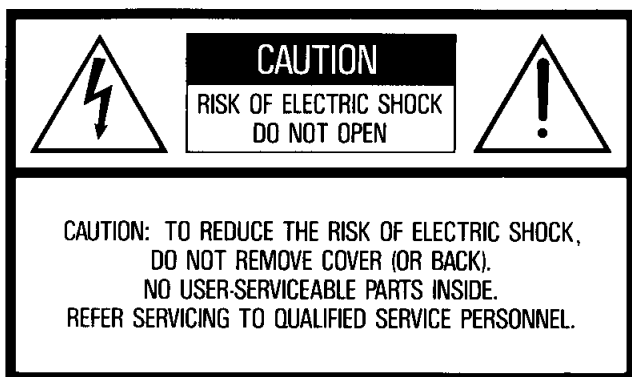

YAMAHA ELECTONE®

HIX

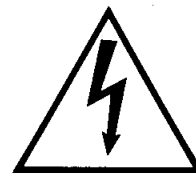
USER'S GUIDE





Explanation of Graphical Symbols

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



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



IMPORTANT SAFETY AND INSTALLATION INSTRUCTIONS

INFORMATION RELATING TO POSSIBLE PERSONAL INJURY, ELECTRIC SHOCK, AND FIRE HAZARD POSSIBILITIES HAS BEEN INCLUDED IN THIS LIST.

WARNING—When using electronic products, basic precautions should always be followed, including the following:

1. Read all Safety and Installation Instructions, Supplemental Marking and Special Message Section data, and assembly instructions (where applicable) BEFORE using your Yamaha electronic product. Check unit weight specifications before you attempt to move this instrument!
2. Main Power Supply Verification: Your Yamaha electronic product has been manufactured specifically for the main supply voltage used in your area. If you should move, or if any doubt exists, please contact your dealer for instructions. The main supply voltage required by your electronic product is printed on the name plate. For name plate location, see graphic in Special Message Section.
3. This product may be equipped with a polarized line plug (one blade wider than the other). If you are unable to insert the plug into the outlet, contact an electrician to have your obsolete outlet replaced. Do NOT defeat the safety purpose of the plug. Yamaha products not having polarized plugs incorporate construction methods and designs that do not require line plug polarization.
4. **WARNING**—Do NOT place objects on your electronic product's power cord or place the unit in a position where anyone could trip over, walk over, or roll anything over cords of any kind. Do NOT allow your electronic product or its bench to rest on or be installed over cords of any type. Improper installations of this type create the possibility of a fire hazard and/or personal injury.
5. Environment: Your electronic product should be installed away from heat sources such as a radiator, heat registers and/or other products that produce heat. Additionally, the unit should not be located in a position that exposes the cabinet to direct sunlight, or air currents having high humidity or heat levels.
6. Your Yamaha electronic product should be placed so that its location or position does not interfere with its proper ventilation.
7. Some Yamaha electronic products may have benches that are either a part of the product or supplied as an optional accessory. Some of these benches are designed to be dealer assembled. Please make sure that the bench is stable before using it. The bench supplied by Yamaha was designed for seating only. No other uses are recommended.

8. Some Yamaha electronic products can be made to operate with or without the side panels or other components that constitute a stand. These products should be used only with the components supplied or a cart or stand that is recommended by the manufacturer.

9. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any hearing loss or ringing in the ears, you should consult an audiologist.

10. Do not use your Yamaha electronic product near water or in wet environments. For example, near a swimming pool, spa, or in a wet basement.

11. Care should be taken so that objects do not fall, and liquids are not spilled, into the enclosure through openings.

12. Your Yamaha electronic product should be serviced by a qualified service person when:
 - a. The power-supply cord or plug has been damaged: or
 - b. Objects have fallen, or liquid has been spilled into the product: or
 - c. The product has been exposed to rain: or
 - d. The product does not operate, exhibits a marked change in performance: or
 - e. The product has been dropped, or the enclosure of the product has been damaged.

13. When not in use, always turn your Yamaha electronic product "OFF". The power-supply cord of the product should be unplugged from the outlet when it is to be left unused for a long period of time. Notes: In this case, some units may lose some user programmed data. Factory programmed memories will not be affected.

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

15. Electromagnetic Interference (RFI). This series of Yamaha electronic products utilizes digital (high frequency pulse) technology that may adversely affect Radio/TV reception or the operation of other devices that utilize digital technology. Please read FCC Information (Page 86) for additional information.

**PLEASE KEEP THIS MANUAL
FOR FUTURE REFERENCE!**

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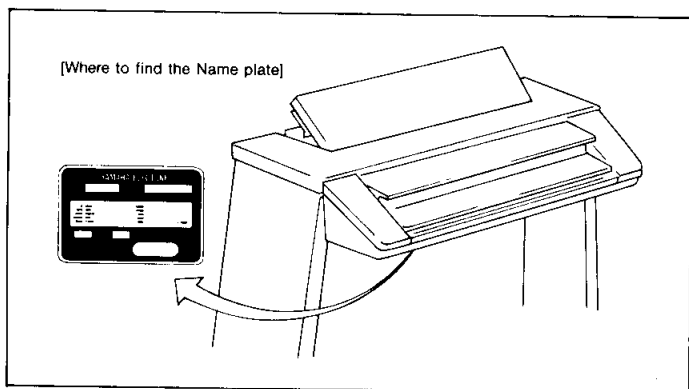
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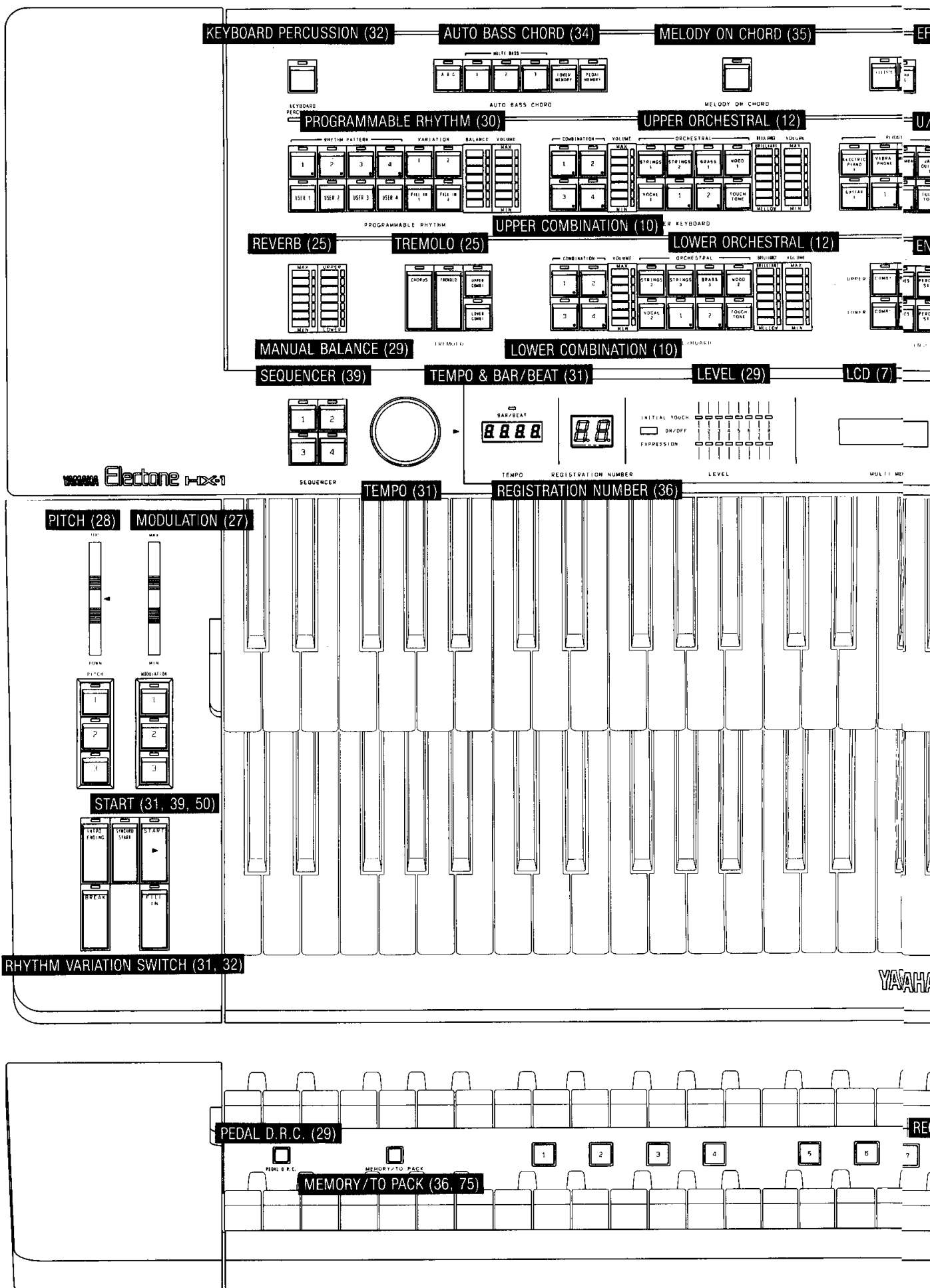
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NAME OF PARTS (HX-1/MKX-5)

*The numbers in brackets indicate the pages in this manual where you will find an explanation of these parts and features.

*See Pg. 81 for details on the accessory jacks.



EFFECT ASSIGN (20) **FOOT SWITCH (26)** **PACK CONTROL (79)** **TUNING (28)**

U/L PERCUSSIVE (13) **U/L LEAD (17)** **CHORD ACCOMPANIMENT (33)**

U/L AWM PRESET (16) **AWM BASS (19)** **CHORD ACCOMPANIMENT**

ENSEMBLE (9) **BASS (19)** **AWM BASS (19)** **SUSTAIN & LEAD SLIDE (24)**

MENU SELECT (7) **DATA (7)** **CE (7)** **QUIT (7)** **SUB DATA CONTROL (7)**

ENTER (7) **EXT. CONTROL (73)**

POWER (29)

MASTER VOLUME (29)

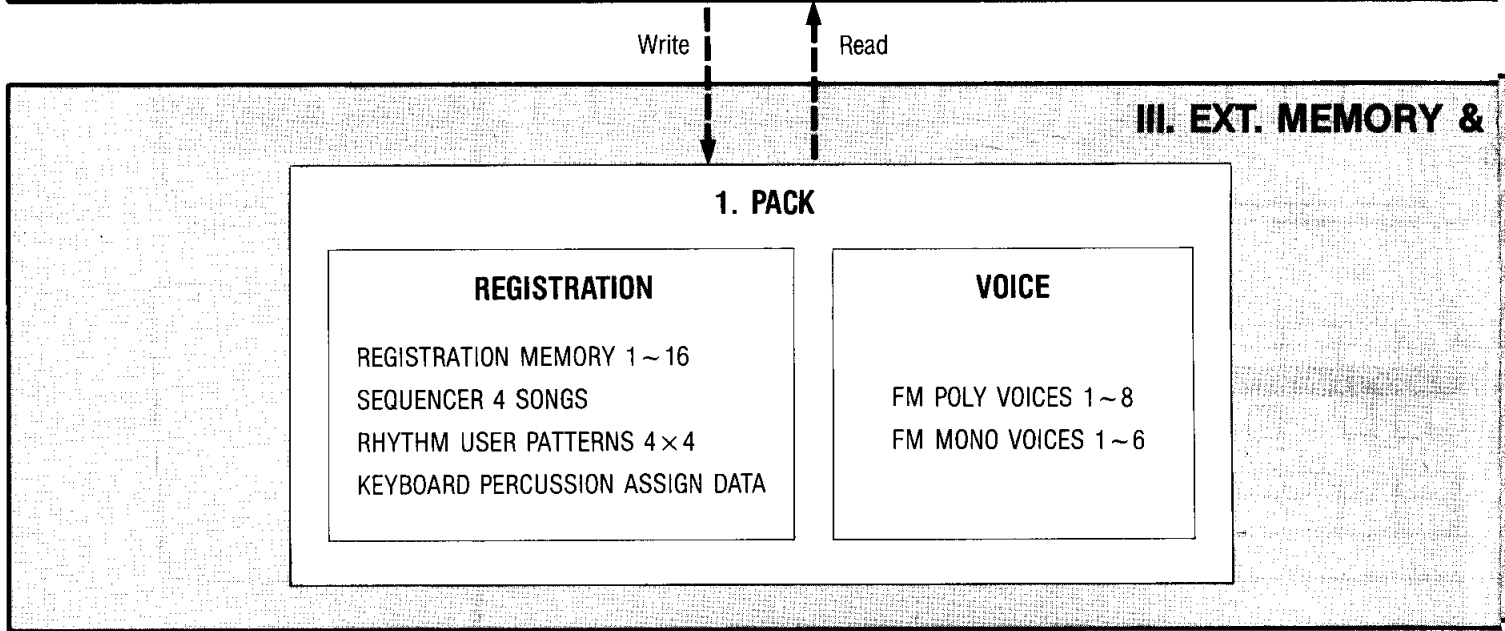
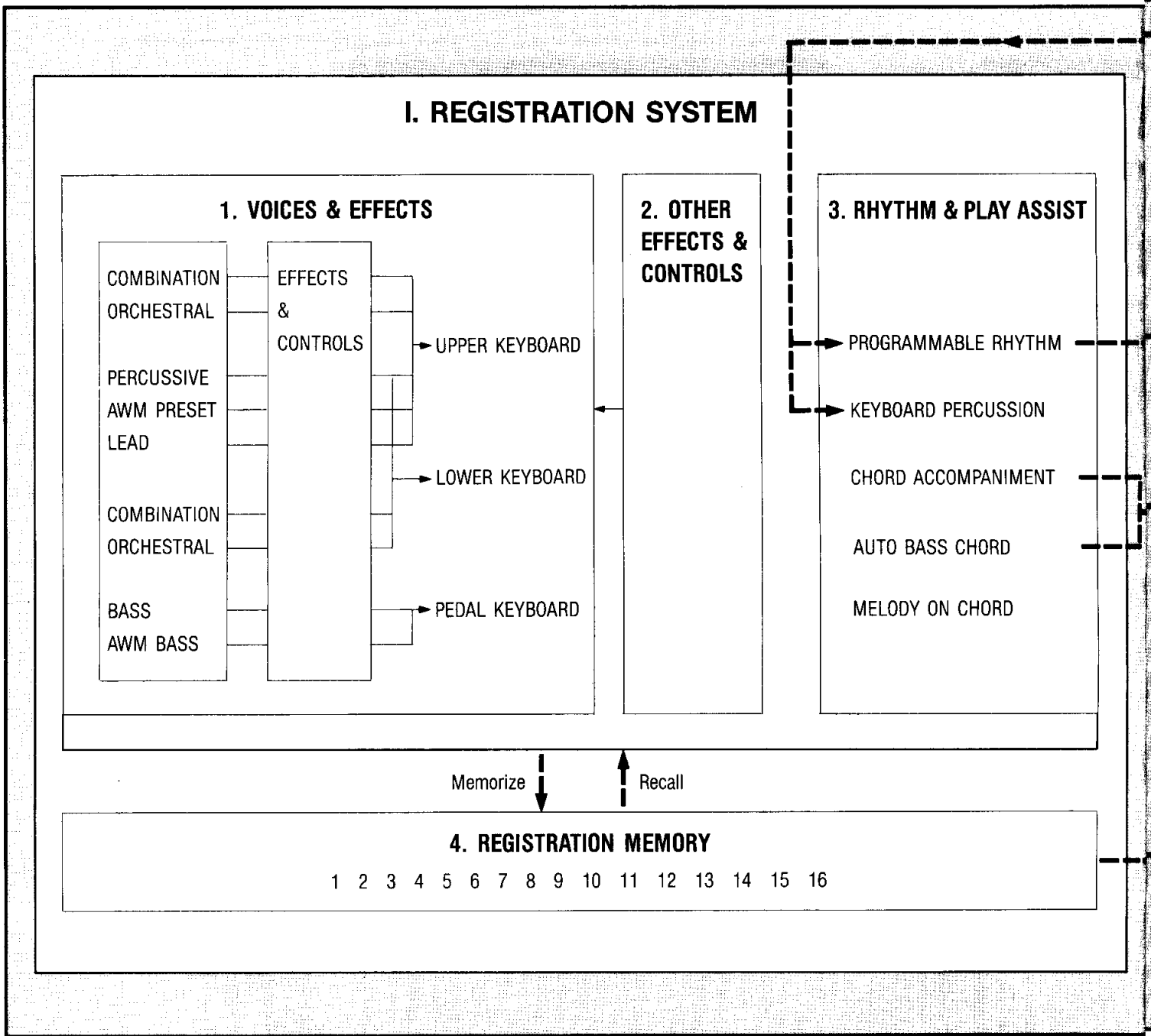
PACK (74)

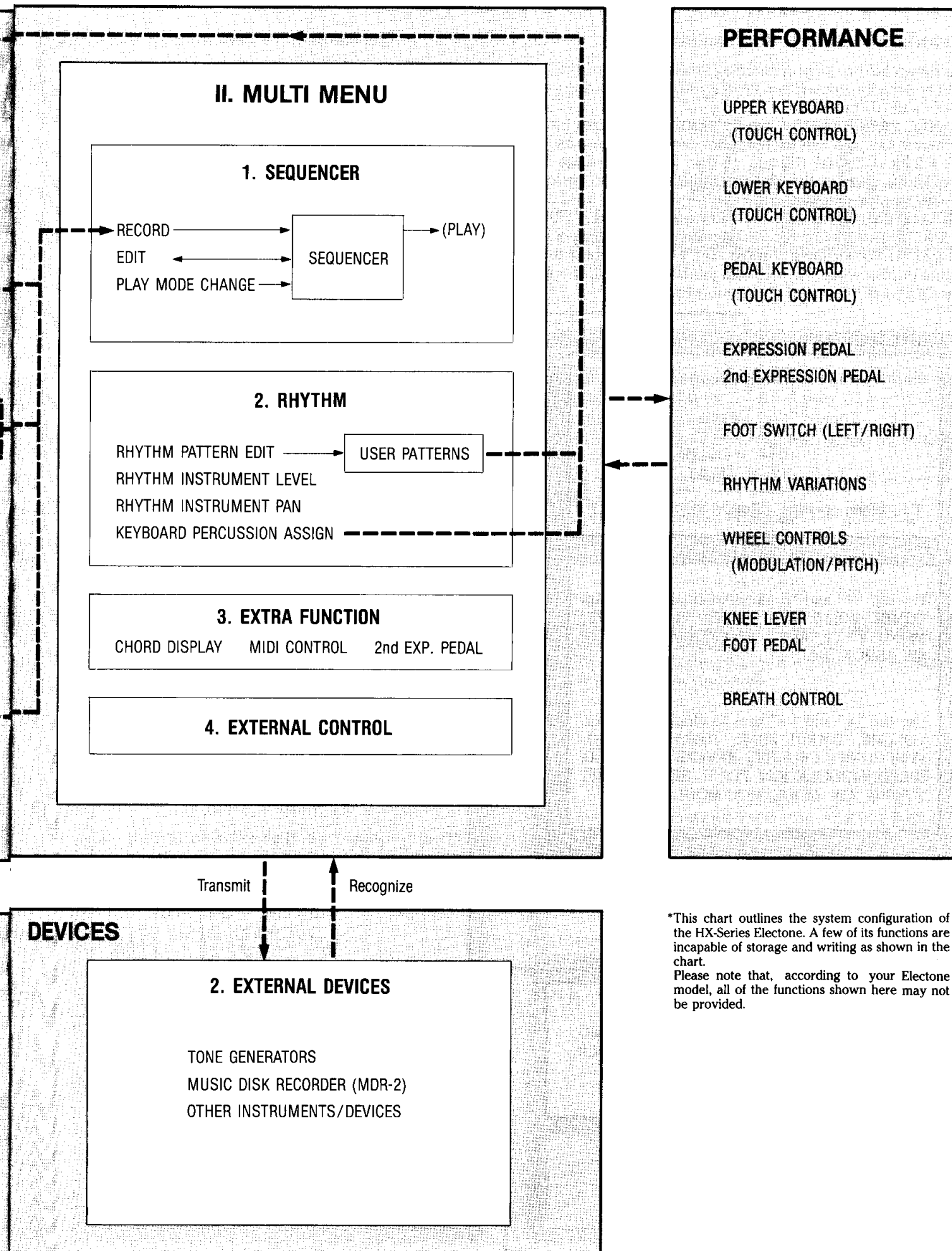
READY **ERROR**

CONFIRM (74) **FROM PACK (75)**

REGISTRATION MEMORY (36)

HX-SERIES SYSTEM CONFIGURATION





*This chart outlines the system configuration of the HX-Series Electone. A few of its functions are incapable of storage and writing as shown in the chart. Please note that, according to your Electone model, all of the functions shown here may not be provided.

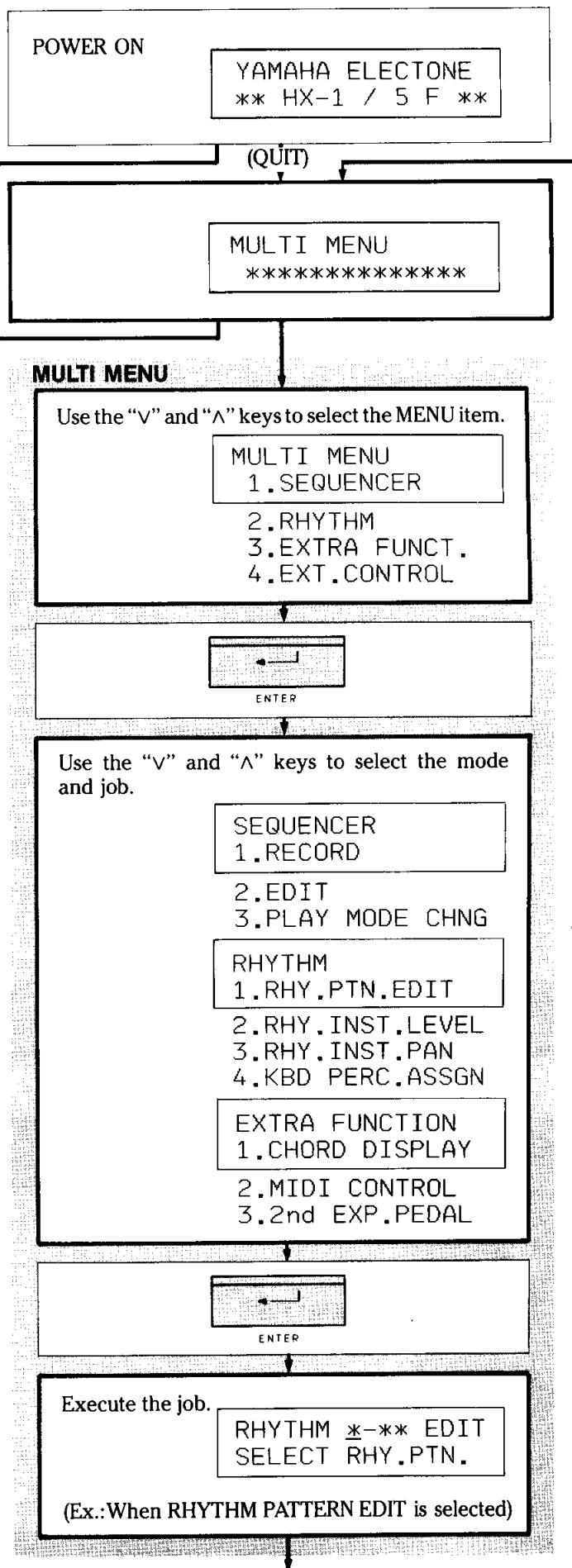
OPERATIONAL OVERVIEW OF THE PROGRAMMING FUNCTIONS

■ PANEL PROGRAM & MULTI MENU

As shown below, the programming functions of HX Electones can be broadly grouped into PANEL PROGRAM functions and MULTI MENU functions.

PANEL PROGRAM: By merely pressing a programmable button of the panel, its currently set data is displayed on the LCD (Liquid Crystal Display) so that you can change the setting. By pressing the ENTER key next, you can perform more complex programming.

MULTI MENU: When the ENTER key is pressed while "MULTI MENU" is displayed on the LCD top line, programming of the MULTI MENU becomes possible. The LCD will return to its initial display when the pertinent job is terminated or when the QUIT key is pressed during job execution.



PANEL PROGRAM

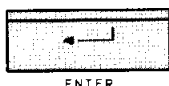
Press a programmable button of the panel.

RHY.PTN.MENU
01:8 BEAT 1

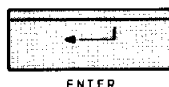
(Ex.: When pressing a Dotted Rhythm button)

Use the "v" and "∧" keys to change the data:
COMBI. VOICE MENU, POLY VOICE MENU,
MONO VOICE MENU, RHY.PTN.MENU, FOOT
SW ASSIGN, etc.

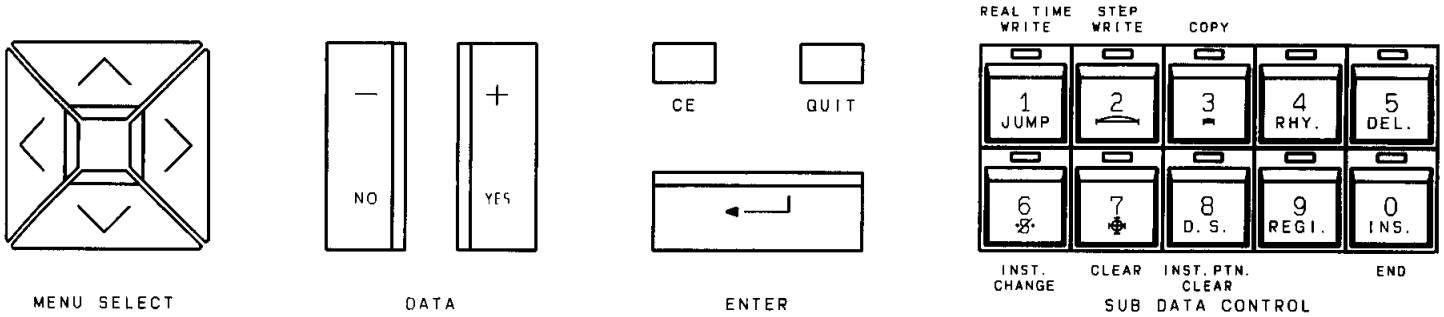
Use the "+" and "-" keys to change the data:
VOLUME, TOUCH TONE, TOUCH VIBRATO,
SYMPHONIC, CELESTE, REVERB, TREMOLO
SPEED, MODULATION, PITCH, REGIST JUMP,
TUNING, ABC MODE, MOC MODE, etc.



Press the ENTER key, then change the data:
COMBI.USER VOICE, VIBRATO, PHASER,
FLANGER, DELAY, WAH, PACK EDIT

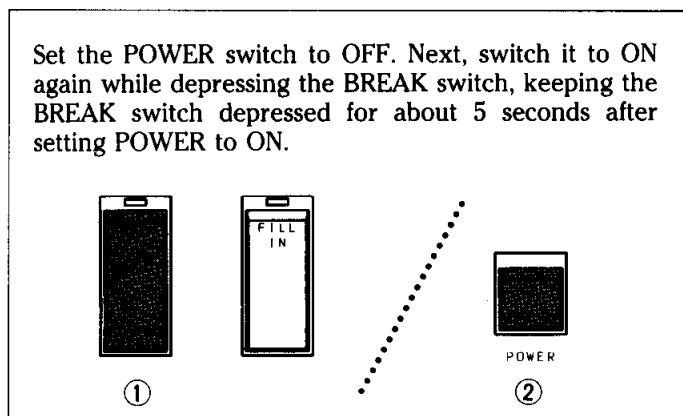


■ Keys and Buttons Used for Programming



MENU SELECT “V” “^” keys	Used for selecting the various MENU items displayed on the LCD bottom line. Pressing the “V” key displays the following item, and pressing the “^” key displays the previous item.
MENU SELECT “>” “<” keys	Used to shift the cursor to the right or left (excluding the “Y/N” cursor).
DATA “+ / YES”, “- / NO” keys	Used to increase or decrease the numeric value of the various types of data and to select the Mode number. Also used to shift the cursor below “Y/N”.
ENTER key	Used either to enter the status where programming can be performed or to save the programmed data and terminate the job.
QUIT key	Used to cancel input when the ENTER key is pressed by mistake or to exit from a mode during programming. In both cases, the programmed data will not be saved.
CE key	Used to cancel a numeric value entered by the SUB DATA numeric buttons before pressing the ENTER key.
SUB DATA CONTROL buttons (hereafter referred to as SUB DATA numeric buttons when used for numeric input)	Used in place of the “V” “^” keys to enter the numerals of each MENU and select a MENU item from the LCD bottom line. Press the ENTER key after input to change the item. Used in the RECORD or EDIT mode of the SEQUENCER to input Sequence data (the corresponding functions are indicated on the lower half of each button). Used in RHYTHM PATTERN EDIT mode to select the job to be executed (the corresponding jobs are indicated on the outside of the buttons concerned).

■ Reset Operation

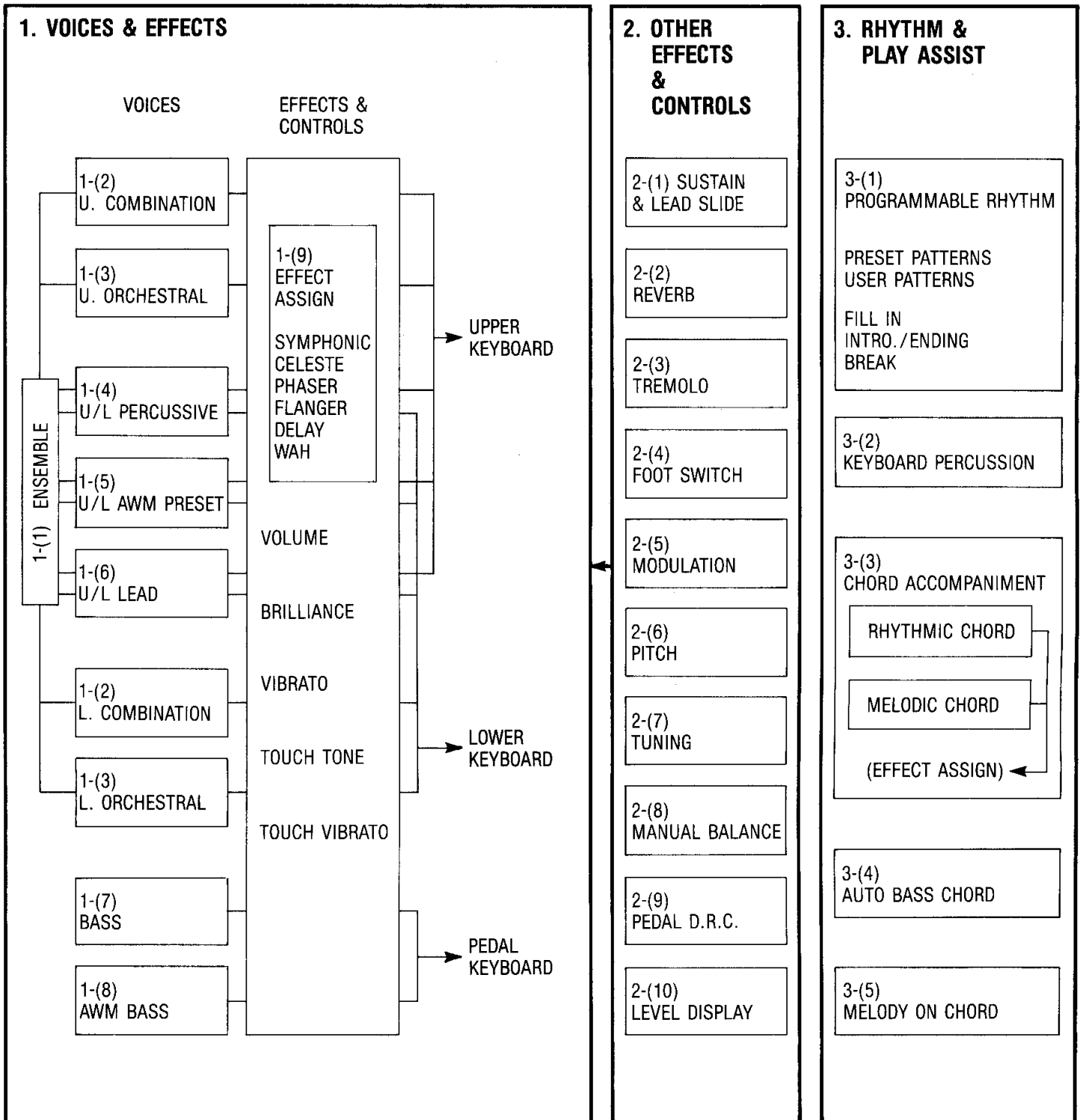


◆ When the operation on the left is performed, all of your Electone's functions will be reset to their default values (the factory pre-set status). It is recommended that you perform this Reset operation on your Electone before using it for the first time. Resetting is also useful when you wish to re-program various data anew from the default status.

◆ **CAUTION:** When the Reset operation is performed, all data that have been recorded by the programming functions into the Electone are erased. If you do not wish to delete the data, save the data in a RAM Pack before performing the Reset operation.

I. REGISTRATION SYSTEM

*This chart is based on the example of the HX-1 functions. Please note that, according to your model, all of the functions shown here may not be provided.
 *A number of the functions listed below cannot be memorized in REGISTRATION MEMORY.



Memorize

Recall

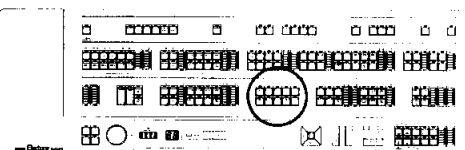
4. REGISTRATION MEMORY

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

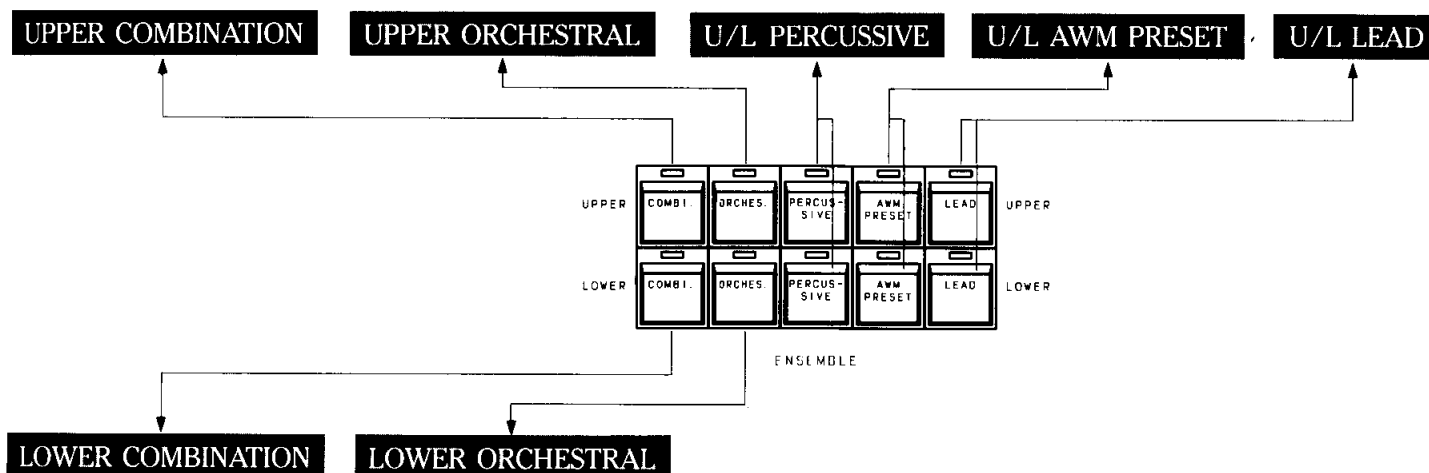
I-1 VOICES & EFFECTS

1-(1) ENSEMBLE

This function selects the voice sections that you wish to produce from the upper and lower keyboards, and allows you to collectively control the ON/OFF status of multiple voice sections.



Correspondence between ENSEMBLE and Voice Sections



NOTES:

● At the ENSEMBLE section, you can select whether to produce the three voice sections of PERCUSSIVE, AWM PRESET, and LEAD from the upper or lower keyboard. A voice section cannot be concurrently set to ON for both keyboards.

● Setting the ON/OFF status for the voice sections of the pedal keyboard (BASS and AWM BASS) and CHORD ACCOMPANIMENT of the lower keyboard (RHYTHMIC and MELODIC) is performed using the respective VOLUME controls. Each of the above functions is switched OFF by pressing the lowermost button (MIN) of the associated VOLUME control.

LIST OF VOICE SECTIONS

KEYBOARDS	VOICE SECTIONS	TONE GENERATION	POLY/MONO	VOICES
Upper and Lower Keyboards (ON/OFF is selected by ENSEMBLE)	UPPER COMBINATION	WM (Wave Memory)	Poly (8 notes)	16 preset voices (assignment possible) 16 USER voices (editing possible) (Refer to the separate HX VOICE LIST)
	LOWER COMBINATION		Poly (8 notes)	
	UPPER ORCHESTRAL	FM (Frequency Modulation)	Poly (8 notes)	90 preset voices (assignment possible) 8 USER voices (read/write possible) (Refer to the separate HX VOICE LIST)
	LOWER ORCHESTRAL		Poly (8 notes)	
	U/L PERCUSSIVE	FM	Poly (8 notes)	
	U/L AWM PRESET	AWM (Advanced W.M.)	Poly (8 notes)	5 Preset Voices (HX-1, HX-3 only)
Pedal Keyboard	BASS	FM	Mono (1 note)	54 preset voices (assignment possible) 6 USER voices (read/write possible) (Refer to the separate HX VOICE LIST)
	AWM BASS	AWM	Mono (1 note)	
Lower Keyboard (Chord Accompaniment)	RHYTHMIC	FM	Poly (5 notes)	Preset voices (corresponding to rhythm)
	MELODIC		Poly (4 notes)	Preset voices (corresponding to rhythm)

1-(2) U & L COMBINATION

These voice sections produce the organ sounds. Four voices can be freely selected out of a possible 16 voices for assignment to the respective buttons of these sections, and the voices can also be edited.



Switch COMBI. of ENSEMBLE to ON. [→Page 9]

Press a button of the COMBINATION Buttons 1 to 4.



COMBI.VOICE
01:CHURCH 1

Use the "V" or "A" key to display the voice you wish to assign on the LCD.



MENU SELECT

COMBI.VOICE
02:CHURCH 2
03:CHURCH 3
:
:
16:THEAT.ORG.4
17:USER 1
:
:
32:USER 16
01:CHURCH 1

Set the volume level.



Set the TREMOLO, as required.

Set the Digital Effectors, as required.

◆ The assignment and editing of voices described below are performed using Buttons 1-4 of either UPPER COMBINATION or LOWER COMBINATION.

◆ When a button is pressed, the liquid crystal display (LCD) will change to the display shown on the left. The bottom line of the LCD display indicates the number and name of the voice currently assigned to the pressed button. Therefore, the initially displayed voice will not always be "01: CHURCH 1".

◆ When the Reset operation is performed, the following Preset voices will be assigned to Buttons 1-4:

UPPER COMBINATION 1→[01: CHURCH 1] 2→[06: JAZZ ORG. 2]
3→[09: JAZZ ORG. 5] 4→[13: THEAT. ORG. 1]
LOWER COMBINATION 1→[03: CHURCH 3] 2→[11: JAZZ ORG. 7]
3→[12: JAZZ ORG. 8] 4→[15: THEAT. ORG. 3]

◆ One of Buttons 1-4 is always switched ON. To assign a voice to a button that is already ON, press that button once more.

◆ Each time the "V" key is pressed, the voice number displayed on the LCD is incremented by one and the voice is correspondingly changed, so play the sound for confirmation. You can also return to the voice of the preceding number by pressing the "A" key.

◆ The voice to be assigned can also be selected using the numeric buttons of the SUB DATA CONTROL section at the bottom left of the panel (hereafter referred to as SUB DATA numeric buttons). Enter the voice number using the appropriate SUB DATA numeric buttons, then press the ENTER key. If you enter the wrong number by mistake, press the CE key before pressing the ENTER key so you can enter the correct voice number.

◆ The COMBINATION voices displayed on the LCD are broadly divided into two groups:

Preset Voices [01-16]: These voices are preset with 16 organ sounds, such as Church Organ, Jazz Organ, etc. [→HX VOICE LIST]

USER Voices [17-32] (HX-1, HX-3 only): These voices are your own original creations and can be edited and stored. [→Next Page]

◆ After displaying the voice you wish to assign on the LCD, either proceed to the operation of another function (another voice selector, Volume, Effect, etc.) or press the ENTER key. The voice that is displayed last will be assigned.

If you wish to edit a USER voice [→Next Page]

◆ Setting the volume to the top MAX position produces the maximum volume, and setting it to the lowest MIN position produces zero volume and no sound.

◆ Since the VOLUME buttons enable the volume to be set to seven different levels, you can also set the volume to a finer level while viewing the LCD.

To set the volume to a finer level [→Page 15]

[→Page 25]

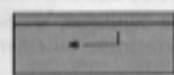
[→Page 20]

Editing of USER Voices

Press a button of the COMBINATION Buttons 1 to 4, then press the "V" and "Λ" keys to display the USER voice on the LCD.

COMBI.VOICE
17:USER 1

Press the ENTER key.



ENTER

_8'4'2' 1'A4'2'L

Use the "+" and "-" keys to set the volume level of the footage where the cursor is positioned.



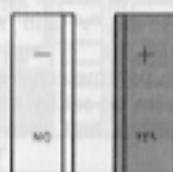
DATA

▣_8'4'2' 1'A4'2'L

Press the ">" key to shift the cursor, then set the volume of each footage using the "+" and "-" keys.



MENU SELECT



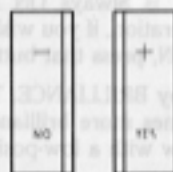
DATA

▣_8'4'2' 1'A4'2'L

Change the LCD by using the "V" key, then set RESPONSE, CLICK, and TIMBRE VARIATION.



MENU SELECT



DATA

RESP.CLICK TIMB.
01 OFF A

When the ENTER key is pressed, the edited data will be stored.

◆ Performing the Reset operation will clear all data contained in USER 1 to USER 16.

◆ When the ENTER key is pressed, the LCD will change to the display shown on the left. The bottom line of the LCD indicates the footage of sound, which is a component of the COMBINATION voice; the top line represents the volume of each currently set footage value in line units.

Footage	16', 8', 5 ¹ / ₃ ', 4', 2 ² / ₃ ', 2', 1 ³ / ₅ ', 1 ¹ / ₃ ', 1'
Attack	4', 2 ² / ₃ ', 2', Attack Length

◆ At the time the ENTER key is pressed, the cursor will be positioned below the lowermost 16'. Pressing the "+" key at such time will increase the number of lines displayed in the upper row and increase the 16' volume. Pressing the "-" key will reduce the number of lines and reduce the volume. Be sure to play the sound while setting the volume level for confirmation.

◆ The volume of each footage can be set to seven different levels, with ▣ indicating the maximum level and ▢ indicating the minimum level. In case of the Attack length, ▣ indicates the maximum length and ▢ indicates the minimum length.

◆ Each time the ">" key is pressed, the cursor is shifted one space to the right. Press the "<" key to return the cursor to the left.

◆ Determine the balance of each footage by repeating the operation of the ">" and "<" keys to shift the cursor and the "+" and "-" keys to set the volume, and create your own original organ sounds.

◆ Pressing the "V" key causes the LCD to change to the display shown on the left to enable setting of RESPONSE, CLICK, and TIMBRE VARIATION. Shift the cursor below the item you wish to set using the ">" or "<" key, then perform the operation below. (Pressing the "Λ" key will return you to the previous display.)

RESPONSE	Use the "+" and "-" keys to increase or decrease the numeric value. The larger the value, the later the rise of the USER voice. (Variable width: 0-15)
CLICK	Use the "+" and "-" keys to select the ON/OFF status of the click sound.
TIMBRE VARIATION	Use the "+" and "-" keys to select "A" (soft timbre) or "B" (brilliant timbre).

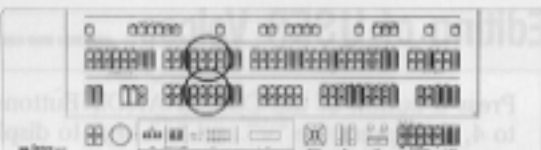
NOTES:

● The data informing you of which voices have been assigned to the Upper and Lower Buttons 1-4 can be stored in Registration Memory.

● The Voice assignment data and USER voice edit data are retained in back-up memory even if the system power is switched off. Such data can also be written to a RAM pack (Random Access Memory).

1-(3) U & L ORCHESTRAL

These voice sections are for obtaining instrument sounds (sustained sounds) from the FM sound source. In addition to the Panel Preset voices, 90 voices can be freely assigned to the Dotted buttons of these sections.



Switch ORCHES. of ENSEMBLE to ON. [→Page 9]

◆ The operation described below can be performed for UPPER or LOWER ORCHESTRAL in a similar manner.

To assign a voice after setting Dotted Buttons 1 and 2 to ON [→Page 14]

Press one of the Voice Select buttons.

◆ When a button inscribed with a voice name is pressed (or when the ENTER key is pressed after assigning a voice to a Dotted button), the LCD changes to the display shown on the left to enable the editing of VIBRATO data for the selected data. First, play the sound to determine whether the Vibrato effect requires changing.

If no change is required: Proceed to another operation, such as volume setting.

If change is required: Perform the following editing operation for Vibrato data.



VIBRATO POLY: 1
DEFAULT ? Y/N

(YES)

(NO)

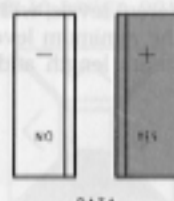
If the VIBRATO effect does not require changing, proceed to another operation.

Editing of VIBRATO Data

◆ The bottom line of the LCD prior to pressing of the ENTER key allows you to choose whether to change the current Vibrato data or to change the characteristic Vibrato data (Default data) of each voice.

[Y/N]: Pressing the ENTER key without shifting the cursor lets you change the current setting of the Vibrato data. (When the Reset operation is performed, the default data will be stored at all voices.)

[Y/N]: Pressing the ENTER key after shifting the cursor lets you recall the Default data and edit it.

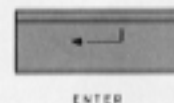


Press the "+" key to shift the cursor.

VIBRATO POLY: 1
DEFAULT ? Y/N

◆ When the ENTER key is pressed, the bottom line of the LCD changes to the display shown on the left to enable changing of the DELAY, SPEED, and DEPTH parameters. Use the "v" and "∧" keys to change the items of the LCD lower line, then use the "+" and "-" keys to increase/reduce the value of the respective parameters. Besides using the "+" and "-" keys, the parameters can also be set by typing the numeric values using the SUB DATA numeric buttons and then pressing the ENTER key.

Press the ENTER key, then change the VIBRATO parameters.



VIBRATO POLY: 1
1. DELAY 20
2. SPEED 60
3. DEPTH 17

	Parameters	Variable Width
DELAY	Sets the delay from the pressing of the keyboard until the Vibrato begins to take effect.	0-100
SPEED	Sets the speed of vibration.	0-100
DEPTH	Sets the depth of vibration.	0-100

[ENTER]

◆ After setting of each parameter is completed, press the ENTER key so that the Edit data is stored and you can proceed to another operation.

◆ One Voice Select button is always ON at each voice section. After proceeding to another operation, if you wish to re-edit the Vibrato data of a button that is already ON, press that button once more.

◆ The timbre is controlled by BRILLIANCE. The central position is normal timbre. The timbre becomes more brilliant with a high-position setting, and becomes more mellow with a low-position setting.

Set the VOLUME and BRILLIANCE.



To set the VOLUME to a finer level [→Page 15]

Switch TOUCH TONE to ON, as required. [→Next Page]

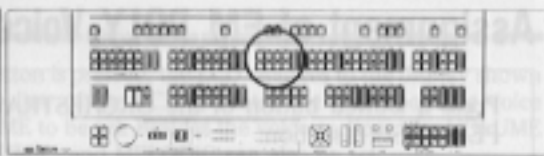
To change the sensitivity of Touch Control [→Page 15]

Set the Digital Effectors, as required.

[→Page 20]

1-(4) U/L PERCUSSIVE

This voice section is for obtaining the instrument sounds (attenuated sounds) from the FM sound source. In addition to the Panel Preset voices, 90 voices can be freely assigned to the Dotted buttons.



Switch PERCUSSIVE of ENSEMBLE to ON.
[→Page 9]

Press one of the buttons inscribed with a voice name (Panel Preset Voices).



[ENTER]

Set VOLUME and BRILLIANCE.



To assign voices after switching Dotted Buttons 1 and 2 to ON [→Page 14]

◆ The voice sections of PERCUSSIVE, UPPER ORCHESTRAL, and LOWER ORCHESTRAL each have seven Voice Select buttons, and each of these voice sections can be used to obtain eight-note polyphonic voices from the FM sound source.

Buttons inscribed with voice name (Panel Preset Voices): The voice inscribed on a button can be selected by merely pressing that button.

Buttons inscribed with "1" or "2" (Dotted buttons): Assignment can be freely made from a selection of the 90 Preset voices stored in the built-in memory of the Electone (hereafter referred to as "Main Memory") and the eight USER voices written to that Main Memory from a RAM Pack, etc.

To set the VOLUME to a finer level [→Page 15]

Switch TOUCH TONE to ON, as required.



T. TONE U/L PER.
RANGE = 10

◆ When the TOUCH TONE button is pressed, the LCD changes to the display shown on the left to enable setting of the sensitivity of TOUCH TONE. Determine whether or not to change the current RANGE by producing sounds.

If no change is required: Proceed to another operation such as setting of Digital Effectors.

If change is required: Perform the TOUCH TONE Program (Page 15).

To change the sensitivity of Touch Control [→Page 15]

Set the Digital Effectors, as required.

[→Page 20]

T. TONE U. ORC.
RANGE = 15

The RANGE data is stored in the pertinent voice section by either proceeding to another operation or pressing the ENTER key.

NOTE
◆ The data informing you of which voice is assigned to each Dotted button can be referred to the RAM Pack (REGST. Parameters/Status) also be written to the RAM Pack (REGST. Parameters/Status) assignment data will be retained in back-up memory even if the system power is switched OFF.

Assignment of FM POLY Voices

Press a Dotted button of the ORCHESTRAL or PERCUSSIVE section.



POLY VOICE
01:STRINGS 1

Press the "V" key to advance the LCD display to the voice you wish to assign.



MENU SELECT

POLY VOICE
02:STRINGS 2
03:STRINGS 3
: :
: :
49: COSMIC 6
50: E.PIANO 1
: :
: :
90: COSMIC 9
91: USER 1
: :
: :
98: USER 8
01: STRINGS 1

The selected voice is assigned by either proceeding to another operation or pressing the ENTER key.

◆ When a Dotted button is pressed, the LCD changes to the display shown on the left. The bottom line of the LCD indicates the number and name of the voice assigned to the pressed button.

◆ When a button is pressed, the initially displayed voice will not always be [01: STRINGS 1]. If another voice has been previously assigned at such time, the number and name of that voice will be displayed.

UPPER ORCHESTRAL: 1→[11:BRASS 2], 2→[44: COSMIC 1]

LOWER ORCHESTRAL: 1→[13:BRASS 4], 2→[45: COSMIC 2]

U/L PERCUSSIVE: 1→[69:HARPSICHORD], 2→[46: COSMIC 3]

◆ One Voice Select button of each voice section is always ON. If you wish to assign a voice to a button which is already on, press that button once more.

◆ Each time the "V" key is pressed, the voice number displayed on the LCD is incremented by one and the voice changes correspondingly. Play the sound for confirmation.

◆ By pressing the "A" key, you can return to the voice of the previous number.

◆ Besides using the "V" and "A" keys, you can select the voice to be assigned using the SUB DATA numeric buttons by entering the number of the voice you wish to assign and then pressing the ENTER key.

◆ The FM POLY Voices displayed on the LCD are grouped as follows: [→HX VOICE LIST]

ORCHESTRAL Voices [01-49]: This group consists of the sustained sounds, which are best suited for assignment to UPPER and LOWER ORCHESTRAL but can also be assigned to PERCUSSIVE.

PERCUSSIVE Voices [50-90]: This group consists of the attenuated sounds, which are best suited for assignment to PERCUSSIVE but can also be assigned to UPPER and LOWER ORCHESTRAL.

USER Voices [91-98]: These voices let you save either the Pack (VOICE) data or the voice data created using external devices [→ Pages 74, 80]. Note that, when a Reset operation is performed, all Voice data saved at USER 1 to USER 8 will be erased.

◆ The FM POLY Voices displayed on the LCD include some voices that are identical to the Panel Preset voices of each voice section. For example, if STRINGS 1 is selected at UPPER ORCHESTRAL and STRINGS 1 is also assigned to a Dotted button of LOWER ORCHESTRAL, you can produce the same STRINGS 1 from the upper and lower keyboards.

◆ After displaying the voice you wish to assign on the LCD, either proceed to another operation (another voice selector, Volume, Effect, etc.) or press the ENTER key. The voice displayed last will be assigned.

NOTE:

- ◆ The data informing you of which voice is assigned to each Dotted button can be stored in the Registration Memory and that data can also be written to the RAM Pack (REGIST). Furthermore, this assignment data will be retained in back-up memory even if the system power is switched OFF.

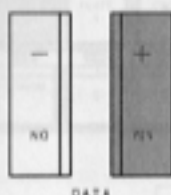
VOLUME Program

Press one of the VOLUME buttons, which are located at each voice section.



VOLUME U.COMBI
VALUE = 12

Use the "+" and "-" keys to increase/decrease the numeric value of VALUE.



VOLUME U.COMBI
VALUE = 22

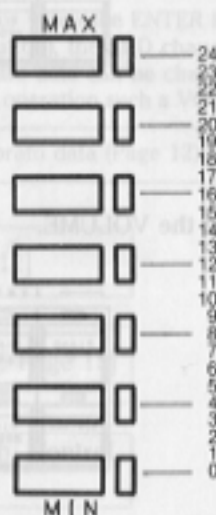
The VOLUME data is stored in the pertinent voice section by either proceeding to another operation or pressing the ENTER key.

◆ When a VOLUME button is pressed, the LCD changes to the display shown on the left. The top line of the LCD indicates the corresponding voice section of the VOLUME to be set. Besides the voice sections, the VOLUME of RHYTHM, RHYTHMIC, and MELODIC can also be set.

◆ The bottom line of the LCD indicates the currently set VOLUME value. The volume can be set to seven levels (0, 4, 8, 12, 16, 20, and 24) using the panel VOLUME buttons; this VOLUME Program enables the VOLUME value to be set to 25 levels from 0 to 24.

◆ Pressing the "+" key increments the numeric value by one, and pressing the "-" key decreases it by one. Besides using the "+" and "-" keys, the VALUE can also be set by typing the numeric value using the SUB DATA numeric buttons and then pressing the ENTER key.

◆ When a numeric value that cannot be set using the panel VOLUME buttons has been programmed, two VOLUME LEDs of the panel will light up. For example, when VALUE=22, the uppermost LED and the second LED from the top will light up.



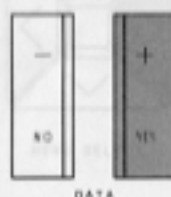
TOUCH TONE Program

Switch the TOUCH TONE button of each voice section to ON.



T.TONE U. ORC.
RANGE = 10

Use the "+" and "-" keys to increase/decrease the numeric value of RANGE.



T.TONE U. ORC.
RANGE = 15

The RANGE data is stored in the pertinent voice section by either proceeding to another operation or pressing the ENTER key.

◆ Each voice section has a TOUCH TONE button which, when switched to ON, enables fine control of the volume and timbre using the two types of keyboard touch below:

Initial Touch: Control is determined by the amount of pressure (speed) with which the keyboard is pressed.

After Touch: Control is determined by the amount of subsequent pressure on the keyboard after being pressed (not applicable for PERCUSSIVE voices).

◆ When a TOUCH TONE button is pressed, the LCD changes to the display shown on the left. The top line of the LCD indicates the corresponding voice section of the TOUCH TONE to be set. Its bottom line indicates by numeric value the currently set RANGE (sensitivity) of Touch Control. The larger the numeric value, the larger the variation in volume and timbre using Touch Control. Note that, when Reset is performed, RANGE=10 will be set at each voice section.

◆ Pressing the "+" key increments the numeric value by one; pressing the "-" key decreases it by one (variable width: 0-15). Besides using the "+" and "-" keys, RANGE can also be set by entering the numeric value using the SUB DATA numeric buttons and then pressing the ENTER key.

◆ When TOUCH TONE is switched OFF, "OFF" will be displayed at the LCD bottom line.

◆ The 13-key Pedal Keyboard PKX-S1 is not provided with the Touch Control function.

1- (5) U/L AWM PRESET

This voice section is for obtaining realistic instrument sounds from YAMAHA's exclusive Advanced Wave Memory (AWM) sound source (HX-1 and HX-3 only).

Switch AWM PRESET of ENSEMBLE to ON.
[→Page 9]

Press one of the buttons inscribed with a voice name.



Set the VOLUME.



To set the VOLUME to a finer level [→Page 15]

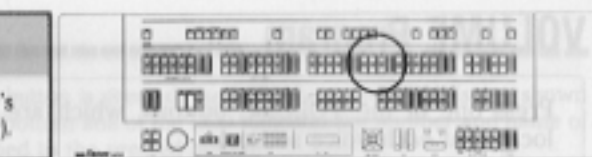
Switch TOUCH TONE to ON, as required.



To change the sensitivity of Touch Control [→Page 15]

Set the Digital Effectors, as required.

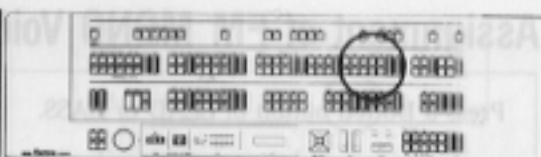
[→Page 20]



The RANGE data is stored in the permanent voice section by either proceeding to another operation or pressing the ENTER key.

1-(6) U/L LEAD

This voice section is for obtaining the monophonic instrument sounds from the FM sound source. Besides the Panel Preset voices, 54 voices can be freely assigned to the Dotted buttons.



Switch LEAD of ENSEMBLE to ON. [→Page 9]

- ◆ Though LEAD voices can be achieved in monophonic sound, setting a LEAD voice together with other voice sections enables high-note priority; whereas setting a LEAD voice alone results in lastnote priority.

[ENTER]

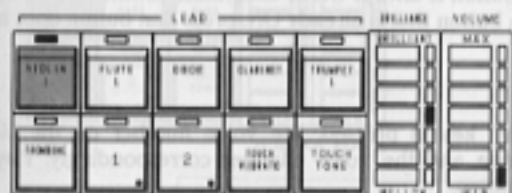
To assign a voice after switching Dotted Buttons 1 and 2 to ON [→Page 18]

Press one of the buttons inscribed with a voice name (Panel Preset voices).

- ◆ The LEAD voice section can produce high-quality monophonic sounds from the FM sound source.

Buttons inscribed with voice names (Panel Preset voices): A voice can be selected by merely pressing a button.

Buttons inscribed with 1 or 2 (Dotted buttons): Each of these buttons can be freely assigned with one out of the 54 Preset Voices stored in Main Memory or one of six USER voices.



(Fig. shows HX-1)

- ◆ When a Panel Preset Voice button is pressed (or when the ENTER key is pressed after assigning a voice to a Dotted button), the LCD changes to the display shown on the left so that the Vibrato data can be changed.

If no change is required: Proceed to another operation such as a VOLUME setting.

If change is required: Perform editing of Vibrato data (Page 12).

VIBRATO MONO 1
DEFAULT ? Y/N

[ENTER]

To change the vibrato effect [→Page 12]

[ENTER]

Set the VOLUME and BRILLIANCE.

To set the VOLUME to a finer level [→Page 15]

Switch TOUCH TONE to ON, as required.

To change the sensitivity of Touch Control [→Page 15]

Switch TOUCH VIBRATO to ON, as required.

- ◆ When TOUCH VIBRATO is switched to ON, the After Touch of the keyboard enables you to control the VIBRATO Depth applied to the LEAD voices. The stronger you press the keyboard, the deeper the VIBRATO effect (with constant speed). Note that, while TOUCH VIBRATO is ON, the VIBRATO depth data stored in the LEAD voices will be disregarded.

- ◆ When the TOUCH VIBRATO button is pressed, the LCD changes to the display shown on the left so that the sensitivity of TOUCH VIBRATO can be changed.

If no change is required: Proceed to another operation such as setting the Digital Effectors.

If change is required: Perform the TOUCH VIBRATO Program described below:

TOUCH VIBRATO
MIN= 10 MAX= 50

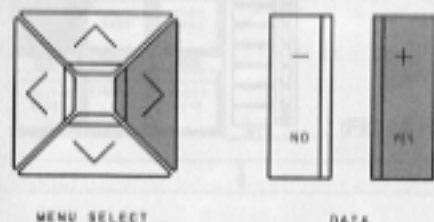
TOUCH VIBRATO Program

- ◆ The LCD bottom line displays the minimum and maximum values of the currently set range of TOUCH VIBRATO. The greater the numeric value, the deeper the Vibrato Depth; the greater the difference between the MIN and MAX values, the greater the touch sensitivity.

- ◆ First, use the "+" and "-" keys to increase or decrease the numeric value of MIN. Next, use the ">" key to shift the cursor, then increase or decrease the numeric value of MAX. (The variable width is 0-100, and the MIN value must always be smaller than the MAX value.) Besides the "+" and "-" keys, the numeric value for the TOUCH VIBRATO range can be set by entering the numeric value using the SUB DATA numeric buttons, then pressing the ENTER key.

- ◆ When TOUCH VIBRATO is switched to OFF, "OFF" is displayed at the LCD bottom line.

Change the RANGE of TOUCH VIBRATO.



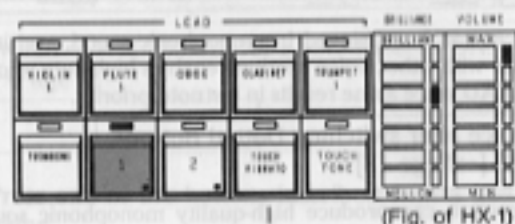
TOUCH VIBRATO
MIN= 20 MAX= 70

Set the Digital Effectors, as required.

[→Page 20]

Assignment of FM MONO Voices

Press a Dotted button of LEAD or BASS.



MONO VOICE
01:VIOLIN 1

Press the "v" key to advance the LCD to the voice you wish to assign.



MENU SELECT

MONO VOICE
02:VIOLIN 2

03:CELLO
:
:
:
34: COSMIC 5
35: CON. BASS 1
:
:
:
54: COSMIC 9
55: USER 1
:
:
:
60: USER 6
01: VIOLIN 1

The selected voice is assigned by either proceeding to another operation or pressing the ENTER key.

◆ When a Dotted button is pressed, the LCD changes to the display shown on the left. The LCD bottom line indicates the number and name of the voice assigned to the pressed button.

◆ When the button is pressed, the initially displayed voice will not always be [01: VIOLIN 1]. If another voice has already been assigned to the pressed button, the number and name of that voice will be displayed. When Reset is performed, the following assignments are made:

LEAD (HX-1, HX-3): 1 → [07:HORN], 2 → [28:D.GUITAR]
(HX-5): 1 → [04:TRUMPET 1], 2 → [06:TROMBONE]
BASS (HX-1): 1 → [39:TUBA 1], 2 → [41:VOCAL 3]
(HX-3, HX-5): 1 → [43:E.BASS 2]

◆ One Voice Select button is always ON at each voice section. If you wish to assign a voice to a button that is already ON, press that button once more.

◆ Each time the "v" key is pressed, the voice number on the LCD is incremented by one and the voice changes correspondingly. Play the sound for confirmation.

◆ By pressing the "∧" key, you can return to the voice of the previous number.

◆ Besides using the "v" and "∧" keys, you can select the voice to be assigned by entering the number of the voice you wish to assign using the SUB DATA numeric buttons and then pressing the ENTER key.

◆ The FM MONO Voices displayed on the LCD are grouped as follows:
[→HX VOICE LIST]

LEAD Voices [01-34]: This group consists of the lead (solo) instruments, which are best suited for assignment to U/L LEAD but can also be assigned to BASS.

BASS Voices [35-54]: This group consists of the bass instruments, which are best suited for assignment to BASS but can also be assigned to U/L LEAD.

USER Voices [55-60]: This group allows the storage of data from the RAM Pack (VOICE) or the voice data created using external devices [→Pages 74, 80]. Note that, when a Reset operation is performed, all Voice data saved at USER 1 to USER 6 will be erased.

◆ The FM MONO Voices displayed on the LCD include some voices that are identical to the Panel Preset voices of each voice section.

◆ After displaying the voice you wish to assign on the LCD, either proceed to another operation (another voice selector, Volume, Effect, etc.) or press the ENTER key. The voice displayed last will be assigned.

NOTE:

- ◆ The data informing you of which voice is assigned to each Dotted button can be stored in the Registration Memory and that data can also be written to the RAM Pack (REGIST). Furthermore, this assignment data will be retained in a back-up memory even if the system power is switched OFF.

1-(7) BASS

This voice section is for obtaining the sounds of bass instruments from the FM sound source. Besides the Panel Preset voices, voices can be freely assigned to the Dotted buttons.



Press a button inscribed with a voice name (Panel Preset voice).



(Fig. of HX-1)

VIBRATO MONO 35
DEFAULT ? Y/N

[ENTER]

To assign a voice after switching a Dotted button to ON [→ Page 18]

◆ The BASS voice section can produce high-quality monophonic sounds from the FM sound source, in a similar manner as LEAD.

Buttons inscribed with a voice name (Panel Preset voices): A voice can be selected by merely pressing a button.

Buttons inscribed with a numeral (Dotted buttons): Each of these buttons can be freely assigned with one out of the 54 Preset Voices stored in Main Memory or one of six USER voices.

◆ When a Panel Preset Voice button is pressed (or when the ENTER key is pressed after assigning a voice to a Dotted button), the LCD changes to the display shown on the left to enable changing of the Vibrato data.

If no change is required: Proceed to another operation such as VOLUME setting.

If change is required: Perform editing of Vibrato data (Page 12).

[ENTER]

To change the Vibrato effect [→Page 12]

[ENTER]

Set VOLUME and BRILLIANCE.

To set the VOLUME to a finer level [→Page 15]

Switch TOUCH TONE to ON, as required.

To change the sensitivity of TOUCH TONE [→Page 15]

Set the Digital Effectors, as required.

[→Page 20]

1-(8) AWM BASS

This voice section is for obtaining realistic bass sounds from the Advanced Wave Memory (AWM) sound source.



Press a Voice Select button.



(Fig. of HX-1)

Set the VOLUME.

To set the VOLUME to a finer level [→Page 15]

Switch TOUCH TONE to ON, as required.

To change the sensitivity of TOUCH TONE [→Page 15]

Set the Digital Effectors, as required.

[→Page 20]

1- (9) EFFECT ASSIGN

This section allows the Digital Effectors, such as SYMPHONIC, CELESTE, PHASER, and FLANGER, to be assigned to each of the voices.



Overview of EFFECT ASSIGN Section

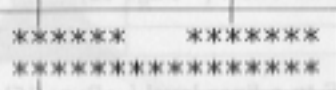
Press the Voice button (or Dotted button) of the voice to which you wish to assign a Digital Effector, then perform setting of VOLUME, BRILLIANCE, VIBRATO, TOUCH TONE, etc.

Switch a button of the EFFECT ASSIGN section to ON.



(Fig. of HX-1)

Name of Digital Effector Name of voice section



The display changes according to the selected Digital Effector

- The Digital Effectors of the EFFECT ASSIGN section can be assigned to all voice sections of the upper, lower, and pedal keyboards as well as to the voices of the RHYTHMIC and MELODIC sections of CHORD ACCOMPANIMENT.
- When a button is switched to ON, the left side of the LCD top line indicates the name of the Digital Effector and its right side indicates the name of the voice section to which the effect will be assigned.
- **CAUTION:** Multiple Digital Effectors cannot be concurrently assigned to one voice.
- **CAUTION:** The ON/OFF status of the Digital Effectors can be assigned to each voice. Upon assigning the Effector ON status to a voice, therefore, the assignment of the ON status for another voice in the same section will be canceled.
- **CAUTION:** After assigning an Effector, the illuminated LED of EFFECT ASSIGN will go out when you proceed to operation of another voice section. To confirm which Effector you have assigned, press the assigned Voice Select button once more.
- **To cancel the ON status of a Digital Effector,** press the Voice Select button of the assigned voice, then press the illuminated Effector button. "OFF" will be displayed at the LCD bottom line, indicating cancellation of the Effector assignment.

For HX-1, when SYMPHONIC or CELESTE is selected:
For HX-3 or HX-5, when SYMPHONIC/CELESTE is selected:
[→Page 21]

(Change) (No change)

With HX-1, MODE is changed using the "+" and "-" keys. With HX-3 and HX-5, effects are changed using the "v" and "^" keys.

When PHASER, FLANGER(HX-1 only), DELAY or WAH (HX-1 or HX-3 only) is selected

To apply the effect of the Preset Mode (PRESET MODE Program) [→Page 22]

(Change MODE) (No change)

Press the ENTER key, then change to another MODE.

[ENTER]

To apply the effect of the parameters set by yourself (USER Program) [→Page 23]

(Change parameters) (No change)

Press the ENTER key, then change the parameters.

[ENTER]

Press the Voice Select button of another voice section, then select a Digital Effector at the EFFECT ASSIGN section.

NOTES:

- The assignment data of a Digital Effector can be stored in Registration Memory. Registration memory can also store the registration of a particular Effector assigned to other voices or the registrations of other Effectors assigned to a particular voice. However, the contents of modes and parameters of each Effector, as described from Page 21 onward, cannot be stored.
- The assignment data of Effectors and their data on modes and parameters are retained in back-up memory even when the system power is switched OFF, and such data can also be written to the RAM Pack.
- When a registration stored in Registration Memory is recalled, the LED of the EFFECT ASSIGN section that corresponds to the Effector assigned to an UPPER ORCHESTRAL voice will light up.
- When a Digital Effector is assigned to a LEAD voice, LEAD PAN of the MODULATION section will cease to function. [→Page 27]
- **CAUTION:** In the case the same Effect is assigned to multiple voice sections, certain voices may become distorted depending on the volume level, quantity of voice sections involved, or the setting of Effect parameters; however, such distortion does not indicate malfunctioning. In this case, the distortion may be remedied by such means as reducing the volume, reducing the number of the assigned voice sections, or changing the parameter settings.

SYMPHONIC • CELESTE

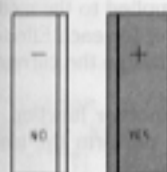
For HX-1

Press a Voice Select button (of UPPER ORCHESTRAL in this example), then switch SYMPHONIC or CELESTE to ON.



SYMPHO. U ORC.
MODE = 1

Using the "+" or "-" key, select the mode.



SYMPHO. U ORC.
MODE = 2
MODE = 1

◆ When SYMPHONIC is switched ON, the LCD changes to the display shown on the left and the LCD top line indicates the names of the Effector and voice section. In the case CELESTE is switched ON, "CELESTE" is displayed on the top line in place of "SYMPHONIC".

◆ The LCD bottom line indicates the currently set mode. The "mode" of Digital Effectors refers to the presetting of a combination of various parameters for an effect. First, play the sound to determine whether or not to change the currently set mode.

If no change is required: Proceed to operation of another function.

If change is required: Perform the mode change operation described below.

If the current mode will not be changed, proceed to operation of another function.

◆ The mode displayed at the LCD bottom line is changed using the "+" and "-" keys. When the mode is changed, the effect is applied with a different feeling. Play the sound to confirm that difference.

	SYMPHONIC	CELESTE
MODE 1	○	○
MODE 2	○	○

◆ After mode selection, either proceed to operation of another function or press the ENTER key. The mode last displayed on the LCD will be assigned.

◆ **CAUTION:** For some of the voices, SYMPHONIC or CELESTE has been pre-assigned as the default data. When such a voice is selected, the assigned Effector will automatically assume ON status.

For HX-3 and HX-5

Press a Voice Select button (of UPPER ORCHESTRAL in this example), then switch SYMPHONIC/CELESTE to ON.



SYM/CEL U ORC.
1. SYMPHONIC

Use the "v" or "∧" key to select SYMPHONIC or CELESTE.



SYM/CEL U ORC.
2. CELESTE
1. SYMPHONIC

◆ When SYMPHONIC/CELESTE is switched ON, the LCD changes to the display shown on the left and the LCD top line indicates the names of the Effector and voice section.

◆ The LCD bottom line indicates the currently set Effector. Play the sound to determine whether or not to change the currently set effect.

If no change is required: Proceed to operation of another function.

If change is required: Perform the operation described below to change the effect.

If the current effect will not be changed, proceed to operation of another function.

◆ The Effector displayed at the LCD bottom line is changed using the "v" and "∧" keys. Play the sound for confirmation.

◆ With HX-3 and HX-5, both SYMPHONIC and CELESTE cannot be concurrently assigned to separate voice sections.

◆ After selection of the Effector to be assigned, either proceed to operation of another function or press the ENTER key. The Effector last displayed on the LCD will be assigned.

◆ After setting the values of each parameter, press the ENTER key to store the all data so you can proceed to operation of another function.

PHASER • FLANGER • DELAY • WAH (PRESET MODE Program) -----

Press a Voice Select button (of PERCUSSIVE in this example), then switch one Effector on the left (PHASER in this example) to ON.



(Fig. of HX-1)

PHASER U/L PER.
1. USER

(PRESET)

(USER)

- ◆ When PHASER is switched ON, the LCD changes to the display shown on the left, with the LCD top line indicating the names of the Effector and voice section. In the case FLANGER (HX-1 only), DELAY or WAH (HX-1 and HX-3 only) is switched ON, the name of the Effector that was switched ON will be displayed in place of "PHASER".

- ◆ The LCD bottom line will display either "1. USER" or "2. PRESET", whichever is currently set.

To apply the effect of parameters set by yourself
[→ Page 23]

Press the "V" key to change the LCD bottom line to "2. PRESET".



MENU SELECT

PHASER U/L PER.
2. PRESET

- ◆ In case "1. USER" is initially displayed upon pressing an Effector button, change to display to "2. PRESET" using the "V" or "Λ" key.

- ◆ When the LCD displays "2. PRESET", effects can be applied to the modes (i.e., the combination of parameters for an effect) preset for each Effector. First, play the sound to determine whether or not to change the currently set mode.

If no change is required: Proceed to operation of another function.

If change is required: Press the ENTER key, then perform the mode change operation.

If the current mode will not be changed, proceed to operation of another function.

Press the ENTER key.

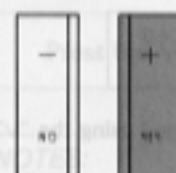


ENTER

PHASER PRESET
MODE = 1

- ◆ When the ENTER key is pressed, the LCD changes to the display shown on the left to enable changing of the mode. The LCD bottom line indicates the currently set mode.

Use the "+" and "-" keys to select a mode, then press the ENTER key.



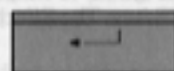
DATA

MODE = 1

PHASER PRESET
MODE = 2

MODE = 3

MODE = 4



ENTER

- ◆ The mode displayed on the LCD bottom line is changed using the "+" and "-" keys. Play the sound for confirmation. Moreover, the number of preset modes varies with each Effector. Try switching other Effectors to ON and confirm each mode.

	PHASER	FLANGER	DELAY	WAH
MODE 1	○	○	○	○
MODE 2	○	○	○	○
MODE 3	○	○	○	—
MODE 4	○	○	○	—
MODE 5	—	—	○	—
MODE 6	—	—	○	—

- ◆ After mode selection, press the ENTER key. The mode last displayed on the LCD will be assigned.

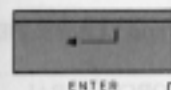
- ◆ **CAUTION:** For some of the voices, PHASER, FLANGER, DELAY or WAH has been pre-assigned as the default data. When such a voice is selected, the assigned Effector will automatically assume ON status.

PHASER • FLANGER • DELAY • WAH (USER Program)

Press a Voice Select button (of PERCUSSIVE in this example), then switch an Effector on the left (PHASER in this example) to ON.

PHASER U/L PER.
1. USER

Press the ENTER key.



PHASER USER
COPY ? Y/N

(YES)

(NO)

Press the "+/YES" key, then press the ENTER key.



PHASER COPY +/-
MODE=1 - USER]
MODE=2 - USER]
MODE=3 - USER]
MODE=4 - USER]

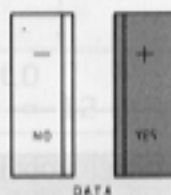
Use the "+" and "-" keys to select the mode to be edited.

Press the ENTER key.



PHASER USER
1. STAGE 1

Change the values of each parameter, then press the ENTER key.



PHASER USER
2. FREQUENCY 50
3. DEPTH 30
4. FEEDBACK 45
1. STAGE 1

◆ If the LCD bottom line displays "2. PRESET", change it to "1. USER" using the "v" or "^" key.

◆ Play the sound to determine whether or not to change the currently set parameters.

If no change is required: Proceed to operation of another function.

If change is required: Press the ENTER key, then perform the operations to change the parameters.

If the parameters will not be changed, proceed to operation of another function.

◆ When the ENTER key is pressed, the LCD changes to the display shown on the left. The display of the LCD bottom line lets you choose whether to change the currently set parameters as they are or to change the parameters of the PRESET mode.

[Y/N]: Pressing the ENTER key without shifting the cursor enables the status where the currently set parameters can be changed. (When Reset is performed, the parameters of MODE 1 will be stored in all Effectors.)

[Y/N]: Pressing the ENTER key after shifting the cursor will copy the parameters of PRESET mode to "USER" and enable the status where those parameters can be changed.

◆ When the cursor is shifted to "Y" and then the ENTER key is pressed, the LCD changes to the display shown on the left and the status where the PRESET mode to be copied to "USER" is enabled.

◆ Use the "+" and "-" keys to change the display of the LCD bottom line for selection of the PRESET mode to be copied.

◆ When the ENTER key is pressed, the LCD changes to the display shown on the left to enable the changing of each of the parameters. The LCD bottom line displays the parameters of each Effector and the numeric values of the currently stored parameters.

◆ To determine the values of each parameter, repeatedly perform the increase/decrease of numeric values using the "+" and "-" keys followed by the change of the parameter display using the "v" and "^" keys. Note that the parameters vary with each Effector.

EFFECTORS	PARAMETERS	VARIABLE WIDTH
PHASER	1. STAGE (No. of phase shifter stages)	1-3
	2. FREQUENCY (Modulation frequency)	0-100
	3. DEPTH (Modulation depth)	0-100
	4. FEEDBACK (Amount of resonance)	0-100
FLANGER	1. DELAY TIME (Length of delay time)	0-100
	2. DEPTH (Modulation depth)	0-100
	3. FREQUENCY (Modulation frequency)	0-100
	4. FEEDBACK (Amount of regeneration)	0-100
	5. DIRECT LEVEL (Direct sound level)	0-100
	6. DELAY LEVEL (Delay sound level)	0-100
DELAY	1. DELAY TIME (Length of delay time)	0-100
	2. DEPTH (Modulation depth)	0-100
	3. FREQUENCY (Modulation frequency)	0-100
	4. FEEDBACK (Amount of regeneration)	0-100
	5. DIRECT LEVEL (Direct sound level)	0-100
	6. DELAY LEVEL (Delay sound level)	0-100
	7. MODULATION WAVE (modulation waveform)	1-2
WAH	1. AUTO SPEED (Modulation frequency of auto wah)	1-100
	2. CENTER FREQUENCY (Center frequency of wah)	0-100
	3. DEPTH (Range of auto wah)	0-100

◆ After setting the values of each parameter, press the ENTER key to store the edit data so you can proceed to operation of another function.

I-2 OTHER EFFECTS & CONTROLS

2-(1) SUSTAIN & LEAD SLIDE

This section is for setting the SUSTAIN effect to be applied to voices of each keyboard and the SLIDE (portamento) effect to be applied to LEAD voices. This section can also be controlled using the Knee Lever.



Set the voices sections of the upper, lower and pedal keyboards.

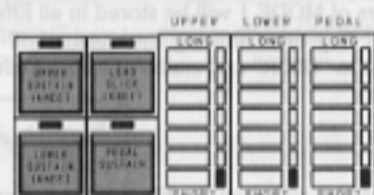
Set the U/L LEAD section.

◆ Set each voice section, then switch the buttons of the ENSEMBLE section to ON.

(SUSTAIN)

(LEAD SLIDE)

Switch the buttons corresponding to the effects you wish to apply to ON.



◆ The voice sections which can be assigned SUSTAIN and LEAD SLIDE are as follows:

UPPER and LOWER SUSTAIN	U&L COMBINATION, U&L ORCHESTRAL, U/L PERCUSSIVE, U/L AWM PRESET
PEDAL SUSTAIN	BASS, AWM BASS
LEAD SLIDE	U/L LEAD

(SUSTAIN)

(LEAD SLIDE)

Set the Sustain Length of each keyboard.



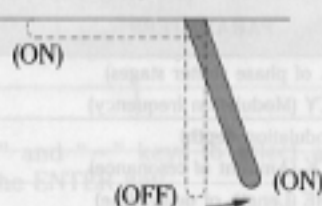
◆ The Sustain Length is longest when set to LONG at the top position, and is shortest when set to SHORT at the bottom position. According to the voice, the aftersound may be shorter when Sustain Length is set to SHORT than when switched OFF.

◆ Regardless of the Sustain length setting, the Sustain effect is applied to PIANO 1, PIANO 2 or MARIMBA of AWM PRESET at a fixed length.

◆ With the 61-key MKX-5, LEAD SLIDE can also be controlled using the MODULATION Wheel. [→Page 27]

(UPPER, LOWER)

Use the Knee Lever to control the ON/OFF status of the set effect.



◆ The ON/OFF status of SUSTAIN and LEAD SLIDE for the upper and lower keyboards can be controlled using the Knee Lever (multiple effects can also be simultaneously controlled).

When the Knee Lever is straight down: The effect will not function though the LED is lit.

When the Knee Lever is pressed to the right: The effect with the illuminated LED will function.

When the Knee Lever is folded up: The effect with the illuminated LED will function continuously.

◆ Besides the Knee Lever, the ON/OFF status of the effects can also be controlled using the Foot Pedal (option).

NOTE:

- ◆ When the Knee Lever is operated after switching the LEAD SLIDE (KNEE) button to ON, the Lead Slide effect will be applied in the range characteristic to each voice. Furthermore, when the Modulation Wheel is operated after switching the Modulation 1 button to ON, the effect will be applied in the range set by panel programming.

LEAD SLIDE (KNEE)	MODULATION 1	Knee Lever Control	Wheel Control
ON	ON	○	○
ON	OFF	○	—
OFF	ON	—	○

2-(2) REVERB

This section allows the setting of a digital-type reverberation (REVERB) effect so that you can choose a REVERB effect from six types of modes.



Press one of the REVERB buttons to set the depth of reverberation.



REVERB
MODE = 1

Use the "+" and "-" keys to select the mode.

REVERB
MODE = 2
MODE = 3
MODE = 4
MODE = 5
MODE = 6
MODE = 1

- ◆ The depth of reverberation can be set to seven different lengths. When set to MAX at the top position, the depth is longest; when set to MIN at the bottom position, it is switched OFF.

- ◆ When one of the REVERB buttons is pressed, the LCD displays the REVERB mode that is currently set. First, play the sound to determine whether or not to change the currently set mode.

If no change is required: Proceed to operation of another function.

If change is required: Perform the mode change operation described below.

If the current mode will not be changed, proceed to operation of another function.

- ◆ The mode displayed on the LCD bottom line is changed using the "+" and "-" keys (or the SUB DATA numeric buttons + ENTER key), and each mode gives a different feeling to the effect. Play the sound to confirm the difference.

- ◆ REVERB functions for all voice sections as well as the voices of the RHYTHMIC and MELODIC sections.

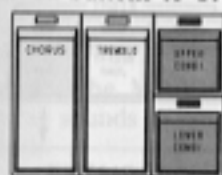
- ◆ After mode selection, either proceed to operation of another function or press the ENTER key. The mode last displayed on the LCD will be assigned.

2-(3) TREMOLO

This section is for setting the digital-type TREMOLO effect (TREMOLO or CHORUS) for UPPER and LOWER COMBINATION, and also allows setting of Tremolo Speed.



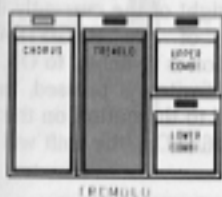
Set UPPER and LOWER COMBINATION (Page 10), then switch the UPPER COMBI. and LOWER COMBI. buttons to ON.



(TREMOLO)

(CHORUS)

Switch TREMOLO to ON.



TREMOLO
SPEED = 12

- ◆ Each of the buttons functions as follows:

UPPER COMBI.	Switch for applying an effect to UPPER COMBINATION
LOWER COMBI.	Switch for applying an effect to LOWER COMBINATION
TREMOLO	Achieves an effect whereby the sound seems to rapidly rotate and turn
CHORUS	Achieves an effect whereby the sound slowly rotates and expands

- ◆ When both TREMOLO and CHORUS are switched OFF, the effect gives a sensation of only expansion without rotation.

If the CHORUS effect is selected, proceed to another function.

- ◆ When TREMOLO is switched to ON, the LCD displays the currently set Tremolo Speed. First, play the sound to determine whether or not to change the Tremolo Speed.

If no change is required: Proceed to operation of another function.

If change is required: Change the speed using the following operation.

- ◆ By switching TREMOLO from ON to OFF while a COMBINATION voice is being sounded, the Tremolo Speed will become gradually slower and the rotating sensation will decrease.

If the Tremolo Speed data will not be changed, proceed to another operation.

Use the "+" and "-" keys to change the Tremolo Speed.

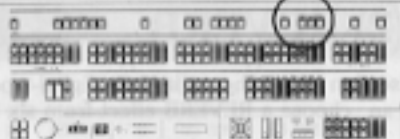
TREMOLO
SPEED = 15

- ◆ Use the "+" and "-" keys (or the SUB DATA numeric buttons + ENTER key) to change the value of the Tremolo Speed displayed on the LCD bottom line. (Variable width: 0-100)

- ◆ After setting the Tremolo Speed value, either proceed to operation of another function or press the ENTER key. The value last displayed on the LCD will be assigned.

2-(4) FOOT SWITCH

This section assigns or selects the operation of the two Foot Switches, located on each side of the Expression Pedal.



LEFT (GLIDE effects or Control functions of the RHYTHM section can be assigned.)

Switch the LEFT button to ON.



FOOT SWITCH

L FOOT SW ASSIGN
4:RHY.STOP

Use the "V" and "Λ" keys to select the function to be assigned.

L FOOT SW ASSIGN
5:RHY.ENDING

6:RHY.FILL IN
7:RHY.BREAK
1:LEAD GLIDE
2:UPPER GLIDE
3:U & L GLIDE
4:RHY.STOP

- When the LEFT button is switched to ON, the LCD bottom line displays the currently assigned function and enables control of that function using the Foot Switch on the left side of the Expression Pedal. First, determine whether or not to change the currently assigned function.

If no change is required: Proceed to operation of another function.

If change is required: Change the assignment to another function using the procedure described below.

- When the LEFT button is pressed once more to switch it to OFF, "OFF" is displayed on the LCD bottom line.

If the current function will not be changed, proceed to operation of another function.

- The function displayed on the LCD bottom line can be changed using the "V" and "Λ" keys (or the SUB DATA numeric buttons + ENTER key).

GLIDE: When the Foot Switch is pressed, the pitch drops approximately a half step; when the Foot Switch is released, the original pitch is gradually restored.

1: LEAD GLIDE	GLIDE is applied only to the LEAD voice.
2: UPPER GLIDE	GLIDE is applied to all UPPER voices except for COMBINATION.
3: U & L GLIDE	GLIDE is applied to all UPPER and LOWER voices.

RHYTHM Controls: The Rhythm section is controlled by pressing the Foot Switch.

4: RHY. STOP	The rhythm stops when the Foot Switch is pressed, then recommences when pressed once more.
5: RHY. ENDING	Each time the Foot Switch is pressed, the rhythm functions similarly to when the switches on the left of the lower keyboard are pressed. [→Page 31, 32]
6: RHY. FILL IN	
7: RHY. BREAK	

RIGHT (GLIDE effects or Control functions of REGISTRATION MEMORY section can be selected.)

Switch the blank button of RIGHT to ON.



R FOOT SW ASSIGN
1.LEAD GLIDE

If the current function will not be changed, proceed to another operation.

Use the "V" and "Λ" keys to select a function.

R FOOT SW ASSIGN
2.UPPER GLIDE
3.U & L GLIDE
1.LEAD GLIDE

Switch the REGIST JUMP button of RIGHT to ON.



R FOOT SW JUMP
REGIST = 1

If the current number will not be changed, proceed to another operation.

Use the "+" and "-" keys to change the number.

R FOOT SW JUMP
REGIST = 2
REGIST = 3
:
REGIST = 16
REGIST = 1

Switch the REGIST SHIFT button of RIGHT to ON.



R FOOT SW SHIFT
ON

- When the button on the right is switched to ON and the Foot Switch is pressed, the button to the right of the currently illuminated button of the REGISTRATION MEMORY section is switched to ON. Each time the Foot Switch is pressed, the ON status is shifted to the button on the right; when Button 16 is ON, the shift will be to Button 1.

- Switching the button on the left to ON enables control of the GLIDE effects using the Foot Switch on the right of the Expression Pedal. The effects obtained and the operating procedure are identical to those for LEFT. For example, use the LEFT Foot Switch for Rhythm Control and the RIGHT Foot Switch for GLIDE effects.

- When the center button is switched to ON and the Foot Switch is pressed, a specific button of the Registration Memory will be switched to ON. Set a Registration number that you frequently use within a melody at this button.

NOTES:

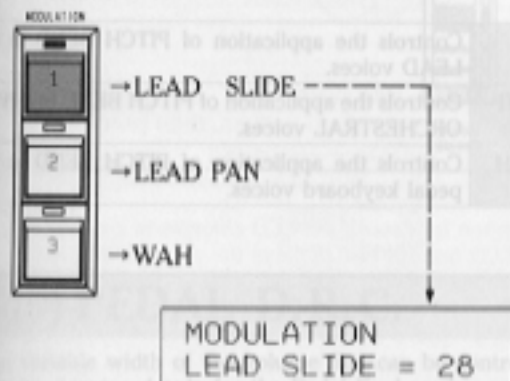
- When the RIGHT buttons are pressed once more and switched to OFF, "OFF" is displayed at the LCD bottom line.
- The ON/OFF data of the LEFT button can be stored in Registration Memory.

2-(5) MODULATION (Wheel Control)

The MODULATION Wheel located to the left of the upper keyboard can be used for real-time control of the application of the LEAD SLIDE, WAH, and LEAD PAN effects. (MKX-5 only)



Switch either Button 1, 2 or 3 to ON (Button 1 in this example).



Use the "+" and "-" keys to change the MAX value.



Operate the MODULATION Wheel while producing sounds to control the application of the effects.



◆ When one of the MODULATION buttons is switched to ON, the application of the effect corresponding to the pressed button can be controlled using the Wheel (RIGHT).

1 LEAD SLIDE	Controls the Portamento Speed applied to the LEAD voice.
2 LEAD PAN	Controls the direction (orientation) of the LEAD voice produced from the speakers. (When this button is switched to ON, the Digital Effector assignments for the LEAD voice are cancelled.)
3 WAH (HX-1, HX-3 only)	Controls the WAH effect of the voice section to which WAH has been assigned at the EFFECT ASSIGN section.

◆ When one of the MODULATION buttons is switched to ON, the LCD changes to the display shown on the left. The bottom line displays the currently set variable width (the value when the Wheel is set to MAX) of the effect that is switched to ON. Operate the Wheel while producing sounds to determine whether or not to change the current value.

If no change is required: Proceed to operation of another function.

If change is required: Change the value using the "+" and "-" keys (or SUB DATA numeric buttons + ENTER key).

[Variable Width] LEAD SLIDE: 0-100
LEAD PAN: 0-100
WAH: 0-100

◆ Each effect will change as follows due to Wheel operation:

LEAD SLIDE: The more the Wheel is turned towards MAX, the slower the Portamento Speed becomes.

LEAD PAN: The more the Wheel is turned towards MAX, the more the LEAD voice orientation shifts toward the right; the more it is turned toward MIN, the more the LEAD voice orientation shifts towards the left.

WAH: The more the Wheel is turned towards MAX, the sharper the WAH effect becomes.

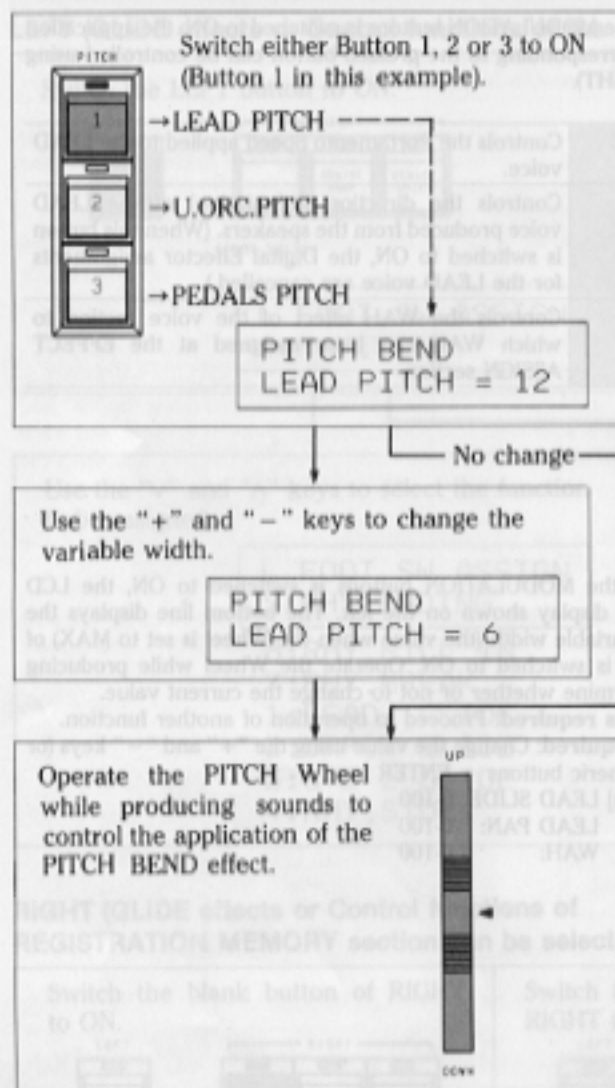
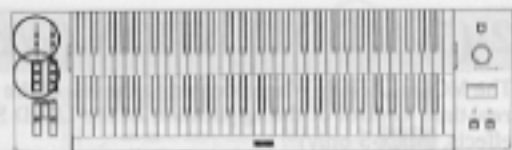
NOTE

● In place of the MODULATION Wheel, the modulation can also be controlled using the Breath Controller (option).

● The application of these effects can also be controlled by operating the 2nd Expression Pedal, instead of the MODULATION Wheel or PITCH Wheel. [→Page 72]

2-(6) PITCH (Wheel Control)

The PITCH Wheel located to the left of the upper keyboard can be used for real-time control of the application of the PITCH BEND effect for LEAD, UPPER ORCHESTRAL, and PEDAL voices. (MKX-5 only)



◆ When the PITCH buttons are switched to ON (multiple buttons can be ON concurrently), application of the PITCH BEND effect corresponding to the respective buttons can be controlled using the Wheel.

1	LEAD PITCH	Controls the application of PITCH BEND to the LEAD voices.
2	U. ORC. PITCH	Controls the application of PITCH BEND to UPPER ORCHESTRAL voices.
3	PEDALS PITCH	Controls the application of PITCH BEND to the pedal keyboard voices.

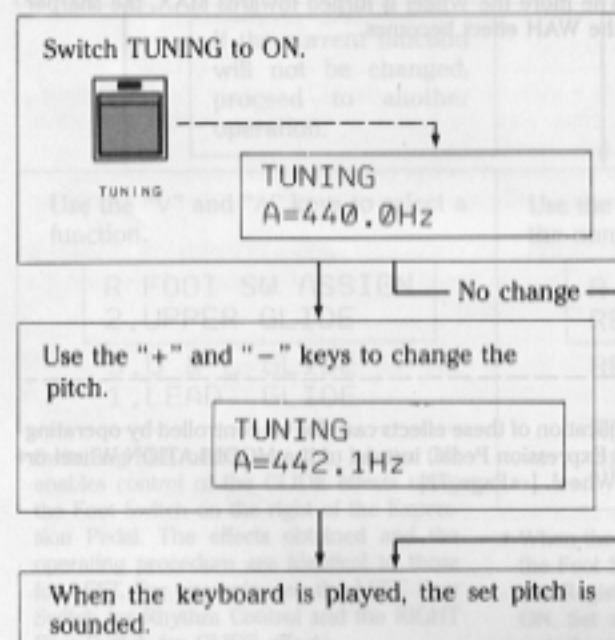
◆ When one of the PITCH buttons is switched to ON, the LCD changes to the display shown on the left. The bottom line displays the currently set variable width (the value when the Wheel is set to MAX) of the PITCH for the button that is switched to ON. Operate the Wheel while producing sounds to determine whether or not to change the current value.

If no change is required: Proceed to operation of another function.
If change is required: Change the value using the "+" and "-" keys (or SUB DATA numeric buttons + ENTER key). The numeric value is changed in half steps.
 [Variable Width: 1-12]

◆ Turning the Wheel towards UP will bend the pitch upward, whereas turning it towards DOWN will bend it downward. When you release the Wheel, it will automatically return to its center position and the pitch will return to normal.

2-(7) TUNING

This function can perform fine tuning of the pitch for all the instruments.



◆ When TUNING is switched to ON, the LCD changes to the display shown on the left. The LCD bottom line displays the currently set pitch. (When Reset is performed, the setting becomes "A=440Hz.") First, determine whether or not to change the currently set pitch.

◆ Each time the "+" key is pressed, the pitch is raised one step. (1 step=0.3 Hz; maximum: 23 steps)
 Each time the "-" key is pressed, the pitch is lowered one step. (1 step=0.3 Hz; maximum: 7 steps)

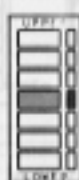
[-] ← (normal) → [+]
 437.9 Hz...439.7 Hz 440.0 Hz 440.3 Hz...446.9 Hz

◆ When TUNING is switched to OFF, "OFF" is displayed on the LCD bottom line and the setting returns to "A=440 Hz" (normal).

2-(8) MANUAL BALANCE

This control sets the balance between the volumes of the upper and lower keyboards.

Set MANUAL BALANCE.



- ◆ When MANUAL BALANCE is set towards UPPER, the volume of the upper keyboard is greater than that of the lower keyboard. When it is set towards LOWER, the volume of the lower keyboard is greater than that of the upper keyboard.

2-(9) PEDAL D.R.C.

The variable width of the volume that can be controlled by the Expression Pedal can be narrowed only for the Pedal Keyboard sounds.

Switch PEDAL D.R.C. (Dynamic Range Control) to ON.

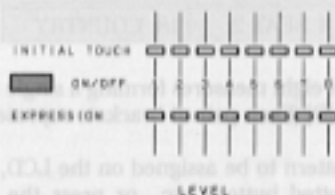


- ◆ When this button is switched to ON, the variable width of the volume of the Pedal Keyboard becomes narrower and will not vary more than the volume of other keyboards though the volume is changed by the Expression Pedal.

2-(10) LEVEL Displays

The LEVEL Displays located to the left of the LCD indicate the intensity of keyboard touch and the Expression Pedal status by the number of illuminated LEDs.

Press the ON/OFF button.



- ◆ At the INITIAL TOUCH Display at the top row, the more strongly each keyboard is pressed, the more LEDs are illuminated.
- ◆ At the EXPRESSION Display at the bottom row, the more strongly the Expression Pedal is depressed, the more LEDs are illuminated.

Other Controls

■ MASTER VOLUME

It is possible to control the overall volume. When the Music Disk Recorder (MDR-2) is connected and in use, the REMOTE LED located on the side will light up when the volume is adjusted by remote control.

■ POWER Switch

When the POWER switch is switched to ON, the status of the Panel at the moment it was last switched to OFF will be reproduced (with the exception of the status of the SEQUENCER and PACK buttons, the Rhythm START switch, etc.) At the moment it is switched to OFF, the various data that had been stored in Main Memory is also retained in back-up memory. When POWER is switched to ON while depressing the BREAK button, each function will be reset. [→ Page 7] Note that when POWER is switched to ON, the model name is displayed on the LCD as shown below.

YAMAHA ELECTONE
** HX-1 / 5 F **