Complete!" will appear once the data has been loaded.

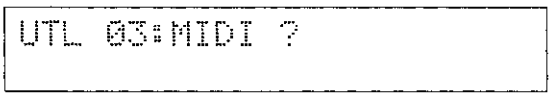
If an error is detected during the load operation, the "Load Data Error!" message will appear on the display. You might have to adjust the recorder's volume control to find the right level for loading data into the RY30.

Notes: The cassette load operation can be interrupted at any time by pressing the [STOP/CONTINUE] key. If this is done, "Break!" will appear on the display and all internal data will be initialized.

All data in the RY30 memory will be replaced by the loaded data.

MIDI JOB SELECT

Utility mode/Page 03



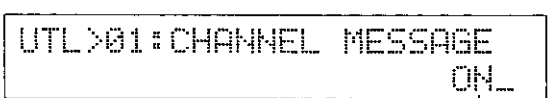
Summary: Allows any of the thirteen MIDI jobs described below to be selected.

Settings: None

Procedure: Press [ENTER] and then use the [PAGE–] and [PAGE+] keys to select the desired job.

Press [EXIT] to exit from the MIDI job mode and return to "MIDI ?" display (page 03).

- ***JOB 01: CHANNEL MESSAGE***



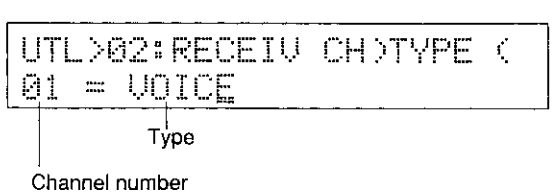
Summary: Turns MIDI channel message transmission and reception by the RY30 on or off.

Settings: Transmit/receive mode: ON, OFF

Procedure: Use the [INC] and [DEC] keys or the [DATA] slider to turn channel message transmission and reception ON or OFF.

Notes: *When this function is set to "OFF," transmission of MIDI note numbers and program change numbers is inhibited. System realtime message including the MIDI clock, start, stop, continue, and song position pointer messages are handled normally. This is handy, for example, if you want to synchronize the RY30 to an external MIDI clock but you don't want it to respond to other MIDI messages that might be received.*

- ***JOB 02: RECEIVE CHANNEL***



Summary: Determines which of the 16 available MIDI channels will be used for reception of MIDI note numbers to control voices, pitch, and patterns.

Settings: Channel number: 1 ... 16
Type: OFF, VOICE, PITCH, PTN

Procedure: Use the [◁] and [▷] keys to move the cursor to the desired parameter. Use the [INC] and [DEC] keys or the [DATA] slider to set as required. The numeric keys can also be used to enter the channel number.

Multiple channels can be set to receive the same type of data. Unused channels should be turned OFF.

Notes: *The RY30 is capable of responding to MIDI note numbers received on the assigned channels in three different ways:*

VOICE: MIDI note-on events received on a channel that is set to "VOICE" will play the corresponding RY30 voices. The "VOICE NOTE ASSIGN TABLE SETUP" job described on page 72 determines which voices are played by which MIDI note numbers.

PITCH: MIDI note-on events received on a channel that is set to "PITCH" play an assigned voice at the pitch corresponding to the received note number. The "PITCH NOTE ASSIGN" job described on page 73 determines which voice will be played.

PTN: A MIDI note-on event received on a channel that is set to "PTN" causes the pattern number assigned to that note number to be played. The "PATTERN NOTE ASSIGN" job described on page 74 determines which patterns correspond to which note numbers.

- ***JOB 03: TRANSMIT CHANNEL***

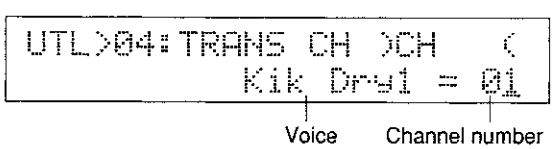
Summary: Determines which of the 16 available MIDI channels will be used for transmission of all RY30 voices.

Settings: Channel number: 1 ... 16

Procedure: Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select the desired channel then press the [ENTER] key.

"Sure" will appear on the display. Press [ENTER] again. "Complete!" will appear on the display briefly when the operation is finished.

- ***JOB 04: VOICE TRANSMIT CHANNEL***



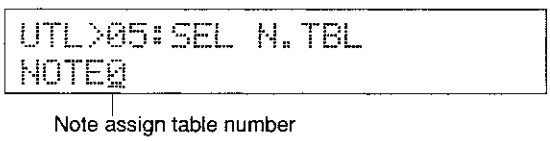
Summary: Individually sets the MIDI transmit channel for each of the RY30's 96 internal and 32 card voices.

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Channel number: 1 ... 16

Procedure: Use the [◁] and [▷] keys to move the cursor to the desired parameter. Use the [INC] and [DEC] keys or the [DATA] slider to set as required. The numeric keys can also be used to enter the channel number.

Notes: The ability to set different transmit channels for each voice makes it possible to have up to 16 different voices controlling independent external tone generators or other MIDI devices on the corresponding channels. Make sure that the receiving devices are set to the appropriate channels.

- ***JOB 05: VOICE NOTE ASSIGN TABLE SELECT***



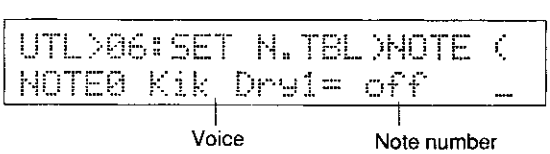
Summary: Selects one of the RY30's four note assign tables.

Settings: Note assign table number: 0 ... 3

Procedure: Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select the desired note assign table.

Notes: Note assignments determine which MIDI note number will play which of the RY30's voices. The RY30's four voice note assignment tables allow four completely independent sets of assignments to be maintained in memory for later recall when needed. The actual assignments are made using the "VOICE NOTE ASSIGN TABLE SETUP" function, described next.

- ***JOB 06: VOICE NOTE ASSIGN TABLE SETUP***



Summary: Assigns MIDI note numbers to the RY30's 96 internal and 32 card voices for the currently selected note assign table.

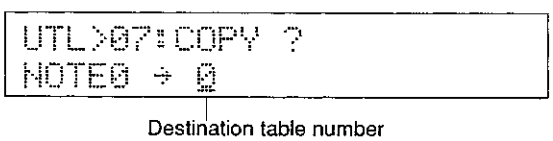
Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Note number: C-2 (000) ... G8 (127), off

Procedure: Use the [◁] and [▷] keys to move the cursor to the desired parameter. Use the [INC] and [DEC] keys or the [DATA] slider to set as required. The numeric keys can also be used to enter note numbers. The instrument pads can be used to select voices.

Notes: The RY30 has four separate note assign tables that can be selected by using the "VOICE NOTE ASSIGN TABLE SELECT" job described above. Each of these is completely separate so you can program four independent groups of note assignments for different applications.

If the cursor is located at the note number parameter, a MIDI note number received while the [–SPACE] key is held will be assigned to the current voice. This makes it easy to specify note numbers from a keyboard or other MIDI controller.

- ***JOB 07: VOICE NOTE ASSIGN TABLE COPY***



Summary: Copies the currently selected voice note assign table to the specified destination table number.

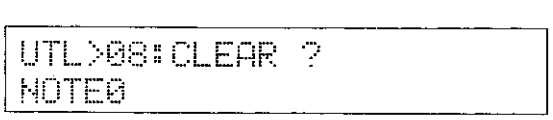
Settings: Destination table number: 0 ... 3

Procedure: Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select the destination table number.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to store the table or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the table has been stored.

Notes: This function is useful when you want to create a voice note assign table that is only slightly different from an existing table. Simply copy the existing table to a new table number, then make the necessary changes using the "VOICE NOTE ASSIGN TABLE SETUP" job described above.

- ***JOB 08: VOICE NOTE ASSIGN TABLE CLEAR***



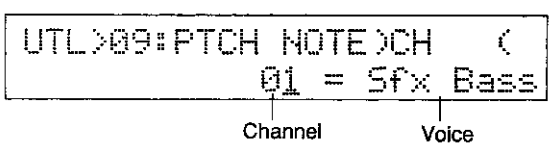
Summary: Clears the currently selected voice note assign table (i.e. all voice assignments are turned "off").

Settings: None

Procedure: Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to clear the table or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the table has been cleared.

Notes: This function can be used to turn all assignments "off" prior to creating a new voice note assign table that requires only a few assignments.

- ***JOB 09: PITCH NOTE ASSIGN***



Summary: Determines which of the RY30 voices will be pitch-controlled by MIDI note-on events received on a channel or channels set to "PITCH" as described in the "RECEIVE CHANNEL" function on page 71.

Settings: Channel: 01 ... 16
Voice: I00 ... I95 (internal), C00 ... C31 (card)

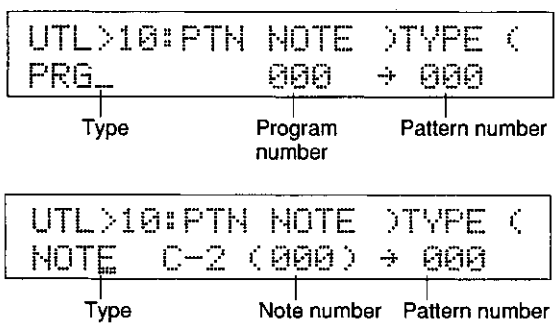
Procedure: Use the [◁] and [▷] keys to move the cursor to the channel or voice parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the channel. Use the [INC] and [DEC] keys, the [DATA] slider, or the instrument pads to select the voice to be controlled.

Notes: This function, used in conjunction with the "RECEIVE CHANNEL" function (page 71), makes it possible to have up to 16 different voices pitch-controllable over the corresponding MIDI channels.

Channel numbers must be the same as channel numbers set to "PITCH" using the "RECEIVE CHANNEL" function otherwise the PITCH NOTE ASSIGN settings will be ignored.

Note numbers in the ten-octave range between C-2 (0) and C8 (120) can be used to control the pitch of the selected voice. C3 (60) produces normal pitch.

- ***JOB 10: PATTERN NOTE ASSIGN***



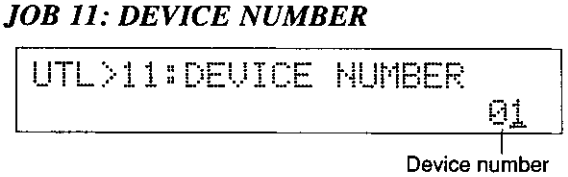
Summary: Assigns specific MIDI program change numbers or note numbers to RY30 pattern numbers. The program change or note numbers then received on a MIDI channel set to "PTN" (as described in the "RECEIVE CHANNEL" function on page 71) will select the corresponding pattern.

Settings: Type: PRG (program change number), NOTE (note number)
Program or note number: PRG = 000 ... 127
NOTE = C-2 (000) ... G8 (127)
Pattern number: 000 ... 199

Procedure: Use the [◁] key to move the cursor to the type parameter if necessary, and use the [INC] and [DEC] keys or [DATA] slider to select "PGM" for program change numbers or "Note" for note numbers, as required. Use the [◁] and [▷] keys to move the cursor to the program/note number or pattern number parameter, then use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set as required.

Notes: *The ability to trigger patterns via MIDI presents a range of possibilities for new stage and studio automation techniques.*

- ***JOB 11: DEVICE NUMBER***



Summary: Sets the RY30 MIDI device number — i.e. the MIDI channel on which all system exclusive data will be received and transmitted.

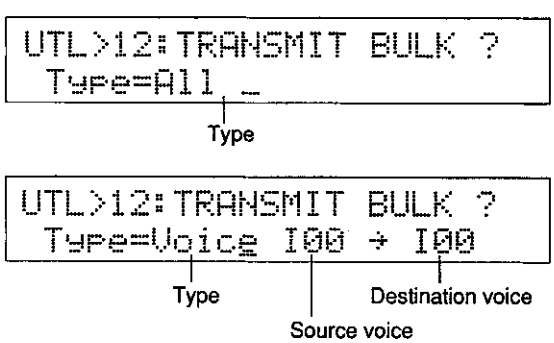
Settings: Device number: OFF, 1 ... 16, ALL

Procedure: Use the [INC] and [DEC] keys or the [DATA] slider to select the desired device number or turn system exclusive reception/transmission off.

Notes: *The device number is important for transfer of voice data and other system exclusive data between the RY30 and other Yamaha MIDI devices — e.g. another RY30, a MIDI sequence recorder, etc. Make sure that the RY30 device number is matched to that of other devices in your system with which bulk data transfers will take place (see "BULK TRANSMIT", below).*

"Receiving bulk dump!" will appear on the display while a bulk dump is being received from another MIDI device (as long as an appropriate device number is set and the RY30 is not in the play or record mode).

- ***JOB 12: BULK TRANSMIT***



Summary: Initiates MIDI bulk transmission of all data or a single voice.

Settings: Type: All, Voice
Source voice: (when "Voice" selected): I00 ... I95 (internal), C00 ... C31 (card)
Destination voice: (when "Voice" selected): I00 ... I95 (internal)

Procedure: Use the [INC] and [DEC] keys or the [DATA] slider to select "All" or "Voice."

If "Voice" is selected, use the [◁] and [▷] keys to move the cursor to the source or destination voice parameter, then use the [INC] and [DEC] keys or the [DATA] slider to select the voices.

Press [ENTER] to begin transmission. "Transmitting Bulk Dump!" will appear on the display while the data is being transmitted "Complete!" will appear briefly when the transmission has finished.

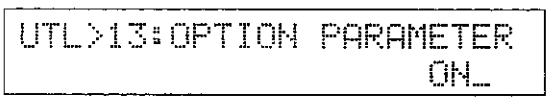
Notes: When "All" is selected the following data will be transmitted: all internal and card (if available) voices, all pattern data, all song data, and all setup data (MIDI and PAD BANK settings).

When "Voice" is selected only a single voice will be transmitted. The source voice number determines which single voice will be transmitted, and the destination voice number determines the voice number to which it will be stored in the receiving device (RY30).

The "BULK TRANSMIT" function is the ideal way to save important data to a MIDI storage device such as a MIDI data recorder or a synthesizer, sequencer, or MIDI computer that has MIDI data recorder capability. Data can also be directly transferred to another RY30. In either case, make sure that the device numbers of the transmitting RY30 and the receiving device are set to the same number.

The BULK TRANSMIT function will not work if the RY30 MIDI device number is set to "off." If the device number is set to "ALL" the data will be transmitted on channel 1.

- ***JOB 13: CONTROL CHANGE***



Summary: Determines whether or not the RY30 will receive and transmit MIDI control change messages.

Settings: OFF, ON

Procedure: Use the [INC] and [DEC] keys or the [DATA] slider to turn control change number reception and transmission ON or OFF.

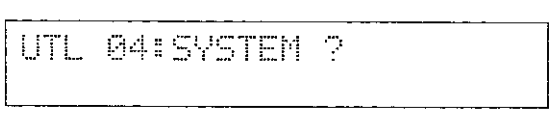
Notes: The MIDI control change message received and transmitted by the RY30 are as follows:

Parameter	*Ctrl #*	*Range*
Pitch	En	–60 ... +60
Decay	Bn17	–63 ... +63
Pan	Bn10	–31 ... +31
Filter	Bn16	–63 ... +63
Balance	Bn8	–63 ... +63

See pages 106 through 110 for more details on these parameters.

SYSTEM JOB SELECT

Utility mode/Page 04



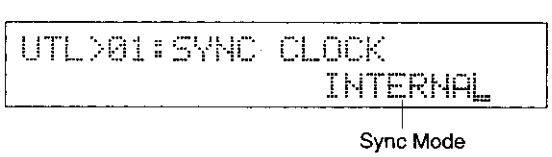
Summary: Allows any of the five system jobs described below to be selected.

Settings: None

Procedure: Press [ENTER] and then use the [PAGE–] and [PAGE+] keys to select the desired job.

Press [EXIT] to exit from the system job mode and return to "SYSTEM ?" display (page 04).

- ***JOB 01: SYNC CLOCK***



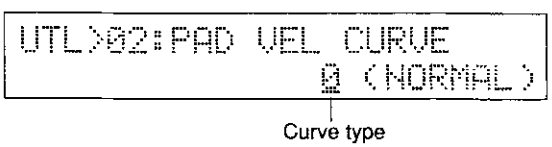
Summary: Determines whether the RY30 timing is synchronized by its own internal clock or an external MIDI clock.

Settings: Sync Mode: INTERNAL, MIDI

Procedure: Use the [INC] and [DEC] keys or [DATA] slider to select the desired sync clock setting.

Notes: "INTERNAL" is the normal setting when the RY30 is being used alone. If you are using the RY30 with an external sequencer, MIDI computer, or other MIDI device, and you want the RY30 to be synchronized to the external device, set this function to "MIDI." In the latter case, the external device must be connected to the RY30 MIDI IN connector, and must be transmitting an appropriate MIDI clock signal.

- ***JOB 02: PAD VELOCITY CURVE***



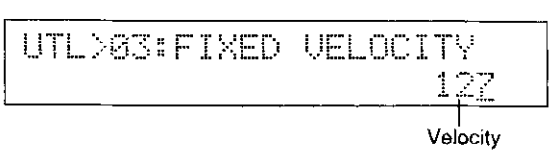
Summary: Selects one of three different velocity curves for the RY30 instrument pads.

Settings: Curve type: 0 (NORMAL), 1 (EASY), 2 (WIDE)

Procedure: Use the [INC] and [DEC] keys or [DATA] slider to select the desired velocity curve.

Notes: This function lets you select the velocity curve that best suits your playing style. Try each one out to find the one you like best.

- ***JOB 03: FIXED VELOCITY***



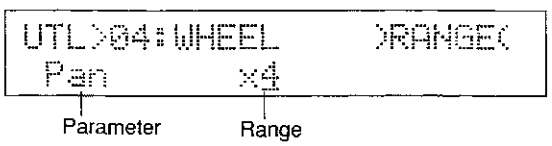
Summary: Determines the fixed velocity value (loudness) of the RY30 voices when pad sensitivity is turned off (i.e. when the [SENSE] key indicator is out).

Settings: Velocity: 001 ... 127

Procedure: Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the desired velocity value.

Notes: While the "LEVEL" function described on page 81 determines the overall level of each voice, this function determines the voice levels — and therefore the balance between voices — when pad velocity sensitivity is turned off (i.e. when the [SENSE] key indicator is not lit).

- ***JOB 04: WHEEL RANGE***



Summary: Independently sets the range of the RY30 control wheel for the pitch, decay, pan, filter, and balance parameters.

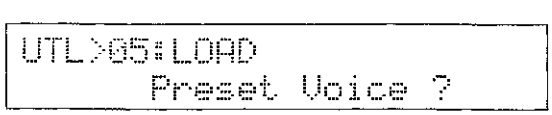
Settings: Parameter: Pitch, Decay, Pan, Filter, Balance
Range: x1, x2, x4

Procedure: Use the [◁] and [▷] keys to move the cursor to the desired parameter. Use the [INC] and [DEC] keys or the [DATA] slider to set as required.

The parameters can also be selected via the numeric keys (refer to the labels above the [8], [9], [4], [5], and [6] keys).

Notes: This function determines the degree of variation produced by the control wheel when using the parameter modify record option described on page 28. The "x1" setting produces the minimum variation for a given amount of wheel movement. The "x2" approximately doubles the amount of variation produced by the same amount of wheel movement, and the "x4" setting doubles the amount of variation again.

- ***JOB 05: LOAD PRESET VOICES***



Summary: Re-loads the RY30's preset voices into the internal voice memory (I00 ... I95).

Settings: None

Procedure: Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to load the preset voices or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the voices have been loaded.

Notes: *Please note that any new voices you have created by editing the presets will be erased when the "LOAD PRESET VOICES" job is executed.*

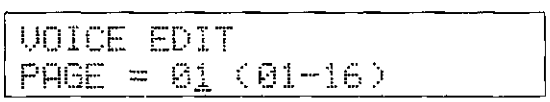
To reload a single preset voice, use the "VOICE COPY" function described on page 91.

VOICE EDIT MODE

ACCESSING THE VOICE EDIT MODE FUNCTIONS

From the voice edit mode (selected by the [VOICE EDIT] key), use the [PAGE–] and [PAGE+] keys to select the desired function "page." Filter jobs 1 through 4 are accessed through the FILTER JOB SELECT page. Sensitivity jobs 1 through 4 are accessed through the SENSITIVITY JOB SELECT page. Pressing the [VOICE EDIT] key will always return you directly to page 01 (LEVEL).

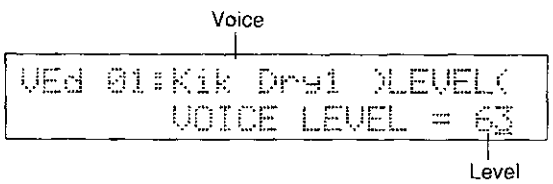
An alternative method is to press the [PAGE] key and enter the desired page number via the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys.



Once the page number has been entered, press the [ENTER] key to go directly to that page.

LEVEL

Voice edit mode/Page 01



Summary: Sets the level at which the selected voice will be output via the RY30's stereo outputs (i.e. the OUTPUT L/MONO and R jacks).

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Level: 00 ... 63

Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name or level parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the level parameter. The [INC] and [DEC] keys, the [DATA] slider, or the instrument pads can be used to select the voice.

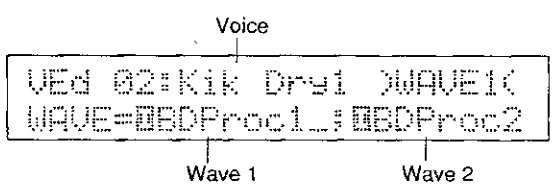
Notes: *A setting of "00" produces no sound while a setting of "63" produces maximum volume.*

The ability to independently adjust the volume of each voice makes it simple to set up the optimum balance or "mix" between voices.

The level at which each voice will be output via the INDIV OUT 1 and 2 jacks can be further adjusted via the INDIVIDUAL LEVEL function described on page 90.

WAVE ASSIGN

Voice edit mode/Page 02



Summary: Each RY30 voice consists of one or two "waves." This function assigns any one or two internal or cartridge waves to the selected voice.

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Wave 1: Any of 174 internal or card waves — see list below.
Wave 2: Any of 174 internal or card waves, off— see list below.

Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name, wave 1, or wave 2 parameter, then use the [INC] and [DEC] keys or the [DATA] slider to set as required. The instrument pads can be used to select the voice.

Notes: *Completely different waves can be assigned to wave 1 and wave 2, but it is also possible to assign the* same *wave to both. In this case the waves can be filtered differently and/or have different envelopes to create an endless range of interesting effects.*

A wave card must be inserted into the RY30 WAVE CARD slot in order to use the card waves.

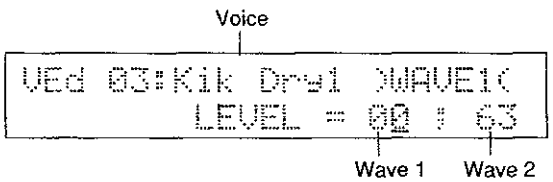
RY30 Wave List

Name	Comment
BDAnlg	Analog kick
BDDryH	Dry kick
BDDryT1	Dry kick (heavy)
BDDryT2	Dry kick (tight)
BDGate1	Gated kick
BDGate2	Gated kick
BDProc1	Processed kick
BDProc2	Processed kick
BDProc3	Processed kick
BDRoom	Room kick
BDSFX	SFX kick
BDTekno	Techno kick
SDAnlg1	Analog snare
SDAnlg2	Analog snare
SDDryH	Dry snare (heavy)
SDDryT1	Dry snare (tight)
SDDryT2	Dry snare (tight)
SDDryT3	Dry snare (tight)
SDGate1	Gated snare
SDGate2	Gated snare
SDGate3	Gated snare
SDProcs	Processed snare
SDRevrb	Reverb snare
SDRim	Rim shot
SDRoom1	Room snare
SDRoom2	Room snare
SDRoom3	Room snare
SDRoom4	Room snare
SDRoom5	Room snare
SDSide	Side stick
SDTekno	Techno snare
HHAnlg	Analog hi-hat
HHCls1a	Closed hi-hat (soft)
HHCls1b	Closed hi-hat (hard)
HHCls2	Closed hi-hat (set 2)
HHOpn1	Open hi-hat
HHOpn2	Open hi-hat (set 2)
HHPedal	Pedal hi-hat
HHOtr	1/4-open hi-hat
CYChina	China cymbal
CYCrash	Crash cymbal
CYCup	Ride cymbal cup
CYRide1	Ride cymbal
CYRide2	Ride cymbal
TMDry1	Dry tom
TMDry2	Dry tom
TMPwr1	Power tom
TMPwr2	Power tom
TMPwr3	Power tom
TMRoom1	Room tom
TMRoom2	Room tom
TMTekno	Techno tom

Name	Comment
Agogo	Agogo bell
AnlgClp	Analog claps
AnlgCow	Analog cowbell
Bongo	Bongo
Cabasa	Cabasa
Claves	Claves
CongaHi	High conga
CongaLo	Low conga
CongaMu	Muted conga
CongaSl	Conga slap
CongaHl	Conga heel
Cowbell	Cowbell
Guiro	Guiro
Shaker	Shaker
Tambrin	Tambourine
TimbalH	High timbale
TimbalL	Low timbale
Triangl	Triangle
Whistle	Whistle
WoodBlk	Wood block
Ambient	Ambient
BDAttak	Bass drum attack
BDBody	Bass drum body
Bottle	bottle blow
FingSnp	Finger snap
Noise	Noise
RimTrn1	Rim transient
RimTrn2	Rim transient
Scratch	Scratch
Tube	Tube hit
Stick	Stick
Typist	Typist
DigWave	Digital waveform
P10Wave	10% pulse wave
P25Wave	25% pulse wave
P50Wave	50% pulse wave
SawWave	Sawtooth wave
TriWave	Triangular wave
The remaining waves are all reverse versions of those listed above. (from BDanlg to Typist)	

WAVE LEVEL

Voice edit mode/Page 03



Summary: Independently sets the volume levels of waves 1 and 2 for the selected voice.

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Wave 1 level: 00 ... 63
Wave 2 level: 00 ... 63

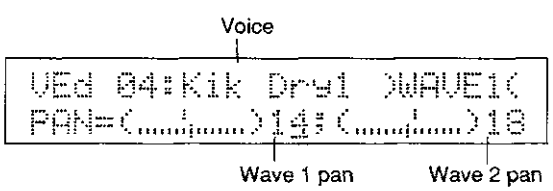
Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name, wave 1 level, or wave 2 level parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the wave levels. The [INC] and [DEC] keys, the [DATA] slider, or the instrument pads can be used to select the voice.

Notes: A setting of "0" produces no sound while a setting of "63" produces maximum volume for the selected wave.

Use this function to set the required balance between the two waves used in a voice. The "LEVEL" function described on page 81 sets the overall level of the voice in relation to other voices.

PAN

Voice edit mode/Page 04



Summary: Determines the position in the stereo sound field in which the sound of each wave in the selected voice will be heard (left to right).

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Wave 1 pan: 00 ... 32
Wave 2 pan: 00 ... 32

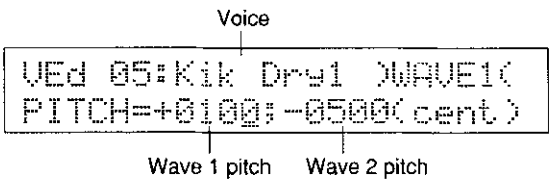
Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name, wave 1 pan, or wave 2 pan parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the pan values. The [INC] and [DEC] keys, the [DATA] slider, or the instrument pads can be used to select the voice.

A graphic representation of the pan position is also given for each wave. As you change the pan value the vertical bar will appear at the corresponding position on the graphic display.

Notes: A setting of "16" positions the sound of the selected wave in the center of the stereo sound field. Lower values move the sound to the left while higher values move the sound to the right. Interesting stereo effects can be produced by placing the sound of different waves at different locations in the stereo sound field.

PITCH

Voice edit mode/Page 05



Summary: Independently sets the pitches of waves 1 and 2 for the selected voice in 1-cent increments.

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Wave 1 pitch: –3600 ... ±0000 ... +3600
Wave 2 pitch: –3600 ... ±0000 ... +3600

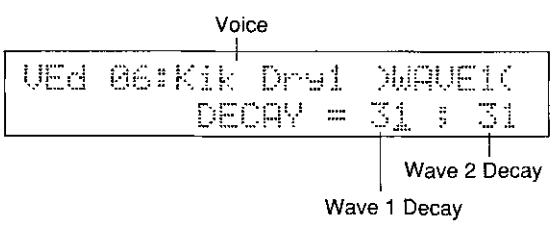
Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name, wave 1 pitch, or wave 2 pitch parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the pitch values. The [INC] and [DEC] keys adjust the pitch on 1-cent increments while the [DATA] slider adjusts the pitch in 100-cent increments.

The [INC] and [DEC] keys, the [DATA] slider, or the instrument pads can be used to select the voice.

Notes: *Negative values lower the pitch of the selected voice from its "normal" value, while positive values raise the pitch of the voice. Each increment equals one "cent" of pitch. A cent is one-hundredth of a semitone (i.e. 100 cents = 1 semitone). The minimum setting of "–3600" therefore lowers the pitch by 36 semitones, or 3 octaves (there are 12 semitones to an octave). A setting of "±0000" produces the normal pitch for the selected wave.*

DECAY

Voice edit mode/Page 06



Summary: Independently sets the decay times of waves 1 and 2 for the selected voice.

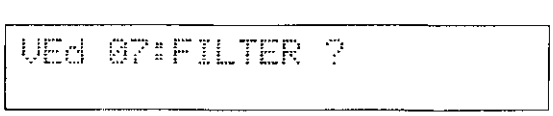
Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Wave 1 decay: 00 ... 63
Wave 2 decay: 00 ... 63

Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name, wave 1 decay, or wave 2 decay parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the decay values. The [INC] and [DEC] keys, the [DATA] slider, or the instrument pads can be used to select the voice.

Notes: *A setting of "00" produces the shortest decay time while a setting of "63" produces the longest decay time.*

FILTER JOB SELECT

Voice edit mode/Page 07



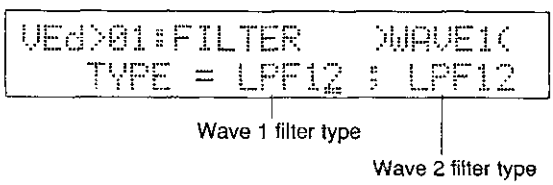
Summary: Allows any of the four filter jobs described below to be selected.

Settings: None

Procedure: Press [ENTER] and then use the [PAGE–] and [PAGE+] keys to select the desired job.

Press [EXIT] to exit from the filter job mode and return to "FILTER ?" display (page 07).

- ***JOB 01: FILTER TYPE***



Summary: Independently sets the type of filter response applied to waves 1 and 2 of the current voice.

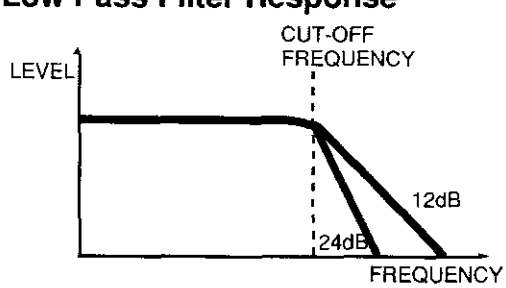
Settings: Wave 1 filter type: THRU, LPF12, LPF24, HPF12, HPF24
Wave 2 filter type: THRU, LPF12, LPF24, HPF12, HPF24

Procedure: Use the [◁] and [▷] keys to move the cursor to the wave 1 filter type or wave 2 filter type parameter, then use the [INC] and [DEC] keys or the [DATA] slider to set as required.

Notes: The "THRU" (THROUGH) setting turns the filter OFF.

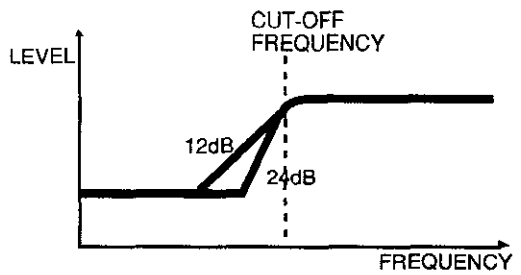
The "LPF" (Low Pass Filter) settings produces a filter response that allows only frequencies below *the cutoff frequency to pass (see "CUTOFF" job below). The "LPF12" setting has a 12dB per octave cutoff slope, and the "LPF24" setting has a steeper 24dB per octave slope.*

Low Pass Filter Response

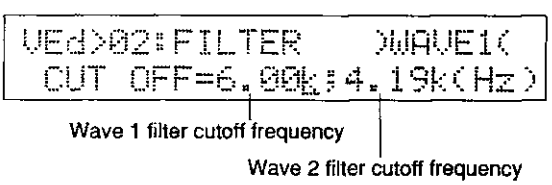


The "HPF" (High Pass Filter) setting produces a filter response that allows only frequencies *above* the cutoff frequency to pass (see "CUTOFF" job below). The "HPF12" setting has a 12dB per octave cutoff slope, and the "HPF24" setting has a steeper 24dB per octave slope.

High Pass Filter Response



- ***JOB 02: CUTOFF***



Summary: Independently sets the filter cutoff frequencies for waves 1 and 2 of the current voice.

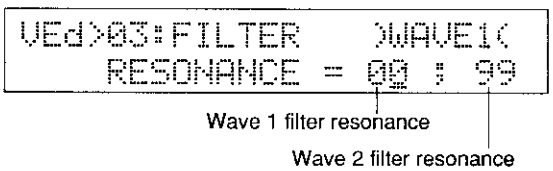
Settings: Wave 1 filter cutoff frequency:
LPF 0.00 ... 22.4 kHz in 128 steps
HPF: 0.00 ... 11.7 kHz in 115 steps
Wave 2 filter cutoff frequency:
LPF 0.00 ... 22.4 kHz in 128 steps
HPF: 0.00 ... 11.7 kHz in 115 steps

Procedure: Use the [◁] and [▷] keys to move the cursor to the wave 1 filter cutoff frequency or wave 2 filter cutoff frequency parameter, then use the [INC] and [DEC] keys or the [DATA] slider to set as required.

Notes: With an LPF response, a lower cutoff frequency reduces the range of high frequencies passed, making the sound "darker" or "rounder."

With a HPF response, a higher cutoff frequency reduces the range of low frequencies passed, making the sound "thinner" or "sharper."

- ***JOB 03: RESONANCE***



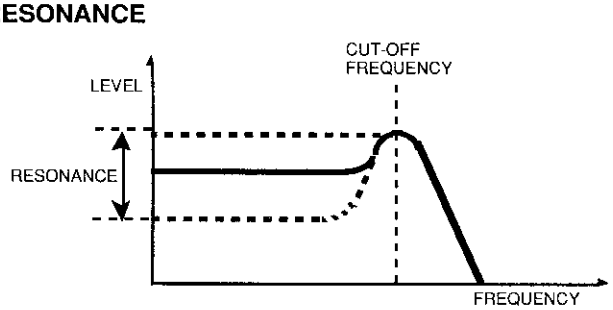
Summary: Independently sets the degree of filter resonance for waves 1 and 2 of the current voice when the "LPF12" or "LPF24" filter type is selected.

Settings: Wave 1 filter resonance: 00 ... 99
Wave 2 filter resonance: 00 ... 99

Procedure: Use the [◁] and [▷] keys to move the cursor to the wave 1 filter resonance or wave 2 filter resonance parameter, then use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set as required.

Notes: *This parameter has a similar effect to the "resonance" settings on traditional analog synthesizer filters — i.e. it determines the height of a peak in the filter response at the cutoff frequency.*

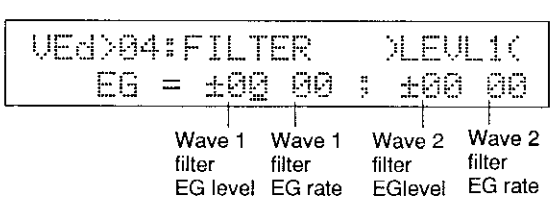
RESONANCE



Higher resonance values produce a higher resonant peak, emphasizing a narrow band of frequencies at the filter's cutoff.

Please note that resonance can only be applied to the "LPF12" and "LPF24" filter types.

- ***JOB 04: FILTER EG***



Summary: Independently sets the envelope generator level and rate values for waves 1 and 2 of the current voice.

Settings: Wave 1 filter EG level: –63 ... +63
Wave 1 filter EG rate: 0 ... 63
Wave 2 filter EG level: –63 ... +63
Wave 2 filter EG rate: 0 ... 63

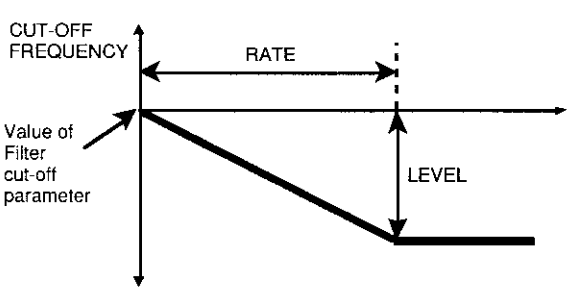
Procedure: Use the [◁] and [▷] keys to move the cursor to the desired parameter, then use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set as required.

Notes: *The filter EG level and rate parameters are used to shape the filter response at the attack of the sound.*

The level parameters correspond to cutoff frequency. Plus "+" values produce higher cutoff frequencies while minus "–" values produce lower cutoff frequencies. "±00" level values produce the normal cutoff frequency as determined by the cutoff parameter (See "CUTOFF" on page 85).

The "Rate" parameters determine how fast the filter sweeps from the normal cutoff frequency to the cutoff frequency determined by the level parameter. A setting of "00" produces no change, while the maximum setting of "63" produces the fastest (almost instantaneous) sweep.

Filter EG



SENSITIVITY JOB SELECT

Voice edit mode/Page 08

```
VEd 08:SENSITIVITY ?
```

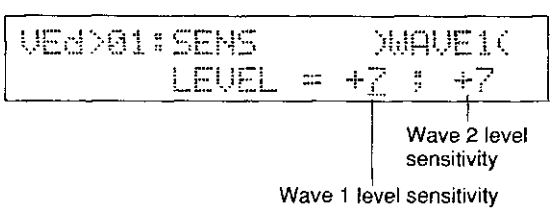
Summary: Allows any of the four sensitivity jobs described below to be selected.

Settings: None

Procedure: Press [ENTER] and then use the [PAGE–] and [PAGE+] keys to select the desired job.

Press [EXIT] to exit from the sensitivity job mode and return to "SENSITIVITY ?" display (page 08).

- ***JOB 01: LEVEL SENSITIVITY***



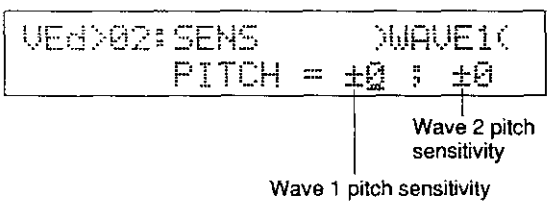
Summary: Determines how the wave 1 and wave 2 output levels change in response to velocity changes (e.g. pad/keyboard dynamics).

Settings: Wave 1 level sensitivity: –7 ... +7
Wave 2 level sensitivity: –7 ... +7

Procedure: Use the [◁] and [▷] keys to move the cursor to the wave 1 level sensitivity or wave 2 level sensitivity parameter, then use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set as required.

Notes: Plus "+" settings produce higher level in response to higher velocity values — i.e. the harder a pad or key is played, the higher the volume. The maximum setting of "+7" produces the maximum level variation in response to velocity changes. Minus "–" settings produce the opposite effect: lower volume in response to higher velocity. A setting of "±0" results in no level variation.

- ***JOB 02: PITCH SENSITIVITY***



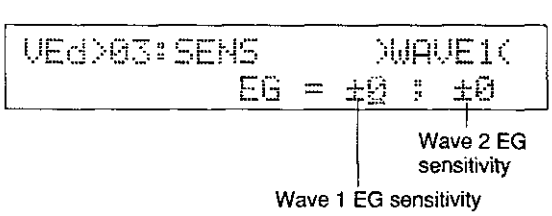
Summary: Determines how the wave 1 and wave 2 pitches change in response to velocity changes (e.g. pad/keyboard dynamics).

Settings: Wave 1 pitch sensitivity: –7 ... +7
Wave 2 pitch sensitivity: –7 ... +7

Procedure: Use the [◁] and [▷] keys to move the cursor to the wave 1 pitch sensitivity or wave 2 pitch sensitivity parameter, then use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set as required.

Notes: Plus "+" settings produce higher pitch in response to higher velocity values — i.e. the harder a pad or key is played, the higher the pitch. The maximum setting of "+7" produces the maximum pitch variation in response to velocity changes. Minus "–" settings produce the opposite effect: lower pitch in response to higher velocity. A setting of "±0" results in no pitch variation.

- ***JOB 03: EG SENSITIVITY***



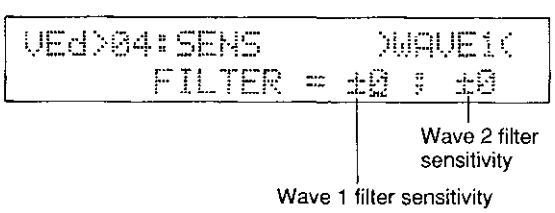
Summary: Determines how the attack and decay times of wave 1 and wave 2 envelope generators (EGs) change in response to velocity changes (e.g. pad/keyboard dynamics).

Settings: Wave 1 EG sensitivity: –7 ... +7
Wave 2 EG sensitivity: –7 ... +7

Procedure: Use the [◁] and [▷] keys to move the cursor to the wave 1 EG sensitivity or wave 2 EG sensitivity parameter, then use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set as required.

Notes: Plus "+" settings produce faster attack and slower decay in response to higher velocity values — i.e. the harder a pad or key is played, the faster the attack and the slower the decay. The maximum setting of "+7" produces the maximum EG variation in response to velocity changes. Minus "–" settings produce the opposite effect: slower attack and faster decay in response to higher velocity. A setting of "±0" results in no EG variation.

- ***JOB 04: FILTER SENSITIVITY***



Summary: Determines how the wave 1 and wave 2 filter cutoff frequencies change in response to velocity changes (e.g. keyboard dynamics).

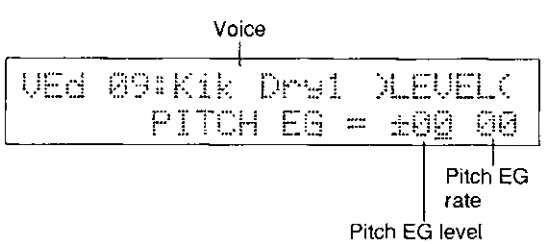
Settings: Wave 1 filter sensitivity: –7 ... +7
Wave 2 filter sensitivity: –7 ... +7

Procedure: Use the [◁] and [▷] keys to move the cursor to the wave 1 filter sensitivity or wave 2 filter sensitivity parameter, then use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set as required.

Notes: Plus "+" settings produce higher cutoff frequencies in response to higher velocity values — i.e. the harder a key is played, the higher the cutoff frequency. The maximum setting of "+7" produces the maximum level variation in response to velocity changes. Minus "–" settings produce the opposite effect: lower cutoff in response to higher velocity. A setting of "+0" results in no cutoff variation.

PITCH EG

Voice edit mode/Page 09



Summary: Determines the "shape" of the pitch envelope generator for the selected voice.

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Pitch EG level: –72 ... +72
Pitch EG rate: 00 ... 63

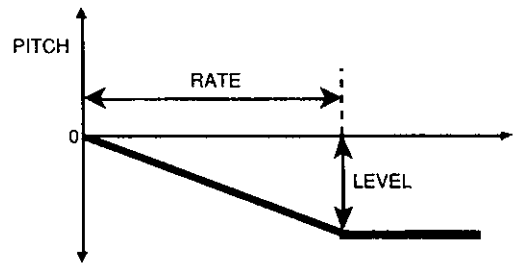
Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name, pitch EG level, or pitch EG rate parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to set the EG values. The [INC] and [DEC] keys, the [DATA] slider, or the instrument pads can be used to select the voice.

Notes: The pitch EG level and rate parameters are used to shape the pitch response at the attack of the sound.

The level parameters correspond to pitch. Plus "+" values produce higher pitch while minus "–" values produce lower pitch. "±00" level values produce the normal pitch.

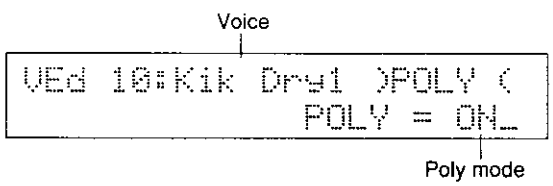
The "Rate" parameter determines how fast the pitch sweeps from the normal pitch of the voice to the pitch determined by the level parameter. A setting of "63" produces the fastest (almost instantaneous) sweep, while the minimum setting of "00" produces no change.

Pitch EG



POLY ON/OFF

Voice edit mode/Page 10



Summary: Turns polyphony on or off for the selected voice.

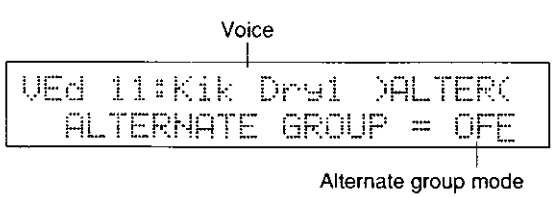
Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Poly mode: ON/OFF

Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name or poly mode parameter, then use the [INC] and [DEC] keys or the [DATA] slider to set as required. The instrument pads can be used to select the voice.

Notes: *When the poly mode is turned "ON" for a voice, that voice may be entered twice on the same beat of a pattern. This produces a "phased" effect with many voices that can be quite interesting and useful. Another advantage of polyphony is that it allows the same cymbal sound to be played consecutively without cutting off the tail end of the previous cymbal sound.*

ALTERNATE GROUP

Voice edit mode/Page 11



Summary: Turns alternate grouping for the selected voice off, or assigns the voice to one of 7 "alternate" groups.
Specifies drum elements which may not sound at the same time.

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Alternate group mode mode: OFF, 1 ... 7

Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name or alternate group mode parameter, then use the [INC] and [DEC] keys or the [DATA] slider to set as required. The instrument pads can be used to select the voice.

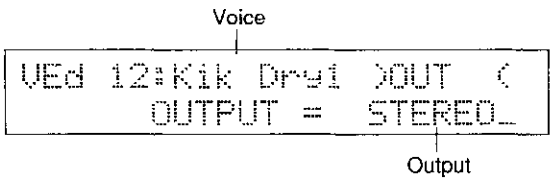
Notes: *In a real drum set, you would never hear the sound of a closed hi-hat at the same time as the open hi-hat. If you assign both of these instruments (which are really different sounds produced by the same instrument) to one of the 7 available alternate groups, the closed and open hi-hat elements will not sound together even if their keys are played at the same time. This also means that you can play the open hi-hat, then "close" the hi-hat before the open hi-hat sound ends by playing the closed hi-hat key. The RY30*

actually three hi-hat voices (open and closed for each) which are initially assigned to alternate groups 1, 2, and 3.

It is also possible to create a muted triangle voice, for example, by editing the normal triangle's envelope and filter parameters to produce a muted sound. If the normal and muted triangle are then assigned to the same alternate group, they can be used to produce a realistic open-and-muted triangle effect.

OUTPUT ASSIGN

Voice edit mode/Page 12



Summary: Assigns the selected voice to the RY30's stereo and individual outputs.

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Output: STEREO, ST&INDV1, ST&INDV2, INDV1, INDV2, INDV1&2

Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name or output parameter, then use the [INC] and [DEC] keys or the [DATA] slider to set as required. The instrument pads can be used to select the voice.

Notes: *The various settings are as follows:*

STEREO: The selected voice is output via the stereo R and L/MONO OUTPUT jacks.

ST&INDV1: The selected voice is output via the stereo R and L/MONO OUTPUT jacks *and* the INDIV OUT 1 jack.

ST&INDV2: The selected voice is output via the stereo R and L/MONO OUTPUT jacks *and* the INDIV OUT 2 jack.

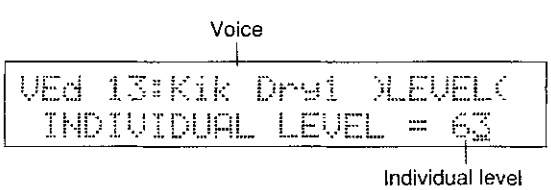
INDV1: The selected voice is output via the INDIV OUT 1 jack.

INDV2: The selected voice is output via the INDIV OUT 2 jack.

INDV1&2: The selected voice is output via both the INDIV OUT 1 and 2 jacks.

INDIVIDUAL LEVEL

Voice edit mode/Page 13



Summary: Sets the level at which the selected voice will be output via the RY30's individual outputs when the voice is assigned to the INDIV OUT 1 and/or 2 jacks using the OUTPUT ASSIGN function described above.

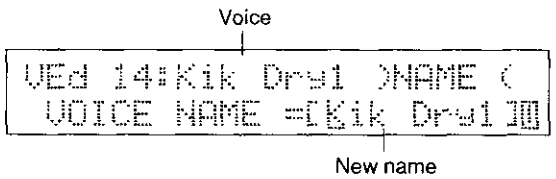
Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Individual level: 00 ... 63

Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name or individual level parameter, then use the [INC] and [DEC] keys or the [DATA] slider to set as required. The instrument pads can be used to select the voice.

Notes: *The LEVEL function described on page 81 also affects the level of the signal sent to the individual outputs.*

VOICE NAME

Voice edit mode/Page 14



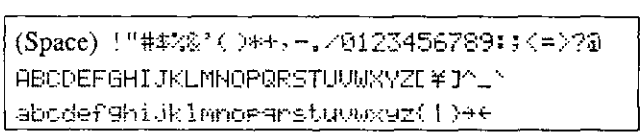
Summary: Allows a name of up to 8 characters to be assigned to the selected voice.

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
New name: 8 characters

Procedure: Use the [◁] and [▷] keys to move the cursor to the voice name or one of the 8 available character locations within the VOICE NAME brackets. Use the [INC] and [DEC] keys, the [DATA] slider, or the instrument pads to to select the voice number. Use the numeric keys, the [INC] or [DEC] keys, or the [DATA] slider to enter the characters for the voice name. The instrument pads can be used to select the voice.

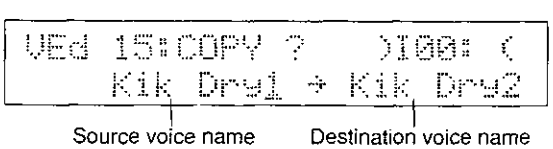
Notes: *Each numeric key accesses four different characters — its number and the remaining three characters printed on the key. The characters printed on the key are called in sequence each time the key is pressed. To enter the letter "H", for example, press the [2] key three times. The [CLEAR] key switches between upper and lower case characters — indicated by a reverse (white on black) "U" for upper or "L" for lower to the right of the new voice name.*

The [INC] and [DEC] keys and the [DATA] slider access a complete list of lower and upper case characters, plus a range of symbols not available via the numeric keys. The complete list of characters is given below:



VOICE COPY

Voice edit mode/Page 15



Summary: Copies the voice data from the specified source voice number to the specified destination voice number.

Settings: Source voice number: I00 ... I95 (internal), C00 ... C31 (card), P00 ... P95 (preset)
Destination voice number: I00 ... I95 (internal)

Procedure: Use the [◁] and [▷] keys to move the cursor to the source or destination voice name. Use the [INC] and [DEC] keys, the [DATA] slider, or the instrument pads to select the appropriate voice numbers.

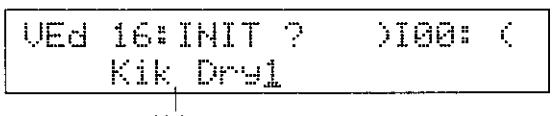
Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to copy the voice or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the voice has been copied.

Notes: *Any previous data in the destination voice number will be erased and replaced by the copied voice data.*

The RY30's preset voices are available for the source voice parameter so that a single voice can be restored to its preset sound without having to use the "LOAD PRESET VOICES" function (page 76) which reloads all *preset voices into memory.*

Voice data cannot be copied to a card voice number.

VOICE INITIALIZE



Voice name

Summary: Initializes all parameters of the selected voice except waves and the voice name to their "normal" values.

Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)

Procedure: Use the [INC] and [DEC] keys, the [DATA] slider, or the instrument pads to select the voice to be initialized.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to initialize the voice or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the voice has been initialized.

Notes: *This function is handy if you want to completely reprogram all voice parameters from scratch. Here's a list of the initialized voice parameter values:*

INITIALIZED VOICE DATA

VOICE NAME			No Change			
VOICE LEVEL			63			
WAVE			A		B	
	SELECT		No Change		No Change	
	LEVEL		63		63	
	PAN		16		16	
	PITCH		0		0	
	DECAY		55		55	
	FILTER	TYPE	THRU		THRU	
		CUT OFF	—		—	
		RESONANCE	0		0	
			Level	Rate	Level	Rate
		EG	0	0	0	0
	SENSITIVITY	LEVEL	+4		+4	
		PITCH	0		0	
		EG	0		0	
		FILTER	0		0	
			Level		Rate	
PITCH EG			0		0	
POLY			OFF			
ALTERNATE GROUP			OFF			
OUTPUT ASSIGN			STEREO			
INDIVIDUAL LEVEL			63			

RY30 VOICE LIST

CAT	VO.#	Name	Poly Mono	Layer	Touch Sens Alternate				Group	Filter	Comment
					L	P	E	F			
BD	0	Kik Dry1	POLY	2	○				OFF		Dry.
	1	Kik Dry2	POLY	2	○	○			OFF		
	2	Kik Dry3	POLY	1	○			○	OFF		
	3	Kik Gat1	POLY	2	○				OFF		Gated.
	4	Kik Gat2	POLY	1	○	○	○	○	OFF		
	5	Kik Pro1	POLY	1	○	○	○	○	OFF		Heavily processed.
	6	Kik Pro2	POLY	2	○	○	○	○	OFF		
	7	Kik Rev1	POLY	2	○		○	○	OFF		Deep reverb effect.
	8	Kik Rom1	POLY	2	○	○			OFF		Room ambience effect.
	9	Kik Rom2	POLY	2	○	○	○		OFF		
	10	Kik Rom3	POLY	2	○	○	○		OFF		
	11	Kik Tek1	POLY	2	○				OFF	×	
	12	Kik Tek2	POLY	2	○				OFF		
	13	Kik Ana1	MONO	2	○	○	○		OFF		Analog sound.
	14	Kik Ana2	POLY	2	○				OFF		
SD	15	Snr Dry1	POLY	2	○	○	○	○	OFF		Dry.
	16	Snr Dry2	POLY	1	○	○	○	○	OFF		
	17	Snr Dry3	POLY	2	○	○			OFF		
	18	Snr Dry4	POLY	2	○	○		○	OFF		
	19	Snr Gat1	POLY	1	○	○	○	○	OFF		Gated.
	20	Snr Pro1	POLY	2	○				OFF	×	Heavily processed.
	21	Snr Rev1	POLY	2	○				OFF	×	Deep reverb effect.
	22	Snr Rev2	POLY	2	○	○		○	OFF		Wide stereo effect.
	23	Snr Rom1	POLY	2	○	○			OFF	×	Room ambience effect.
	24	Snr Rom2	POLY	2	○	○	○		OFF	×	
	25	Snr Rom3	POLY	2	○				OFF		Stereo position moves.
	26	Snr Rom4	POLY	2	○	○	○		OFF	×	
	27	Snr Rom5	POLY	1	○	○	○		OFF	×	
	28	Snr Rim1	POLY	2	○				OFF	×	Simultaneous snare head and rim.
	29	Snr Rim2	POLY	2	○		○		OFF	×	Play hard for more rim sound.
	30	Snr Side	MONO	2	○	○			OFF		Rim only.
	31	Snr Tek1	POLY	2	○	○			OFF		Flanged.
	32	Snr Ana1	POLY	1	○		○	○	OFF		Analog sound.
	33	Snr Ana2	POLY	1	○	○			OFF		
TM	34	Tom Dry1	POLY	2	○	○	○		OFF		Dry.
	35	Tom Dry2	POLY	2	○	○	○		OFF		
	36	Tom Dry3	POLY	2	○	○	○		OFF		
	37	Tom Dry4	POLY	2	○	○	○		OFF		
	38	Tom Pow1	POLY	2	○	○	○		OFF		Power kit.
	39	Tom Pow2	POLY	2	○	○	○		OFF		
	40	Tom Pow3	POLY	2	○	○	○		OFF		
	41	Tom Pow4	POLY	2	○	○	○		OFF		
	42	Tom Rom1	POLY	2	○	○	○		OFF		Room ambience effect.
	43	Tom Rom2	POLY	2	○	○	○		OFF		
	44	Tom Rom3	POLY	2	○	○	○		OFF		
	45	Tom Rom4	POLY	2	○	○	○		OFF		
	46	Tom TekA	POLY	2	○	○			OFF		Use the control wheel to vary pitch.
	47	Tom TekB	MONO	2	○	○		○	OFF		
	48	Tom TekC	POLY	2	○	○	○		OFF		
	49	Tom TekD	POLY	2	○	○	○	○	OFF		
HH	50	Hat Cls1	MONO	1	○	○			1	×	Closed.
	51	Hat Qtr1	MONO	1	○	○			1	×	1/4 open.
	52	Hlf1	POLY	1	○	○			1	×	1/2 open.
	53	Hat Opn1	POLY	1	○	○	○		1	×	Open.
	54	Hat Ped1	MONO	1	○	○		○	1		Pedal.
	55	Hat Cls2	MONO	1	○	○	○		2	×	Set-2 closed.
	56	Hat Opn2	POLY	1	○	○	○		2	×	Set-2 open.
	57	Hat Cls3	MONO	1	○			○	3		Analog closed sound.
	58	Hat Opn3	MONO	1	○			○	3		Analog open sound.
CY	59	China	POLY	1	○	○	○		OFF		
	60	Crash	POLY	1	○	○	○		OFF	×	Raise the pitch for a splash cymbal effect.
	61	Edge→Cup	POLY	2	○				OFF	×	More edge or cup depending on how hard played.
	62	Ride	POLY	2	○				OFF	×	
	63	Ride Cup	POLY	1	○			○	OFF		
	64	Cym Rev	POLY	2	○	○	○		OFF	×	Large stereo motion.

CAT	VO.#	Name	Poly Mono	Layer	Touch Sens Alternate				Group	Filter	Comment
					L	P	E	F			
PC	65	Agogo Hi	POLY	2	○		○		OFF	×	
	66	Agogo Lo	POLY	2	○		○		OFF		
	67	Clap	MONO	1	○	○	○		OFF	×	Analog claps.
	68	Bongo Hi	POLY	1	○	○		○	OFF		
	69	Bongo Lo	POLY	1	○	○		○	OFF		
	70	Cabasa	MONO	2	○	○			OFF		
	71	Clave	MONO	1	○				OFF	×	
	72	Conga Hi	POLY	2	○				OFF	×	
	73	Conga Lo	POLY	2	○				OFF	×	
	74	Cga Mute	MONO	1	○				OFF	×	
	75	Cga Slap	MONO	1	○				OFF	×	
	76	Cga Heel	MONO	1	○				OFF	×	
	77	Cowbel 1	POLY	1	○				OFF		
	78	Cowbel 2	MONO	1	○			○	OFF		
	79	Guiro	MONO	1		○	○		OFF	×	Style changes according to how hard played.
	80	Shaker	MONO	1	○			○	OFF		
	81	Tambrine	MONO	2	○				OFF		Play hard for a different sound.
	82	Timbl Hi	POLY	1	○	○			OFF	×	
	83	Timbl Lo	POLY	1	○	○	○		OFF		
	84	Triangle	MONO	1	○		○		OFF		Play hard for a muted sound.
	85	Whistle	MONO	1	○	○		○	OFF		
SE	86	Sfx Metl	POLY	2	○	○	○		OFF	×	Timbre changes according to how hard played.
	87	Sfx Afro	POLY	2	○				OFF		Timbre changes according to how hard played.
	88	Sfx Log	POLY	2	○	○	○	○	OFF		Timbre changes according to how hard played.
	89	Sfx Bass	POLY	2	○			○	OFF		Stereo effect.
	90	Sfx Pip	POLY	1	○			○	OFF		Pitch changes according to how hard played.
	91	Sfx Rezz	MONO	1	○	○	○	○	OFF		Timbre changes according to how hard played.
	92	Sfx Wet	POLY	2	○				OFF		Timbre changes according to how hard played.
	93	Sfx Blow	POLY	2	○				OFF		
	94	Scratch	POLY	2	○			○	OFF		
	95	Sfx Rev	POLY	2	○				OFF	×	Reverse sound.

The following abbreviations are used in the "Touch Sens." column:
L = Level; P = Pitch; E = EG; F = Filter

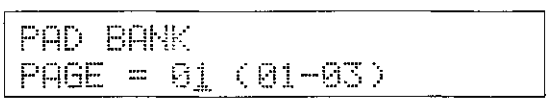
● Moving the wheel upward will have little or no effect with voices in which the decay or filter parameters are set to maximum.

PAD BANK MODE

ACCESSING THE PAD BANK MODE FUNCTIONS

From the pad bank mode (selected by the [PAD BANK] key), use the [PAGE–] and [PAGE+] keys to select the desired function "page." Pressing the [PAD BANK] key will always return you directly to page 01 (PAD BANK SELECT).

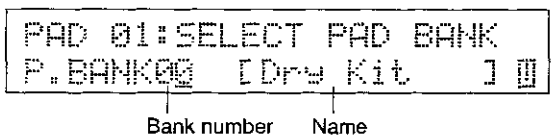
An alternative method is to press the [PAGE] key and enter the desired page number via the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys.



Once the page number has been entered, press the [ENTER] key to go directly to that page.

PAD BANK SELECT

Pad Bank mode/Page 01



Summary: Selects one of the RY30's 12 internal or 4 internal/card pad banks (i.e. sets of pad-to-voice assignments), or the "pitch multi" pad assignments. Also allows a 10-character name to be assigned to the selected pad bank.

Settings: Bank number: 00 ... 11 (internal), 12 ... 15 (internal/card), 16 (pitch multi — see page 101)
Name: 10 characters

Procedure: Use the [◁] and [▷] keys to move the cursor to the pad bank number or one of the 10 available character locations within the square brackets. Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to to select the pad bank number. Use the numeric keys, the [INC] or [DEC] keys, or the [DATA] slider to enter the characters for the voice name.

Each numeric key accesses four different characters — its number and the remaining three characters printed on the key. The characters printed on the key are called in sequence each time the key is pressed. To enter the letter "H", for example, press the [2] key three times. The [CLEAR] key switches between upper and lower case characters — indicated by a reverse (white on black) "U" for upper or "L" for lower to the right of the new voice name.

The [INC] and [DEC] keys and the [DATA] slider access a complete list of lower and upper case characters, plus a range of symbols not available via the numeric keys. The complete list of characters is given below:

```
(Space) !"#$%&'()*+,-./0123456789:;<=>?@
ABCDEFGHIJKLMNOPQRSTUVWXYZ[¥]^_`
abcdefghijklmnopqrstuvwxyz{|}→←
```

Internal/card pad bank data is loaded by using the "LOAD CARD DATA" function described on page 69.

Notes: The 12 internal pad banks are programmed as follows when the RY30 is initially shipped:

RY30 PAD BANK ASSIGNMENTS

0 Dry kit

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 34 Tom Dry1	B 35 Tom Dry2	C 36 Tom Dry3	D 56 Hat Opn2	E 61 Edge→Cap	F 30 Snr Side
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 1 Kik Dry2	H 15 Snr Dry1	I 37 Tom Dry4	J 55 Hat Cls2	K 60 Crash	L 60 Shaker

1 Room kit

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 42 Tom Rom1	B 43 Tom Rom2	C 44 Tom Rom3	D 53 Hat Opn1	E 62 Ride	F 51 Hat Qtr1
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 10 Kik Rom3	H 26 Snr Rom4	I 45 Tom Rom4	J 50 Hat Cls1	K 63 Ride Cup	L 28 Snr Rim 1

2 Power kit

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 38 Tom Pow1	B 39 Tom Pow2	C 40 Tom Pow3	D 63 Hat Opn1	E 62 Ride	F 64 Cym Rev
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 3 Kik Gat1	H 24 Snr Rom2	I 41 Tom Pow4	J 52 Hat Hit1	K 60 Crash	L 59 China

3 process1

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 42 Tom Rom1	B 43 Tom Rom2	C 44 Tom Rom3	D 56 Hat Opn2	E 61 Edge→Cap	F 94 Scratch
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 5 Kik Pro1	H 20 Snr Pro1	I 45 Tom Rom4	J 55 Hat Cls2	K 59 China	L 95 Sfx Rev

4 process2

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 34 Tom Dry1	B 35 Tom Dry2	C 36 Tom Dry3	D 53 Hat Opn1	E 62 Ride	F 86 Sfx Metl
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 12 Kik Tek2	H 19 Snr Gat1	I 37 Tom Dry4	J 54 Hat Pad1	K 60 Crash	L 88 Sfx Log

5 Analog kit

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 13 Kik Ana1	B 32 Snr Ana1	C 46 Tom Tek A	D 58 Hat Opn3	E 81 Tambrine	F 67 Clap
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 14 Kik Ana2	H 33 Snr Ana2	I 47 Tom Tek B	J 57 Hat Cls3	K 70 Cabasa	L 78 Cowbel2

6 Perc 1

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 76 Cga Heel	B 75 Cga Slap	C 71 Clave	D 68 Bongo Hi	E 69 Bongo Lo	F 66 Agogo Lo
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 74 Cga Mute	H 72 Conga Hi	I 73 Conga Lo	J 83 Timbl Lo	K 82 Timbl Hi	L 65 Agogo Hi

7 Perc 2

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 77 Cowbel1	B 84 Triangle	C 85 Whistle	D 55 Sfx Mod	E 90 Sfx Pip	F 92 Sfx Wet
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 87 Sfx Afro	H 88 Sfx Log	I 79 Guiro	J 48 Tom TekC	K 49 Tom TekD	L 91 Sfx Rezz

8 Other BD

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 0 Kik Dry1	B 1 Kik Dry2	C 2 Kik Dry3	D 3 Kik Gat1	E 4 Kik Gat2	F 7 Kik Rev1
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 5 Kik Pro1	H 6 Kik Pro2	I 8 Kik Rom1	J 9 Kik Rom2	K 11 Kik Tek1	L 12 Kik Tek2

9 Other SD

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 16 Snr Dry2	B 17 Snr Dry3	C 18 Snr Dry4	D 19 Snr Gat1	E 20 Snr Pro1	F 21 Snr Rev1
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 22 Snr Rev2	H 23 Snr Rom1	I 25 Snr Rom3	J 27 Snr Rom5	K 31 Snr Tek1	L 29 Snr Rim2

10 All Cymbal

TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 60 Crash	B 62 Ride	C 63 Ride Cup	D 61 Edge→Cap	E 59 China	F 56 Hat Opn2
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 50 Hat Cls1	H 51 Hat Qtr1	I 52 Hat Hlf1	J 53 Hat Opn1	K 54 Hat Ped1	L 55 Hat Cls2

11 SFX

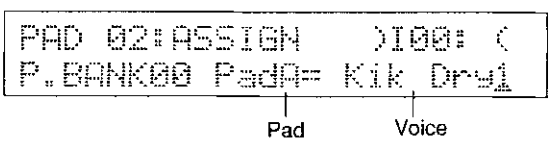
TOM 1	TOM 2	TOM 3	HH OPEN	RIDE	PERC 1
A 93 Sfx Blow	B 95 Sfx Rev	C 91 Sfx Rezz	D 86 Sfx Metl	E 88 Sfx Log	F 90 Sfx Pip
BD	**SD**	**TOM 4**	**HH CLOSED**	**CRASH**	**PERC 2**
G 94 Scratch	H 31 Snr Tek1	I 89 Sfx Bass	J 87 Sfx Afro	K 64 Cym Rev	L 92 Sfx Wet

VOICE/PITCH ASSIGN

Pad Bank mode/Page 02

● **VOICE ASSIGN**

Please note this function is selected only if pad bunk number 00 through 15 is selected using the "PAD BANK SELECT" function, above. The "PITCH ASSIGN" function described below is selected instead of this function if pad bank 16 (pitch multi) is selected.



Summary: Assigns any of the internal or card voices to the specified instrument pads for the currently selected pad bank.

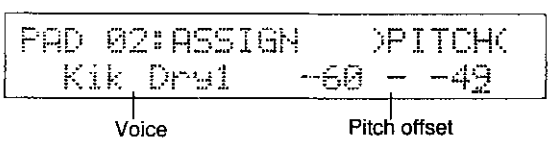
Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Pad: A ... L

Procedure: Use the [◁] and [▷] keys to move the cursor to the voice number or pad parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the instrument pads to to select the pad number.

Notes: This function allows you to set up a range of custom drum/percussion sets to suit different songs and musical styles.

● **PITCH ASSIGN**

Please note this function is selected only if pad bank number 16 (pitch multi) is selected using the "PAD BANK SELECT" function (page 99). The "VOICE ASSIGN" function described above is selected instead of this function if pad bank 00 through 15 is selected.



Summary: Assigns a single voice to all 12 instrument pads, with the voice pitched over an entire octave.

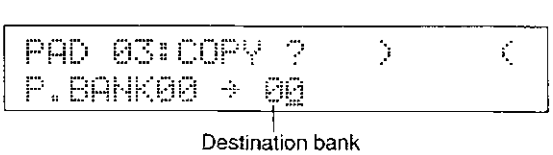
Settings: Voice: I00 ... I95 (internal), C00 ... C31 (card)
Pitch offset: –60 – –49 ... +49 – +60

Procedure: Use the [◁] and [▷] keys to move the cursor to the voice number or pitch range parameter. Use the [INC] and [DEC] keys, the [DATA] slider, or the instrument pads to to select the voice number. Use the [INC] and [DEC] keys or the [DATA] slider to enter the pitch range.

Notes: The pitch offset parameter shifts the pitch of the entire octave up or down in semitone steps. A setting of "±00 – +11" sets pad A to the normal pitch for the selected voice.

PAD BANK COPY

Pad Bank mode/Page 03



Summary: Copies the pad-to-voice assignments from the currently selected pad bank (i.e. those made using the "VOICE ASSIGN" function described above) to the specified destination pad bank number.

Settings: Destination bank: 00 ... 15

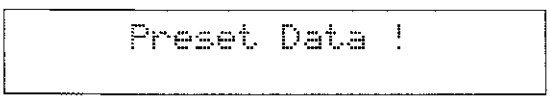
Procedure: Use the [INC] and [DEC] keys, the [DATA] slider, or the numeric keys to select the pad bank to which the current assignments will be copied.

Press the [ENTER] key — "Sure" will appear on the display. Press the [ENTER] key again to copy the bank or press [EXIT] to cancel the operation. "Complete!" will appear on the display briefly when the bank has been stored.

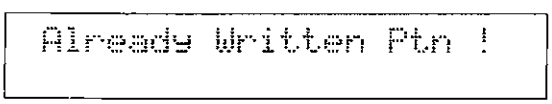
Notes: *This function makes it simple to set up a new pad bank that is only slightly different from an existing pad bank. First copy the existing pad bank to a new number, then make the required changes using the "VOICE ASSIGN" function described above.*

ERROR MESSAGES

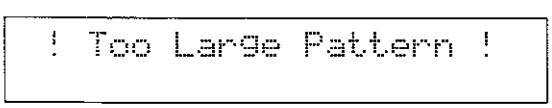
Things do go wrong from time to time, and people do make mistakes. When an error occurs, the RY30 will usually display a message that describes the type of error so you can take steps to rectify the problem. The following are quick summaries of the RY30 error displays.



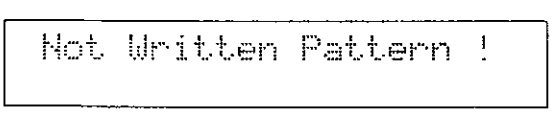
You have attempted to record using a preset pattern number. The preset patterns (100 ... 199) cannot be re-recorded or edited.



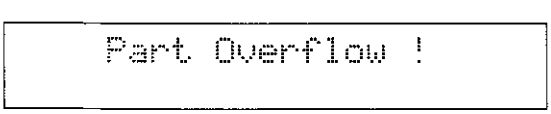
You have attempted to change the length or time signature of a pattern that has already been recorded. Length and time signature settings can only be made before a pattern is recorded.



A pattern you have created by recording, merging, appending, or other means exceeds the memory space allotted to a single pattern. The size of the pattern must be reduced by simplifying its component parts before merging, appending, etc.

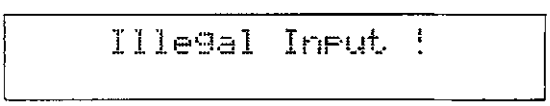


You have attempted to use the parameter record or clock move functions on a blank pattern. These functions will only work on a pattern that has already been recorded using the real-time or step-write recording methods.

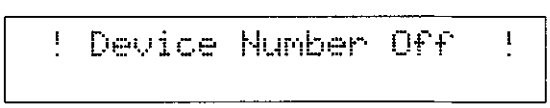


A song created using copy, insert, or other functions exceeds the maximum of 999 parts. The number of parts in the song must be reduced.

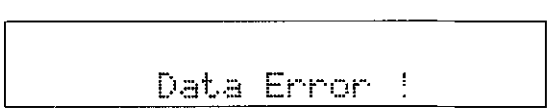
Insufficient memory remains to complete the function or job you have initiated. You will have to delete some songs and/or patterns to make room for the new data.



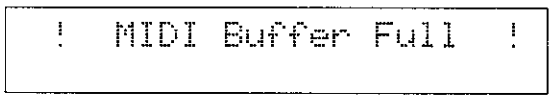
You have attempted to enter a value that is not appropriate for the selected parameter. Refer to the appropriate function in the manual and check the allowable settings.



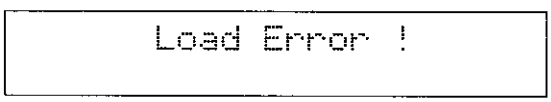
You have attempted to perform a MIDI bulk transmission while the RY30 device number is set to "OFF". Select a device number matching that of the receiving device prior to performing a bulk transmission.



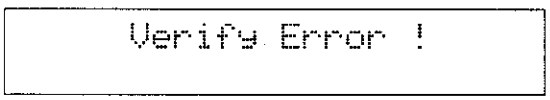
Unrecognizable MIDI data has been received. Check your MIDI connections, and make sure that the transmitting device is compatible with the RY30. Faulty MIDI cables can sometimes cause this error.



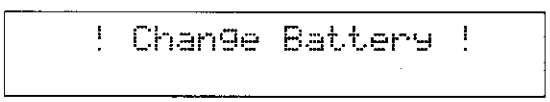
MIDI receive buffer overflow. Too much MIDI data being received too quickly. This can happen if you're driving the RY30 from a sequencer or MIDI computer. The solution is to simplify or slow down the data being transmitted.



An error has been detected while loading card or cassette data. You may have to readjust the cassette deck's volume or output level control to achieve reliable loading. You might also try cleaning and demagnetizing the deck's heads. If this doesn't help, the tape may be bad or the data may have been improperly saved in the first place.



An error has been detected while verifying cassette data. Possible solutions are the same as for the "Load Error !" message, above.



The internal memory backup battery is almost completely run down and must be replaced immediately. Internal data may already have been lost when this display appears.

SPECIFICATIONS

Tone Generator: 16-bit AWM2, 48 kHz sampling frequency, with digital filter

Polyphony: 15 notes

Instrument Pads: 12 with velocity sensitivity controlling filter, volume, EG, and pitch

Patterns: 100 preset and 100 user

Songs: 20. Up to 999 parts per song

Resolution: 1/96 note

Tempo Range: 40 – 250 beats per minute

Recording Modes: Real Time, Step, Parameter Modify, Clock Move

Voices: 96 internal, 32 card/internal

Pad Banks: 12 internal, 4 card/internal, 1 pitch multi

MIDI Note Tables: 4 internal

Controllers: •Realtime Parameter Wheel for filter, pitch, balance, decay, and pan, •33 function keys, •Linear volume control, Linear parameter selector, •Data entry slider

Display: Backlit 24-character × 2-line LCD

Connectors: •Audio out × 4, •Headphones × 1, •MIDI IN and OUT, •Tape data interface •Foot SW

Power Supply: AC Adapter

Dimensions (W × D × H): 370 × 254 × 67 mm

Weight: Approx. 2.1 kg

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U

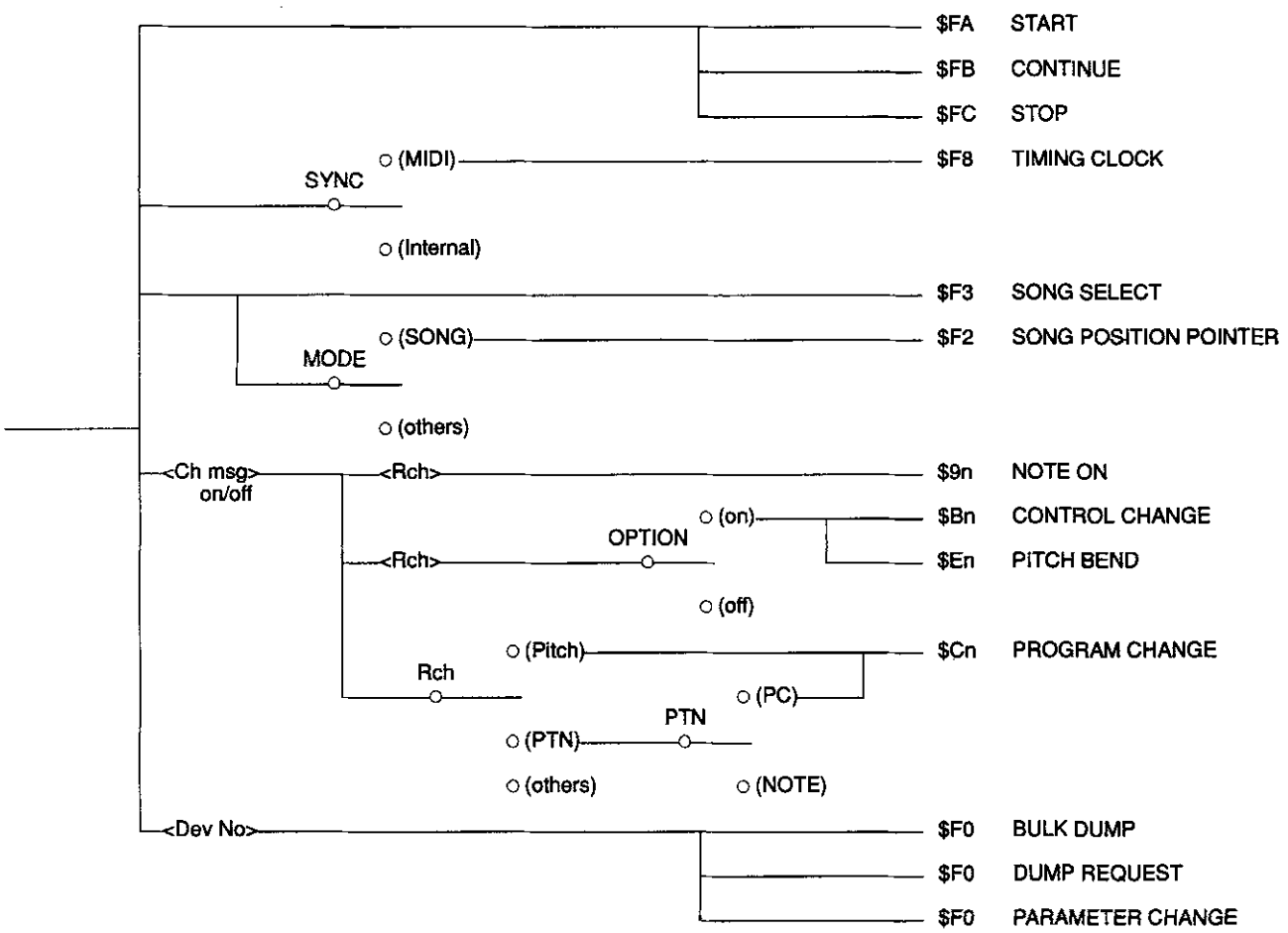
V

W

MIDI DATA FORMAT

1. Reception Conditions

1-1. Reception Data & Conditions



SYNC : internal or MIDI sync
MODE : Song mode or not
OPTION : optional parameter on/off
PIN : pattern select switch while pattern playing Note and P.C. are available.
Rch = Receive ch.
off, voice, pitch and pattern are available for each channel.
Ch msg : Channel message on/off
Dev No = Device Number

1-2. Reception Data Details

1-2-1. System Realtime Messages

TIMING CLOCK	1111 1000
START	1111 1010
CONTINUE	1111 1011
STOP	1111 1100

1-2-2. Channel Messages

1) Note On

Receive note range = C-2 ... G8
Velocity range = 1 ... 127
(only note-on velocity received)

Caution 1) Operation varies according to the receive channel setting.
Voice: The assigned instruments will be played by the received note numbers.
Pitch: The pitch of the instrument(s) assigned to the channels set to "pitch" will be controlled with 60 (C3) as the reference pitch.
Pattern: The pattern assigned to the received note number will be selected.
off: No reception.

2) Control Change

Received when optional parameter ON. The parameters listed below can be controlled via MIDI.

cntrl#	parameter	data rng
7	Volume	0...127
8	Balance	0...127
10	PAN	0...127
16	Filter	0...127
17	Decay	0...127

Received control data (other than volume data) is effective for only one note-on message received immediately after the control message. Further, all parameters only apply to key-on.

3) Program Change

When a program change message is received, the RY30 responds as follows:
Receive channel = Pitch: The voice played via that channel is switched.
Receive channel = Pattern: If received during pattern select, pattern play, song record, or when NOTE/PRG type = PRG, the pattern assigned in the note-pattern assignment table is selected.

4) Pitch Bend

Received when optional parameter ON. Only the MSB portion of the data is used. As with the control change data, pitch bend messages affect only a single note-on message received immediately after the pitch bend data.

1-2-3. System Common Messages

1) Song Select

Receive number range = 0 ... 19
The song mode is automatically engaged when this message is received.

2) Song Position Pointer

Received in the song select or song play mode.

1-2-4. System Exclusive Messages

Received when Device number != off.

1) Bulk Dump

i) all data bulk dump

```
 0  11110000  F0
 1  01000011  43
 2  0000nnnn  nnnn    = Device Number
 3  01111110  7E
 4  0bbbbbbb  ┐ Number of bytes
 5  0bbbbbbb  ┘
 6  01001100  4C(ascii"L")
 7  01001101  4D(ascii"M")
 8  00100000  20(ascii" ")
 9  00100000  20(ascii" ")
10  00110000  30(ascii"0")
11  00110000  30(ascii"0")
12  00110001  31(ascii"1")
13  00110111  37(ascii"7")
14  00100000  20(ascii" ")
15  00100000  20(ascii" ")
16  0ddddddd  ddddddd=data
 ↓     ↓         ↓
    0ssssssss  sssssss=check_sum
    11110111  F7
```

The "data" consists of 4 MSB bits and 4 LSB bits per byte, and each is converted to ASCII data.
The following is included in the "data:"

pattern data
song data
voice data
system setup data
pad bank data
MIDI setup data
macro data

ii) 1 Voice Bulk Dump

```
 0  11110000  F0
 1  01000011  43
 2  0000nnnn  nnnn     - Device Number
 3  01111010  7A
 4  0bbbbbbb  ┐ Number of bytes
 5  0bbbbbbb  ┘
 6  01001100  4C(ascii"L")
 7  01001101  4D(ascii"M")
 8  00100000  20(ascii" ")
 9  00100000  20(ascii" ")
10  00110000  30(ascii"0")
11  00110000  30(ascii"0")
12  00110001  31(ascii"1")
13  00110111  37(ascii"7")
14  00100000  20(ascii" ")
15  00100000  20(ascii" ")
16  00000000
↓     ↓
29  00000000
30  0vvvvvvv  vvvvvvv=source voice number (0-127)
31  0uuuuuuu  uuuuuuu=destination voice number(0-96)
32  0ddddddd  ddddddd=data
↓     ↓         ↓
    0ssssssss  sssssss=check_sum
    11110111  F7
```

The "data" consists of 4 MSB bits and 4 LSB bits per byte, and each is converted to ASCII data.
Transmit voice (vvvvvvv) is copied to receive voice (uuuuuuu).

2) Bulk Dump Request

i) all data bulk dump

```
 0  11110000  F0
 1  01000011  43
 2  0010nnnn  nnnn     - Device Number
 3  01111110  7E
 4  01001100  4C(ascii"L")
 5  01001101  4D(ascii"M")
 6  00100000  20(ascii" ")
 7  00100000  20(ascii" ")
 8  00110000  30(ascii"0")
 9  00110000  30(ascii"0")
10  00110001  31(ascii"1")
11  00110111  37(ascii"7")
12  00100000  20(ascii" ")
13  00100000  20(ascii" ")
14  11110111  F7
```

ii) 1 voice bulk dump

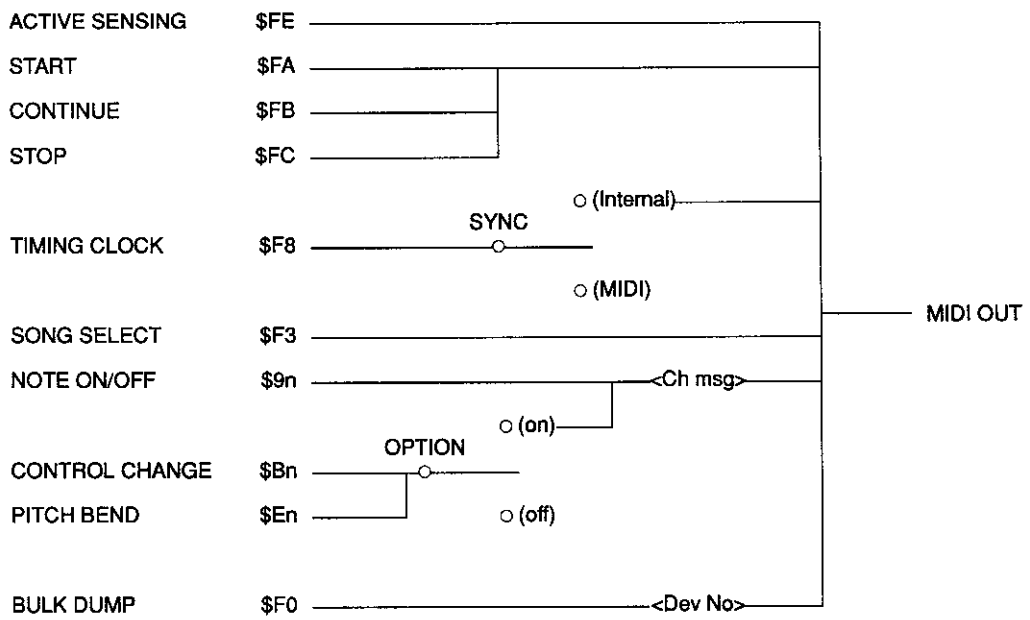
```
 0  11110000  F0
 1  01000011  43
 2  0010nnnn  nnnn     - Device Number
 3  01111010  7A
 4  01001100  4C(ascii"L")
 5  01001101  4D(ascii"M")
 6  00100000  20(ascii" ")
 7  00100000  20(ascii" ")
 8  00110000  30(ascii"0")
 9  00110000  30(ascii"0")
10  00110001  31(ascii"1")
11  00110111  37(ascii"7")
12  00100000  20(ascii" ")
13  00100000  20(ascii" ")
14  00000000
↓     ↓
27  00000000
28  0vvvvvvv  vvvvvvv=source voice number (0-127)
29  0uuuuuuu  uuuuuuu=destination voice number(0-96)
30  11110111  F7
```

3) Parameter Change (Sync Clock)

```
 0  11110000  F0
 1  01000011  43
 2  0001nnnn  nnnn     - Device Number
 3  00110000  30       Rhythm Id
 4  00000000  00       Sub Rhythm Id (general)
 5  00000000  00       Parameter Number (sync)
 6  0ddddddd  ddddddd=sync clock 0=internal/1=MIDI
 7  00000000
 8  00000000
 9  00000000
10  11110111  F7
```

2. Transmission Conditions

2-1. Transmission Data & Conditions



SYNC : internal or MIDI sync
OPTION : optional parameter on/off
Ch msg : Channel message on/off
Dev No = Device Number

2-2. Transmission Data Details

2-2-1. System Realtime Messages

TIMING CLOCK	1111 1000
START	1111 1010
CONTINUE	1111 1011
STOP	1111 1100
ACTIVE SENSING	1111 1110

FE transmitted approximately every 170 milliseconds.

2-2-2. Channel Messages

Received when channel message ON.

1) Note ON/OFF

Transmit note range = C-2 ... G8
Velocity range = 1 ... 127
(only note-on velocity received)

Caution 1) The MIDI channel is determined by the transmit channel set for each instrument.
The note number transmitted for each instrument corresponds to the note assignment table settings (same as Rch=voice).

Note on and off messages are transmitted at approximately 10-millisecond intervals.

2) Control Change

Transmitted when optional parameter ON. The parameters listed below are transmitted.

cntrl#	parameter	data rng
8	Balance	0...126
10	PAN	0...127
16	Filter	0...126
17	Decay	0...126

These parameters are transmitted only when the optional parameters are not set to the default.

3) Pitch Bend

Transmitted when optional parameter ON.
Transmit data range = 4 ... 124
Transmitted only when the pitch optional parameter is not set to the default.

2-2-3. System Common Messages

1) Song Select
Transmit number range = 0 ... 19

Transmitted when a song is selected in the song select mode.

2-2-4. System Exclusive Messages

Transmitted when Device number != off.
Transmission occurs when a bulk dump is executed (MIDI UTILITY mode) or when a bulk dump request is received.

1) Bulk Dump

The bulk dump data is the same as the transmission data.

YAMAHA [Rhythm Programmer] Date : 02/09, 1991
Model RY30 MIDI Implementation Chart Version : 1.0

Function ...		Transmitted	Recognized	Remarks
Basic	Default	1 - 16	1 - 16	memorized
Channel	Changed	1 - 16	1 - 16	
Mode	Default	3	3	
	Messages	x	x	
	Altered	**********	x	
Note Number		0 - 127	0-127/0-120 *1	
	True voice	**********	x	
Velocity	Note ON	o 9nH,v=1-127	o v=1-127	
	Note OFF	x 9nH,v=0	x	
After Touch	Key's	x	x	
	Ch's	x	x	
Pitch Bender		o *2	o *3	7 bit resolution
Control Change	7	x	o	Volume
	8	o *2	o *3	Balance
	10	o *2	o *3	Pan
	16	o *2	o *3	Filter
	17	o *2	o *3	Decay
Prog Change		x	o 0 - 127	pattern/voice select
	True #	**********		
System Exclusive		o	o	song etc.
System Common	Song Pos	x	o	
	Song Sel	o 0 - 19	o 0 - 19	
	Tune	x	x	
System Real Time	Clock	o	o	
	Commands	o	o	
Aux Mes- sages	Local ON/OFF	x	x	
	All Notes OFF	x	x	
	Active Sense	o	x	
	Reset	x	x	

Notes: *1 = VOICE=a different voice sounds by each note. PITCH=single selected voice sounds over a six-octave range.(Note# range:0-120)
PTN=a different pattern is set to next pattern.
*2 = transmit if data is not different from default.
*3 = affects only one note after being received.

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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