HAMMOND

Model XT-100
Model XH-200

Basic Features Guide

IMPORTANT SAFETY INSTRUCTIONS

WARNING - As with any electrical or electronic equipment, care should be exercised to prevent fire and shock hazard. The following information is provided to give guidance in the safe use of your Hammond Organ.

Read all of the instructions before using this product.

To reduce the risk of injury, close supervision is necessary when the product is used near children.

Do not use this product near water.

This product may be capable of producing sound levels that would cause permanent hearing loss. Do not operate for a long period of time at a high volume level or at a level that is uncomfortable. If you experience any loss or ringing in the ears, you should consult an audiologist.

This product should be located so that its position does not interfere with proper ventilation and should not be placed near heat sources such as radiators or heat registers.

This product should be connected to a power source only of the type as marked on the product.

The power-supply cord should be unplugged from the outlet when left unused for a long period of time.

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

IF YOUR INSTRUMENT FAILS TO OPERATE:

1. Be sure your POWER ON/OFF switch is ON, and the MASTER VOLUME is set to at least the half way point.

2. Be sure that at least one voice is selected ON.

3. Make sure headphones are not plugged in to the headphone jack.

4. Make certain that the power cord is plugged in and the "AC" wall receptacle is not faulty.

In the event that the instrument is still inoperable, your Hammond Organ Dealer is best qualified to provide competent service.

THIS PRODUCT SHOULD BE SERVICED BY QUALIFIED SERVICE PERSONNEL WHEN:

A. The power-supply cord or plug has been damaged.

B. Objects have fallen, or liquid has been spilled, into the product.

C. The product has been exposed to rain.

D. The product does not appear to operate normally or exhibits a marked change in performance.

E. The product has been dropped or damaged.

Do not attempt to service this product. All servicing should be referred to qualified service personnel.

SAVE THESE INSTRUCTIONS

	CAUTION	
⚠	RISK OF ELECTRIC SHOCK DO NOT OPEN	⚠
CAUTION TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. NO USER SERVICABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.		

⚠	This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.
⚠	This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

WARNING: TO AVOID THE HAZARDS OF FIRE OR ELECTRICAL SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR OTHER MOISTURE.

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II

GETTING STARTED

♦ Basic Controls

The panel controls on the organ include Drawbars, Touch Tabs, Touch Buttons, Tempo/Data Entry Wheel Control, Combination Presets, Slider Controls and Disk Drive. These controls allow you to make adjustments and changes on the instrument.

ON / OFF Power Switch

POWER

The ON / OFF Power Switch is located to the right of the Upper Manual. When this switch is in the "ON" (pushed in) position, the Information Center Display as well as some LED's (Light Emitting Diodes) will light up showing that the instrument is "ON."

OFF   ON
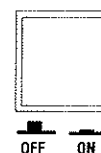
Information Center Display

The Information Center Display is located in the upper center of the organ.
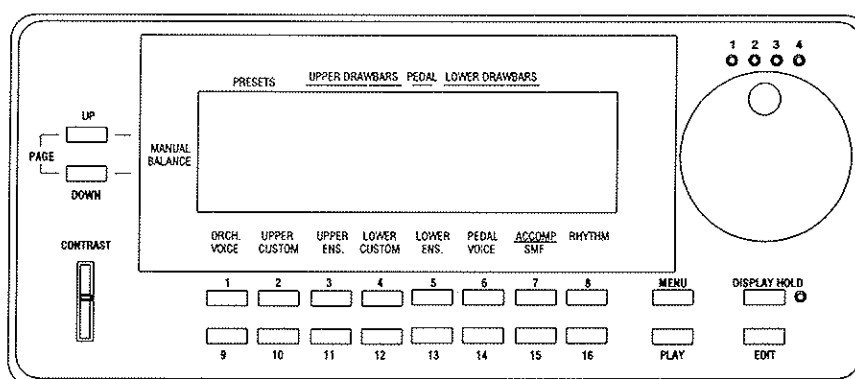
The Information Center Display has two modes: (1) the PLAY mode, and (2) the MENU Mode. The PLAY Mode allows you to graphically see the Drawbar settings, as well as adjust the volumes of the various divisions of the organ (Orchestral, Ensemble, Rhythm, etc.). The MENU Mode allows you to change and edit the organ's software parameters such as Sustain Length, Drawbar Voicing, MIDI parameters and other advanced functions.

If you cannot see text clearly on the screen, use the control marked CONTRAST. Slide this control up to make the screen brighter and down to make the screen darker.

NOTE: The PLAY and MENU Modes are covered starting on page 6 of this Guide.

Drawbars

The Drawbars are the heart and soul of the sound of your Hammond Organ. There are two sets of nine Drawbars, sometimes referred to as Tonebars, for the Upper and Lower Manuals and two Drawbars for the Pedals, located between the Upper Manual and the Information Center Display.

Pulling a Drawbar out (toward you) will increase the volume in incremental steps from "0" (no sound) to "8" (maximum volume). Pushing the Drawbar in (away from you) decreases the volume of that Drawbar.

Please refer to the Drawbars section of this Owner's Playing Guide starting on page 11 for a complete explanation of Hammond Drawbars.

No Volume

Full Volume
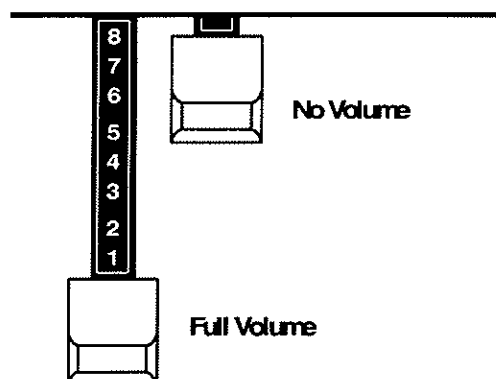
Touch Tabs

Touch Tabs have red LED's or lights in them that will light up indicating "ON."
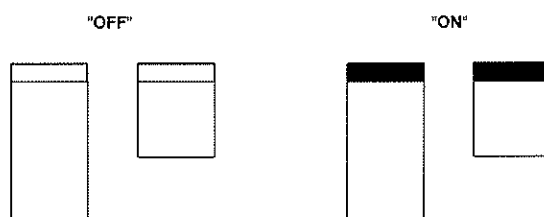
NOTE: The Touch Tabs in the Orchestral, Rhythm and Vibrato Touch Tab Sections do not all turn off. At least one LED will always remain lighted.

Touch Buttons

Touch Buttons are the buttons found in the Information Center Display
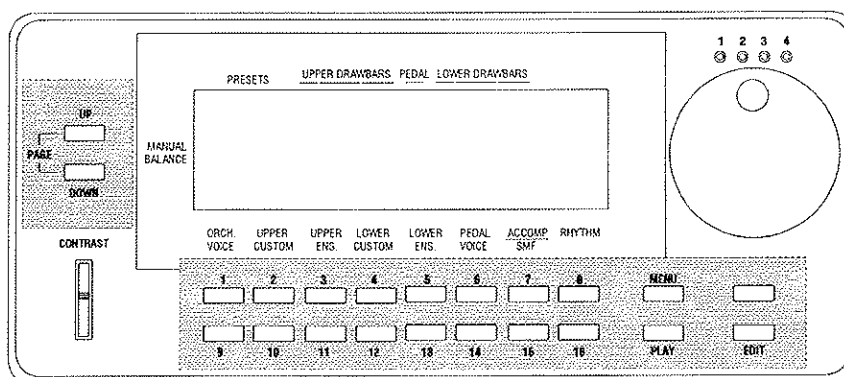
Touch Buttons have three different functions.

1.   Select Touch Buttons will allow you to select among multiple functions such as selecting a Menu Page.

2.   Touch ON / Touch OFF Touch Buttons turn "ON" or "OFF" specific functions such as SUSTAIN.

3.   Touch and Hold Touch Buttons will increase or decrease their function in incremental steps when they are touched once, or "scroll" through the steps if touched and held. The new value will be shown in the Information Center Display.

NOTE: More detail about each of these sections is covered later in this Owner's Guide. Refer to the Table of Contents for the page numbers.

Tempo/Data Entry Wheel Control

To the right of the LCD screen is the Tempo/Data Entry Wheel Control. This large rotary control has two functions:

1.   Controlling the tempo of the Rhythm.
2.   Making selection of functions such as Voice Banks easier by allowing you to scroll rapidly through the choices.

NOTE: More information about the Wheel Control is found later in this Guide.

Presets

REC 1 2 3 4 5   6 7 8 9 10   C
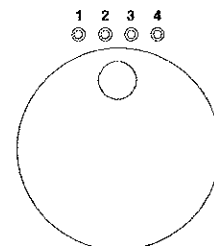
The Presets are the group of buttons (called Pistons) located directly between the manuals (excluding the ECHO ONLY and MAIN & ECHO Touch Buttons). The ten Preset Pistons function as Touch ON Touch Buttons, in that when one is selected, it is turned "OFF" by pressing the CANCEL Piston. These allow you to vary the combinations of the tonal resources of the organ with the touch of a single control, and are explained fully in the Presets Section of this Guide starting on page 53.

Slider Controls

MASTER   EXT.IN   MAIN   RHYTHM
VOLUME   VOLUME   REVERB REVERB
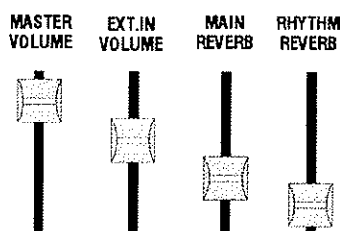
The Slider Controls are located on the Control Panel at the extreme left. Sliding a Slider Control "up" will increase the intensity of the corresponding control. Sliding the control "down" will decrease the corresponding control's level.

The MASTER VOLUME Slider Control allows you to control the total or maximum volume of the entire organ. Slide this control up to increase the total volume, and down to decrease the total volume.

The EXT. IN VOLUME Slider Control allows you to control the total or maximum volume of an external sound source connected to the organ via the EXT.IN jacks. Slide this control up to increase the volume, and down to decrease the volume.

The MAIN REVERB Slider Control allows you to control the total or maximum amount of digital Reverb for the main organ. Slide this control up to increase the amount of Reverb, and down to decrease the amount of Reverb.

The RHYTHM REVERB Slider Control allows you to control the total or maximum volume of digital Reverb. Slide this control up to increase the amount of Reverb, and down to decrease the amount of Reverb.

NOTE: Reverb is explained in more detail starting on page 27.

◆ Additional Controls

Expression Pedal

To the right at the base of the organ is a large foot pedal. This is called the Expression or Volume Pedal, which controls the overall volume of the organ. Push forward with the toe of your foot to increase the volume and backwards with your heel to decrease the volume.

NOTE: The Expression Pedal will express up to the amount determined by the setting of the MASTER VOLUME Slider Control.
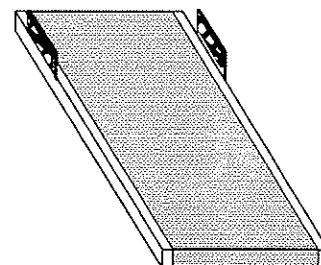
ProFoot Foot Switches

On either side of the Expression Pedal are the two ProFoot Foot Switches. These can be programmed to activate one of a number of different functions selected from the Information Center Display.

NOTE: The functions of ProFoot are covered in detail later in this Guide.

Light Switch

This switch is located immediately above the Power Switch and, when "ON" (forward down position), illuminates the Music Rack and Button Panel.

LIGHT
ON

OFF
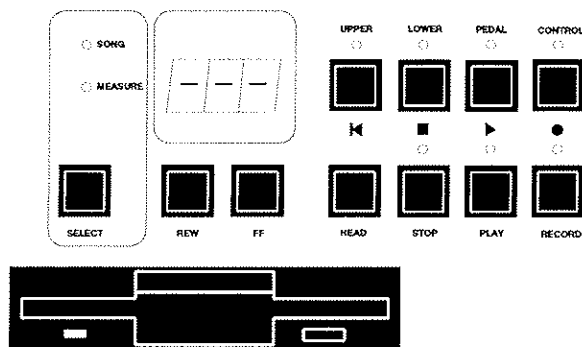
Disk Drive

The Disk Drive consists of a Control Panel located on the extreme right of the Control Panel and a Disk Slot located just underneath the Control Panel. These allow you to:

1.   Record and store Sequences or Songs to Floppy Disks.
2.   Play pre-recorded Sequences or Songs on the organ.
2.   Store banks of Presets to Floppy Disks.
4.   Load previously stored Preset Banks into the organ.
5.   Load new Auto-Vari Rhythms & Styles from Floppy Disks.
6.   Upgrade your organ software from Floppy Disks.

For more information about the Disk Drive, see the section of this Owner's Playing Guide called Using the Disk Drive starting on page 71.

CU-2 Pitch Bend and Modulation Wheel Control Center (Optional)

This is an optional accessory that can be added to your organ. It consists of two wheel controls, the functions of which are explained below. For information on how to connect this unit to your organ, see the Reference section of this Guide starting on page 92.

Pitch Bend

You can adjust the pitch range, plus or minus, 12 half steps. For more information, see pages 68-69.

Modulation Wheel

- Pitch Bend & Modulation Controls -

The Modulation Wheel has several functions:

1.   To send MIDI modulation data to a connected MIDI device. For more information about this function, see the MIDI Section of this Guide starting on page 84.

2.   To control the rotor speed of the inbuilt digital Leslie or a connected Leslie Speaker.

Moving either control to the right will increase the intensity of the corresponding control. Moving either control to the left will decrease the level.

INFORMATION CENTER DISPLAY

Normally, the Touch Tabs, Touch Buttons, Drawbars, Slider Controls and Foot Switches are used to control the operations necessary for Registration set-ups, settings for each voice, rhythm tempo, as well as MIDI information. The Information Center Display allows you to see and regulate these changes.
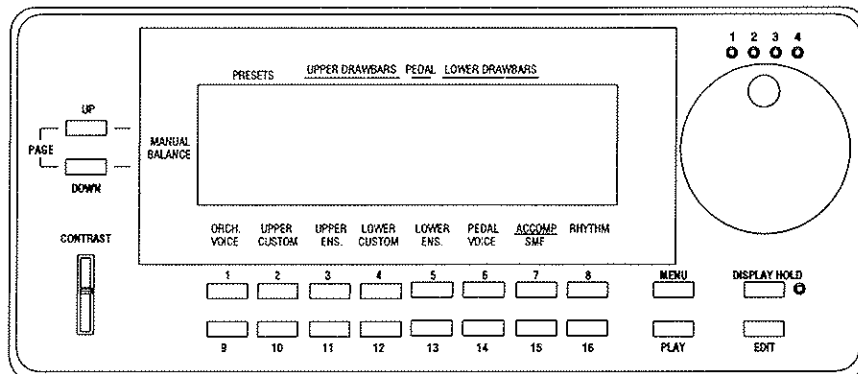
◆ Touch Buttons

Numbered Touch Buttons

Below the display window itself are 16 gray Touch Buttons marked from 1 through 16. These buttons have functions that change automatically as different modes and menus are used. These basic functions are:

1. Voice and Editing features selection.
2. Turning something ON or OFF.
3. Confirmation - Yes, No or OK.
4. Modification of parameters - increase or decrease.

There are also the PAGE UP and PAGE DOWN Touch Buttons to the left, and the MENU, PLAY, DISPLAY HOLD and EDIT Touch Buttons to the right

PAGE UP and PAGE DOWN Touch Buttons

These two Touch Buttons allow you to display successive screens for Advanced Features which have multiple screens, such as Animation, Voice Edit, etc. Touch the PAGE UP Touch Button to scroll forward and the PAGE DOWN Touch Button to scroll backward through the screens.

PLAY, MENU, DISPLAY HOLD and EDIT Touch Buttons

These 4 Touch Buttons allow you to choose from among the various options for using the Information Center Display. The following is a very brief explanation of each of these Touch Buttons.

PLAY - This Touch Button allows you to place the Information Center Display into one of the 3 Play display modes.

MENU - This Touch Button allows you to access the Advanced Feature Menu pages.

DISPLAY HOLD - Normally, the Information Center Display will display one of the PLAY Mode screens. If you touch the Menu Touch Button This Touch Button allows you to "freeze" the screen while you are editing Advanced Features.

EDIT - Using this Touch Button will allow you to access certain special features of the organ. The use of the EDIT Select Touch Button will be explained in greater detail as it pertains to the different Menus.

IMPORTANT: It is assumed at this point that you have just turned the organ "ON" and have not touched either the PLAY or MENU Touch Buttons. If you have, please turn the organ "OFF", wait 5 seconds and turn it back "ON". Also the Drawbars should be "OFF" (pushed "in") so no numbers are showing.

◆ Display Modes

As stated in the Getting Started section, there are two Display Modes, PLAY Mode and MENU Mode.

PLAY Mode

The PLAY Mode has three (3) screens. Touching the PLAY Touch Button will show the screens in the PLAY Mode in succession.

PLAY Mode - Graphic Display Screen 1
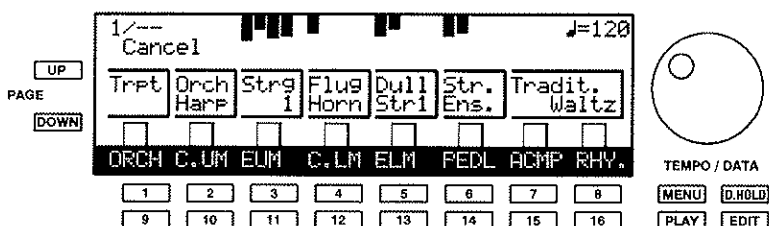
A screen similar to this will display after the organ is first turned "ON". It will show:

1. Drawbar registrations for Upper Manual, Lower Manual and Pedal represented graphically (i.e., by solid bars of different lengths depending on the position of each Drawbar).
2. Volume settings for the following:
    A. Orchestral Voices
    B. Upper Custom Voice
    C. Upper Ensemble Voices
    D. Lower Custom Voice
    E. Lower Ensemble Voices
    F. Pedal Voice
    G. Accomp./SMF (AutoBand and Song Disk voices)
    H. Rhythm (drum patterns)

Immediately below the LCD screen, you will notice printed legends for the various Voice groups such as ORCH. VOICE, UPPER CUSTOM, etc. You will also notice bar graphs in the LCD screen just above the printed legends.

Use the numbered Touch Buttons below each printed legend to control the volume of the designated Voice group. For example, use the Number 1 and Number 2 Touch Buttons to control the volume of the selected Orchestral Voice ("ORCH VOICE"), the Number 3 and Number 4 Touch Buttons to control the volume of the Upper Custom Voice, etc.

NOTE: More information about each of the Voice Sections is covered in this Guide under Voice Sections starting on page 30.

NOTE: "Accomp./SMF" refers to the AutoBand voices which play whenever an Auto-Vari Rhythm is active and any of the Auto Chord / Auto Band Touch Tabs are "ON" (red LED lit). The abbreviation, "SMF" (Standard MIDI File) refers to a type of file format used to store song data on a Song Disk. The "Accomp./SMF volume adjustment controls the volume of a Song Disk as well as the AutoBand accompaniment voices. "Rhythm" refers to the drum patterns which play whenever an Auto-Vari rhythm is sounding. More information about Rhythms is found in this Guide under

Rhythm & Easy Play Sections starting on page 46. More information about Song Disks is found in this Guide under Using the Disk Drive starting on page 71.

PLAY Mode - Graphic Display Screen 2
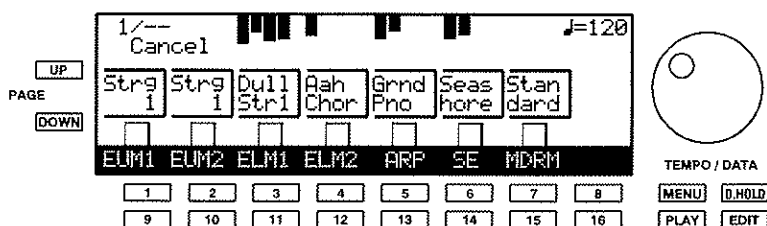
From Screen 1 of the PLAY Mode, touch the PLAY Select Touch Button once to display Screen 2. It will show:

1. Drawbar registrations for Upper Manual, Lower Manual and Pedal represented graphically (i.e., by solid bars of different lengths depending on the position of each Drawbar).
2. Volume settings for the following:
   A. Ensemble Upper 1 (the UPPER STRINGS 1 Touch Tab)
   B. Ensemble Upper 2 (the UPPER STRINGS 2 Touch Tab)
   C. Ensemble Lower 1 (the LOWER STRINGS Touch Tab)
   D. Ensemble Lower 2 (the LOWER CHOIR Touch Tab)
   E. Auto Arpeggio Voice
   F. Sound Effect
   G. Manual Drum Voice(s)

Use the numbered Touch Buttons to control the volume of the designated Voice group. For example, use the Number 1 and Number 2 Touch Buttons to control the volume of the Ensemble Upper 1 Voice, the Number 3 and Number 4 Touch Buttons to control the volume of the Ensemble Upper 2 Voice, etc.

PLAY Mode - Numeric Display
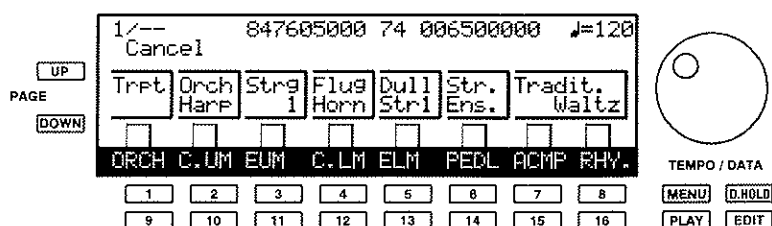
From Screen 2 of the PLAY Mode, touch the PLAY Select Touch Button once to display this Screen. It will show:

1. Drawbar registrations for Upper Manual, Lower Manual and Pedal represented numerically (i.e., the numerical position of each Drawbar).
2. Volume settings for the following:
   A. Orchestral Voices
   B. Upper Custom Voice
   C. Upper Ensemble Voices
   D. Lower Custom Voice
   E. Lower Ensemble Voices
   F. Pedal Voice
   G. Accomp./SMF (AutoBand and Song Disk voices)
   H. Rhythm (drum patterns)

Use the numbered Touch Buttons below each printed legend to control the volume of the designated Voice group similar to Screen 1.

Manual Balance

When the Information Center Display is in any of the PLAY Modes, the PAGE UP and PAGE DOWN Touch Buttons will function as Manual Balance controls. Use the PAGE UP Touch Button to increase the volume of the Upper Manual and decrease the volume of the Lower Manual. Use the PAGE DOWN Touch Button to decrease the volume of the Upper Manual and increase the volume of the Lower Manual.

Menu Mode

The Menu Mode has 3 screens. Each of these screens contains Advanced Features which allow you to change parameters, load or save data from or to Floppy Disks, turn something "OFF" or "ON", etc.

Menu Mode - Screen 1

If you touch the MENU Select Touch Button once from any of the Play Mode screens, the Information Center Display should look like this:
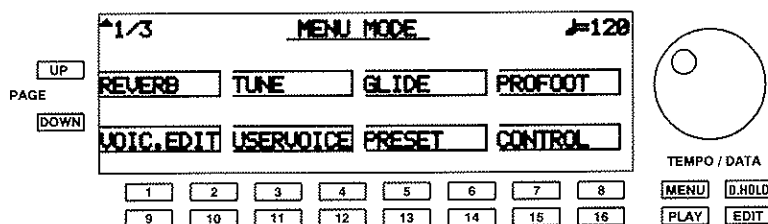
Eight (8) choices should now appear in the display window.

Touching a numbered Select Touch Button will enter the Information Center Display into an Advanced Feature selection.

This is a brief explanation of these 8 functions:

    REVERB - Allows you to select from among different Reverb programs (See page 27). Touch either the Number 1 or Number 2 Select Touch Button to control this Advanced Feature.

    TUNE - Allows you to fine-tune the entire pitch of the organ up or down, and select the tuning temperament for the Drawbars (See page 81). Touch either the Number 3 or Number 4 Select Touch Button to control this Advanced Feature.

    GLIDE - Allows you to program the characteristics of the Glide feature (See page 66). Touch either the Number 5 or Number 6 Select Touch Button to control this Advanced Feature.

    PROFOOT - Allows you to program the functions of the two ProFoot Foot Switches (See page 137). Touch either the Number 7 or Number 8 Select Touch Button to control this Advanced Feature.

    VOIC.EDIT - Allows you to program the characteristics of the Orchestral, User or Ensemble voices (See page 39). Touch either the Number 9 or Number 10 Select Touch Button to control this Advanced Feature.

    USERVOICE - Allows you to edit and name User Voices (See page 35). Touch either the Number 11 or Number 12 Select Touch Button to control this Advanced Feature.

    PRESET - Allows you to select how the Drawbars work with the Presets and retrieve different factory-programmed Preset Banks (See page 55). Touch either the Number 13 or Number 14 Select Touch Button to control this Advanced Feature.

    CONTROL - Allows you to set the Upper and Lower limits of the Pitch Wheel for Upper and Lower Manuals and Pedal Keyboard, and allows you to set the characteristics for the Modulation Wheel (See page 67). Touch either the Number 15 or Number 16 Select Touch Button to control this Advanced Feature.

Menu Mode - Screen 2

From Screen 1 of the Menu Mode, touch the PAGE UP Select Touch Button once. The Information Center Display should look like this for Screen 2 of the Menu Mode:
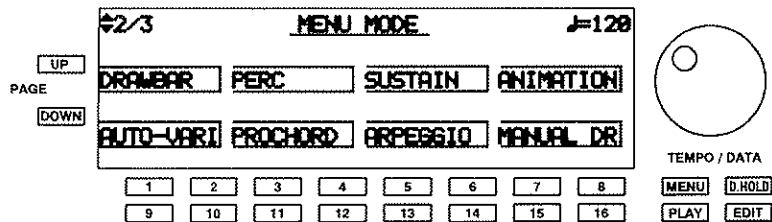
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┌─────────────────────────────────────────┐
│ ⬍2/3          MENU MODE          ♩=120   │   ╭───────╮
│ ┌──┐                                     │   │   ○   │
│ │UP│  ┌──────┐┌──────┐┌────────┐┌────────┐│   │       │
│ └──┘  │DRAWBAR││ PERC ││ SUSTAIN││ANIMATION││  │       │
│PAGE   └──────┘└──────┘└────────┘└────────┘│   │       │
│ ┌────┐ ┌───────┐┌────────┐┌───────┐┌──────┐│  ╰───────╯
│ │DOWN│ │AUTO-VARI││PROCHORD││ARPEGGIO││MANUAL DR││  TEMPO / DATA
│ └────┘ └───────┘└────────┘└───────┘└──────┘│
└─────────────────────────────────────────┘
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Eight (8) choices should now appear in the display window.

Touching a numbered Select Touch Button will enter the Information Center Display into an Advanced Feature selection.

This is a brief explanation of these 8 functions:

DRAWBAR - Allows you to modify the characteristics of the Drawbars, and set the amount of Key Click for Upper and Lower Manuals and Pedal Keyboard, as well as Normal or Slow Attack for Upper and Lower Manuals and Pedal Keyboard (See page 15). Touch either the Number 1 or Number 2 Select Touch Button to control this Advanced Feature.

PERCUSS - Allows you to change the characteristics of the Percussion (See page 17). Touch either the Number 3 or Number 4 Select Touch Button to control this Advanced Feature.

SUSTAIN - Allows you to set the Sustain Length for Upper and Lower Manuals and Pedal Keyboard (See page 26). Touch either the Number 5 or Number 6 Select Touch Button to control this Advanced Feature.

ANIMATION - Allows you to change the characteristics of the built-in digital Leslie, set the Speed of the Vibrato for Upper and Lower Manuals and set the amount of Overdrive that you prefer (See pages 20,21, &.29). Touch either the Number 7 or Number 8 Select Touch Button to control this Advanced Feature.

AUTO-VARI - Allows you to program the Auto-Vari Rhythms & Styles the way that you prefer (See page 48). Touch either the Number 9 or Number 10 Select Touch Button to control this Advanced Feature.

PROCHORD - Allows you to change the characteristics of the ProChord feature (See page 62). Touch either the Number 11 or Number 12 Select Touch Button to control this Advanced Feature.

ARPEGGIO - Allows you to change the characteristics of the AutoArpeggio feature (See page 61). Touch either the Number 13 or Number 14 Select Touch Button to control this Advanced Feature.

MANUAL DR - Allows you to change the characteristics of the Manual Drum feature (See page 58). Touch either the Number 15 or Number 16 Select Touch Button to control this Advanced Feature.

Menu Mode - Screen 3

From Screen 2 of the Menu Mode, touch the PAGE UP Select Touch Button once. The Information Center Display should look like this for Screen 3 of the Menu Mode:

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┌─────────────────────────────────────────┐
│ ⬍3/3          MENU MODE          ♩=120   │   ╭───────╮
│ ┌──┐                                     │   │   ○   │
│ │UP│  ┌────────┐┌──────┐┌────────┐┌──────┐│   │       │
│ └──┘  │MIDI EDIT││ DISK ││SONG/SET││SYSTEM││   │       │
│PAGE   └────────┘└──────┘└────────┘└──────┘│   ╰───────╯
│ ┌────┐ ┌───────┐                         │   TEMPO / DATA
│ │DOWN│ │DEFAULT│                         │
│ └────┘ └───────┘                         │
└─────────────────────────────────────────┘
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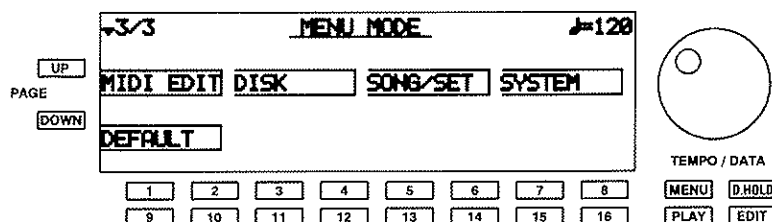
Five (5) choices should now appear in the display window.

Touching a numbered Select Touch Button will enter the Information Center Display into an Advanced Feature selection.

This is a brief explanation of these 5 functions:

MIDI EDIT - Allows you to set the overall MIDI parameters for the instrument, including MIDI Channels information, MIDI Program information and MIDI Controller information, and allows you to perform a MIDI Data Dump to a MIDI data recorder or to another XT-100 or XH-200 organ. (See page 87.) Touch either the Number 1 or Number 2 Select Touch Button to control this Advanced Feature.

DISK - Allows you to format Floppy Disks and set up a Song Disk for Chain Play operationusing the Disk Drive. (See pages 72, 76.) Touch either the Number 3 or Number 4 Select Touch Button to control this Advanced Feature.

SONG/SET - Allows you to load, save or delete Song or Setup (Combination Preset) data using the Disk Drive. (See the section Using the DiskDrive.) Touch either the Number 5 or Number 6 Select Touch Button to control this Advanced Feature.

SYSTEM - Allows you to change certain characteristics which affect the entire organ. (See page 81.) Touch either the Number 7 or Number 8 Select Touch Button to control this Advanced Feature.

DEFAULT - Allows you to perform a System All Reset of the instrument. (See page.) Touch either the Number 9 or Number 10 Select Touch Button to control this Advanced Feature.

Touch the PAGE UP Select Touch Button again and Screen 1 will reappear.

These are the Menu Mode functions. Their operation is discussed in greater detail under separate sections of this Owner's Playing Guide.

NOTE: When using the Information Center Display to access Advanced Features, you may notice an arrow and numbers such as "1/2", "1/4", etc., in the upper left-hand corner of the display. This indicates that the selected Advanced Feature Menu has more than one screen. In this case, the different selections are accessed by touching the PAGE UP or PAGE DOWN Select Touch Buttons.

♦ **"Shortcuts"**

Sometimes it may be desirable to access an Advanced Feature more quickly than can be done by using the Touch Buttons on the Information Center Display. Because of this, your Hammond Organ has what are called "Shortcuts" to many Advanced Feature Menus. You can "shortcut" to an Advanced Feature associated with a particular function by pressing and holding a Touch Tab controlling that function.

For example, suppose you wanted to make changes to the characteristics of the digital Leslie. Usually, you would touch the MENU Select Touch Button to enter the MENU Mode, touch the PAGE UP Select Touch Button to see Screen 2, touch the Number 7 or Number 8 Select Touch Button to call up the ANIMATION Menu, then make your changes. However, if you touch and hold either of the two LESLIE Touch Tabs (LESLIE ON or LESLIE FAST), you will see the portion of the ANIMATION Menu pertaining to Leslie immediately display. This provides a quick and easy way to make changes to the sound or the operation of the organ if you wish to do so.

Many, but not all, of the Advanced Features can be accessed via Shortcuts. In each section of this Guide, if an Advanced Feature has a Shortcut, it will be explained in the section dealing with that particular Advanced Feature. An Advanced Feature which does not have a Shortcut will usually be found in the first screen of the MENU Mode. This is done to minimize the number of button presses necessary to access an Advanced Feature.

NOTE: A few Advanced Feature Menus can be accessed only via a Shortcut. This is explained in the appropriate section or sections of this Guide.

DRAWBARS & PERCUSSION

♦ Drawbars

Your Hammond Organ has two sets of nine Drawbars, one for each manual. Drawbars, often called Tonebars, are the heart and the basis of the renowned Hammond Sound and have been used since the first Hammond Organ Model A introduced in 1935.

There are approximately 253,000,000 possible sound combinations that can be produced by these Drawbars. Each Drawbar consists of sine waves of different pitches (which means tone depth). The illustration below shows how each Drawbar relates to the manual when middle "C" is pressed.

PIPE PITCH	16'	5 1/3'	8'	4'	2 2/3'	2'	1 3/5'	1 1/3'	1'
SCALE INTERVAL	SUB-OCTAVE	5th	UNISON	8th	12th	15th	17th	19th	22nd
STOP NAME	BOURDON	QUINT	PRINCIPAL	OCTAVE	NAZARD	BLOCK FLÖTE	TIERCE	LARIGOT	SIFFLÖTE

MIDDLE "C"
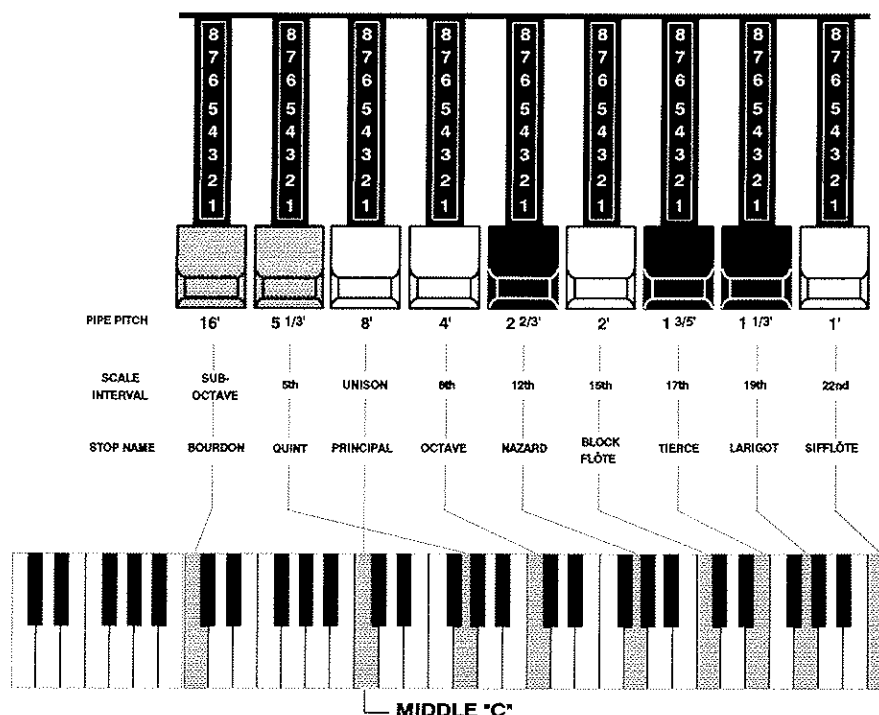
Each Drawbar is marked with a number followed by a footage mark. For example, the first white Drawbar is marked "8'". This is pipe organ terminology indicating that the pipe used to produce the lowest note on the keyboard on a pipe organ is actually eight feet long. The numbers from "1" to "8" on each Drawbar represent degrees of loudness - number 1 being the softest, and number 8 being the loudest.

Typical Drawbar Registration Patterns For The Four Families Of Organ Sound

♦ Flute family (2 step pattern)
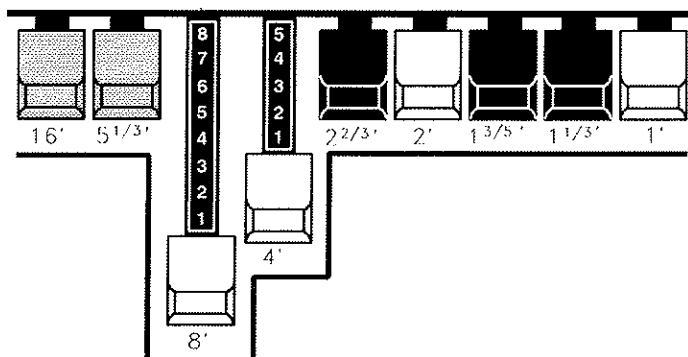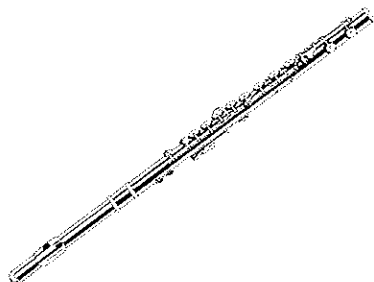
Flute Tones

Accompaniment Flute 8' I	00 8460 000
Accompaniment Flute 8' II	00 3220 000
Accompaniment Flute 8' III	00 8600 000
Chorus of Flutes 16'	80 8605 002
Orchestral Flute 8'	00 3831 000
Piccolo 2'	00 0006 003
Stopped Flute 8'	00 5020 000
Tibia 8'	00 7030 000
Tibia 4'	00 0700 030
Tibia (Theater) 16'	80 8605 004
Wooden Open Flute 8'	00 8840 000

♦ Reed family (triangle pattern)
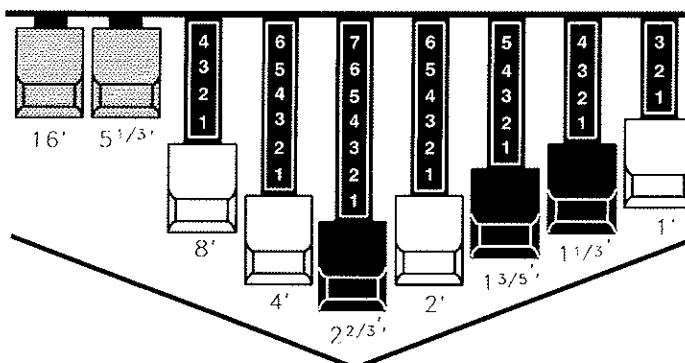
Reed Tones

Bassoon 16'	44 7000 000
Clarinet 8'	00 6070 540
English Horn 8'	00 3682 210
Flugel Horn 8'	00 5777 530
French Horn	00 7654 321
Kinura 8'	00 0172 786
Oboe 8"	00 4764 210
Trombone 8'	01 8777 530
Trumpet 8'	00 6788 650
Tuba Sonora 8'	02 7788 640
Vox Human 8'	00 4720 123

♦ Diapason family (check mark pattern)
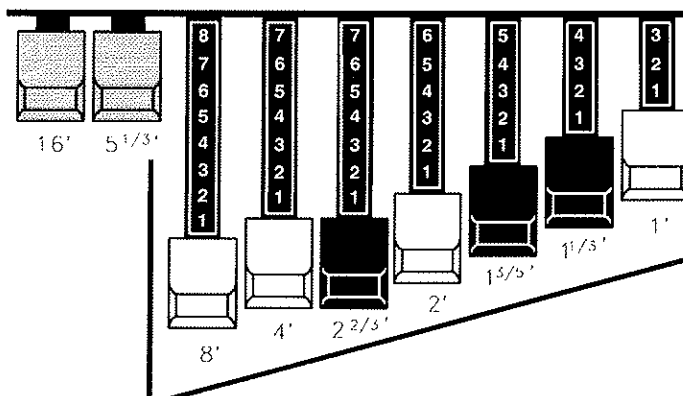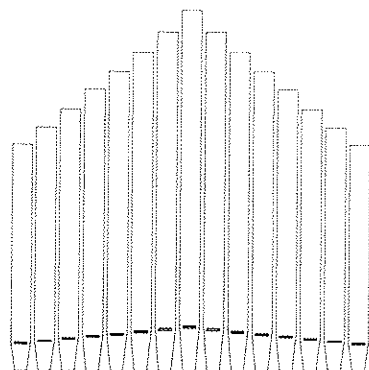
Diapason Tones

Accomp. Diapason 8'	00 8874 210
Chorus Diapason 8'	00 8686 310
Diapason 8'	00 7785 321
Echo Diapason 8'	00 4434 210
Harmonic Diapason 16'	85 8524 100
Harmonic Diapason 8'	00 8877 760
Harmonic Diapason 4'	00 0606 045
Horn Diapason 8'	00 8887 480
Open Diapason 8'	01 8866 430
Solo Diapason	01 8855 331
Wood Diapason 8'	00 7754 321

♦ String family (bow pattern)
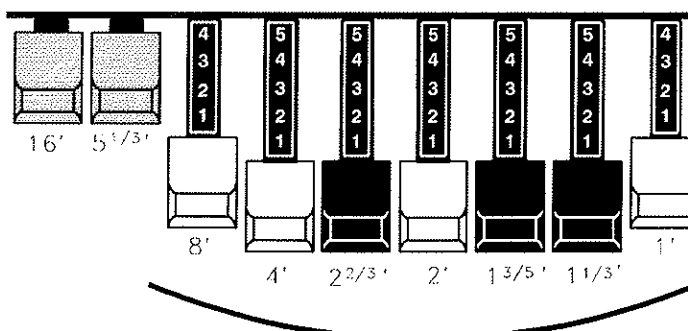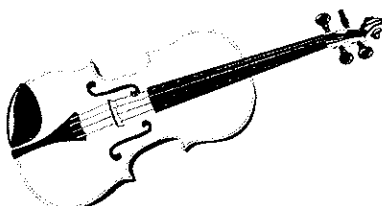
String Tones

Cello 8'	00 3564 534
Dulciana 8'	00 7770 000
Gamba 8' I	00 3484 443
Gemshorn 8'	00 4741 321
Orchestral String 8'	00 1464 321
Salicional 8'	00 2453 321
Solo Viola 8'	00 2474 341
Solo Violin 8'	00 3654 324
Viola da Gamba 8'	00 2465 432
Violina 4'	00 0103 064
Violone 16	26 3431 000

◆ Pedal Drawbars
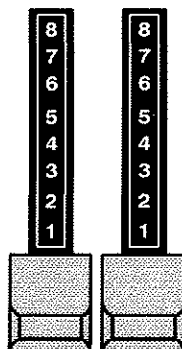
The two brown Drawbars located between the Drawbars for the Upper and Lower Manuals control the sounds produced by the Pedal Keyboard. The first Pedal Drawbar produces a tone at 16' pitch for a deep foundation bass, while the second Pedal Drawbar produces a tone at 8' pitch, or one octave higher.

◆ Drawbar Touch Tabs

```
( DRAWBAR )
```

UPPER DRAWBAR CANCEL	UPPER SUSTAIN	PEDAL SUSTAIN
LOWER DRAWBAR CANCEL	LOWER SUSTAIN	PEDAL LONG

This group of Touch Tabs located to the right of the Information Center Display allows you to control various functions of the Drawbars.

Upper and Lower Drawbar Cancel

These two Touch Tabs are useful if Orchestral, Custom or Ensemble Voices are used with the Drawbars. Touching either of these two Touch Tabs "ON" (LED lit) will silence the Drawbars, leaving the other voice sections intact.

Upper and Lower Sustain

When these Touch Tabs are "ON" (LED lit), a lingering effect is added to the Manual Drawbar tones.

Pedal Sustain & Pedal Long

When the Pedal Sustain Touch Tab is "ON" (LED lit), a medium lingering effect is added to the Pedal Drawbar tones. When the Pedal Long Touch Tab is "ON" in conjunction with the Pedal Sustain Touch Tab (both LED's lit), a long lingering effect is added to the Pedal Drawbar tones.

NOTE: Sustain is covered in more depth in the Effects section of this Guide starting on page 25.

► Drawbar Edit Menu
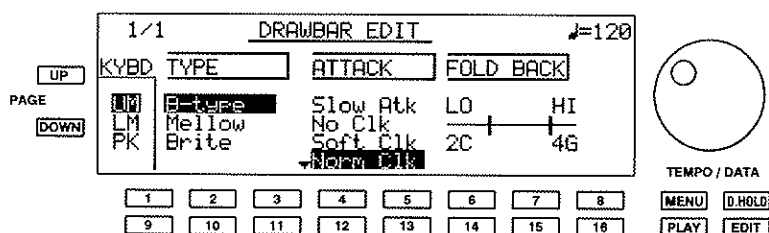
```
  ┌──────────────────────────────────┐
  │ 1/1        DRAWBAR EDIT     ♩=120 │
  │KYBD TYPE       ATTACK   FOLD BACK │
  │ UM  B-type     Slow Atk  LO    HI │
  │ LM  Mellow     No Clk    ├─────┤  │
  │ PK  Brite      Soft Clk 2C    4G  │
  │                Norm Clk           │
  └──────────────────────────────────┘
```

This Advanced Feature Menu allows you to make various changes to the characteristics of the Drawbars.

Accessing the Drawbar Edit Menu using the Menu Touch Buttons

1.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch the PAGE UP Select Touch Button once. Screen 2 of the MENU Mode will now display. You will now see "2/3" in the upper left corner of the Information Center Display.

3.   Touch either the Number 1 or Number 2 gray Select Touch Buttons. The words, "DRAWBAR EDIT" will now display at the top of the screen.

Accessing the Drawbar Edit Menu using the Shortcut

Touch and hold either the Upper Drawbar Cancel or Lower Drawbar Cancel Touch Tab. After approximately 1 second, the words, "DRAWBAR EDIT" will display at the top of the screen.

You are now in the Drawbar Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the Drawbars. These changes are explained below.

Manual Selection

Use the Number 1 Select Touch Button to scroll up through the Manual choices. You can select "UM" (Upper Manual), "LM" (Lower Manual) or "PK" (Pedal Keyboard). The current choice will be displayed in reverse video (green lettering against a black background).

Use the Number 9 Select Touch Button to scroll down through the Manual choices.

Drawbar Voice Mode

This Advanced Feature allows you to change the overall sound of the Drawbars. You can select: (1) "B-type", which reproduces the sound of the B-3 tone-wheel generator, (2) "Mellow", which produces a very pure sine-wave tone quality, or (3) "Brite", which adds extra frequencies to the higher-pitched Drawbar tones for a very brilliant sound. The current choice will be displayed in reverse video (green lettering against a black background).

Use either the Number 2 or Number 3 Select Touch Buttons to scroll up through the selections.

Use either the Number 10 or Number 11 Select Touch Buttons to scroll down through the selections.

Attack - Key Click Volume

Each time a key was depressed on a tone-wheel Hammond Organ, a key-pop or click was produced. This Advanced Feature, you can change the type of attack or the personality of the key click. You may select "Slow Atck", "No Clk", "Soft Clk", "Norm Clk" or "Max Clk". The default setting is "Norm Clk" The current choice will be displayed in reverse video (green lettering against a black background).

Use either the Number 4 or Number 5 Select Touch Button to scroll up through the selections.

Use either the Number 12 or Number 13 Select Touch Button to scroll down through the selections.

Drawbar Fold Back

On tone-wheel Hammond Organs such as the B-3, the lower and higher-pitched Drawbars "folded back", or repeated the notes of other keys. This Advanced Feature allows you to set the upper and lower frequency limits of the Drawbars.

Use the Number 6 and Number 7 Select Touch Buttons to set the lower frequency limit.

Use the Number 14 and Number 15 Select Touch Buttons to set the upper frequency limit.

NOTE: You can exit by touching the PLAY Select Touch Button.

◆ Percussion - Touch-Response Percussion

PERCUSSION

SECOND HARMONIC	THIRD HARMONIC
FAST DECAY	SOFT

The Percussion controls consist of four separate Touch Tabs, located immediately to the left of the Information Center Display, which control Percussion tones playable from the Upper Manual.

NOTE: To hear the tones produced by the Percussion Voice Touch Tabs 2 nd/$_\alpha$ 3, the keys of the Upper Manual normally must be played in a detached (non-Legato) manner. If you play a single note and then hold it down while playing other keys, the Percussion voice will not play again until you release all keys and again play detached notes.

"Touch-Response Percussion" is very useful for highlighting single notes, full chords, even entire songs.

Second Harmonic

The tone for this harmonic is the same as the sound derived from the 4' Drawbar. Combining this 2nd harmonic to the Drawbars will produce bright and clear sounds.

Third Harmonic

This harmonic tone is the same one produced by the 2 2/3' Drawbar. Combining this 3rd harmonic to the Drawbars will produce powerful and heavy sounds.

Fast Decay

When this Touch Tab is in its normal state (LED not lighted) the Percussion tone will decay (die away) slowly like a chime. When FAST DECAY is "ON" (LED lighted) the Percussion effect will decay rapidly like a xylophone or glockenspiel.

Soft

This control regulates the volume of the Percussion tone. When it is in its normal state (LED not lighted), the Percussion effect will be very prominent compared to the tones produced by the Upper Manual Drawbars. When this Touch Tab is "ON" (LED lighted) the Percussion effect is lower in volume or much less prominent

▶ Percussion €dit Menu
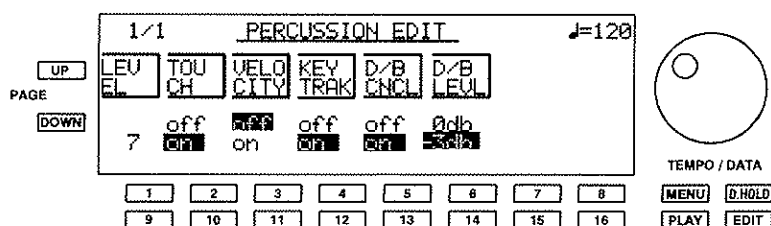
This Advanced Feature Menu allows you to make various changes to the characteristics of the Percussion.

Accessing the Percussion €dit Menu using the Menu Touch 6uttons

1. Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display.

2. Touch the PAGE UP Select Touch Button once. Screen 2 of the MENU Mode will now display. You will now see "2/3" in the upper left corner of the Information Center Display.

3. Touch either the Number 3 or Number 4 gray Select Touch Buttons. The words, "PERCUSSION EDIT" will now display at the top of the screen.

Accessing the Percussion €dit Menu using the Shortcut

Touch and hold any of the four Percussion Touch Tabs. After approximately 1 second, the words, "PERCUSSION EDIT" will display at the top of the screen.

You are now in the Percussion Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the Percussion. These changes are explained below.

Percussion Level

This Advanced Feature allows you to set the overall volume level of the Percussion tones. This will allow you to balance the amount of "normal" and "soft" Percussion sound (the choices provided by the Touch Tabs) with the sound produced by the Drawbars.

Use the Number 1 Select Touch Button to scroll up through the numbers.

Use the Number 9 Select Touch Button to scroll down through the numbers.

Percussion Touch

This Advanced Feature allows you to turn "ON" or "OFF" the Percussion Touch-Response. When turned "ON" Percussion tones will sound only if you play the keys in a detached manner (non-legato). Any degree of detachment is sufficient. This replicates the Touch-Response Percussion function on the original models B-3, C-3, RT-3 or A-100. When turned "OFF", each key will sound when played regardless of whether other keys are being held. This replicates the Percussion function on the X-66, Concorde and later model Hammond Organs.

Use the Number 2 Select Touch Button to turn Percussion Touch "OFF".

Use the Number 10 Select Touch Button to turn Percussion Touch "ON".

Percussion Velocity Sensitivity

When turned "ON", the volume of the Percussion tone is controlled by how fast keys are played. The faster keys are played, the louder the Percussion sounds. The more slowly keys are played, the softer the Percussion sounds. When turned "OFF", each key will sound at the same volume level when played.

Use the Number 3 Select Touch Button to turn Percussion Velocity "OFF".

Use the Number 11 Select Touch Button to turn Percussion Velocity "ON".

Percussion Key Tracking

On the original Hammond Organs with Touch-Response Percussion Control, such as the B-3, C-3, RT-3 and A-100, the Percussion sounds would taper off slightly at higher frequencies. This Advanced Feature is designed to replicate this characteristic of the Percussion.

Use the Number 4 Select Touch Button to turn Percussion Key Tracking "OFF".

Use the Number 12 Select Touch Button to turn Percussion Key Tracking "ON".

Percussion Drawbar Cancel

When Percussion Drawbar Cancel is turned "ON", the 8th harmonic Drawbar will be canceled when Percussion is "ON". This replicates the original Hammond Organs with Touch-Response Percussion Control, such as the B-3, C-3, RT-3 and A-100 series. When this feature is turned "OFF", the 8th harmonic Drawbar (1') will continue to sound while Percussion is "ON". This replicates later Hammond Organs with Percussion.

Use the Number 5 Select Touch Button to turn Percussion Drawbar Cancel "OFF".

Use the Number 13 Select Touch Button to turn Percussion Drawbar Cancel "ON".

Percussion Drawbar Level

This Advanced Feature allows you to set the Drawbar Level when Percussion is "ON" at normal volume (SOFT Touch Tab "OFF"). When "-3db" is chosen, the Drawbars will be reduced by -3db (-3 decibels) in loudness when Percussion is "ON" at normal volume. This replicates the original Hammond Organs with Touch-Response Percussion Control. When "0db" is chosen, the volume of the Drawbars will stay at the same level, or "0db", when Percussion is "ON" at normal volume.

Use the Number 6 Select Touch Button to select "-3db".

Use the Number 14 Select Touch Button to select "0db".

NOTE: A "decibel" is a unit of measurement for the loudness of sound waves.

EFFECTS

The organ has the effects of Vibrato & Chorus, Leslie, Sustain, Reverb and Overdrive. By adding such effects, you can enhance the Drawbar and Percussion tones. In the following sections, each effect is explained in detail.

♦ Vibrato & Chorus

```
┌─────────── VIBRATO & CHORUS ──────────────┐
└───────────────────────────────────────────┘
┌──── V3 / C3 ────┐
┌──────┐┌──────┐┌────────┐┌────────┐┌────────┐
│      ││      ││        ││        ││        │
│  V1  ││  V2  ││        ││  ON    ││  ON    │
│  C1  ││  C2  ││ CHORUS ││ UPPER  ││ LOWER  │
│      ││      ││        ││        ││        │
└──────┘└──────┘└────────┘└────────┘└────────┘
```
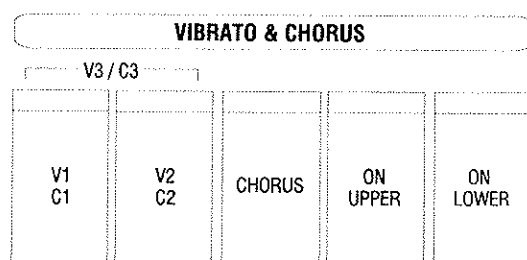
Your Hammond Organ has five Touch Tabs which control the degrees of Vibrato and Chorus, and from which manual the Vibrato or Chorus effects will sound.

Vibrato/Chorus ON / OFF

Use the ON UPPER and/or ON LOWER Touch Tabs found in the Vibrato and Chorus control section to select on which manual or manuals you wish to hear the Vibrato or Chorus effect. To turn the Vibrato or Chorus effect "ON" for either Manual, touch the appropriate Touch Tab "ON" (LED lit).

V1 - (Small Vibrato) - This produces the vibrato equivalent of most orchestral solo instruments.

V2 - (Wide Vibrato) - This is the standard depth vibrato to produce the effect of a theater organ.

V3 - (Full Vibrato) - By pressing both the V1/C1 and the V2/C2 Touch Tabs at the same time, you turn "ON" Vibrato 3. Vibrato 3 gives the fullest amount of vibrato, adding much warmth and enhancing your music.

Chorus

When the CHORUS Touch Tab is used, *half* of the tone is heard without Vibrato, and *half* contains the vibrato amount selected by the first two Touch Tabs.

C1 - (Small Chorus) - This produces the light chorus effect.

C2 - (Wide Chorus) - This is the standard depth of the chorus effect.

C3 - (Full Chorus) - By pressing both the V1/C1 and the V2/C2 Touch Tabs at the same time along with the CHORUS Touch Tab, you get the fullest amount of Chorus, adding warmth that enhances your Drawbar settings.

▶ Vibrato €dit Page (Animation €dit Menu)

```
*4/4            ANIMATION EDIT        ♩=120
   UP      VIBR RATE OVERDRIVE
  PAGE        Slow
  DOWN        Mid
              Normal        0
             ▾Mid Fast                    TEMPO / DATA

        1    2    3    4    5    6    7    8    MENU  D.HOLD
        9    10   11   12   13   14   15   16   PLAY  EDIT
```
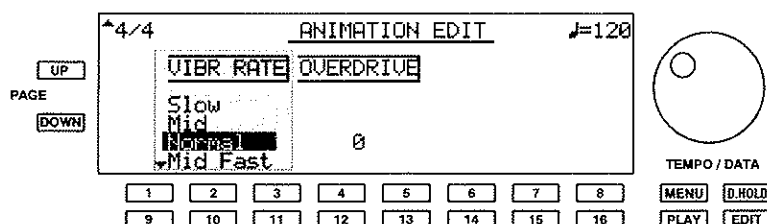
This Advanced Feature Menu Page allows you to select from 1 of 5 separate Vibrato/Chorus Rate which affects both the Upper and Lower Manuals. The default setting is "NORMAL".

Accessing the Vibrato €dit Page using the Menu Touch Buttons

1.   From any of the PLAY Screens, touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch the PAGE UP Select Touch Button once. Screen 2 of the MENU Mode will now display. You will now see "2/3" in the upper left corner of the Information Center Display.

3.   Touch either the Number 7 or Number 8 gray Select Touch Buttons. The words, "ANIMATION EDIT" will now display at the top of the screen. The Animation Edit Menu has 4 screens, so you will see "1/4" in the upper left corner of the Information Center Display.

4.   Touch the PAGE UP Select Touch Button three times. You will now see "4/4" in the upper left corner of the Information Center Display and the words, "VIBR RATE" on the left side of the display.

Accessing the Vibrato €dit Page using the Shortcut

Touch and hold any of the five Vibrato/Chorus Touch Tabs. After approximately 1 second, you will see "4/4" in the upper left corner of the Information Center Display and the words, "VIBR RATE" on the left side of the display.

You are now in the Vibrato Edit Page.

Vibrato Rate

This Advanced Feature allows you to set the rate of the Vibrato/Chorus. You can select "SLOW", "MID", "NORMAL", "MID FAST", or "FAST". The default setting is "FAST".

Use either the Number 2 or Number 3 Select Touch Button to scroll up through the selections.

Use either the Number 10 or Number 11 Select Touch Buttons to scroll down through the selections.

◆ Leslie

Your Hammond Organ has a built-in digital Leslie effect that replicates the sound of a twin-rotor Leslie Speaker cabinet. In addition, the organ can also be used with a variety of different Leslie Speaker cabinets. There is a full explanation of how to use the organ with a Leslie Speaker cabinet starting on

page 24. The following paragraphs explain how the internal digital Leslie of your Hammond Organ works.

Leslie Touch Tabs

```
┌─────────────────────┐
│      LESLIE         │
└─────────────────────┘

┌──────────┬──────────┐
│          │          │
│  LESLIE  │  LESLIE  │
│   ON     │  FAST    │
│          │          │
└──────────┴──────────┘
```
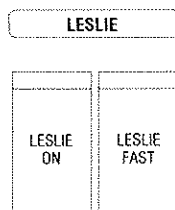
These two Touch Tabs allow you to control either the internal digital Leslie or the rotors of a connected Leslie Speaker cabinet.

LESLIE ON Touch Tab

When this Touch Tab is "OFF" (LED not lit), the Drawbars will sound through the normal stationary channels of the organ. Touching the LESLIE ON Touch Tab "ON" (LED lit) will change the sounds produced by the Drawbars from the main speaker channel to the internal Leslie channel. The speed of the internal electronic Leslie depends upon the position of the LESLIE FAST Touch Tab.

LESLIE FAST Touch Tab

When this Touch Tab is "OFF" (LED not lit), the Leslie effect is that of an acoustic Leslie Speaker Cabinet with the rotors turning slowly (Chorale). Touching the LESLIE FAST Touch Tab "ON" (LED lit) will cause the Leslie effect to speed up and rotate fast (Tremolo) to produce a rich, full sound.

NOTE: The LESLIE FAST Touch Tab will function only if the LESLIE ON Touch Tab is "ON" (LED lit).

▶ Leslie Edit Pages (Animation Edit Menu)

These Advanced Feature Menu Pages allows you to make various changes to the characteristics of the Leslie.

Accessing the Leslie Edit Pages using the Menu Touch Buttons

1.   From any of the PLAY Screens, touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch the PAGE UP Select Touch Button once. Screen 2 of the MENU Mode will now display. You will now see "2/3" in the upper left corner of the Information Center Display.

3.   Touch either the Number 7 or Number 8 gray Select Touch Buttons. The words, "ANIMATION EDIT" will now display at the top of the screen. The Animation Edit Menu has 4 screens, so you will see "1/1" in the upper left corner of the Information Center Display.

Accessing the Leslie Edit Pages using the Shortcut

Touch and hold either of the two Leslie Touch Tabs. After approximately 1 second, the words, "ANIMATION EDIT" will display at the top of the screen.

You are now in the Leslie Edit Pages. You may now use the numbered Select Touch Buttons below the screen to make various changes to the digital Leslie. These changes are explained starting on the next page.

Screen 1 - Leslie Speed

```
▾1/4 Leslie    ANIMATION EDIT        ♩=120
                   SPEED(rpm)     OFF TYPE
          UP         SLOW     FAST
   PAGE
          DOWN       HORN BASS HORN BASS BRAKE
                                          THROUGH
                      36   36   393 393
```
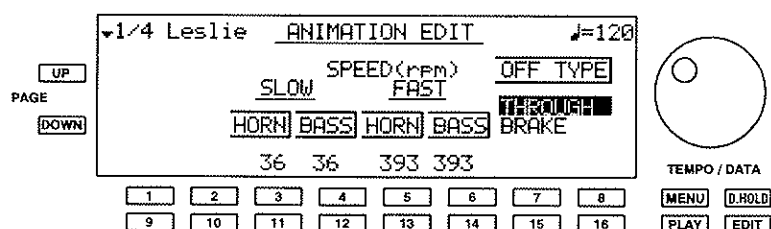
The settings for this Advanced Feature are in the first screen of the Animation Edit Menu. This Advanced Feature allows you to select the speed settings for the digital Leslie Slow & Fast Speeds that you prefer. You can adjust the speeds for the Horn Rotor (high frequencies) and Bass Rotor (low frequencies) separately.

Use the Number 3 Select Touch Button to increase the number setting for the Slow Speed for the Horn Rotor.

Use the Number 11 Select Touch Buttons to decrease the number setting.

Use the Number 4 Select Touch Button to increase the number setting for the Slow Speed for the Bass Rotor.

Use the Number 12 Select Touch Buttons to decrease the number setting.

NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

Use the Number 5 Select Touch Button to increase the number setting for the Fast Speed for the Horn Rotor.

Use the Number 13 Select Touch Buttons to decrease the number setting.

Use the Number 6 Select Touch Button to increase the number setting for the Fast Speed for the Bass Rotor.

Use the Number 14 Select Touch Button to decrease the number setting.

Screen 2/4 - Leslie Time

From the Leslie Speed menu page, touch the PAGE UP Touch Button. You will now see the Leslie Time Menu Page.

```
⇕2/4 Leslie    ANIMATION EDIT        ♩=120
                   TIME(sec)
          UP         RISE     FALL     BRAKE
   PAGE
          DOWN     HORN BASS HORN BASS HORN BASS
                   1.2   7.0 1.0   8.0 1.2  10.0
```
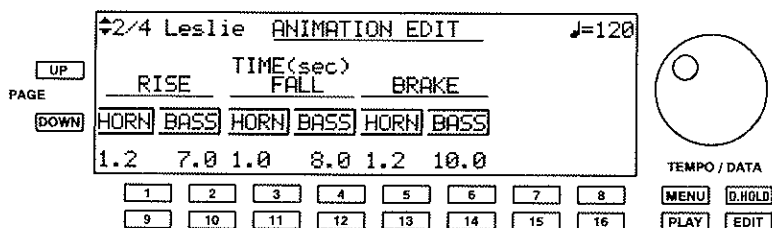
Leslie Rise & Fall Times

Because the animation produced by a Leslie Speaker Cabinet is created mechanically, a certain time is required for the rotors to come up to the Tremolo (fast) speed from either a dead stop or from the Chorale (slow) speed as well as to slow down from Tremolo to Chorale. These are referred to as the Rise & Fall Times. Although each Leslie Speaker is carefully calibrated at the factory, several factors such as motor age and placement of the belts on the pulleys can affect time required for the rotors to speed up and slow down. This Advanced Feature allows you to select the settings for the Rise & Fall

Times of the digital Leslie that you prefer. You can adjust the settings for the Horn Rotor (high frequencies) and Bass Rotor (low frequencies) separately.

Use the Number 3 Select Touch Button to increase the Rise Time for the Horn Rotor.

Use the Number 11 Select Touch Buttons to decrease the Rise Time for the Horn Rotor.

Use the Number 4 Select Touch Button to increase the Rise Time for the Bass Rotor.

Use the Number 12 Select Touch Buttons to decrease the Rise Time for the Bass Rotor.

NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

Use the Number 5 Select Touch Button to increase the Fall Time for the Horn Rotor.

Use the Number 13 Select Touch Buttons to decrease the Fall Time for the Horn Rotor.

Use the Number 6 Select Touch Button to increase the Fall Time for the Bass Rotor.

Use the Number 14 Select Touch Button to decrease the Fall Time for the Bass Rotor.

NOTE: The setting of "0" for the Slow and Fast Speeds enables you to prevent a rotor from turning when the Leslie is switched back and forth from "SLOW" to "FAST". For example, if you want only the Horn Rotor to respond to SLOW/FAST speed selection, set both the Slow and Fast Speeds for the Bass Rotor to "0". With this setting, only the Horn Rotor will run either SLOW or FAST and the Bass Rotor will remain stationary.

Leslie Brake Time

Many Leslie Speakers, in addition to having one or more speeds, also allow the rotors to stop completely or "brake". The time required for the rotors to stop turning is referred to as the Brake Time. Although Leslies are carefully calibrated at the factory, several factors such as motor age and placement of the belts on the pulleys can affect the speeds of the rotors, as well as time required for the rotors to slow down to a dead stop. This Advanced Feature allows you to change the Brake Times for the "rotors" of the inbuilt digital Leslie. You may select Brake Time settings for the Horn and Bass Rotors separately.

Use the Number 5 Select Touch Button to increase the Brake Time for the Horn Rotor.

Use the Number 13 Select Touch Button to decrease the Brake Time for the Horn Rotor.

Use the Number 6 Select Touch Button to increase the Brake Time for the Bass Rotor.

Use the Number 14 Select Touch Button to decrease the Brake Time for the Bass Rotor.

NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

Screen 3 - Leslie Volume Balance & Microphone Setting

From the Leslie Time menu page, touch the PAGE UP Touch Button. You will now see the Leslie Volume Balance & Microphone Setting Menu Page.
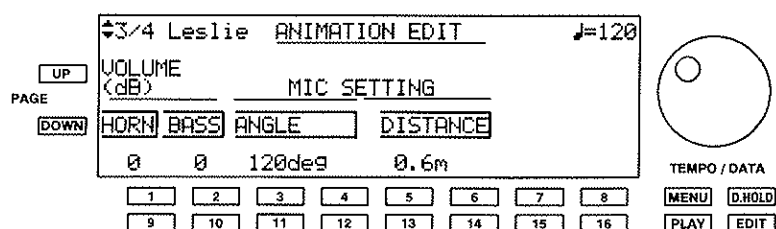
Leslie Volume Balance

This Advanced Feature allows you to adjust the balance between the Horn and Bass Rotors of the digital Leslie.

Use the Number 1 Select Touch Button to increase the volume of the Horn Rotor.

Use the Number 9 Select Touch Button to decrease the volume of the Horn Rotor.

Use the Number 2 Select Touch Button to increase the volume of the Bass Rotor.

Use the Number 10 Select Touch Button to decrease the volume of the Bass Rotor.

NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

Leslie Microphone Setting

When a Leslie Speaker cabinet or combination of cabinets is used in a large facility such as an auditorium or outdoor arena, the Leslie(s) are frequently "miked" to insure that the sound carries adequately. Sound technicians have discovered that the placement of the microphones greatly affects the character of the sound heard by the audience from the Leslie Speaker(s). This Advanced Feature allows you to simulate various microphone settings using the built-in digital Leslie effect. The two settings you can adjust are "ANGLE" and "DISTANCE".

The ANGLE setting recreates the effect of two microphones - one for the Horn rotor and one for the Bass rotor. "0" setting is monaural, or both microphones placed in the center. Each higher number has the effect of moving the microphones further apart from each other.

Use either the Number 3 or the Number 4 Select Touch Button to increase the number setting.

Use either the Number 11 or the Number 12 Select Touch Button to decrease the number setting.

The DISTANCE setting recreates the effect of setting the microphones at different distances from a Leslie Speaker cabinet, since distance has an effect on how the Leslie Speaker reproduces through a sound system.

Use either the Number 5 or the Number 6 Select Touch Button to increase the number setting.

Use either the Number 13 or the Number 14 Select Touch Button to decrease the number setting.

NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

NOTE: Both these are subtle effects and may require careful listening to detect the differences among the various settings.

♦ Using a Leslie Speaker Cabinet

Your Hammond Organ is designed to directly interface with a Leslie Speaker Cabinet. A Leslie Speaker cabinet, in addition to amplifying the basic sound, also uses mechanical rotors which turn at different speeds to add different animation effects. The data chart below shows the options available.

LESLIE ROTOR SPEED OPTIONS	
Description	Function
SLOW (Chorale)	Rotors will turn slowly, producing an effect suitable for use with hymns, classical style music and some slower songs.
OFF	Rotors do not turn. Animation can be provided by using Vibrato and Chorus.
FAST (Tremolo)	Rotors will speed up and rotate fast to produce a rich full sound.

NOTE: The above table shows the options which can be selected for either a single- or multi-channel Leslie Speaker cabinet using an 11-pin interface.

The speed of the rotors of a connected Leslie Speaker cabinet can be controlled either by using the Touch Tabs or by using the ProFoot Foot Switches. The ProFoot Foot Switches are explained starting on page 64.

ECHO ONLY and MAIN & ECHO Touch Buttons

ECHO ONLY	MAIN & ECHO
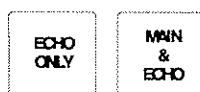
These Touch Buttons are located between the Upper and Lower Manuals to the right of the Combination Presets. If a Leslie Speaker cabinet is used, these allow you to choose among using the Leslie cabinet sound only, the console sound only, or the console and the Leslie cabinet together.

ECHO ONLY Touch Button

This Touch Button will silence the organ speakers, allowing only the Leslie cabinet to sound.

MAIN & ECHO Touch Button

This Touch Button will allow both the organ speakers and the Leslie cabinet to sound.

NOTE: The ECHO ONLY and MAIN & ECHO Touch Buttons will function only if a Leslie Speaker cabinet is connected to the organ. If no Leslie is plugged into the 11-pin Leslie socket on the back of the organ, touching the ECHO ONLY or MAIN & ECHO Touch Buttons will have no effect. In this way, you cannot accidentally silence the organ if no Leslie cabinet is connected.

◆ Sustain

DRAWBAR		
UPPER DRAWBAR CANCEL	UPPER SUSTAIN	PEDAL SUSTAIN
LOWER DRAWBAR CANCEL	LOWER SUSTAIN	PEDAL LONG

The Sustain controls, located to the right of the Information Center Display, are used with the Drawbars to produce a lingering tone when keys are released. It is suited for producing sounds like harps, chimes or bells.

The Sustain controls are divided into three control groups - Upper, Lower and Pedal.

Upper Sustain

When this Touch Tab is "ON" (LED lit), Sustain is added to the Upper Manual Drawbar tones.

Lower Sustain

When this Touch Tab is "ON" (LED lit), Sustain is added to the Lower Manual Drawbar tones.

Pedal Sustain

When this Touch Tab is "ON" (LED lit), a medium amount of Sustain is added to the Pedal tones.

Pedal Long

When this Touch Tab is "ON" in conjunction with the Pedal Sustain Touch Tab (both LED's lit), a long lingering effect is added to the Pedal tones.

▶ Sustain Edit Menu

```
┌─────────────────────────────────────────┐
│ 1/1        SUSTAIN EDIT          ♩=120   │      ╭───────╮
│ KYBD  SUSTAIN │ LENGTH │                 │     ╱   ◯    ╲
│ UM   DRAWBAR    SHORT                    │    │          │
│ LM   ENSEMBLE   MID                      │     ╲        ╱
│ PK   BOTH       LONG                     │      ╰───────╯
└─────────────────────────────────────────┘      TEMPO / DATA

  [ 1 ][ 2 ][ 3 ][ 4 ][ 5 ][ 6 ][ 7 ][ 8 ]     [MENU][D.HOLD]
  [ 9 ][ 10][ 11][ 12][ 13][ 14][ 15][ 16]     [PLAY][EDIT]
```
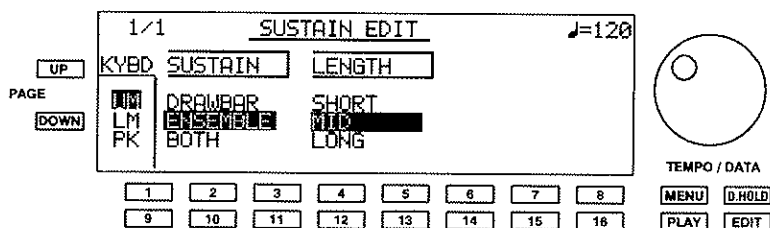
This Advanced Feature Menu allows you to set the amount of Sustain for Upper Manual, Lower Manual and Pedals.

Accessing the Sustain Edit Menu using the Menu Touch Buttons

1.   Touch the gray MENU Select Touch Button to see the various Menu choices.

2.   Touch either the Number 7 or Number 8 gray Select Touch Buttons. The words, "SUSTAIN EDIT" will now display at the top of the screen.

Accessing the Sustain Edit Menu using the Shortcut

Touch and hold any of the four Sustain Touch Tabs (Upper Sustain, Lower Sustain, Pedal Sustain or Pedal Long). After approximately 1 second, the words, "SUSTAIN EDIT" will display at the top of the screen.

You are now in the Sustain Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the Sustain. These changes are explained below.

Sustain Length & Voice Selection

This Menu Page allows you to:

1.   Select whether you want to add Sustain to the Drawbars only, Ensemble Voices only, or both Drawbars and Ensemble Voices. You may select different settings for Upper Manul, Lower Manual and Pedal Keyboard. The default setting is "BOTH" (Drawbars and Ensemble Voices both receive Sustain).

2.   Select the amount of Sustain that will be added when you touch any of the Sustain Touch Tabs "ON". The default setting for Upper and Lower Manuals is "MID", or a medium amount of Sustain.

Use either the Number 1 or Number 9 Select Touch Buttons to make your manual or pedal selections ("UM", "LM" or "PK").

Use either the Number 2 or Number 3 Select Touch Buttons to scroll up through the Voice selections ("DRAWBAR", "ENSEMBLE" or "BOTH").

Use either the Number 10 or Number 11 Select Touch Buttons to scroll down through the Voice selections.

Use either the Number 4 or Number 5 Select Touch Buttons to scroll up through the Length selections ("SHORT", "MID" or "LONG").

Use either the Number 12 or Number 13 Select Touch Buttons to scroll down through the Length selections.

Pedal Sustain Length Selection

As was explained on the previous page, there are two Pedal Sustain Touch Tabs which give you instant access to two degrees of Pedal Sustain. If you choose, "PK" in the Sustain Edit Menu, you will notice an additional Menu choice which appears on the right side of the Information Center Display. This is so you can select the amount of Pedal Sustain that will be added when either or both of the Pedal Sustain Touch Tabs are "ON" (red LED lit).

Use either the Number 4 or Number 5 Select Touch Buttons to scroll up through the "NORM TIME" or Normal Time selections ("SHORT", "MID" or "LONG"). "NORM TIME" is the amount of Pedal Sustain when only the Pedal Sustain Touch Tab is "ON".

Use either the Number 12 or Number 13 Select Touch Buttons to scroll down through the "NORM TIME" selections.

Use either the Number 6 or Number 7 Select Touch Buttons to scroll up through the "LONG TIME" selections ("SHORT", "MID" or "LONG"). "LONG TIME" is the amount of Pedal Sustain when the Pedal Sustain and Pedal Long Touch Tabs are both "ON".

Use either the Number 12 or Number 13 Select Touch Buttons to scroll down through the "LONG TIME" selections.

NOTE: Remember that the Pedal Long Touch Tab takes effect only if the Pedal Sustain Touch Tab is also "ON" (red LED lit).

♦ Reverb
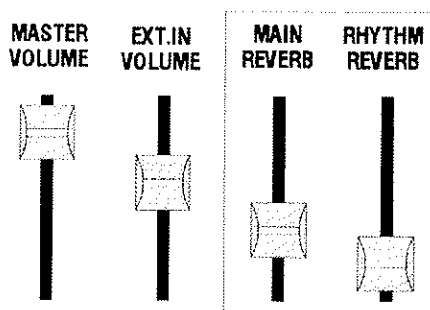
The Reverb Slider Controls are located in the group of 4 Slider Controls to the left and above the Upper Manual. Using Reverb adds the beautiful concert hall effect to all voices when you are playing and counteracts the "deadening" effect of the carpets, drapes and the furniture in your home.

MAIN REVERB Slider Control

This Slider Control allows you to control the total or maximum amount of digital Reverb for the main organ. Slide this control up to increase the amount of Reverb, and down to decrease the amount of Reverb.

RHYTHM REVERB Slider Control

This Slider Control allows you to add Reverb to the Rhythm sounds. Slide this control up to increase the amount of Reverb, and down to decrease the amount of Reverb.

Setting the Reverb Slider Controls to the center position (half way) or more will produce beautiful reverberation suited for classical and theater pipe organ sounds. Setting the Slider Controls below the center position to no less than a quarter of the way will produce brisk reverberation best suited for Big Band, Popular and Jazz styles of music.

NOTE: Reverb will also be added to any external sound sources that come through the LINE IN jacks.

▶ Reverb Edit Menu
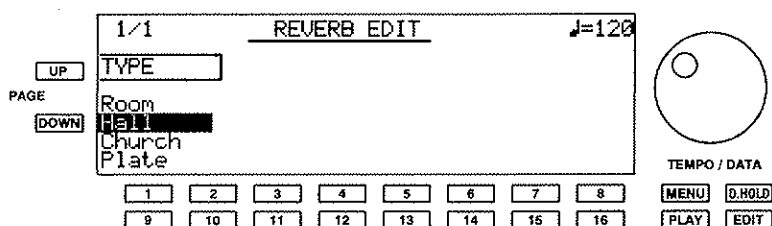
This Advanced Feature allows you to select from four different types of Reverb.

NOTE: This Advanced Feature Menu has no Shortcut. It is accessible only via the Menu Touch Buttons.

Accessing the Reverb Edit Menu

1.   Touch the gray MENU Select Touch Button to display Screen 1 of the MENU Mode.

2.   Touch either the Number 11 or Number 12 gray Select Touch Buttons. The words, "REVERB EDIT" will now display at the top of the screen.

You are now in the Reverb Edit Menu. You may now use the numbered Select Touch Buttons below the screen to change the Reverb. These changes are explained below.

Reverb Type

This Advanced Feature allows you to select the type of Reverb that you prefer. You can select, "ROOM" (a short reverb time such as you might hear in a small room), "HALL" (a moderate amount of reverb such as you might hear in a medium-sized hall), "CHURCH" (a long reverb time such as you might hear in a church or large auditorium) and "PLATE" (a smooth dark reverb such as might be produced from a reverb plate used in a recording studio).

Use either the Number 1 or Number 2 Select Touch Buttons to scroll <u>up</u> through the selections.

Use either the Number 9 or Number 10 Select Touch Button to scroll <u>down</u> through the selections.

◆ Overdrive

<u>Overdrive</u> adds the fuzzy, raspy, "dirty" sound created by the vacuum tubes of a tube-style Leslie Speaker when its volume is pushed past its sound limit.

▶ Overdrive Edit Page (Animation Edit Menu)

```
 ┌─────────────────────────────────────────┐
 │ ▲4/4           ANIMATION EDIT    ♩=120   │
 │  ┌──┐                                     │
 │  │UP│    VIBR RATE OVERDRIVE             │
 │  └──┘                                     │
 │ PAGE     Slow                             │
 │  ┌────┐  Mid                              │
 │  │DOWN│  Normal                           │
 │  └────┘ ▾Mid Fast      0                  │
 └─────────────────────────────────────────┘
```
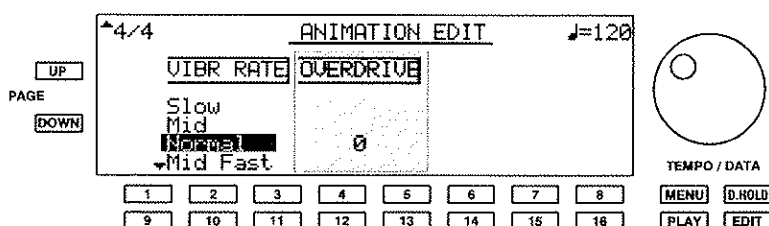
This Advanced Feature Menu Page allows you to adjust the amount of Overdrive that you prefer. The default setting is "0", or no Overdrive.

Accessing the Overdrive Edit Page using the Menu Touch Buttons

1.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch the PAGE UP Select Touch Button once. Screen 2 of the MENU Mode will now display. You will now see "2/3" in the upper left corner of the Information Center Display.

3.   Touch either the Number 3 or Number 4 gray Select Touch Buttons. The words, "ANIMATION EDIT" will now display at the top of the screen. The Animation Edit Menu has 4 screens, so you will see "1/4" in the upper left corner of the Information Center Display.

4.   Touch the PAGE UP Select Touch Button three times. You will now see "4/4" in the upper left corner of the Information Center Display and the word, "OVERDRIVE" in the center of the display.

Accessing the Overdrive Edit Page using the Shortcut

Touch and hold any of the five Vibrato/Chorus Touch Tabs. After approximately 1 second, you will see "4/4" in the upper left corner of the Information Center Display and the words, "OVERDRIVE" in the center of the display. The Vibrato and Overdrive edit functions are combined on the same Menu page in the Animation Edit Menu.

You may now use the numbered Select Touch Buttons below the screen to change the amount of Overdrive.

Use either the Number 4 or Number 5 Select Touch Button to scroll up through the numbers. You can select a value from "0" (no Overdrive) to "15" (maximum Overdrive).

Use either the Number 12 or Number 13 Select Touch Buttons to scroll down through the numbers.

NOTE: In order to hear the Overdrive effect, at least one of the following Touch Tabs must be "ON": Vibrato ON UPPER, Vibrato ON LOWER, LESLIE ON.

VOICE SECTIONS

There are 4 Voice Sections. Starting from the left side of the organ these Sections are:

1.   ORCHESTRAL Voice Section.

2.   CUSTOM Voice Section.

3.   ENSEMBLE Voice Section.

4.   PEDAL Voice Section.

5.   USER VOICE Voice Section

The following is a detailed look at each section.

♦ ORCHESTRAL Voice Section

The Orchestral Voice Section is in two divisions located on the left-hand side of the organ.

Division 1 is the Orchestral Voice Division which has 16 Touch Tabs allowing you a total of 30 Voices.

Division 2 is the Orchestral Control Division, located above the Orchestral Voices. This Control Division contains 8 Touch Tabs.

Orchestral Voices can be used Solo or in combination with the Drawbars and the other voices such as Custom and Ensemble Voices.

Orchestral Voice Division

The Orchestral voice controls have two levels or tracks - MAIN Level and DUAL Level.

ORCHESTRAL VOICE							
PAN FLUTE	OBOE	FRENCH HORN	MUTED TRUMPET	SYNTH BRASS	HAR MONICA	CHURCH ORGAN	
FLUTE	TENOR SAX	CLARINET	TRUMPET	TROMBONE	VIOLIN	ACCOR-DION	CUSTOM 1
GRAND PIANO	ELECTRIC PIANO	JAZZ GUITAR	NYLON STRING GUITAR	VIBRA PHONE	MARIMBA	BANJO	CUSTOM 2
HARPSI CHORD	CLAV	CLEAN GUITAR	NEW AGE PAD	GLOCKEN	STEEL DRUM	CHIMES	
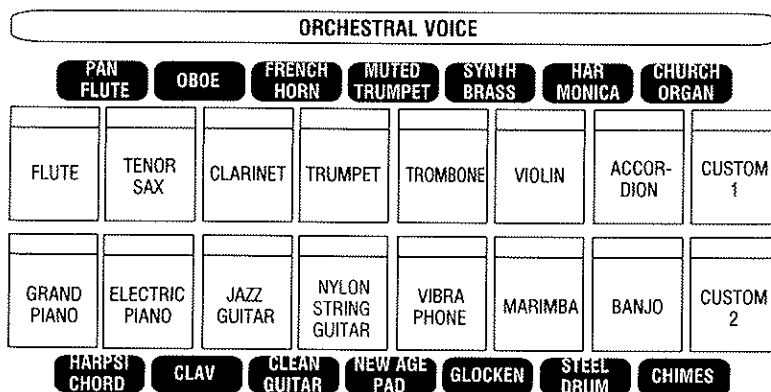
To activate one of the 16 MAIN Level voices simply touch the single Touch Tab of the voice that you wish to use. To activate one of the 14 DUAL Level voices simply touch the two Touch Tabs that are above it or below it. These voices are used one at a time, and all of them affect the entire keyboard.

NOTE: The two Orchestral Voice Touch Buttons marked CUSTOM 1 and CUSTOM 2 can be reprogrammed with other voices via the Voice Select Menu of the Information Center Display. How to do this is covered later in this section under the heading Voice Select Menu starting on page 37. You are also able to adjust the brightness of the Orchestral Voices, depth of Vibrato, and other effects according to your taste via the Voice Edit Menu of the Information Center Display. How to do this is covered later in this section under the heading Voice Edit Menu starting on page 39.

Orchestral Control Division

```
┌─────────────── ORCHESTRAL ───────────────┐

   ┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐
   │   ON   │ │  SOLO  │ │ EFFECT │ │  TONE  │
   │ UPPER  │ │        │ │CONTROL │ │CONTROL │
   └────────┘ └────────┘ └────────┘ └────────┘

   ┌────────┐ ┌────────┐ ┌────────┐ ┌────────┐
   │   ON   │ │  MONO  │ │ OCTAVE │ │ CHORUS │
   │ LOWER  │ │        │ │  DOWN  │ │        │
   └────────┘ └────────┘ └────────┘ └────────┘
```

Located above the Orchestral Voice Section are 8 Touch Tabs. These allow you to control several options such as which keyboard you want the voice to play from, the chorus effect and turning the Orchestral Voice Division "ON" or "OFF".

ON UPPER

This Touch Tab allows the Orchestral Voices to be played from the Upper Manual.

ON LOWER

This Touch Tab allows the Orchestral Voices to be played from the Lower Manual.

NOTE: The Orchestral Voices will play from either the Upper or Lower Manual, but not both at the same time.

SOLO

This Touch Tab will cancel other voice groups, allowing only the selected Orchestral Voice to play.

MONO

This Touch Tab enables you to change a selected Orchestral Voice from polyphonic mode, playing two or more notes simultaneously, to the monophonic mode, or only one note. When the MONO Touch Tab is "ON" (LED lit) and you play a chord only the highest note will play. If you then add the SOLO Touch Tab, the last note selected will play.

EFFECT CONTROL

This Touch Tab adds animation to the selected Orchestral Voice. The type and amount of effect added is determined by the voice selected - for example, the effect added to the GRAND PIANO is a slow tremolo, while the effect added to the TRUMPET is a wider Vibrato.

NOTE: You are able to adjust the type and amount of effect(s) added by the EFFECT CONTROL Touch Tab according to your taste via the Voice Edit Menu of the Information Center Display. How to do this is covered later in this section under the heading Voice Edit Menu starting on page 37.

OCTAVE DOWN

This Touch Tab causes the selected Orchestral Voice to play one octave lower.

CHORUS

This Touch Tab produces rich sound expansion with natural depth by dividing the Orchestral Voice into two subtly different pitches through two different channels, as if you were playing two instruments simultaneously. (This effect is called "acoustic mix".)

NOTE: You are able to adjust the amount of Chorus or Detune effect added by the CHORUS Touch Tab according to your taste via the Detune Edit Menu of the Information Center Display. How to do this is covered later in this section under the heading Detune Edit Menu starting on page 44.

TONE CONTROL

Touching this Touch Tab "ON" (LED lighted) will change the tone of the selected Orchestral Voice by making it more mellow.

NOTE: You are able to adjust how the overall timbre of the selected voice is changed by the TONE CONTROL Touch Tab according to your taste via the Voice Edit Menu of the Information Center Display. How to do this is covered later in this section under the heading Voice Edit Menu starting on page 37.

◆ CUSTOM VOICE Section

CUSTOM VOICE			
UPPER			
ON UPPER	SOLO	SELECT ON DISPLAY	TONE CONTROL
ON LOWER	SOLO	SELECT ON DISPLAY	TONE CONTROL
LOWER			

The Custom Voice Section reproduces sounds characteristic of actual musical instruments with almost complete fidelity due to sampling of real instrumental sounds similar to the Orchestral Voice section.

Custom Voices can be used Solo or in combination with the Drawbars and the other voice groups such as Strings and the Orchestral Voices.

The top row of Touch Tabs in the Custom Voice section controls the Custom Voice for the Upper Manual while the bottom row of Touch Tabs in the Custom Voice section controls the Custom Voice for the Lower Manual

ON UPPER

This Touch Tab allows the selected Custom Voice to be played from the Upper Manual.

ON LOWER

This Touch Tab allows the selected Custom Voice to be played from the Lower Manual.

SOLO

These Touch Tabs will cancel other voice groups, allowing only the selected Custom Voice to play. The Custom Voice section has two SOLO Touch Tabs, one each for Upper and Lower Manuals.

SELECT ON DISPLAY

These Touch Tabs will allow you to select Custom Voices from the Information Center Display. The Custom Voice section has two SELECT ON DISPLAY Touch Tabs, one each for Upper and Lower Manuals.

NOTE: How to use the SELECT ON DISPLAY Touch Tabs is covered later in this section under the heading Voice Edit Menu starting on page 37.

TONE CONTROL

These Touch Tabs will change the tone of the selected Custom Voice by making it more mellow. The Custom Voice section has two TONE CONTROL Touch Tabs, one each for Upper and Lower Manuals.

NOTE: You are able to adjust how the overall timbre of the selected voice is changed by the TONE CONTROL Touch Tabs according to your taste via the Tone Edit Menu of the Information Center Display. How to do this is covered later in this section under the heading Tone Edit Menu starting on page 44.

◆ ENSEMBLE Voice Section

ENSEMBLE		
UPPER STRINGS I	UPPER STRINGS II	CHORUS
LOWER STRINGS	LOWER CHOIR	CHORUS
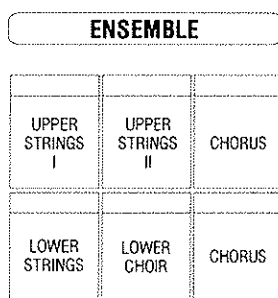
The ENSEMBLE Touch Tabs are located to the left of the Percussion Touch Buttons.

UPPER STRINGS 1 and UPPER STRINGS 2

These Touch Tabs control the Ensemble Voices for the Upper Manual. UPPER STRINGS 1 is 8' pitch and UPPER STRINGS 2 is 4' pitch, one octave higher than Upper 1. Each voice can be used alone or in combination. In addition, they can be added to the Drawbars and/or to the Orchestral & Custom Voices. To select one or both of these Touch Tabs, simply touch them "ON" or "OFF".

LOWER STRINGS

This Touch Tab is a String ensemble voice for the Lower Manual and is at 8' pitch. It produces notes slightly softer than the Upper Manual String Voices. This voice can be used for accompaniments and also for melodies.

LOWER CHOIR

This Touch Tab is a Choir voice for the Lower Manual and is at 8' pitch. This voice can be used for accompaniments and also for melodies.

NOTE: All four of the Ensemble Voice Touch Buttons can be reprogrammed with other voices via the Voice Select Menu of the Information Center Display. How to do this is covered later in this section under the heading Voice Select Menu starting on page 37. You are also able to adjust the brightness of the Ensemble Voices, depth of Vibrato, and other effects according to your taste via the Voice Edit Menu of the Information Center Display. How to do this is covered later in this section under the heading Voice Edit Menu starting on page 37.

CHORUS

These Touch Tabs produce rich sound expansion with natural depth by dividing the Ensemble Voices into two subtly different pitches through two different channels, as if you were playing two instruments simultaneously. (This effect is called "acoustic mix".) The Ensemble Voice section has two CHORUS Touch Tabs, one each for Upper and Lower Manuals.
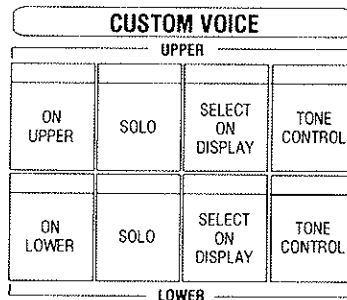
NOTE: You are able to adjust the amount of Chorus or Detune effect added by the CHORUS Touch Tab according to your taste via the Detune Edit Menu of the Information Center Display. How to do this is covered later in this section under the heading Detune Edit Menu starting on page 44.

◆ PEDAL Voice Section

```
        ┌── PEDAL ──┐
      ┌── TUBA ──┐

      ┌────────┐┌────────┐┌────────┐
      │ACOUSTIC││ELECTRIC││ PEDAL  │
      │ BASS   ││ BASS   ││  TO    │
      │        ││        ││ LOWER  │
      └────────┘└────────┘└────────┘

      ┌────────┐┌────────┐┌────────┐
      │CUSTOM  ││OCTAVE  ││ LOWER  │
      │ BASS   ││  UP    ││  TO    │
      │        ││        ││ PEDAL  │
      └────────┘└────────┘└────────┘
```
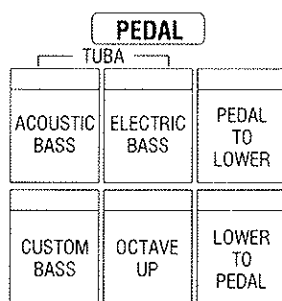
The PEDAL Voice Section contains 6 Touch Tabs, located to the right of the DRAWBAR Touch Tabs. These Touch Tabs allow you to access the 4 factory on board Pedal Voices and two COUPLER functions. The Pedal Voices can be used together with the two Pedal Drawbars or independently.

Pedal Voice Selection

To select a Pedal Voice simply touch the desired Pedal Voice Touch Tab. To select the TUBA, simply touch both the ACOUSTIC BASS and ELECTRIC BASS Touch Tabs together.

NOTE: The Pedal CUSTOM Touch Tab can be reprogrammed with other voices via the Pedal Custom Select Menu of the Information Center Display. How to do this is covered later in this section under the heading Voice Select Menu starting on page 37. For a complete listing of the Pedal Custom Voices, see the PEDAL CUSTOM VOICE LIST on page 7 of the Reference Guide supplement. You are also able to adjust the brightness of the Pedal Voices, depth of Vibrato, and other effects according to your taste via the Pedal Voice Edit Menu of the Information Center Display. How to do this is covered later in this section under the heading Voice Edit Menu starting on page 39.

PEDAL TO LOWER

This Touch Tab brings the Pedal Voices up to the two lowest octaves of the Lower Manual. This allows you to play a bass line on the Lower Manual. If the Drawbars, Strings or any other Voice Groups are registered for the Lower Manual the pedal tones will mix with them.

LOWER TO PEDAL

This Touch Tab brings the two lowest octaves of the Lower Manual down to the Pedals. The Lower Manual Drawbars, Strings or any other Voice Groups registered for the Lower Manual will mix with the Pedal Voices.

◆ USER VOICE Section

Your Hammond Organ also contains a library of 16 User Voices. These are provided so that you may create and save your own voices or edit existing voices without disturbing any of the factory-preset parameters of the other voices.

Since the User Voices do not have a Touch Tab section, they are accessed through the Information Center Display.

▶ User Voice Edit Menu

```
 1/1              USER VOICE EDIT       ♩=120
 UP   USER NO  NAME  User
PAGE                    1    NAME SET
DOWN  User1
      User2   VOICE Grnd
      User3         Pno   VOICE SET
    ▾User4
```

This Advanced Feature Menu allows you to edit various characteristics of the User Voices.

NOTE: This Advanced Feature Menu has no Shortcut. It is accessible only via the Menu Touch Buttons.

Accessing the User Voice Edit Menu

1.   Touch the gray MENU Select Touch Button to display Screen 1 of the MENU Mode.

2.   Touch either the Number 11 or Number 12 gray Select Touch Buttons. The words, "USER VOICE EDIT" will now display at the top of the screen.

You are now in the User Voice Edit Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the User Voices. These changes are explained below.

User Voice Selection

This Advanced Feature allows you to select the User Voice you wish to edit. You can select from User Voices 1 through 16.

Use either the Number 1 or the Number 2 Select Touch Button to scroll up through the selections.

Use either the Number 9 or Number 10 Select Touch Button to scroll down through the selections.

User Voice Name

This Advanced Feature allows you to name a User Voice.

To name a User Voice:

1.   Touch either the Number 5 or Number 6 Select Touch Button. You will see the words, "NAME SET" on the left side of the Information Center Display.

2.   Name your User Voice. In the middle of the Information Center Display, you will see a large box containing characters. These are the characters you can use for naming Presets. You can use several methods to select characters:

Selecting Characters by the Numbered Touch Buttons

Below the character box in the Information Center Display, you will see several arrows. These indicate that you can move around inside the box by using the numbered Touch Buttons. The current location is marked by a cursor which displays the letter it is over in reverse video (green lettering against a black background).

Use either the Number 6 or Number 14 Select Touch Buttons to move the cursor forward inside the box.

Use either the Number 4 or Number 12 Select Touch Buttons to move the cursor backward inside the box.

If you move the cursor to the end of a line, it will stop. Use the Number 13 Select Touch Button to move down to the lower lines.

Use the Number 5 Select Touch Buttons to move the cursor up to the upper lines.

Selecting Characters using the Data Wheel

Turn the Data Wheel to the right to move the cursor to the right.

Turn the Data Wheel to the left to move the cursor to the left.

3.   Notice that the left side of the Information Center Display shows the User Voice Name, and that there are two arrows. As you select each letter or character for your User Voice Name, use this area of the screen to confirm each entry.

Use either the Number 2 or Number 10 Select Touch Button to move the cursor to the right.

Use either the Number 1 or Number 9 Select Touch Button to move the cursor to the left.

In this way, you enter the User Voice Name that you want. You can also use the DEL feature (Number 7 Select Touch Button) to successively delete each character, or the CLR feature (Number 8 Select Touch Button) to clear the name area completely and begin entering the characters that you want. A User Voice Name can contain up to 8 characters.

4.   If you do not want to save your User Voice Name or if you wish to bypass the User Voice Name screen, use the EXT (Exit) feature (Number 15 Select Touch Button) to exit the User Voice Name screen and return to the PLAY Mode. If you wish to save your User Voice Name, touch the Number 16 Select Touch Button ("ENT" or Enter). The Information Center Display will return to the User Voice Edit Menu, and you will see your new User Voice Name in the center box next to the legend, "NAME SET.".

User Voice Set

This Advanced Feature allows you to choose the internal voice you wish to use as a starting point to edit your User Voice.

Use either the Number 13 or Number 14 Select Touch Button to access the Voice Select Menu.

Use the Voice Select Menu to select the voice you want. For more information on how to use the Voice Select Menu, see the heading Voice Select Menu starting on page 37.

▶ Voice Select Menu
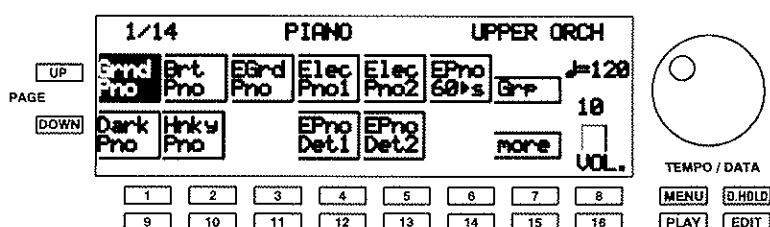
In addition to the voices indicated by the names on the Orchestral and Ensemble Voice Touch Tabs, your Hammond Organ has an inbuilt library of 214 voices representing all categories of musical sound. These sounds are accessible via the Voice Select Menu. This menu has 14 screens, each screen representing a different category of voice or sound. For a complete listing of the voices and screens, see the CUSTOM VOICE LIST starting on page 4 of the Reference Guide supplement.

The Voice Select Menu is accessible only via Shortcut; however, there are a number of different Shortcuts depending on the Voice Section. These are explained below.

Accessing the Voice Select Menu

ORCHESTRAL CUSTOM 1 and CUSTOM 2 Touch Tabs

Touch and hold either the CUSTOM 1 or CUSTOM 2 Touch Tab in the Orchestral Voice Division. After approximately 1 second, a screen from the Voice Select Menu will display. The currently selected voice will be shown in reverse video (green lettering against a black background). You will also see, "ORCH CUSTOM1 (or CUSTOM2, depending on which Touch Tab you pressed) on the extreme right of the display screen.

CUSTOM VOICE Section

Touch either of the SELECT ON DISPLAY Touch Tabs "ON" (LED lit). A screen from the Voice Select Menu will instantly display. The currently selected voice will be shown in reverse video. You will also see, "UPPER CUSTOM" (or "LOWER CUSTOM", depending on which Touch Tab you pressed) on the extreme right of the display screen.

ENSEMBLE Voice Section

Touch and hold any of the four Voice Touch Tabs in the ENSEMBLE Voice Section. After approximately 1 second, a screen from the Voice Select Menu will display. The currently selected voice will be shown in reverse video.

You will also see, "ENSEMBLE" followed by a manual and number ("UM1", "UM2", "LM1", or "LM2") on the extreme right of the display screen. This is to indicate which Voice from the ENSEMBLE section you have chosen:

      ENSEMBLE UM1 = UPPER STRINGS 1 Touch Tab
      ENSEMBLE UM2 = UPPER STRINGS 2 Touch Tab
      ENSEMBLE LM1 = LOWER STRINGS Touch Tab
      ENSEMBLE LM2 = LOWER CHOIR Touch Tab

PEDAL Voice Section

Touch and hold the CUSTOM Touch Tab in the PEDAL Voice Section. After approximately 1 second, a screen from the Pedal Voice Select Menu will display. The currently selected voice will be shown in reverse video. You will also see, "PEDAL CUSTOM" on the top line of the screen in the center.

NOTE: The Pedal Voice Select Menu contains different voices than the Voice Select Menu for the Upper and Lower Manuals. The voices contained in the Pedal Voice Select Menu are voices specifically designed to be pedal or bass voices. For a complete listing of the voices and screens, see the CUSTOM VOICE LIST starting on page 4 of the Reference. Guide supplement.

You are now in the Voice Select Menu. You may now use the numbered Select Touch Buttons below the screen to change Voices. These changes are explained below.

Voice Selection

As explained previously, the voices have been arranged into groups combining instruments of similar characteristics, such as Piano, Chromatic Percussion, Pipe Organ, etc., to make voice selection of easier. You may use the PAGE UP and PAGE DOWN Touch Buttons to select the different voice groups.

Use the PAGE UP Select Touch Button to scroll up through the voice screens.

Use the PAGE DOWN Select Touch Button to scroll down through the voice screens.

You will also notice the word, "Grp" on the right side of the screen. This tells you that you can display the Voice Groups. This will make navigating through the different voice screens faster.

The following example is included to help you get familiar with the Voice Select Menu. This example uses the Custom Voices.

TRY THIS:

1.   Touch the ON UPPER Touch Tab in the Custom Voice Section "ON". The red LED will light.

2.   Touch the SELECT ON DISPLAY Touch Tab "ON". The red LED will light, and the Information Center Display will display a series of voice names. The currently selected voice will be shown in reverse video (green lettering against a black background). You will also see "UPPER CUSTOM" displayed in the upper right-hand corner of the screen. This lets you know that you are currently setting the Upper Custom Voice.

3.   Touch the PAGE UP or PAGE DOWN Touch Buttons to scroll forward or backward through the voice selections. Make your selection by touching one of the numbered Touch Buttons below the screen.

For this example, suppose that Grand Piano (GrndPno) is the currently selected Upper Custom Voice and that you want to select Trombone for the Custom Voice. Since Trombone is in the BRASSES Group, you will need to display this group.

4.   Touch the PAGE UP Touch Button repeatedly until "BRASSES" displays at the top of the Information Center Display. You will also notice "7/14" displayed at the upper left-hand corner of the screen. This indicates that there are a total of 14 Voice Screens, and that this is Screen 7.

5.   The voices on the screen are arranged in a pattern corresponding to that of the numbered Touch Buttons. Therefore, to select Trombone as your Upper Custom Voice, touch the Number 3 Select Touch Button. The box containing the word, "Trombone" will change to a black background and the word "Trombone" will change to green lettering.

Now, suppose you want to select Oboe as your Upper Custom Voice. You will now need to display the REEDS Voice Group.

6.   In the Information Center Display, you will notice the word, "Grp" on the right side of the screen. This tells you that you can display the Voice Groups. To see the Voice Groups, touch the Number 7 Select Touch Button. The words, "GROUP MENU" will now display.

7.   To see the voices in each Voice Group, touch the corresponding numbered Touch Button. As with the voice names, they are arranged in a pattern corresponding to that of the numbered Touch Buttons. To display the <u>REEDS</u> Group, touch the Number 9 Select Touch Button.

8.   By now, you have noticed the word, "<u>more</u>" in the Information Center Display just below the word, "<u>Grp</u>". This indicates that there are more voices. Most of the Voice Groups have two screens so that more voices can be chosen. The <u>Oboe</u> is in the second screen of the REEDS Group. Therefore, touch the Number 15 Select Touch Button to display the second screen of the REEDS Voice Group.

9.   Now touch the Number 1 Select Touch Button. The box containing the word, "<u>Oboe</u>" will change to a black background and the word "<u>Oboe</u>" will change to green lettering.

NOTE: You will notice the word "<u>rtrn</u>" in the Information Center Display just below the word, "<u>Grp</u> ". This is to let you know that you can 'return" to the first screen. Use the Number 15 Select Touch Button to go back and forth between the first and second screens of any Voice Group which has two screens.

NOTE: The <u>PIPE ORGAN</u> and <u>FLUTES/WINDS</u> Voice Groups have only one screen.

▶ Voice Edit Menu

This Advanced Feature Menu allows you to modify the characteristics of the voices in each Voice Section according to your preference.

Accessing the Voice Edit Menu using the Menu Touch Buttons

1.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch either the Number 9 or Number 10 gray Select Touch Buttons. The words, "VOICE EDIT" will now display at the top of the screen. The Voice Edit Menu has 4 screens, so you will see "1/4" in the upper left corner of the Information Center Display.

Accessing the Voice Edit Menu using Shortcuts

Since the Voice Edit Menu has several screens, each of which affects the different Voice Groups of the organ in somewhat different ways, each Voice Group accesses the Voice Edit menu in slightly different ways. Therefore, each screen of the Voice Edit Menu will be explained first, followed by a description of the different Shortcut methods for accessing the Voice Edit Menu.

You are now in the Voice Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the Voices. These changes are explained below.

Voice Edit Select
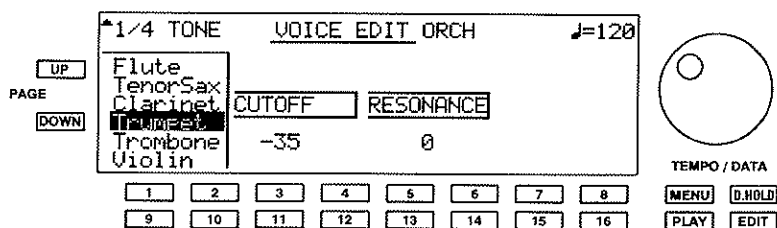
In the left portion of the display, you will see a listing of voices. This list contains all of the voices capable of being edited by the Voice Edit Menu. The currently selected voice will be shown in reverse

video (green lettering against a black background). This voice listing can be accessed from all four screens of the Voice Edit Menu.

Use either the Number 1 or Number 2 Select Touch Button to scroll <u>up</u> through the voice listing.

Use either the Number 9 or Number 10 Select Touch Button to scroll <u>down</u> through the voice listing.

The voices are listed in the following order from top to bottom:

1.   Orchestral Voices.
2.   User Voices.
3.   Ensemble Voices.
4.   Pedal Voices.

NOTE: Be sure the voice you want to edit is selected.

Screen 1/4 - TONE Settings

Cutoff

This Advanced Feature allows you to set the overall brightness of the selected voice.

Use either the Number 3 or Number 4 Select Touch Button to scroll <u>up</u> through the numbers.

Use either the Number 11 or Number 12 Select Touch Button to scroll <u>down</u> through the numbers.

Resonance

This Advanced Feature allows you to set the "formant" of the selected voice. A higher number means that the sound will have an audible "peak". A lower number means a mellower, more nondescript sound.

Use either the Number 5 or Number 6 Select Touch Button to scroll <u>up</u> through the numbers.

Use either the Number 13 or Number 14 Select Touch Button to scroll <u>down</u> through the numbers.

NOTE: When using this screen, you will notice the word "TONE" next to the numbers, "1/4" in the Information Center Display. This lets you know that if you make changes to the Cutoff and Resonance settings of an Orchestral Voice, the settings will not take effect unless the TONE CONTROL Touch Tab is "ON" (red LED lit).,

Screen 2/4 - EFFECT Settings - VIBRATO

From Screen 1 of the Voice Edit Menu, touch the PAGE UP Select Touch Button <u>once</u> to display Screen 2.

You may now use the numbered Select Touch Buttons below the screen to add various effects to the selected voice. These changes are explained below.

Rate

This Advanced Feature allows you to set the rate of the Vibrato for the selected voice.

Use either the Number 3 or Number 4 Select Touch Button to <u>increase</u> the Vibrato rate.

Use either the Number 11 or Number 12 Select Touch Button to <u>decrease</u> the Vibrato rate.

Depth

This Advanced Feature allows you to set the depth or intensity of the Vibrato.

Use either the Number 5 or Number 6 Select Touch Button to <u>increase</u> the depth.

Use either the Number 13 or Number 14 Select Touch Button to <u>decrease</u> the depth.

Delay

This Advanced Feature allows you to set the delay time of the Vibrato.

Use either the Number 7 or Number 8 Select Touch Button to <u>increase</u> the delay time.

Use either the Number 15 or Number 16 Select Touch Button to <u>decrease</u> the delay time.

NOTE: When using this screen, you will notice the word "EFFECT" next to the numbers, "2/4" in the Information Center Display. This lets you know that if you make changes to these settings for an Orchestral Voice, the settings will not take effect unless the EFFECT CONTROL Touch Tab is "ON" (red LED lit).,

Screen 3/4 - EFFECT Settings - ENVELOPE TIME

From Screen 2 of the Voice Edit Menu, touch the PAGE UP Select Touch Button <u>once</u> to display Screen 3.

```
┌──────────────────────────────────────────┐
│ ♦3/4 EFFECT   VOICE EDIT ORCH      ♩=120 │        ╭─────────╮
│ ┌────────┬───────────────────────────────│       │         │
│ │ Flute  │    ENVELOPE TIME               │       │  ◯      │
│ │ TenorSax│──────────────────────────────│       │         │
│ │ Clarinet│ATTACK    │DECAY     │RELEASE  │       ╰─────────╯
│ │ ▓▓▓▓▓▓▓▓│                               │
│ │ Trombone│ 0          0          0       │
│ │ Violin  │                               │        TEMPO / DATA
└──────────────────────────────────────────┘
```

```
UP              [1] [2] [3] [4] [5] [6] [7] [8]     [MENU] [D.HOLD]
PAGE            [9] [10] [11] [12] [13] [14] [15] [16]  [PLAY] [EDIT]
DOWN
```

You may now use the numbered Select Touch Buttons below the screen to add various effects to the selected voice. These changes are explained below.

Attack

This Advanced Feature allows you to set the rate at which the tone starts after you press a note.

Use either the Number 3 or Number 4 Select Touch Button to make the Attack <u>slower</u>.

Use either the Number 11 or Number 12 Select Touch Button to make the Attack <u>faster</u>.

Decay

This Advanced Feature allows you to set the rate at which the sound decays, or fades away, while a note is pressed and held.

Use either the Number 5 or Number 6 Select Touch Button to make the Decay <u>slower</u>.

Use either the Number 13 or Number 14 Select Touch Button to make the Decay <u>faster</u>.

Release

This Advanced Feature allows you to set the rate at which the sound fades away after a note is released.

Use either the Number 7 or Number 8 Select Touch Button to increase the Release time.

Use either the Number 15 or Number 16 Select Touch Button to decrease the Release time.

NOTE: When using this screen, you will notice the word "EFFECT" next to the numbers, "3/4" in the Information Center Display. This lets you know that if you make changes to these settings for an Orchestral Voice, the settings will not take effect unless the EFFECT CONTROL Touch Tab is "ON" (red LED lit).,\

Screen 4/4 - EFFECT Setting - CHORUS SEND LEVEL & PITCH Settings

From Screen 3 of the Voice Edit Menu, touch the PAGE UP Select Touch Button once to display Screen 4.
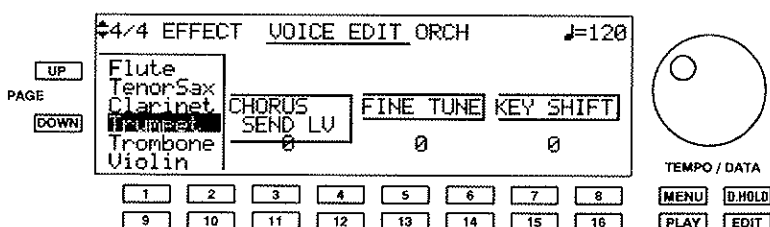
You may now use the numbered Select Touch Buttons below the screen to add various effects to the selected voice. These changes are explained below.

Chorus Send Level

This Advanced Feature allows you to set the amount of digital Chorus.
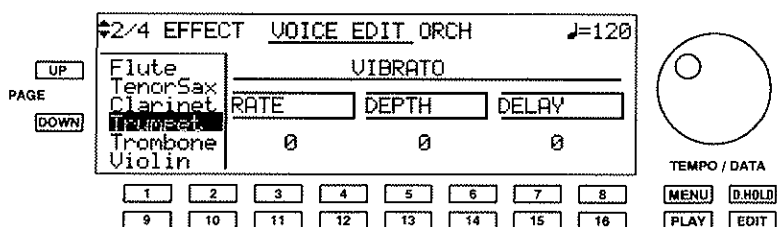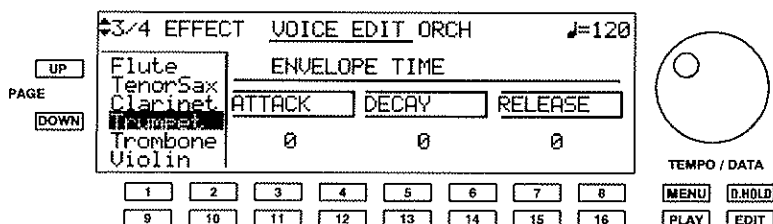
Use either the Number 3 or Number 4 Select Touch Button to increase the level.

Use either the Number 11 or Number 12 Select Touch Button to scroll decrease the level.

NOTE: The settings for this parameter will not take effect unless the EFFECT CONTROL Touch Tab is "ON" (red LED lit).,

Fine Tune

This Advanced Feature allows you to raise or lower the pitch of the selected voice independently of the other voices.

Use either the Number 5 or Number 6 Select Touch Button to raise the pitch of the selected voice.

Use either the Number 13 or Number 14 Select Touch Button to lower the pitch of the selected voice.

Key Shift

This Advanced Feature allows you to transpose the selected voice by half-steps up or down.

Use either the Number 7 or Number 8 Select Touch Button to transpose the selected voice up.

Use either the Number 15 or Number 16 Select Touch Button to transpose the selected voice down.

Voice Edit Menu Shortcuts

Because the Voice Edit Menu can be used to edit a number of different Voice Group and the different parameters affect the different Voice Groups in somewhat different ways, there are several Shortcuts to different parts of the Voice Edit Menu in order to make the Voice Edit menu as easy to use as possible. The following paragraphs will explain each of them.

ORCHESTRAL Voice Section

The Voice Edit Menu can be accessed from the ORCHESTRAL Voice Section using the following Shortcuts:

1. Touch and hold the TONE CONTROL Touch Tab in the Orchestral Control Division. After approximately 1 second, the words, "VOICE EDIT ORCH" will display at the top of the screen. The currently selected voice will be shown in reverse video (green lettering against a black background).

    Because Screen 1 of the Voice Edit Menu affects the setting of the TONE CONTROL Touch Tab, it will display if the TONE CONTROL Touch Tab is pressed and held.

2. Touch and hold the EFFECT CONTROL Touch Tab in the Orchestral Control Division. After approximately 1 second, the words, "VOICE EDIT ORCH" will display at the top of the screen. The currently selected voice will be shown in reverse video (green lettering against a black background).

    Because Screens 2, 3 and 4 of the Voice Edit Menu affects the setting of the EFFECT CONTROL Touch Tab, Screen 2 will display if the EFFECT CONTROL Touch Tab is pressed and held.

3. Touch and hold either the CUSTOM 1 or CUSTOM 2 Touch Tab in the Orchestral Voice Division to cause the Voice Select Menu to display. Then touch the EDIT Select Touch Button once. The words, "VOICE EDIT ORCH" will display at the top of the screen. The currently selected voice will be shown in reverse video (green lettering against a black background).

ENSEMBLE Voice Section

The Voice Edit Menu can be accessed from the ENSEMBLE Voice Section using the following Shortcuts:

Touch and hold any of the four Touch Tabs in the ENSEMBLE Voice Section to cause the Voice Select Menu to display. Then touch the EDIT Select Touch Button once. The words, "VOICE EDIT" will display at the top of the screen followed by an indication of which Voice you have selected:

"ENS UM1" = UPPER STRINGS 1 Touch Tab
"ENS UM2" = UPPER STRINGS 2 Touch Tab
"ENS LM1" = LOWER STRINGS Touch Tab
"ENS LM2" = LOWER CHOIR Touch Tab

The currently selected voice will be shown in reverse video (green lettering against a black background).. After approximately 1 second, the words, "VOICE EDIT ORCH" will display at the top of the screen. The currently selected voice will be shown in reverse video (green lettering against a black background).

PEDAL Voice Section

The Voice Edit Menu can be accessed from the PEDAL Voice Section using the following Shortcuts:

Touch and hold the CUSTOM Touch Tabs in the PEDAL Voice Section to cause the Voice Select Menu to display. Then touch the EDIT Select Touch Button once. The words, "PEDAL CUSTOM" will display at the top of the screen.

► Detune Edit Menu

```
                       DETUNE EDIT ORCH    ♩=120
   ┌UP┐  DEPTH    │ OFFSET  │ WIDTH   │
   PAGE
   DOWN    0           0          0
```
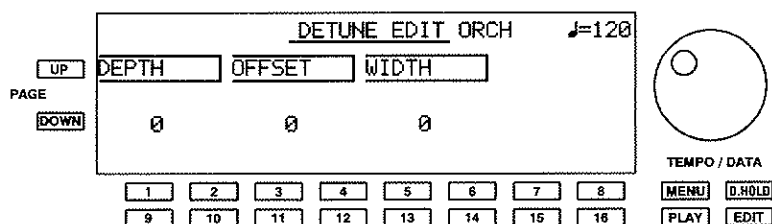
This Advanced Feature Menu allows you to adjust the amount of Chorus or Detune effect that is added by the CHORUS Touch Tabs in the ORCHESTRAL and ENSEMBLE Voice Sections.

NOTE: This Advanced Feature Menu is only accessible via Shortcut.

Accessing the Detune Edit Menu

Touch and hold any one of the CHORUS Touch Tabs. After approximately 1 second, the words, "DETUNE EDIT" will display at the top of the screen.

You are now in the Detune Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make changes. These changes are explained below.

Depth

This Advanced Feature allows you to select the total amount of detuning applied to the selected voice.

Use either the Number 1 or Number 2 Select Touch Button to increase the Depth.

Use either the Number 9 or Number 10 Select Touch Button to decrease the Depth.

Offset

As explained earlier, this Touch Tab produces rich sound expansion with natural depth by dividing the selected voice into two subtly different pitches through two different channels, as if you were playing two instruments simultaneously. This Advanced Feature allows you to select the amount of detuning for the second pitch of the sound..

Use either the Number 3 or Number 4 Select Touch Button to increase the Offset.

Use either the Number 11 or Number 12 Select Touch Button to decrease the Offset.

Width

This Advanced Feature allows you to select the amount of channel separation between the two pitches.

Use either the Number 5 or Number 6 Select Touch Button to increase the separation.

Use either the Number 13 or Number 14 Select Touch Button to decrease the separation.

► Tone Edit Menu

```
                    TONE EDIT CUSTOM UM   ♩=120
   ┌UP┐
   PAGE         CUTOFF   │
   DOWN          -16
```
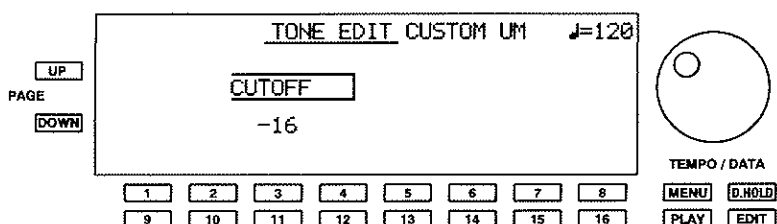
This Advanced Feature Menu allows you to adjust how the overall timbre of the Custom Voice is affected when the TONE CONTROL Touch Tabs are used.

NOTE: This Advanced Feature Menu is only accessible via Shortcut.

Accessing the Tone Edit Menu

Touch and hold either of the TONE CONTROL Touch tabs in the Custom Voice Section. After approximately 1 second, the words, "TONE EDIT" will display at the top of the screen.

You are now in the Tone Edit Menu. You may now use the numbered Select Touch Buttons below the screen to change the tone of the Custom Voices.

Cutoff

This Advanced Feature allows you to set the overall brightness of the Custom Voice.

Use either the Number 3 or Number 4 Select Touch Button to scroll up through the numbers.

Use either the Number 11 or Number 12 Select Touch Button to scroll down through the numbers.

RHYTHM & EASY PLAY SECTIONS

♦ Auto-Vari Rhythms & Styles

Hammond's Auto-Vari is an exciting feature which complements a wide variety of musical styles and adds realism and fun to your playing. All of the sounds and rhythms are created from digital sound sources, thereby giving authenticity to the rhythm patterns.

There are 98 Auto-Vari Rhythms & Styles arranged in 16 rhythm categories controlled by two rows of eight Touch Tabs.

To activate one of the 16 Rhythm categories, simply touch the single Touch Tab of the rhythm that you wish to use.

AUTO-VARI RHYTHMS & STYLES							
WALTZ	COUNTRY	JAZZ	BALLAD	8 BEAT	DANCE	BOSSA NOVA	RHUMBA DISK STYLE 1
MARCH POLKA	TRAD.	SWING	ROCK	16 BEAT	SAMBA	LATINS	TANGO DISK STYLE 2
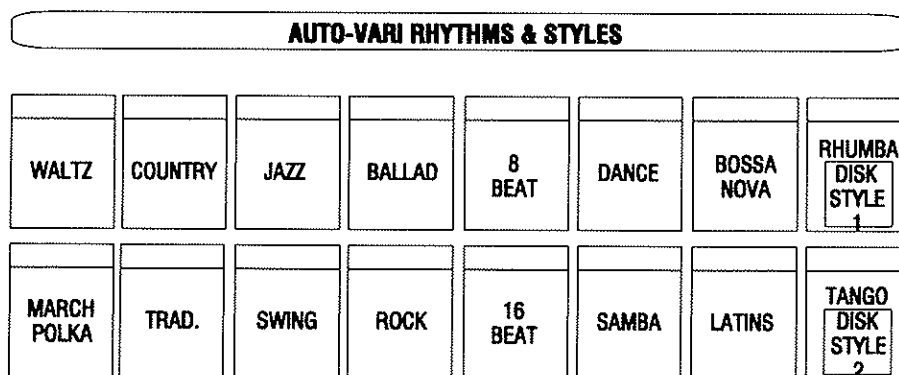
NOTE: One of these Touch Tabs is always "ON" (red LED lit).

If you press another basic pattern after starting the Rhythm, first the remaining section of the previous basic pattern will be played, and then the newly selected pattern will play.

♦ Rhythm Categories

Each of the 16 Rhythm Touch Tabs controls several different Rhythms & Styles. These Rhythms & Styles represent different types of music within a general musical classification such as Country, Traditional, etc. You can use the Information Center Display to choose the specific rhythm you want within each category.

Accessing the Rhythm Styles

1.   Touch and hold the Touch Tab which represents the rhythm category you want (SWING, LATINS, etc.). The Information Center Display will show the selected category at the top of the screen.

2.   Below the Rhythm Category name, the Information Center Display will show a number of different rhythm names. For example, if you touch and hold the WALTZ Touch Tab, you would see the rhythm styles, "Tradit. Waltz", "Orch Waltz", "Jazz Waltz"and "Organ Waltz" listed:
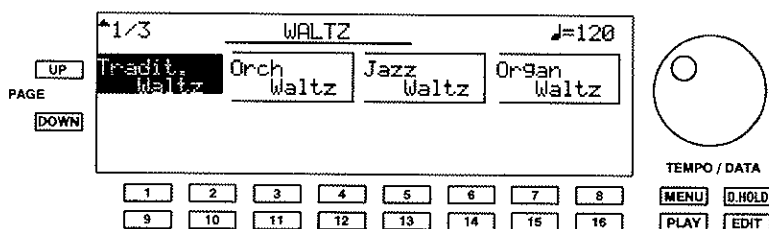
3.   Use the numbered Touch Buttons to choose which rhythm you want. The way the rhythms are displayed in the screen determines which numbered Touch Buttons you would use to make your choice. For example, in the WALTZ category, "Tradit. Waltz" is listed in the upper left corner of the display, so you would use the upper left Touch Buttons (Number 1 or Number 2) to select that rhythm. The rhythm., "Organ Waltz" is in the upper right corner, so you would use the Number 7 or Number 8 Touch Buttons to select Organ Waltz, since they are in the upper right of the numbered Touch Button group. The same principle applies to all other rhythm selections.

NOTE: The number of rhythms listed will vary from category to category. Some categories may have only one listing. For a complete listing of the Auto-Vari Rhythms & Styles, see the RHYTHM & STYLE NUMBER LIST starting on page 8 of the Reference Guide supplement.

4.   In the extreme upper left corner of the Information Center, you will see the message, "1/3" or "1/2". This is to let you know that there is more than one screen for each Rhythm Category ("Screen 1 of 3", or "Screen 1 of 2"). Touch the PAGE UP Select Touch Button to see the next screen. Use the Page UP and PAGE DOWN Select Touch Buttons to move back and forth between or among screens.

♦ Rhythm Features

The Rhythm Features Touch Tab Section allows you to control the Auto-Vari Rhythms.
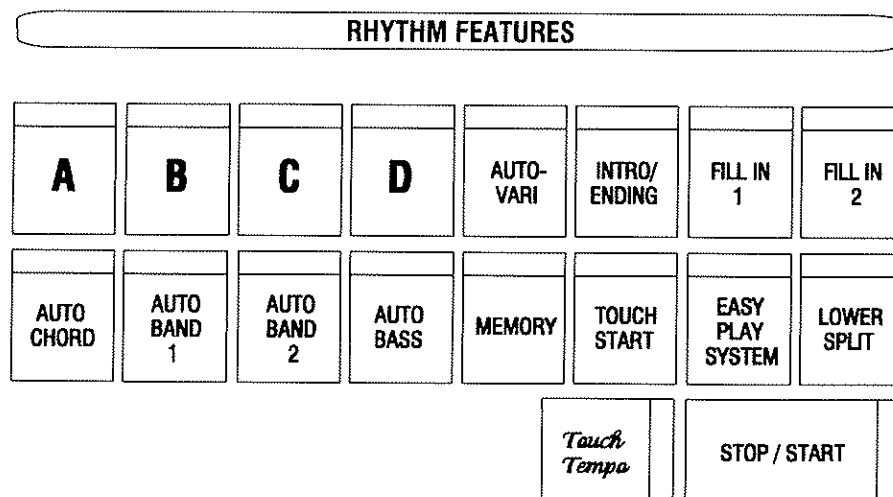
Stop / Start

Touch to Start the rhythm and the LED will light, touch again to Stop a rhythm.

NOTE: The ProFoot foot switches can also be used to Stop or Start the Rhythms. (See "Rhythm Stop / Start Foot Switch" on page 65.)

Touch Start

When this Touch Button is selected, the Stop / Start Touch Tab is also turned "ON" (both LED's will light), and the rhythm starts automatically on beat 1 as soon as any key is pressed on the Lower Manual. The rhythm will continue to sound until turned "OFF".

Auto-Vari Variation Touch Tabs

In the Rhythm Features Touch Tab section are four Touch Tabs which look like this:
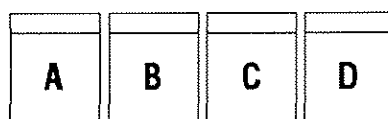
Each Auto-Vari Rhythm Variation is a different variation to the basic Rhythm pattern while remaining consistent with the basic rhythm style, the "A" pattern being the simplest version of the rhythm and gradually increasing in complexity to the "D" pattern, which is the most elaborate. To hear any of the Auto-Vari variations, simply touch the Touch Button associated with the variation you want to hear.

When you select among various Auto-Vari rhythm variations, you will hear the rhythm pattern change. If any of the AutoBand Touch Buttons are "ON", you may also hear the musical arrangement change. Each change will represent whatever is most appropriate for each rhythm. Some changes may be subtle, while others may be more dramatic.

AUTO-VARI Touch Tab

When this Touch Tab is "ON" (red LED lit), it works in conjunction with the selected rhythm to continuously change the rhythm variation. The LED of each Auto-Vari Variation Touch Button ("A", "B", "C" or "D") will light to show which one is sounding. Only one variation will play at a time. Also the Information Center Display will display the measure number that is currently playing ("M=1", "M=6", etc.)

► Auto-Vari Edit Menu
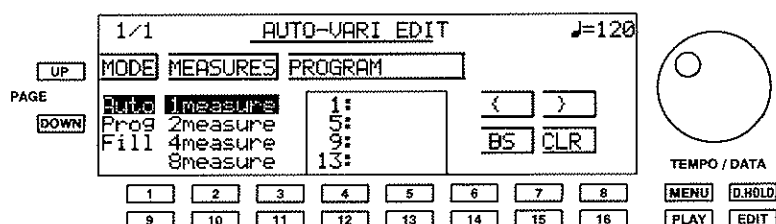
This Advanced Feature Menu allows you to program the Auto-Vari Rhythms to your liking.

Accessing the Auto-Vari Edit Menu using the Menu Touch Buttons

1.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch the PAGE UP Select Touch Button once. Screen 2 of the MENU Mode will now display. You will now see "2/3" in the upper left corner of the Information Center Display.

3.   Touch either the Number 9 or Number 10 gray Select Touch Buttons. The words, "AUTO-VARI EDIT" will now display at the top of the screen.

Accessing the Auto-Vari Edit Menu using the Shortcut

Touch and hold either the Auto-Vari Touch Tab. After approximately 1 second, the words, "AUTO-VARI EDIT" will display at the top of the screen.

You are now in the Auto-Vari Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the Auto-Vari Rhythms & Styles. These changes are explained below.

Mode

This Advanced Feature allows you to select the way the Auto-Vari feature works with the rhythm. You can select, "Auto", meaning that the variations will always move from left to right (from "A" through "D"), "Prog", meaning that you can program your own Auto-Vari variations, or "Fill", meaning that you can have the variations move either to the right or to the left depending on which Fill Touch Tab is used. The current choice will be displayed in reverse video (green lettering against a black background).

Use the Number 1 Select Touch Button to scroll up through the selections.

Use the Number 9 Select Touch Button to scroll down through the selections.

Measures

This Advanced Feature will function differently depending on whether you choose "Auto" or "Fill" for the MODE setting. When the mode is set for "Auto", this Advanced Feature allows you to select the number of measures each variation will play. When "Fill" is selected, this feature allows you to select in which direction the variations will change. When the FILL 1 Touch Tab is selected, the next variation to the left will play. When the FILL 2 Touch Tab is selected, the next variation to the right will play.

Use either the Number 2 or Number 3 Select Touch Button to scroll up through the selections.

Use either the Number 10 or Number 11 Select Touch Button to scroll down through the selections.

Program

When the Mode setting is "Prog", this Advanced Feature allows you to program your own Auto-Vari variations.

Use the Auto-Vari Variation Touch Tabs "A", "B", "C" or "D" and the FILL 1 and FILL 2 Touch Tabs to program your Auto-Vari setting. Each time you touch one of the Auto-Vari Variation Touch Tabs, you will see a letter corresponding to the letter of the Touch Tab you pressed display in the screen.

Use the Number 7 "}" Select Touch Button to move forward through the screen as you make your choices

Use the Number 8 "{" Select Touch Button to move backward through the screen.

If you make a mistake, use the Number 15 "BS" Select Touch Button to back-space to the point where you want to begin entering variations again using the Auto-Vari Variation Touch Tabs.

If you want to clear the screen, use the Number 16 "CLR" Select Touch Button to erase any variation letters remaining so that you may start a new Auto-Vari Variation.

INTRO/ENDING Touch Tab

The Intro/Ending Touch Button adds an introduction before the actual Rhythm Pattern starts. You may also add an Ending to complete a song by simply touching the Intro/Ending Touch Button while the Rhythm Pattern is playing.

FILL IN 1 and FILL IN 2 Touch Tabs

These Touch Tabs are located immediately above the Stop / Start Touch Tab. The Rhythm Patterns basically play two- or four-measure patterns repeatedly, but the Fill In 1 and Fill In 2 Touch Tabs produce different one-bar patterns to add variety and the realism of a professional drummer to the rhythm patterns. Use the Fill Ins at your own discretion and according to your own musical tastes.

NOTE: The ProFoot Foot Switch located on the left side of the Expression Pedal can be programmed to activate the Fill Ins (See "ProFoot" starting on page 64).

AutoBand Controls

AUTO CHORD	AUTO BAND 1	AUTO BAND 2	AUTO BASS	MEMORY
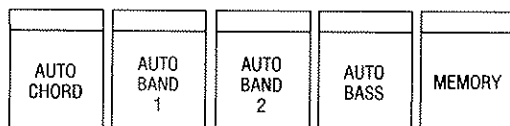
The AutoBand feature provides a professionally scored instrumental accompaniment along with the rhythm pattern. AutoBand works with both Easy Play System (EPS) or your own Multi-Finger Chords played on the Lower Manual.

AUTO CHORD Touch Tab

When this Touch Tab is "ON" (red LED lit), notes played on the Lower Manual will articulate automatically in a pattern appropriate to the selected rhythm pattern. Band 1 is the basic and less complex of the two instrumental accompaniments. AutoChord works with both Easy Play System (EPS) or your own Multi-Finger Chords.

AUTO BAND 1 Touch Tab

This Touch Tab provides an appropriate musical accompaniment for the selected rhythm pattern.

AUTO BAND 2 Touch Tab

This Touch Tab provides an alternate musical accompaniment for the selected rhythm pattern.

Using the AUTO BAND 1 and AUTO BAND 2 Touch Tabs together will provide the maximum musical accompaniment. The parts are written to complement each other.

You may also use other Voice Groups and the Lower Drawbars for sustained chord effects along with the AutoBand feature.

AUTO BASS Touch Tab

This feature enables bass notes automatically. However, it may be turned off, allowing the player to play the Pedals along with the AutoBand accompaniments.

MEMORY Touch Tab

When Memory is selected the sounds produced on the Lower Manual will be sustained. This makes your chord changes sound smoother when you move from one chord to the next. If Memory is not "ON", when an EPS or Multi-Fingered Chord is released, the sounds stop until you play the next chord.

LOWER SPLIT Touch Tab

This Touch Tab forces a split on the Lower Manual, and allows voices from either the Orchestral or Lower Custom Voice Sections to sound to the right of the split point on the Lower Manual.

NOTE: This feature is explained in more detail in the SPECIAL PERFORMANCE FEATURES Section of this Guide starting on page 64

EASY PLAY SYSTEM Touch Tab

Touching the EASY PLAY SYSTEM Touch Tab produces the sound of multi-fingered chords using a minimum number of fingers on the Lower Manual. Play one note on the Lower Manual after selecting the Easy Play System Touch Button to hear this effect.

NOTE: Whenever the Easy Play System Touch Button is activated the Auto Bass Touch Button should also be activated. This is so you can hear the bass pedal sounds.

Major Chords

To play a Major chord, play the key that is the name of the chord you are playing.

EXAMPLE: C Major chord: Play a "C" key on the Lower Manual.

Minor Chords

Minor Chords are formed by touching and holding two keys. To play a Minor chord first touch and hold the key that is the name of the chord. Second, determine the note which is a minor third above the key you are holding by counting three keys to the right not including the key you are holding. For a C minor chord, this note is "E♭":

1. C
2. E♭
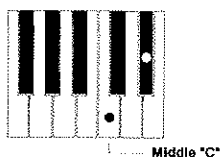
Seventh Chords

Forming a Seventh Chord requires touching and holding two keys. To play a "C" Seventh Chord play the key that is the NAME of the chord. To determine the second key, count 2 keys to the left of the first key (B♭ if you are playing a C seventh chord). Do not include the first key in your count.
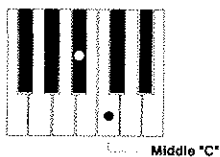
1. C
2. B♭

Minor Seventh Chords

Forming a Minor Seventh Chord requires touching and holding three keys. To determine the Seventh note count 2 keys to the left of the key that is the name of the chord. To determine the Minor note count 3 notes to the right of the key that is the name of the chord. Remember, do not include the note that is the name of the chord when counting left or right. For a C minor seventh chord, these three notes are:

1. C
2. B♭
3. E♭

Middle "C"
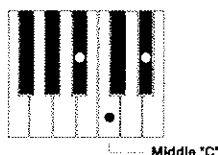
NOTE: The examples given are for the most commonly used chords.

◆ Rhythm Tempo Controls

Tempo Wheel Control

To the right of the LCD screen is the Tempo Wheel Control. This large rotary control allows you to easily control the tempo of the selected Rhythm. The total range of the Rhythm Tempo is from 40 to 300 bpm (beats per minute).
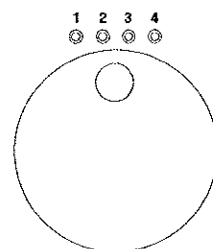
Touch Tempo

You may select your own rhythm tempo by tapping this Touch Tab four (4) times at the desired speed. The rhythm will then be programmed to that tempo, not the tempo set by the Tempo Wheel Control. However, you may still use the Tempo Wheel Control to further adjust the rhythm tempo if you wish.

When the Information Center Display in either of the PLAY Modes, the Rhythm Tempo will be shown in the upper right corner and is displayed in `beats per minute'.

◆ Rhythm Preset

Rhythm Preset

The Rhythm Preset feature allows you to choose a pre-programmed registration for each Rhythm. To use this feature, simply touch the RHYTHM PRESET Touch Tab "ON". The red LED will light.

When the RHYTHM PRESET Touch Tab is "ON", each time you select a different Rhythm, you will hear the voices change. In this way, you can have an appropriate setting for playing your melodies along with the Rhythms and/or Styles.

PRESETS

| REC | | 1 | 2 | 3 | 4 | 5 | | 6 | 7 | 8 | 9 | 10 | | C |

The Preset Pistons (10 numbered pistons plus RECORD and CANCEL) located between the Upper and Lower Manuals, and affect Drawbars, Orchestral Voices, Custom Voices and Ensemble Voices for Upper and Lower Manual Voices, and Strings Voices Touch Buttons for the Upper and Lower Manuals. The CANCEL Piston is illuminated when the Power Switch is turned on for the first time. As long as the CANCEL Piston is "ON", you are able to control all Drawbars, Touch Tabs, and Touch Buttons corresponding to each manual and pedals. Each time a Preset is activated it will register a particular setting of the controls on the organ.

The Preset Pistons are used one at a time. Touching a Preset Piston while another is active cancels the previous combination and selects the new one.

When the Information Center Display is in the PLAY Mode and a Preset is activated, the Drawbar settings will change together with the names and volume settings of the Orchestral, Custom, Ensemble and Pedal Voices shown in the Information Center Display.

The Drawbar settings, Leslie, Vibrato, Percussion, Sustain and Volumes can be changed as you wish. However, if you touch another Preset Piston or the CANCEL Piston, the settings you have changed will not be remembered.

NOTE: In addition to Drawbar and Touch Tab selection, you can include such things as Pan & Velocity settings, the change to the sound added by the TONE CONTROL, EFFECT CONTROL and CHORUS Touch Tabs, etc. To see a total listing of all parameters that can be included in a Combination, see the MIDI Implementation NRPN Chart starting on page 2 of the Reference Guide supplement.

♦ Preset Banks

Each set of 10 combinations or Presets is called a Preset Bank. Your Hammond Organ contains 10 built-in Preset Banks, each containing 10 preset combinations, and each representing a different kind of music - Easy Listening, Jazz, Contemporary, Theatre Organ, Pop Organ, Classical Organ, etc. For a complete listing of the Presets and Preset Banks, see the PRESET BANK & NAME LIST on page 9 of the Reference Guide supplement.

NOTE: You may select any of the different Preset Banks to be activated from the Preset Pistons. How to do this is covered later in this section under the heading Preset Edit Menu starting on page 55.

♦ Setting Up Your Own Presets

You can program the Preset Pistons with your own settings.

TRY THIS:

1   Set up a registration. For this example, use Drawbars, Orchestral Voices, Custom Voices or Ensemble Voices.

2.   To the left of the numbered Preset Pistons is a Piston marked, "REC" (Record). With your left hand, Touch and Hold the REC Piston.

3.   Continue to hold the REC Piston with your left hand. With your right hand, Touch one of the Preset Pistons; for example, number 1.

4.   The LED of the Preset that you touched will flash several times, indicating that the information is being stored. Once the LED stops flashing, the Recording process is complete.

After combinations have been saved to the Preset Pistons, they can then be stored to a 3 $^1/_2$" Floppy Disk. To learn more about saving data to a Floppy Disk, see Using the Disk Drive starting on page 71.

▶ Preset Name Edit Menu

This Advanced Feature Menu allows you to name your Presets.

NOTE: This Advanced Feature Menu is only accessible via Shortcut.

Accessing the Preset Name Edit Menu

Touch and hold any of the 10 Preset Pistons. After approximately 1 second, the words, "PRESET NAME EDIT" will display at the top of the screen.

TRY THIS:

1   Set up your own Preset combination . For this example, use Drawbars, Orchestral Voices, Custom Voices or Ensemble Voices.

2.   To the left of the numbered Preset Pistons is a Piston marked, "REC" (Record). With your left hand, Touch and Hold the REC Piston.

3.   Continue to hold the REC Piston with your left hand. With your right hand, Touch one of the Preset Pistons; for example, number 1. The LED of the Preset that you touched will flash several times, indicating that the information is being stored. Once the LED stops flashing, the Recording process is complete.

4.   Touch and hold the numbered Preset Piston you just programmed. The words, "PRESET NAME EDIT" will display at the top of the screen.

5.   Name your Preset. In the middle of the Information Center Display, you will see a large box containing characters. These are the characters you can use for naming Presets. You can use several methods to select characters:

Selecting Characters by the Numbered Touch Buttons

Below the character box in the Information Center Display, you will see several arrows. These indicate that you can move around inside the box by using the numbered Touch Buttons. The current location is marked by a cursor which displays the letter it is over in reverse video (green lettering against a black background).

Use either the Number 6 or Number 14 Select Touch Buttons to move the cursor forward inside the box.

Use either the Number 4 or Number 12 Select Touch Buttons to move the cursor backward inside the box.

If you move the cursor to the end of a line, it will stop. Use the Number 13 Select Touch Button to move down to the lower lines.

Use the Number 5 Select Touch Buttons to move the cursor up to the upper lines.

Selecting Characters using the Data Wheel

Turn the Data Wheel to the right to move the cursor to the right.

Turn the Data Wheel to the left to move the cursor to the left.

6.   Notice that the left side of the Information Center Display shows the Preset Name, and that there are two arrows. As you select each letter or character for your Preset Name, use this area of the screen to confirm each entry.

Use either the Number 2 or Number 10 Select Touch Button to move the cursor to the right.

Use either the Number 1 or Number 9 Select Touch Button to move the cursor to the left.

In this way, you enter the Preset Name that you want. You can also use the DEL feature (Number 7 Select Touch Button) to successively delete each character, or the CLR feature (Number 8 Select Touch Button) to clear the name area completely and begin entering the characters that you want.

7.   If you do not want to save your Preset Name or if you wish to bypass the Preset Name screen, use the EXT (Exit) feature (Number 15 Select Touch Button) to exit the Preset Name screen and return to the PLAY Mode. If you wish to save your Preset Name, touch the Number 16 Select Touch Button ("ENT" or Enter). The Information Center Display will show the following message:

Now Saving...
Please Wait.

The LED of the Preset Piston being named will flash rapidly, indicating that the Preset information is being updated. After approximately 1 second, the Preset LED will stop flashing and remain lit, indicating that your new Preset Name has now been stored.

After combinations have been saved to the Preset Pistons, they can then be stored to a 3 $\frac{1}{2}$" Floppy Disk. To learn more about saving data to a Floppy Disk, see Using the Disk Drive, starting on page 71.

▶ Preset Edit Menu

This Advanced Feature Menu allows you to select from ten preprogramed Preset Banks within the organ, and select how the Drawbars work in conjunction with the Presets.

Accessing the Preset Edit Menu using the Menu Touch Buttons

1.   From any of the PLAY Screens, touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch either the Number 13 or Number 14 gray Select Touch Buttons. The words, "PRESET EDIT" will now display at the top of the screen. The Preset Edit Menu has 2 screens, so you will see "1/1" in the upper left corner of the Information Center Display.

Accessing the Preset Edit Menu using the Shortcut

Touch and hold the CANCEL Touch Button. After approximately 1 second, the words, "PRESET EDIT" will now display at the top of the screen.

You are now in the Preset Edit Menu. You may now use the PAGE UP and PAGE DOWN as well as the numbered Select Touch Buttons below the screen to change various characteristics of the Presets. These changes are explained below.

Screen 1 - Preset Banks
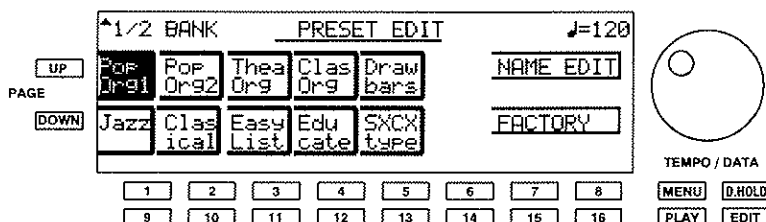
Using this screen, you can program the Preset Pistons with any of the ten built-in Preset Banks. The banks are arranged in order on the screen corresponding to the arrangement of the numbered Touch Buttons. The currently selected Preset Bank will be shown in reverse video (green lettering against a black background).

To select a different bank, simply touch one of the numbered Touch Buttons. Your selection will display in reverse video and the Preset Pistons will be loaded with the information from the bank you selected.

Name Edit

This Advanced Feature allows you to edit the name of the selected Preset Bank.

Use either the Number 7 or Number 8 Select Touch Button to access the Preset Bank Name Screen. In the middle of the Information Center Display, you will see a large box containing characters. These are the characters you can use for naming Preset Banks. You can use several methods to select characters:

Selecting Characters by the Numbered Touch Buttons

Below the character box in the Information Center Display, you will see several arrows. These indicate that you can move around inside the box by using the numbered Touch Buttons. The current location is marked by a cursor which displays the letter it is over in reverse video (green lettering against a black background).

Use either the Number 6 or Number 14 Select Touch Buttons to move the cursor forward inside the box.

Use either the Number 4 or Number 12 Select Touch Buttons to move the cursor backward inside the box.

If you move the cursor to the end of a line, it will stop. Use the Number 13 Select Touch Button to move down to the lower lines.

Use the Number 5 Select Touch Buttons to move the cursor up to the upper lines.

Selecting Characters using the Data Wheel

Turn the Data Wheel to the right to move the cursor to the right.

Turn the Data Wheel to the left to move the cursor to the left.

Notice that the left side of the Information Center Display shows the Preset Name, and that there are two arrows. As you select each letter or character for your Preset Name, use this area of the screen to confirm each entry.

Use either the Number 2 or Number 10 Select Touch Button to move the cursor to the right.

Use either the Number 1 or Number 9 Select Touch Button to move the cursor to the left.

In this way, you enter the Preset Bank Name that you want. You can also use the DEL feature (Number 7 Select Touch Button) to successively delete each character, or the CLR feature (Number 8 Select Touch Button) to clear the name area completely and begin entering the characters that you want.

If you do not want to save your Preset Name or if you wish to bypass the Preset Name screen, use the EXT (Exit) feature (Number 15 Select Touch Button) to exit the Preset Name screen and return to the PLAY Mode. If you wish to save your Preset Name, touch the Number 16 Select Touch Button ("ENT" or Enter).

Factory Setting

If you have changed any of the Preset Banks, this Advanced Feature allows you to restore the selected Preset Bank to the factory settings.

Use either the Number 15 or Number 16 Select Touch Button to restore the factory settings for the selected Preset.

Screen 2 - Drawbar Priority Setting

From Screen 1 of the Preset Edit Menu, touch the PAGE UP Touch Button to access Screen 2. This Advanced Feature allows you to select how the Drawbars will work in conjunction with Presets. You can select from the following:

"Off" - When a Preset is active, moving the Drawbars will have no effect.

"Individual" - When a Preset is active and a Drawbar is moved, the setting of only that Drawbar is affected.

"Global" - When a Preset is active and a Drawbar is moved, the entire Drawbar registration is instantaneously changed to the current setting.

Use either the Number 1 or Number 2 Select Touch Button to scroll up through the Upper Manual selections.

Use either the Number 9 or Number 10 Select Touch Button to scroll down through the Upper Manual selections.

Use either the Number 3 or Number 4 Select Touch Button to scroll up through the Lower Manual selections.

Use either the Number 11 or Number 12 Select Touch Button to scroll down through the Lower Manual selections.

Use either the Number 5 or Number 6 Select Touch Button to scroll up through the Pedal Keyboard selections.

Use either the Number 13 or Number 14 Select Touch Button to scroll down through the Pedal Keyboard selections.

SPECIAL PERFORMANCE FEATURES

♦ Transpose (Key Select)

TRANSPOSE

Using these Touch Tabs, located immediately to the left of the Orchestral Voice Division, you can shift the musical key of the entire organ. This is useful if you have a piece of music written in one key but which needs to sound in another key; for example, a song written and played in C Major, could sound in G Major. Transpose will step either up or down six (6) semitones from the center position. The Transpose, which is located at the left-hand side of the Upper Manual, consists of two separate switches. The upper one is for ascending transposition and the lower one is for descending transposition.
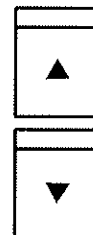
If you touch the descending Touch Tab once, the LED will light, lowering the pitch (tune) or the entire organ a semitone (half tone). At the same time, if the Information Center Display is in the PLAY Mode, the upper left-hand corner shows "Xp=-1". Each time that you touch the Transpose Down Touch Tab, the display will change showing each step down.

If you touch the Transpose Up Touch Button once, from the center point (no LED lighted), then the display will show "Xp=+1".

♦ Manual Drum

This feature allows you to play the drum sounds, or the rhythm yourself, in real time on the Lower Manual. You can even use the MANUAL DRUM feature while rhythms are in use; the basic rhythm pattern will play while your playing will be heard on top. To use this feature, simply touch the MANUAL DRUM Touch Tab. The red LED will light.
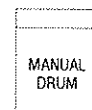
MANUAL DRUM
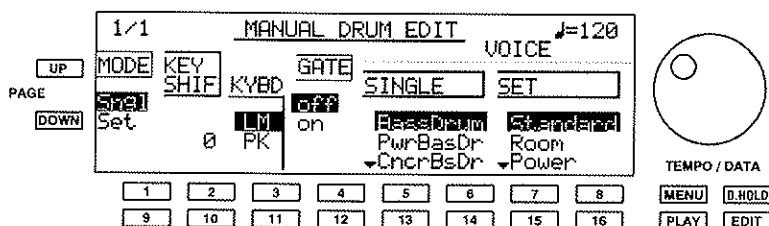
► Manual Drum Edit Menu

This Advanced Feature Menu allows you to make various changes to the characteristics of the Manual Drum feature of the organ.

Accessing the Manual Drum Edit Menu using the Menu Touch Buttons

1. Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2. Touch the PAGE UP Select Touch Button once. Screen 2 of the MENU Mode will now display. You will now see "2/3" in the upper left corner of the Information Center Display.

3. Touch either the Number 15 or Number 16 gray Select Touch Buttons. The words, "MANUAL DRUM EDIT" will now display at the top of the screen.

Accessing the Manual Drum Edit Menu using the Shortcut

Touch and hold the MANUAL DRUM Touch Tab. After approximately 1 second, the words, "MANUAL DRUM EDIT" will display at the top of the screen.

You are now in the Manual Drum Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the Manual Drums. These changes are explained below.

Mode

This Advanced Feature allows you to select the mode of operation for the Manual Drums. You can choose, "Sngl" (single) or "Set" Mode.

"Sngl" allows you to select a drum sound for either the Pedals or the Lower Manual. Touching any Pedal or Lower Manual key will cause the selected drum voice to sound. This is useful for playing your own rhythm patterns.

"Set" allows you to play entire GM/GS-compatible drum kits from the Pedals or the Lower Manual. In this mode, each Pedal or Lower Manual key will play a different drum sound. This is useful for programming your own drum patterns as part of a song.

Use the Number 1 Select Touch Button to select Sngl.

Use the Number 9 Select Touch Button to select Set.

Key Shift

Because GM/GS drum kits exceed the boundaries of a 61-note organ keyboard, a Key Shift or Note Transpose feature is necessary to allow you to hear all of the drum voices. This Advanced Feature allows you to change the note assignments for the drum kit voices.

Use the Number 2 Select Touch Button to move the Key Shift up.

Use the Number 10 Select Touch Button to move the Key Shift down.

Keyboard

You can edit the Manual Drum performance characteristics for either the Lower Manual or the Pedal Keyboard. This Advanced Feature allows you to choose which one you want to work on.

Use the Number 3 Select Touch Button to select LM (Lower Manual).

Use the Number 11 Select Touch Button to select PK (Pedal Keyboard).

Gate

This Advanced Feature allows you to select whether you want the Manual Drums to sound from the Lower Manual, the Pedal Keyboard, or both. Use this Advanced Feature in conjunction with the Keyboard feature described in the previous paragraph. For example, if "LM" is selected, the "on/off" gate will turn Manual Drums "on" or "off" for the Lower Manual.

Use the Number 4 Select Touch Button to turn Manual Drums off for the selected keyboard..

Use the Number 12 Select Touch Button to turn Manual Drums on for the selected keyboard..

Voice

This Advanced Feature works two ways, depending on which Mode is selected.

In Single Mode, this Advanced Feature allows you to select which individual drum voice will sound from the selected keyboard, either Lower Manual or Pedal Keyboard. You may choose from 27 different drum voices. For a complete listing of the available voices, see the MANUAL DRUM SINGLE VOICE LIST on page 6 of the Reference Guide supplement.

In Set Mode, this Advanced Feature allows you to select which drum kit will sound from the selected keyboard, either Lower Manual or Pedal Keyboard. You may choose from 9 different Drum Kits. For a complete listing of the available drum kits, see the GM MODE DRUM SETS LIST starting on page 12 of the Reference Guide supplement.

Use either the Number 5 or Number 6 Select Touch Button to scroll up through the Single Mode choices.

Use either the Number 13 or Number 14 Select Touch Button to scroll down through the Single Mode choices.

Use either the Number 7 or Number 8 Select Touch Button to scroll up through the Set Mode choices.

Use either the Number 15 or Number 16 Select Touch Button to scroll down through the Set Mode choices.

◆ Sound Effect

This feature allows you to add sound effects to your playing. To use this feature, simply touch the SOUND EFFECT Touch Tab. The red LED will light.
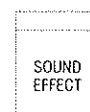
SOUND
EFFECT

▶ Sound Effect Voice Menu
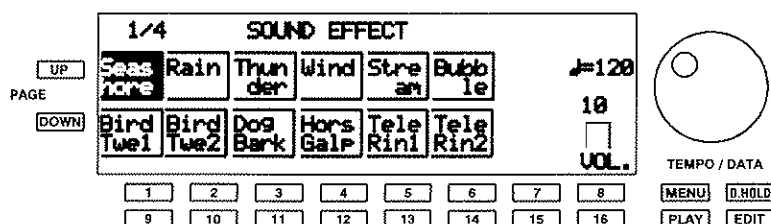
This Voice Menu allows you to select the sound produced by the SOUND EFFECT Touch Tab.

NOTE: This Advanced Feature Menu is only accessible via Shortcut.

Accessing the Sound Effect Voice Menu

Touch and hold the SOUND EFFECT Touch Tab. After approximately 1 second, the words, "SOUND EFFECT" will display at the top of the screen. The currently selected voice will be shown in reverse video (green lettering against a black background).

The Sound Effect Voice Menu has 4 screens. You may use the PAGE UP and PAGE DOWN Touch Buttons to select which screen you want..

Use the PAGE UP Select Touch Button to scroll up through the voice screens.

Use the PAGE DOWN Select Touch Button to scroll down through the voice screens.

The voices on the screen are arranged in a pattern corresponding to that of the numbered Touch Buttons. Use the numbered Select Touch Buttons below the screen to select the Sound Effect that you prefer. When you make your selection, the voice you choose will display in reverse video. For a complete listing of the available Sound Effects, see the SOUND EFFECT VOICE LIST on page 6 of the Reference Guide supplement.

◆ Auto Arpeggio

The Auto Arpeggio feature adds professional-sounding arpeggio patterns to your playing. To activate this feature, simply touch the AUTO ARPEGGIO Touch Tab "ON". The red LED will light and an arpeggio pattern will sound when a full chord or Easy lay System chord is played on the Lower Manual.

AUTO ARPEGGIO

▶ Auto Arpeggio Edit Menu

This Advanced Feature Menu allows you to make various changes to the characteristics of the Auto Arpeggio feature of the organ.

Accessing the Auto Arpeggio Edit Menu using the Menu Touch Buttons

1.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch the PAGE UP Select Touch Button once. Screen 2 of the MENU Mode will now display. You will now see "2/3" in the upper left corner of the Information Center Display.

3.   Touch either the Number 11 or Number 12 gray Select Touch Buttons. The words, "AUTO ARPEGGIO EDIT" will now display at the top of the screen.

Accessing the Auto Arpeggio Edit Menu using the Shortcut

Touch and hold the AUTO ARPEGGIO Touch Tab. After approximately 1 second, the words, "AUTO ARPEGGIO EDIT" will display at the top of the screen.

You may now use the numbered Select Touch Buttons below the screen to make various changes to the Auto Arpeggio feature. These changes are explained below.

Mode

This Advanced Feature allows you to select how the Arpeggio works when Lower Manual keys are pressed. You can select, "Chord" (touching a minimum of notes will produce a full chord similar to the Easy Play System) or "Scan" (only the notes pressed will result in arpeggiated patterns - for example touching a "C" key will cause the Arpeggio pattern to play using only the note "C").

Use either the Number 1 or Number 2 Select Touch Button to select Chord.

Use either the Number 9 or Number 10 Select Touch Button to select Scan.

Pattern

This Advanced Feature allows you to select the Arpeggio pattern you want.

Use either the Number 3 or Number 4 Select Touch Button to scroll up through the selections.

Use either the Number 11 or Number 12 Select Touch Button to scroll <u>down</u> through the selections.

Division

This Advanced Feature allows you to select the note division for the Arpeggio.

Use the Number 5 Select Touch Button to select <u>Eighth notes</u>.

Use the Number 6 Select Touch Button to select <u>Eighth note Triplets</u>.

Use the Number 13 Select Touch Button to select <u>Sixteenth notes</u>.

Use the Number 14 Select Touch Button to select <u>Sixteenth note Triplets</u>.

NOTE: The overall speed of the Arpeggio is controlled by the Tempo/Data Entry Wheel.

Voice

This Advanced Feature allows you to select the voice for the Arpeggio pattern.

Use either the Number 3 or Number 4 Select Touch Button to scroll <u>up</u> through the selections.

Use either the Number 11 or Number 12 Select Touch Button to scroll <u>down</u> through the selections.

For a complete list of the Auto Arpeggio voices, see the AUTO ARPEGGIO VOICE LIST on page 6 of the <u>Reference Guide</u> supplement.

◆ ProChord

When selected, ProChord will add a professionally arranged harmony to single note melodies played on the Upper Manual. The harmonization of the Upper Manual melody is determined by which one-finger chord or multi-fingered chord is played on the Lower Manual.
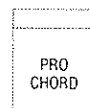
► ProChord Edit Menu
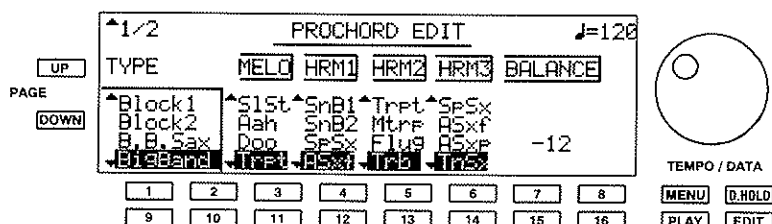
This Advanced Feature Menu allows you to make various changes to the characteristics of the ProChord feature of the organ.

Accessing the ProChord Edit Menu using the Menu Touch Buttons

1.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch the PAGE UP Select Touch Button <u>once</u>. Screen 2 of the MENU Mode will now display. You will now see "2/3" in the upper left corner of the Information Center Display.

3.   Touch either the Number 13 or Number 14 gray Select Touch Buttons. The words, "PROCHORD EDIT" will now display at the top of the screen.

Accessing the ProChord Edit Menu using the Shortcut

Touch and hold the ProChord Touch Tab. After approximately 1 second, the words, "PROCHORD EDIT" will display at the top of the screen.

You are now in the ProChord Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the ProChord. These changes are explained below.

ProChord Type

This Advanced Feature allows you to select which ProChord style will play when the PROCHORD Touch Tab is turned "ON". For a complete listing and explanation of the ProChord Types, see the PROCHORD TYPE LIST on page 7 of the Reference Guide supplement.

Use either the Number 1 or Number 2 Select Touch Button to scroll up through the selections.

Use either the Number 9 or Number 10 Select Touch Button to scroll down through the selections.

ProChord Melody Voice Selection

This Advanced Feature allows you to select the voicing for the Melody or top note of the selected ProChord Type.

Use the Number 3 Select Touch Button to scroll up through the selections.

Use the Number 11 Select Touch Button to scroll down through the selections.

ProChord Harmony 1 Voice Selection

This Advanced Feature allows you to select the voicing for the Harmony 1 or upper note of the harmony of the selected ProChord Type.

Use the Number 4 Select Touch Button to scroll up through the selections.

Use the Number 12 Select Touch Button to scroll down through the selections.

ProChord Harmony 2 Voice Selection

This Advanced Feature allows you to select the voicing for the Harmony 2 or middle note of the harmony of the selected ProChord Type.

Use the Number 5 Select Touch Button to scroll up through the selections.

Use the Number 13 Select Touch Button to scroll down through the selections.

ProChord Harmony 3 Voice Selection

This Advanced Feature allows you to select the voicing for the Harmony 3 or lowest note of the harmony of the selected ProChord Type.

Use the Number 6 Select Touch Button to scroll up through the selections.

Use the Number 14 Select Touch Button to scroll down through the selections.

ProChord Balance

This Advanced Feature allows you to balance the Melody voice against the Harmony voices of the ProChord types.

Use either the Number 7 or Number 8 Select Touch Button to scroll up through the selections.

Use either the Number 15 or Number 16 Select Touch Button to scroll down through the selections.

◆ Lower Split

This Touch Tab, when pressed "ON" (LED lit), splits the Lower Manual into two sections. The section below the split point functions as the Lower Manual normally does. However, the section to the right of the split point can be used to play melodies.
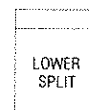
> LOWER
> SPLIT

When the LOWER SPLIT Touch Tab is "ON", the Lower Manual Drawbars and Ensemble voices will be heard on the left end of the manual ("Accompaniment"). If you turn on an Orchestral Voice and touch the ON LOWER Touch Tab in the Orchestral Control Division, you will hear the Orchestral Voice play on the right end of the manual. Also, if you have a Lower Custom Voice selected (the ON LOWER Touch Tab in the Custom Voice Section "ON"), the Lower Custom Voice will also play on the right end of the manual ("Solo"). You can set the split point between the Accompaniment and Solo sections of the Lower Manual by using the Lower Split Edit Menu, which is explained below.

▶ Lower Split Edit Menu
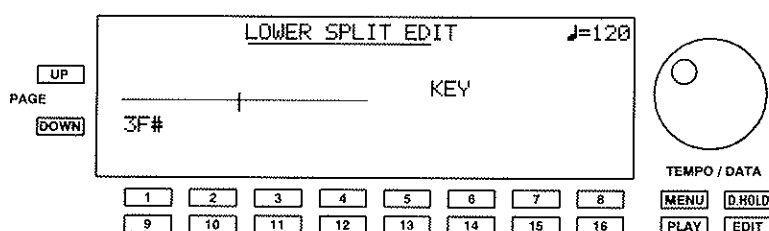
This Advanced Feature Menu allows you to change the split point of the Lower Manual when the LOWER SPLIT Touch Tab is "ON".

NOTE: This Advanced Feature Menu is only accessible via Shortcut.

Accessing the Lower Split Edit Menu

Touch and hold the LOWER SPLIT Touch Tab. After approximately 1 second, the words, "LOWER SPLIT EDIT" will display at the top of the screen.

Use the Number 1 Select Touch Button to move the split point to the right.

Use the Number 9 Select Touch Button to move the split point to the left.

You will see the indicator move to the right or left, and a number followed by a letter ("3C", "4D", etc.) This indicates the dividing point between the Accompaniment and Solo sections of the Lower Manual. "1C" is the lowest note on the Lower Manual, "2C" is the "C" key one octave higher, etc. The key number shown is the highest note of the Accompaniment Section.

You can also change the Lower Split point by key input from the Lower Manual. To do this:

1.   Touch and hold either the Number 6 or Number 14 Select Touch Button.

2.   While holding the numbered Select Touch Button, touch a Lower Manual key. The Lower Manual will split at the point represented by the key you touched. For example, if you touch "3C" (the third "C" key on the manual starting from the bottom), the lower portion of the keyboard up to "3C" will play Accompaniment (the Lower

Manual Drawbars and Ensemble Voices). The Solo portion of the Lower Manual would start at "3C♯" and continue up to the highest Lower Manual key.

♦ ProFoot Foot Switches

On either side of the Expression Pedal are the two ProFoot Foot Switches. These can be programmed to activate one of a number of different functions selected from the Information Center Display.
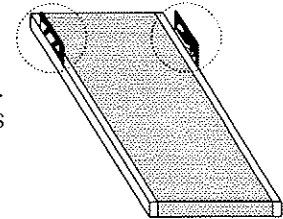
▶ ProFoot €dit Menu
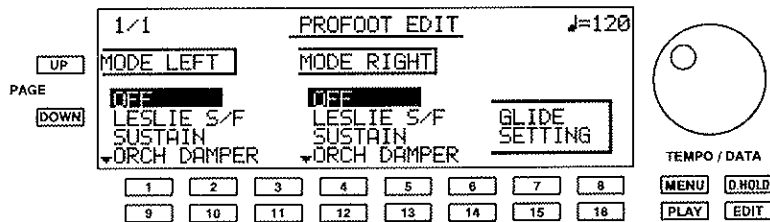
This Advanced Feature Menu allows you to program either or both of the two ProFoot Foot Switches.

NOTE: This Advanced Feature Menu has no Shortcut. It is accessible only via the Menu Touch Buttons.

Accessing the ProFoot €dit Menu

1.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch either the Number 7 or Number 8 gray Select Touch Buttons. The words, "PROFOOT EDIT" will now display at the top of the screen.

You may now use the numbered Select Touch Buttons below the screen to select the function you would like for each Foot Switch.

Use the Number 1, Number 2 or Number 3 Select Touch Buttons to scroll up through the selections for the Left Foot Switch.

Use the Number 9, Number 10 or Number 11 Select Touch Buttons to scroll down through the selections for the Left Foot Switch.

Use the Number 4, Number 5 or Number 6 Select Touch Buttons to scroll up through the selections for the Right Foot Switch.

Use the Number 12, Number 13 or Number 14 Select Touch Buttons to scroll down through the selections for the Right Foot Switch.

The following is an explanation of the various ProFoot options.

OFF - Engaging the selected ProFoot Foot Switch will have no effect.

LESLIE - Engaging the selected ProFoot Foot Switch will turn the LESLIE FAST Touch Tab "ON" and "OFF"

UPPER SUSTAIN - Engaging the selected ProFoot Foot Switch will turn "ON" the UPPER SUSTAIN Touch Tab for as long as the switch is held. Releasing the switch will turn the UPPER SUSTAIN Touch Tab "OFF".

ORCH DAMPER - Engaging the selected ProFoot Foot Switch will turn the LESLIE FAST Touch Tab "ON" and "OFF"

PRESET + - Engaging the selected ProFoot Foot Switch will advance the Presets to the right ("1", "2", "3", etc.)

PRESET - - Engaging the selected ProFoot Foot Switch will advance the Presets to the left ("10", "9", "8", etc.)

MANUAL DR - Engaging the selected ProFoot Foot Switch will turn the MANUAL DRUM Touch Tab "ON" or "OFF".

ARPEGGIO - Engaging the selected ProFoot Foot Switch will turn the AUTO ARPEGGIO Touch Tab "ON" or "OFF".

PROCHORD - Engaging the selected ProFoot Foot Switch will turn the PROCHORD Touch Tab "ON" or "OFF".

RHYTHM START/STOP - Engaging the selected ProFoot Foot Switch will turn the Rhythm STOP/START Touch Tab "ON" or "OFF".

RHYTHM FILL 1 - Engaging the selected ProFoot Foot Switch will activate the FILL 1 Touch Tab in the RHYTHM FEATURES Section.

RHYTHM FILL 2 - Engaging the selected ProFoot Foot Switch will activate the FILL 1 Touch Tab in the RHYTHM FEATURES Section.

GLIDE - Engaging the selected ProFoot Foot Switch will apply a portamento or "bend" to the voices in the Orchestral, Custom or Ensemble sections. This is especially appropriate for voices such as Trombone, Trumpet, Hawaiian or Country Guitar, etc., which frequently feature "bent" notes as part of their characteristic sound.

Glide Setting

Since the Glide feature is one of the Advanced Features controllable by the ProFoot Foot Switches, you can immediately access the Glide Edit Menu from the ProFoot Edit Menu in order to more easily make the ProFoot and Glide settings that you prefer.

Use the Number 7, Number 8, Number 15 or Number 16 Select Touch Buttons to select the Glide Edit Menu from the ProFoot Edit Menu.

► Glide Edit Menu
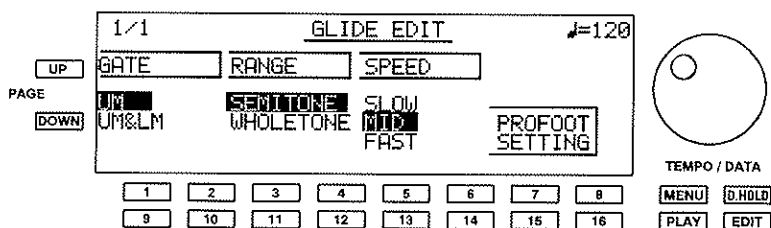
This Advanced Feature Menu allows you to make various changes to the characteristics of the Glide feature of the organ.

NOTE: The Glide feature must be enabled in the ProFoot Edit Menu in order for these Advanced Features to be heard.

NOTE: This Advanced Feature Menu has no Shortcut. It is accessible only via the Menu Touch Buttons.

Accessing the Glide Edit Menu

1.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information

Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch either the Number 5 or Number 6 Select Touch Buttons. The words, "GLIDE EDIT" will now display at the top of the screen.

You are now in the Glide Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the Glide feature. These changes are explained below.

Gate

This Advanced Feature allows you to select whether the Glide will affect the Upper Manul voices only or both Upper and Lower Manual voices.

Use either the Number 1 or Number 2 Select Touch Button to select "UM" (Upper Manual).

Use either the Number 9 or Number 10 Select Touch Button to select "UM&LM" (Upper Manual and Lower Manual).

Range

This Advanced Feature allows you to select the range of the Glide effect. You can select either "SEMITONE" (one half-step) or "WHOLETONE" (two half-steps).

Use either the Number 3 or Number 4 Select Touch Button to select SEMITONE.

Use either the Number 1 or Number 2 Select Touch Button to select WHOLETONE.

Speed

This Advanced Feature allows you to select the rate at which the Glide effect rises to the note pitch after the Foot Switch is released. You can select "SLOW", "MID" or "FAST".

Use either the Number 5 or Number 6 Select Touch Button to scroll up through the selections.

Use either the Number 13 or Number 14 Select Touch Button to scroll down through the selections.

ProFoot Setting

Since the Glide feature is one of the Advanced Features controllable by the ProFoot Foot Switches, you can immediately access the ProFoot Edit Menu from the Glide Edit Menu in order to more easily make the ProFoot and Glide settings that you prefer.

Use the Number 7, Number 8, Number 15 or Number 16 Select Touch Buttons to select the ProFoot Edit Menu from the Glide Edit Menu.

► Control Edit Menu
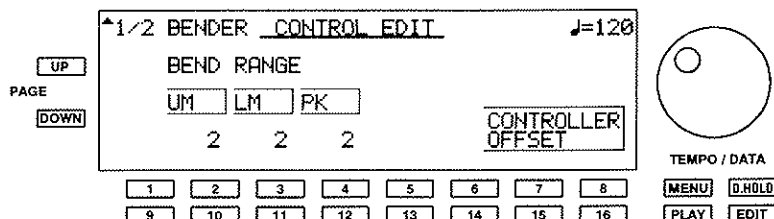
As explained in the Getting Started section of this Guide, an optional Control Center called the CU-2 is available for your Hammond Organ which allows you to control the speed of the Leslie as well as transmit MIDI Controller information to a connected MIDI device. This Advanced Feature Menu allows you to select the parameters for the Control Center that you prefer..

NOTE: This Advanced Feature Menu has no Shortcut. It is accessible only via the Menu Touch Buttons.

Accessing the Control Edit Menu

1.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch either the Number 15 or Number 16 Select Touch Buttons. The words, "CONTROL EDIT" will now display at the top of the screen.

You are now in the Control Edit Menu. You may now use the numbered Select Touch Buttons below the screen to. These changes are explained below.

Bend Range

This Advanced Feature allows you to set the range of the Pitch Bend Wheel for Upper and Lower Manuals and Pedals.

Use the Number 2 Select Touch Button to increase the Bend Range for the Upper Manual.
Use the Number 10 Select Touch Button to decrease the Bend Range for the Upper Manual.
Use the Number 3 Select Touch Button to increase the Bend Range for the Lower Manual.
Use the Number 11 Select Touch Button to decrease the Bend Range for the Lower Manual.
Use the Number 4 Select Touch Button to increase the Bend Range for the Pedals.
Use the Number 12 Select Touch Button to decrease the Bend Range for the Pedals.

Controller Offset

This Advanced Feature allows you to calibrate the Pitch Bend and Modulation Wheels after they are first installed. Simply center the two wheel controls, then touch either the Number 15 or Number 16 Select Touch Button.

Modulation Wheel

From Screen 1 of the Pan Edit Menu, touch the PAGE UP Select Touch Button to display Screen 2. This Advanced Feature allows you to select the parameters for the Modulation Wheel.

Use the Number 1 and Number 9 Select Touch Buttons to select the Mode. You can select "OFF" (moving the Modulation Wheel has no effect), "VIB" (moving the Modulation Wheel adds modulation or Vibrato) or "LES" (moving the Modulation Wheel will control the rotors of either the internal digital Leslie or a connected Leslie Speaker cabinet).

Use the other numbered Select Touch Buttons to turn the Modulation Wheel "on" or "off" for each voice section of the organ.

▶ Pan Edit Menu
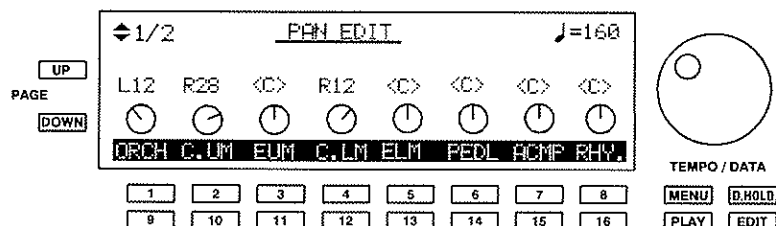
This Advanced Feature Menu allows you to select which part of the organ's speaker system the voices will come from. In this way, you can add "stereo" or directional effects to your music.

Accessing the Pan Edit Menu

From either of the PLAY screens, touch the gray EDIT Select Touch Button to see the first screen of the Pan Edit Menu. You will see "1/2" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 2 screens and that screen 1 is displaying.

You can now adjust the Pan settings for the following:

1.   Orchestral Voices
2.   Upper Custom Voice
3.   Upper Ensemble Voices
4.   Lower Custom Voice
5.   Lower Ensemble Voices
6.   Pedal Voice
7.   Accomp./SMF (AutoBand and Song Disk voices)
8.   Rhythm (drum patterns)

Immediately below the LCD screen, you will notice printed legends for the various Voice groups such as ORCH. VOICE, UPPER CUSTOM, etc. You will also notice dial-shaped icons in the LCD screen just above the printed legends.

Use the numbered Touch Buttons below each printed legend to control the Pan setting of the designated Voice group. For example, use the Number 1 and Number 2 Select Touch Buttons to control the Pan setting of the selected Orchestral Voice ("ORCH VOICE"), the Number 3 and Number 4 Touch Buttons to control the Pan setting for the Upper Custom Voice, etc.

You can vary the Pan settings from "L63" (all the sound comes from the left side of the organ), to "R64" (all the sound comes from the right side of the organ), or any setting in between. The default value is "<C>" (Center - an equal amount of sound in both left and right) for all voice groups.

NOTE: The Pan settings do not affect the Drawbars or Percussion sounds.

From Screen 1 of the Pan Edit Menu, touch the PAGE UP Select Touch Button to display Screen 2. It will show the Pan settings for the following:

1.   Ensemble Upper 1 (the UPPER STRINGS 1 Touch Tab).
2.   Ensemble Upper 2 (the UPPER STRINGS 2 Touch Tab).
3.   Ensemble Lower 1 (the LOWER STRINGS Touch Tab).
4.   Ensemble Lower 2 (the LOWER CHOIR Touch Tab).
5.   Auto Arpeggio Voice.
6.   Sound Effect.
7.   Manual Drum Voice(s).

Use the numbered Touch Buttons below each printed legend to control the Pan setting for the designated Voice group similar to Screen 1.

▶ Velocity Edit Menu
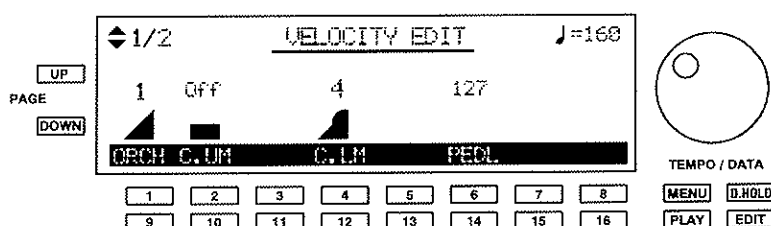
This Advanced Feature Menu allows you to select whether or not you want Note Velocity for the different Voice Sections of the organ, and allows you to select the Velocity Curve for each section. You can choose from six (6) different curves which are graphically shown in the Information Center Display, as well as "OFF".

Accessing the Velocity Edit Menu

From either of the PLAY screens, touch the gray EDIT Select Touch Button two times. You will see the first screen of the Pan Edit Menu.

You can now adjust the Velocity settings for the following:

1.   Orchestral Voices
2.   Upper Custom Voice
3.   Lower Custom Voice
4.   Pedal Voice (NOTE: The Pedal Voice is a fixed velocity setting.

Use the numbered Touch Buttons below each printed legend to control the Pan setting of the designated Voice group. For example, use the Number 1 and Number 2 Select Touch Buttons to control the Velocity setting of the selected Orchestral Voice ("ORCH VOICE"), the Number 3 and Number 4 Touch Buttons to control the volume of the Upper Custom Voice, etc.

You can choose from six different Velocity curves as well as "off" (no velocity). The shape of each curve will be shown in the Information Center Display.

NOTE: The Velocity settings do not affect the Drawbars or Percussion sounds.

From Screen 1 of the Velocity Edit Menu, touch the PAGE UP Select Touch Button to display Screen 2. It will show the Velocity settings for the following:

1.   Ensemble Upper 1 (the UPPER STRINGS 1 Touch Tab).
2.   Ensemble Upper 2 (the UPPER STRINGS 2 Touch Tab).
3.   Ensemble Lower 1 (the LOWER STRINGS Touch Tab).
4.   Ensemble Lower 2 (the LOWER CHOIR Touch Tab).

Use the numbered Touch Buttons below each legend in the Information Center Display to control the Velocity setting of the designated Voice similar to Screen 1.

USING THE DISK DRIVE AND SEQUENCER

Your Hammond Organ has a built-in Disk Drive which can be used for two types of data:

1.　　Sequencer or Song data

2.　　Preset data

The following pages will explain each function.

◆　Disk Drive Control Panel

The Disk Drive Control Panel is located to the right of the Lower Manual, and contains all of the controls necessary for controlling the Disk Drive functions.
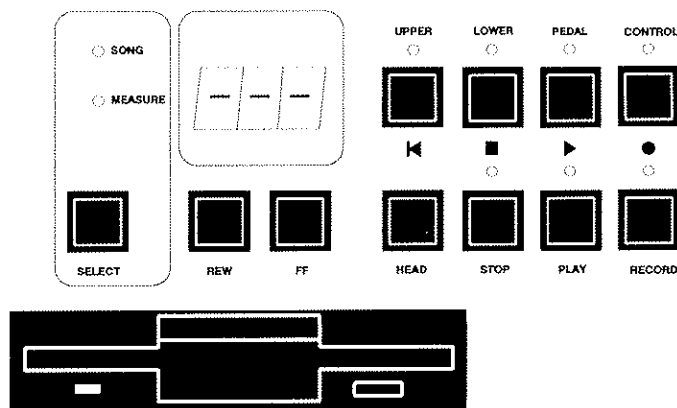
Disk Slot

The Disk Slot is located above the Upper and Lower Manuals on the extreme right side of the organ. It will accommodate standard 3 $\frac{1}{2}$" double-density or high-density Floppy Disks.

LED Display

The Disk Drive has a small 3-character LED display for displaying messages pertaining to the operation of the Disk Drive. This is located directly above the REW and FF Touch Buttons.

UPPER, LOWER, PEDAL and CONTROL Touch Buttons

These Touch Buttons are the four tracks of the Sequencer. The UPPER, LOWER and PEDAL tracks record and play back your playing on each manual and pedals. The CONT. (Control) track serves to record registration changes such as Touch Tab changes and Preset changes.

You can use these Select Touch Buttons together or you can record each manual track separately. You can even re-record a part that you may have recorded and wish to change.

HEAD, STOP, PLAY and RECORD Touch Buttons

These Touch Buttons are for recording and playing back Sequences or Songs.

HEAD Touch Button

This Touch Button is for starting at the beginning, or "HEAD", of a song. If you interrupt the playback of a song by touching the STOP Touch Button, you can start the song from the beginning by touching the HEAD Touch Button before touching the PLAY Touch Button.

STOP Touch Button

This Touch Button is for interrupting a song during playback. If you touch this Touch Button while a song is playing back and then touch the PLAY Touch Button again, the song will continue playing from exactly the point at which it was interrupted.

PLAY Touch Button

This Touch Button is for playing back songs. It is also used in conjunction with the RECORD Touch Button when recording songs.

RECORD Touch Button

This Touch Button is used to record songs in the Sequencer. To record songs, touch each track Touch Button after pressing the RECORD Touch Button. In turn, the LED of each track Touch Button will turn "ON", signifying that the song is ready to be recorded on its respective tracks.

REW and FF Touch Buttons

These two Touch Buttons work along with the LED display of the Disk Drive Control Panel to make individual selections or to select from among different values for Sequencer or Song Data.

SELECT Touch Button

This Touch Button works along with the LED display of the Disk Drive Control Panel to make individual selections for Sequencer or Song data. Touch this Touch Button to select SONG or MEASURE. The LED of the function you select will light.

SONG

This function allows you to select which song from a disk you want to play.

> Use the DOWN/REW Touch Button to scroll down through the numbers.

> Use the UP/FF Touch Button to scroll up through the numbers.

MEASURE

This function allows you to see the Measure Numbers of the song while it is playing. If you press the STOP Touch Button while a sequence is playing, you can then use the REW and FF Touch Buttons to select a particular Measure Number.

> Use the DOWN/REW Touch Button to scroll down through the Measure Numbers.

> Use the UP/FF Touch Button to scroll up through the Measure Numbers.

♦ FORMAT - Formatting a Disk

Since a Floppy Disk must be formatted before it can be used, we will explain the FORMAT process first. This only has to be done once, when a disk is new.

NOTE: The FORMAT operation is required even for pre-formatted disks.

To format a blank disk:

1.   Insert a blank 3 ½" double-density or high-density Floppy Disk into the Disk Slot. You will see the SONG/SET Menu in the Information Center Display.

2.   Touch the MENU Select Touch Button once. You will now see Screen 3 of the MENU Mode.

3.   Touch either the Number 3 or Number 4 Select Touch Button to select the DISK Menu.. You will now see, "DISK FORMAT" in the upper left-hand corner of the display.

4.   Touch either the Number 1 or Number 2 Select Touch Button. The Information Center Display will ask you what type of disk you want to format - "2DD" or "2HD".

Use the Number 4 Select Touch Button to select "2DD".

Use the Number 12 Select Touch Button to select "2HD".

NOTE: :"2DD" (double-density) and "2HD" (high-density) disk differ from each other in the amount of information they can contain. A double-density disk will store 720Kbytes (730,112 bytes) while a high-density disk will store 1.4Mbytes (1,222,222 bytes) or twice as much. Be sure you know which kind you have. If you are unsure, the disk will always be marked as to what type it is.

5.   After you have selected the type of disk you want to format, touch the number 8 Select Touch Button to select "YES". If you DO NOT wish to format, touch the Number 16 Select Touch Button to select "NO".

Formatting a Disk will take about 1 minute. During that time, the Information Center Display will display the following message:

Now formatting...

Please wait.

While the disk is being formatted, the LED display on the Disk Drive Control Panel will flash the following message:

FOr

6.   After Formatting is completed, the Information Center Display will return to the SONG/SET Menu screen, and the LED display on the Disk Drive Control Panel will show the following:

nod

The letters "nod" are an abbreviation for "NO DATA". You are now ready to begin recording songs.

Recording a Song

TRY THIS:

1.   On the Disk Drive Control Panel, Touch the gray RECORD Touch Button. The red LED will flash and you will hear the Metronome counting off each beat.

The LED on the Disk Drive Control Panel will show the following:

rEC

2.   Touch any of the four Touch Buttons marked UPPER, LOWER, PEDAL and CON-TROL. The LED above each Touch Button that you touch will light up red.

3.   If you want to memorize the current registration - Drawbar settings, Touch Tab settings, etc. - Touch and hold the RECORD Touch Button. The Information Center Display will show the following for approximately 4 seconds:

Current setting
now recording...

Please wait.

4.   Touch the PLAY Touch Button. You will now hear the Metronome add a bell sound to denote the first beat of each measure. After touching the PLAY Touch Button, the Sequencer will give you a 2-measure "count-off". After the count-off is completed, the display on the Disk Drive Control Panel will begin showing the number of measures.

5.   After the 2-measure count-off is completed, play your song. You can change Drawbars or other controls on the organ if you wish.

6.   After you are finished recording your song, touch the STOP Touch Button. This will stop the recording process. The LED's above the track Touch Buttons will now light green, indicating you are in the playback mode. The LED display on the Disk Drive Control Panel will show the following:

Ind

The letters "Ind" are an abbreviation for "In Data", meaning that the organs's internal Song memory contains data.

7.   If you wish to hear the song you have just recorded, touch the PLAY Touch Button. The song you have just recorded will play.

Saving Song(s) to Disk

A single high-densisty Floppy Disk can hold up to 50 songs.

TRY THIS:

1.   Insert a formatted 3 ½" double-density or high-density Floppy Disk into the Disk Slot.

2.   Record a song or songs into the organ's memory using the procedure described above under "Recording a Song". When you have finished, touch the STOP Touch Button. The Information Center Display will show the SONG/SET Menu..

3.   Touch the Number 5 Select Touch Button to select SONG. If the disk you are using has Song data on it already and you don't want to erase any of it, touch the Number 9, Number 10 or Number 11 Select Touch Buttons until the words, "New File" are highlighted.

Notice that the Information Center Display shows two boxes, "SAVE" and "SAVE BOTH". This means that you can choose whether you want to save only the Song data (the notes you played on the manuals and/or pedals) or the Song data plus whatever registration changes you made while playing your song.

If you want to save only the Song data, touch the Number 7 Select Touch Button. If you want to save the Song data plus your registration changes, touch the Number 8 Select Touch Button. The Information Center Display should look similar to this:

4.   Name your song. In the middle of the Information Center Display, you will see a large box containing characters. These are the characters you can use for naming Presets. You can use several methods to select characters:

Selecting Characters by the Numbered Touch Buttons

Below the character box in the Information Center Display, you will see several arrows. These indicate that you can move around inside the box by using the numbered Touch Buttons. The current location is marked by a cursor which displays the letter it is over in reverse video (green lettering against a black background).

Use either the Number 6 or Number 14 Select Touch Buttons to move the cursor forward inside the box.

Use either the Number 4 or Number 12 Select Touch Buttons to move the cursor backward inside the box.

If you move the cursor to the end of a line, it will stop. Use the Number 13 Select Touch Button to move down to the lower lines.

Use the Number 5 Select Touch Buttons to move the cursor up to the upper lines.

Selecting Characters using the Data Wheel

Turn the Data Wheel to the right to move the cursor to the right.

Turn the Data Wheel to the left to move the cursor to the left.

5.   Notice that the left side of the Information Center Display shows the Preset Name, and that there are two arrows. As you select each letter or character for your Preset Name, use this area of the screen to confirm each entry.

Use either the Number 2 or Number 10 Select Touch Button to move the cursor to the right.

Use either the Number 1 or Number 9 Select Touch Button to move the cursor to the left.

In this way, you enter the Song Name that you want. You can also use the DEL feature (Number 7 Select Touch Button) to successively delete each character, or the CLR feature (Number 8 Select Touch Button) to clear the name area completely and begin entering the characters that you want.

6.   If you do not want to save your Song Name or if you wish to bypass the Song Name screen, use the EXT (Exit) feature (Number 15 Select Touch Button) to exit the Preset Name screen and return to the PLAY Mode.

7.   If you wish to save your Song Name, touch the Number 16 Select Touch Button ("ENT" or Enter). The Information Center Display will show the following message:

Now saving...

Please wait.

The SONG/SET Menu will return after the Saving process is complete.

Loading a Song from a Disk

TRY THIS:

1.   Insert a 3 ½" Floppy Disk which contains Song data into the Disk Slot. The Information Center Display will display the SONG/SET Menu

2.   On the left side of the Information Center Display, you will see a list of song titles or file names. The current location is marked by a cursor which displays the letter it is over in reverse video (green lettering against a black background).

Use either the Number 1 or Number 2 Select Touch Button to scroll up through the selections.

Use either the Number 9 or Number 10 Select Touch Button to scroll down through the selections.

A disk may contain up to 99 songs; however, if a Disk contains fewer than that number, the Touch Buttons will continue scrolling until it has reached the last song on the Disk. The LED's above the UPPER, LOWER, PEDAL and CONTROL Touch Buttons will light up green.

NOTE: You may notice that not all of the UPPER, LOWER, PEDAL or CONTROL LED's may light, or that different LED's may light for different songs. This is normal. Only the tracks which contain data will show the LED's as green.

3.   After you have made your selection, choose whether you want to load Song and Setup data or Song data only.

If you are using a standard SMF disk, touch the Number 6 Select Touch Button. To load your song.

If you are using a Song data disk made especially for the XT/XH-series organs, each song may contain Setup data or registration changes in addition to the music data. To load both the Song and the registration data, touch the Number 14 Select Touch Button.

4.   After you touch either the Number 6 or Number 14 Select Touch Button, the Information Center display will show, "Are you sure?" If you do not want to load the song, touch the Number 16 Select Touch Button to select, "NO." If you want to load the song, touch the Number 8 Select Touch Button to select, "YES." The Information Center Disdplay will show:

Now loading...

Please wait.

5.   After the above message stops displaying, touch the PLAY Touch Button. The song will start playing.

6.   If you wish to stop the song midway through, press the STOP Touch Button. The song will stop playing.

If you wish to start the song at the point at which you stopped it, simply touch the PLAY Touch Button. The song will start playing again and continue through to the end.

If you wish to start the song at a specific measure, touch the DOWN/REW or UP/FF Touch Buttons until the red LED display shows the measure number you want. Then touch the PLAY Touch Button to start the song playing at that measure.

If you wish to start the song over again from the beginning, touch the HEAD Touch Button. This will reset the LED display to measure 1 so that the song will start from the "head" or beginning. Then touch the PLAY Touch Button to start the song playing.

CHAIN PLAY - Playing Multiple Songs from a Disk

TRY THIS:

1.   Insert a 3 ½" Floppy Disk which contains Song data into the Disk Slot. The Information Center Display will display the SONG/SET Menu

2.   Touch the MENU Select Touch Button to display Screen 1 of the Menu Mode.

3.   Touch either the Number 3 or Number 4 Select Touch Button to display the DISK Menu

4.   Touch the PAGE UP Select Touch Button once. You will now see the CHAIN PLAY Screen.

5.   On the left side of the Information Center Display, you will see a list of song titles or file names. The current location is marked by a cursor which displays the letter it is over in reverse video (green lettering against a black background).

        Use the Number 1, Number 2, Number 3 or Number 4 Select Touch Buttons to scroll up through the selections.

        Use the Number 9, Number 10, Number 11 or Number 12 Select Touch Buttons to scroll down through the selections.

        A disk may contain up to 99 songs; however, if a Disk contains fewer than that number, the Touch Buttons will continue scrolling until it has reached the last song on the Disk. The LED's above the UPPER, LOWER, PEDAL and CONTROL Touch Buttons will light up green.

6.   Use the Number 5, Number 6, Number 13 or Number 14 Select Touch Buttons to select the Mode. You can select either "One Song" (the selected song will play repeatedly) or "All Songs" (the disk will play starting with the selected song and continue through to the end, at which time the first song from the disk will start playing and each song will then play in the order in which they are on the disk.

7.   After you have made your selections, touch either the Number 7 or Number 8 Select Touch Buttons to select "PLAY". The songs will begin playing from the disk and continue to play until you touch either the Number 15 or Number 16 Select Touch Buttons to select "STOP".

Deleting a Song from a Disk

1.   Insert a 3 ½" Floppy Disk which contains Song data into the Disk Slot. The Information Center Display will display the SONG/SET Menu

2.   On the left side of the Information Center Display, you will see a list of song titles or file names.   The current location is marked by a cursor which displays the letter it is over in reverse video (green lettering against a black background).

Use either the Number 1 or Number 2 Select Touch Button to scroll up through the selections.

Use either the Number 9 or Number 10 Select Touch Button to scroll down through the selections.

3.   Notice that the Information Center Display shows two boxes, "DEL" and "DEL BOTH". This means that you can choose whether you want to delete only the Song data (the notes you played on the manuals and/or pedals) or the Song data plus whatever registration changes you made while playing your song.

4.   When you have made your selection, Touch the Number 8 Select Touch Button to select "DEL" or the Number 16 Select Touch Button to select "DEL BOTH". The Information Center Display will then show "YES" and "NO" on the extreme right side. This is to confirm that you want to delete the selected Song.

4.   Touch the number 8 Select Touch Button to select "YES". If you DO NOT wish to delete the Song, touch the Number 16 Select Touch Button to select "NO". If you select "YES", the Song will then be deleted from the disk.

NOTE: You may prevent data from accidentally being erased from a disk by pushing the "write-protect" notch on the right edge of the disk "up", so that the hole on the right edge of the disk is unblocked. If you follow the steps for deleting songs on a disk that has been "write-protected" in this manner, no data will be deleted and an error message will display on the Disk Drive Control Panel.

◆ Using the Disk Drive for Preset Data

Saving Banks of Preset Data to a Disk

A single Floppy Disk can hold up to 50 banks of Presets. A bank consists of one group of Preset settings from 1 to 10.

TRY THIS:

1.   Program the organ's Combination Presets with your own Registrations using the Setting Up Your Own Presets procedure described starting on page 53.

2.   Insert a formatted 3 ¹/₂" double-density or high-density Floppy Disk into the Disk Slot. The Information Center Display will display the SONG/SET Menu

3.   Touch the Number 5 Select Touch Button to select SONG.

4.   Touch the Number 13 Select Touch Button to select SET. If the disk you are using has Setup data on it already and you don't want to erase any of it, touch the Number 9, Number 10 or Number 11 Select Touch Buttons until the words, "New File" are highlighted.

5.   Touch the Number 7 Select Touch Button to select SAVE. The Information Center Display should look similar to this:
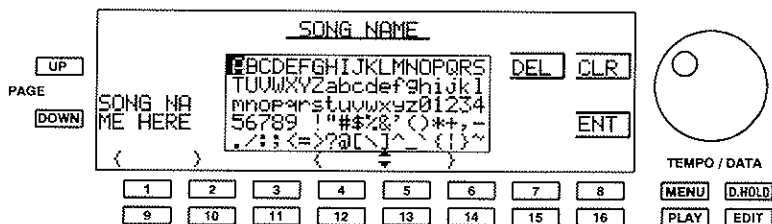
6.   Name your Preset Bank (Set). In the middle of the Information Center Display, you will see a large box containing characters. These are the characters you can use for naming Presets. You can use several methods to select characters:

Selecting Characters by the Numbered Touch Buttons

Below the character box in the Information Center Display, you will see several arrows. These indicate that you can move around inside the box by using the numbered Touch Buttons. The current location is marked by a cursor which displays the letter it is over in reverse video (green lettering against a black background).

Use either the Number 6 or Number 14 Select Touch Buttons to move the cursor forward inside the box.

Use either the Number 4 or Number 12 Select Touch Buttons to move the cursor backward inside the box.

If you move the cursor to the end of a line, it will stop. Use the Number 13 Select Touch Button to move down to the lower lines.

Use the Number 5 Select Touch Buttons to move the cursor up to the upper lines.

Selecting Characters using the Data Wheel

Turn the Data Wheel to the right to move the cursor to the right.

Turn the Data Wheel to the left to move the cursor to the left.

8.   Notice that the left side of the Information Center Display shows the Preset Name, and that there are two arrows. As you select each letter or character for your Preset Name, use this area of the screen to confirm each entry.

Use either the Number 2 or Number 10 Select Touch Button to move the cursor to the right.

Use either the Number 1 or Number 9 Select Touch Button to move the cursor to the left.

In this way, you enter the Set Name that you want. You can also use the DEL feature (Number 7 Select Touch Button) to successively delete each character, or the CLR feature (Number 8 Select Touch Button) to clear the name area completely and begin entering the characters that you want.

9.   If you do not want to save your Set Name or if you wish to bypass the Set Name screen, use the EXT (Exit) feature (Number 15 Select Touch Button) to exit the Preset Name screen and return to the PLAY Mode.

10.   If you wish to save your Set Name, touch the Number 16 Select Touch Button ("ENT" or Enter). The Information Center Display will then show "YES" and "NO" on the extreme right side. This is to confirm that you want to save the selected Set.

11.   Touch the number 8 Select Touch Button to select "YES". If you DO NOT wish to save the Set, touch the Number 16 Select Touch Button to select "NO".

12.   If you select "YES", and there is a file already on the disk in the area you are saving to, the Information Center Display will warn you that you will overwrite an existing file, and ask you to confirm that you want to replace the existing file with the file you are saving. If you DO NOT wish to erase an existing file, touch the Number 16 Select Touch Button to select "NO". If you want to erase the existing file, touch the Number 8 Select Touch Button to select "YES." The new data will then be saved to the disk.

Loading Banks of Preset Data from a Disk

TRY THIS:

1.   Insert a 3 ½" Floppy Disk which contains Setup data into the Disk Slot. The Information Center Display will display the SONG/SET Menu

2.   Touch the Number 13 Select Touch Button to select SET.

3.   On the left side of the Information Center Display, you will see a list of Preset Bank names.   The current location is marked by a cursor which displays the letter it is over in reverse video (green lettering against a black background).

     Use either the Number 1 or Number 2 Select Touch Button to scroll up through the selections.

     Use either the Number 9 or Number 10 Select Touch Button to scroll down through the selections.

4.   After you have made your selection, touch the Number 6 Select Touch Button to select LOAD. The Information Center Display will ask, "Are you sure?" If you DO NOT wish to load the Setup file, touch the Number 16 Select Touch Button to select "NO". If you want to load the file, touch the Number 8 Select Touch Button to select, "YES." The Information Center Display will show the following message:

                    Now loading...

                         Please wait.

When the above message stops displaying, your file will have been loaded into the organ.

Deleting Banks of Preset Data from a Disk

1.   Insert a 3 ½" Floppy Disk which contains Setup data into the Disk Slot. The Information Center Display will display the SONG/SET Menu

2.   On the left side of the Information Center Display, you will see a list of Preset Bank names.   The current location is marked by a cursor which displays the letter it is over in reverse video (green lettering against a black background).

     Use either the Number 1 or Number 2 Select Touch Button to scroll up through the selections.

     Use either the Number 9 or Number 10 Select Touch Button to scroll down through the selections.

3.   When you have made your selection, Touch the Number 8 Select Touch Button to select "DEL". The Information Center Display will then show "YES" and "NO" on the extreme right side. This is to confirm that you want to delete the selected Set.

4.   Touch the number 8 Select Touch Button to select "YES". If you DO NOT wish to delete the Setup data, touch the Number 16 Select Touch Button to select "NO". If you select "YES", the Set will then be deleted from the disk.

NOTE: You may prevent data from accidentally being erased from a disk by pushing the "write-protect" notch on the right edge of the disk "up", so that the hole on the right edge of the disk is unblocked. If you follow the steps for deleting songs on a disk that has been "write-protected" in this manner, no data will be deleted and the Information Center Display will display a warning message..

SPECIAL ADVANCED FEATURES

➤ Tune Edit Menu

```
     ┌─────────────────────────────────────┐      ╭──────╮
     │ 1/1          TUNE EDIT       ♩=120   │     ╱        ╲
┌─UP─┐│MASTER   ┌─MODE───┐                  │    │   ◯      │
PAGE │TUNE     └────────┘                   │    │          │
┌DOWN┐│         ▐▀▀▀▀▀▀▀▌                   │     ╲        ╱
     │ 440Hz    E-TEMPER                    │      ╰──────╯
     └─────────────────────────────────────┘     TEMPO / DATA
     ┌─1─┐┌─2─┐┌─3─┐┌─4─┐┌─5─┐┌─6─┐┌─7─┐┌─8─┐  [MENU] [D.HOLD]
     ┌─9─┐┌10─┐┌11─┐┌12─┐┌13─┐┌14─┐┌15─┐┌16─┐  [PLAY] [EDIT]
```

This Advanced Feature allows you to change the overall tuning pitch of the entire organ, and the tuning temperament of the Drawbars.

NOTE: This Advanced Feature Menu has no Shortcut. It is accessible only via the Menu Touch Buttons.

Accessing the Tune Edit Menu

1.   From any of the PLAY Screens, touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display.

2.   Touch either the Number 3 or Number 4 gray Select Touch Buttons. The words, "TUNE EDIT" will now display at the top of the screen.

The MASTER TUNE Advanced Feature allows you to change the overall pitch of the entire organ. The reference pitch is "A-440". The selectable range is from "A-430" through "A-450".
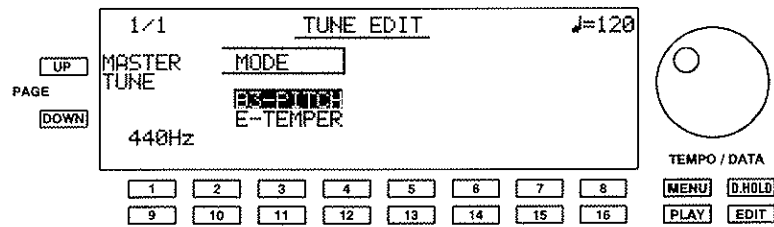
Use either the Number 1 or Number 2 Select Touch Button to lower the pitch of the organ.
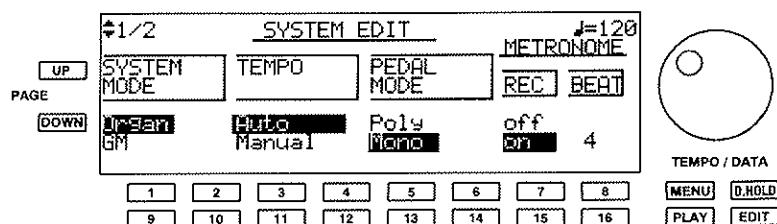
Use either the Number 9 or Number 10 Select Touch Button to raise the pitch of the organ.

The TUNE MODE Advanced Feature allows you to select the tuning temperament of the Drawbars. You can select either "E-TEMPERA" (Equal Temperament) or "B-3 PITCH", which will alter the frequency of certain notes in a manner similar to the characteristics of the tone-wheel generator used in the B-3, C-3, RT-3 and A-100. The default mode is "B-3 PITCH".

Use the Number 3, Number 4, Number 11 or Number 12 Select Touch Buttons to change the Tune Mode of the organ.

NOTE: The change in temperament is a subtle effect. It will not be obvious to the untrained ear.

➤ System Edit Menu

```
     ┌─────────────────────────────────────────┐      ╭──────╮
     │⇕1/2          SYSTEM EDIT        ♩=120    │     ╱        ╲
     │                            METRONOME     │    │   ◯      │
┌─UP─┐│SYSTEM  │TEMPO  │PEDAL  │┌REC┐┌BEAT┐     │    │          │
PAGE │MODE    │       │MODE   │└───┘└────┘      │     ╲        ╱
┌DOWN┐│▐Organ▌ │▐Auto▌ │Poly   │off              │      ╰──────╯
     │GM      │Manual │▐Mono▌ │▐On▌   4          │     TEMPO / DATA
     └─────────────────────────────────────────┘
     ┌─1─┐┌─2─┐┌─3─┐┌─4─┐┌─5─┐┌─6─┐┌─7─┐┌─8─┐  [MENU] [D.HOLD]
     ┌─9─┐┌10─┐┌11─┐┌12─┐┌13─┐┌14─┐┌15─┐┌16─┐  [PLAY] [EDIT]
```

This Advanced Feature Menu allows you to set various features which affect the entire organ.

Accessing the System Edit Menu

1.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2.   Touch the PAGE UP Select Touch Button two times. Screen 3 of the MENU Mode will now display. You will now see "3/3" in the upper left corner of the Information Center Display.

3.   Touch either the Number 7 or Number 8 gray Select Touch Buttons. The words, "SYSTEM EDIT" will now display at the top of the screen.

You are now in the System Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the Drawbars. These changes are explained below.

System Mode

This Advanced Feature allows you to select the function of the internal MIDI of the organ.

Use either the Number 1 or Number 2 Select Touch Button to select "Organ", or Organ Mode.

Use either the Number 9 or Number 10 Select Touch Button to select "GM", or General MIDI Mode.

NOTE: When playing Song disks using the organ's Disk Drive, the System Mode should be set to "GM" Mode. When the organ is in "GM" Mode, the MIDI channel assignments are optimized for best results when playing Song disks. This means that the AutoBand, Manual Drum, Sound Effect and Auto Arpeggio features and the Pedal Touch Tab Voices are disabled when using 'GM" Mode. Also, when a GM/GS-compatible Song Disk is inserted into the Disk Drive, "GM" Mode will automatically be selected.

Tempo

This Advanced Feature allows you to select the type of Tempo information the organ uses when playing MIDI Song Disks. You can select "Auto" (Tempo information is provided by each Song file on a Song Disk), or "Manual" (the Tempo information of the Disk Song file is overridden by the Tempo setting determined by the Tempo Data Wheel).

Use either the Number 3 or Number 4 Select Touch Button to select Auto.

Use either the Number 11 or Number 12 Select Touch Button to select Manual.

Pedal Mode

This Advanced Feature allows you to select whether the Pedals play only one note at a time or several notes at once.

Use either the Number 5 or Number 6 Select Touch Button to select Poly (polyphonic - several notes at once).

Use either the Number 13 or Number 14 Select Touch Button to select "Mono" (monophonic - one note).

Metronome Gate

This Advanced Feature allows you to select whether or not you want the Metronome to sound when you are recording your own Songs.

Use the Number 7 Select Touch Button to turn the Metronome off.

Use the Number 15 Select Touch Button to turn the Metronome on.

Metronome Downbeat

When you are using either the Metronome for recording Sequences or the practice Metronome included in the Rhythm Section, you will hear a bell on each downbeat. This Advanced Feature allows you to select on which beat the Downbeat (bell) plays. The range is from "1" through "6".

Use the Number 8 Select Touch Button to scroll up through the numbers.

Use the Number 16 Select Touch Button to scroll down through the numbers.

Software Version

From Screen 1 of the System Edit Menu, touch the PAGE UP Select Touch Button to display Screen 2. This Advanced Feature allows you to display which version of software your organ contains.

► Default Edit Menu - Reset Procedure

WARNING!: Doing the following procedure will erase all parameters, settings and registrations, returning the organ to the original Hammond factory default settings.

To perform a Reset of the organ, do the following:

1. Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

2. Touch the PAGE UP Select Touch Button two times. Screen 3 of the MENU Mode will now display. You will now see "2/3" in the upper left corner of the Information Center Display.

3. Touch either the Number 9 or Number 10 gray Select Touch Buttons. The Information Center Display should now look like this:

4. You can now select which portions of the instrument will be Reset with factory-default settings:

    "CANCEL" - This will reset the Cancel mode (the organ's Control Panel settings when no Presets are active).
    "PRESET" - This will reset the Presets.
    "GLOBAL" - This will reset the Global Parameters.
    "ALL" - This will reset the entire organ.

Use either the Number 3 or Number 4 Select Touch Button to scroll up through the choices.

Use either the Number 11 or Number 12 Select Touch Button to scroll down through the choices

5. You can also choose which mode to reset the organ to - "World" or "Japan". The modes will load different Presets and load the Rhythm Touch Buttons with different rhythms.

6. Touch the Number 9 Select Touch Button to select "YES", and Reset the organ to the default settings you have chosen. If you DO NOT wish to Reset, touch either the Number 16 or the PLAY Select Touch Button.
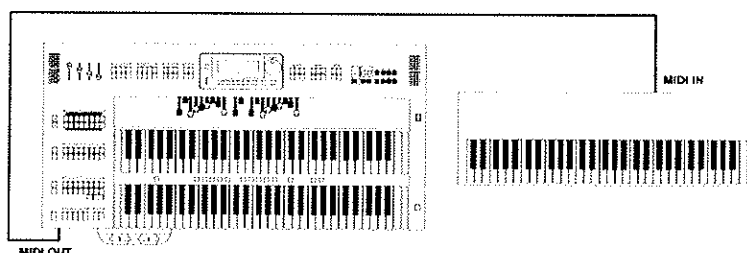
MIDI

♦ A Word About What MIDI Can Do

The letters MIDI stand for Musical Instrument Digital Interface. MIDI is an international standard for allowing electronic musical instruments equipped with MIDI capability to exchange performance information. For example, a synthesizer can be used to communicate with a drum machine, an electronic piano can interface with a computer, and so forth. Additionally, since MIDI is an international standard recognized and implemented by all musical instrument manufacturers worldwide, instruments made by different manufacturers can communicate with each other via MIDI.

♦ MIDI Connections

MIDI IN and MIDI OUT

In order to allow communication to take place, all MIDI-equipped instruments have at least two MIDI jacks - MIDI IN and MIDI OUT. MIDI IN is for receiving MIDI data from another instrument, while MIDI OUT is for sending MIDI data out to another instrument.


In the example above, the keyboard(s) of the sending or transmitting instrument (MIDI OUT) are being used to control the sound generators of the receiving instrument (MIDI IN). When a key is played on the sending instrument, the corresponding note will play on the receiving instrument as though the appropriate key had been pressed on the receiving instruments's keyboard. When the key is released on the sending instrument, the tone being played by the receiving instrument will stop. (This is called "Note On / Note Off" data.) The sending instrument is referred to as the master, while the receiving instrument is called the slave. This is the most basic MIDI hookup.
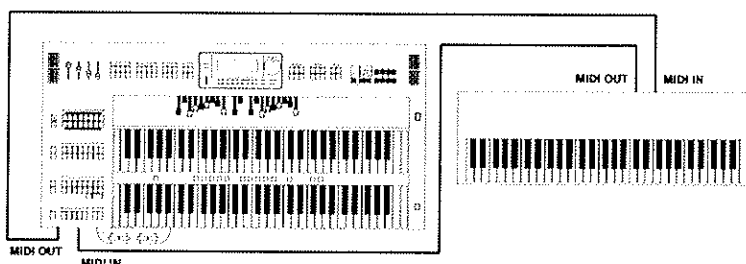
The above is an example of two-way communication between two MIDI-equipped devices. In this example, the keyboard(s) of either instrument can be used to control the sound generators of the other.

MIDI THRU

Many MIDI instruments also have an additional MIDI connection called MIDI THRU. MIDI THRU allows more than one instrument to be controlled by the same transmitting instrument - in other words, the data being sent from MIDI OUT goes to the MIDI IN, where it can be passed on to another instrument via MIDI THRU. The picture shown below shows how this is done.
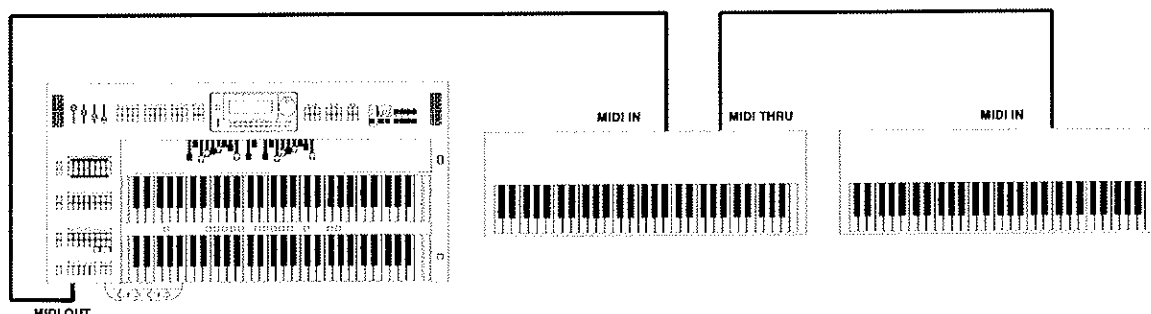
In the above example, the MIDI data goes from the master instrument (MIDI OUT) to the slave instrument (MIDI IN), which receives the data and passes it along to a third instrument via the MIDI THRU connection.

NOTE: If you reverse the MIDI IN and MIDI OUT connections, you can play the other instrument from the synthesizer just as easily.
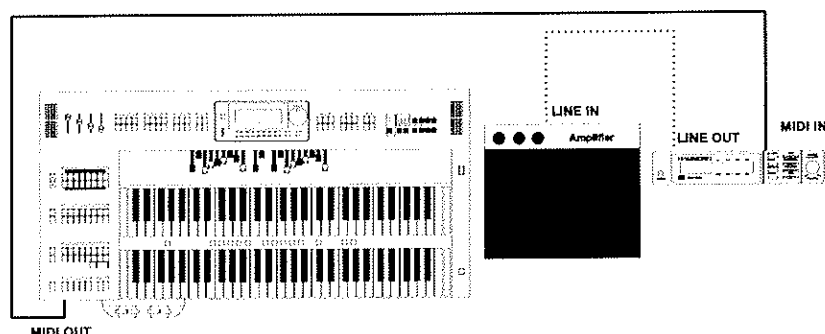
Example 1: A synthesizer sounding through the organ
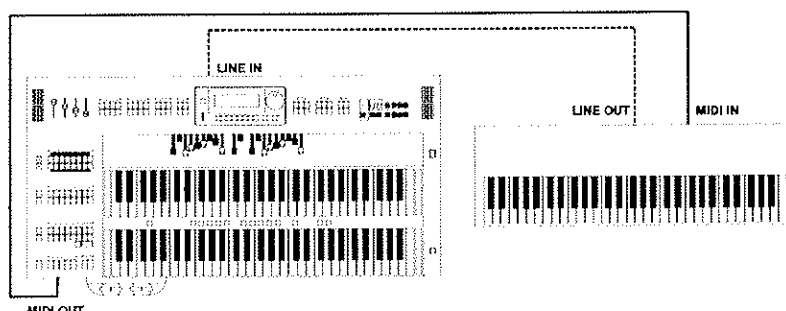
If you connect the audio output from the synthesizer to the INPUT jack(s) of the organ, you will be able to hear the synthesizer through the organ speaker system.
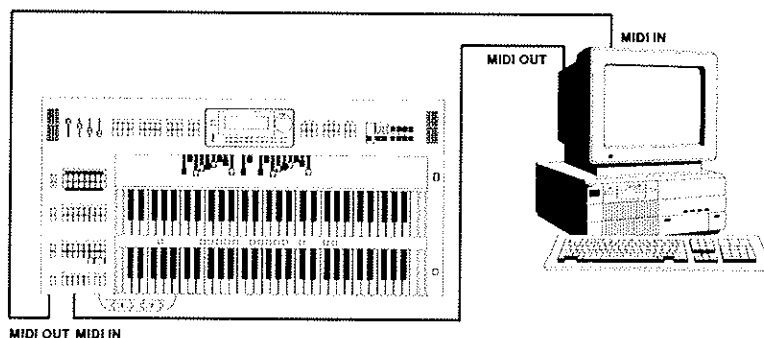
Sound Modules

Example: An external sound module

Note that the LINE OUT or AUDIO OUT signal connection is made to an external amplifier. The LINE OUT audio connection from the module, of course, could also be connected to the LINE IN of the organ.

Personal Computer

Example: A personal computer

If you wish to use a personal computer, run a standard MIDI cable from the MIDI OUT of the computer to the MIDI IN connector of the instrument.

NOTE: You will also need a MIDI hardware interface such as a sound card, and MIDI software for your computer. Most sound cards currently available do not have MIDI ports; however, the "joystick" port may be used for MIDI connections by means of a special cable which is readily available at most music shops specializing in MIDI equipment. MIDI hardware interfaces which utilize the serial or parallel ports of your computer are also available. Please consult your dealer for more information about MIDI computer interfaces.

◆ How to Turn On MIDI - MIDI implementation
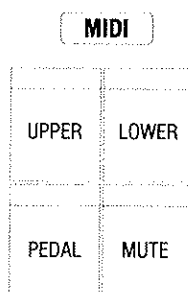
The four MIDI Touch Tabs are located at the upper-right position on the console, and are marked UPPER, LOWER, PEDAL and MUTE.

The UPPER, LOWER and PEDAL Touch Tabs are used to turn on and off MIDI in order to transmit MIDI signals. These switches will be illuminated when the power is turned on.

The MUTE Touch Tab is used to send a command turning off all MIDI notes. Suppose a MIDI instrument is connected to the organ and both are being played simultaneously (ensemble) and for some reason the two instruments are disconnected. A note or group of notes will hold on, even if you have released the keys. Touch the MUTE Touch Tab and the organ sends an "all-notes-off" command clearing the holding notes.

► MIDI €dit Menu

This Advanced Feature Menu allows you to set the overall MIDI parameters for the instrument.

## Accessing the MIDI €dit Menu using the Menu Touch Buttons

7.   Touch the gray MENU Select Touch Button to see the first screen of the MENU Mode. You will see "1/3" displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 3 screens and that screen 1 is displaying.

8.   Touch the PAGE UP Select Touch Button two times. Screen 3 of the MENU Mode will now display. You will now see "3/3" in the upper left corner of the Information Center Display.

9.   Touch either the Number 1 or Number 2 gray Select Touch Buttons. The words, "MIDI EDIT" will now display at the top of the screen.

Accessing the MIDI €dit Menu using the Shortcut

Touch and hold any of the four Touch Tabs in the MIDI Section. After approximately 1 second, the words, "MIDI EDIT" will display at the top of the screen.

You are now in the MIDI Edit Menu. You may now use the numbered Select Touch Buttons below the screen to make various changes to the Drawbars. These changes are explained below.

MIDI €dit Menu - Screen 1/4
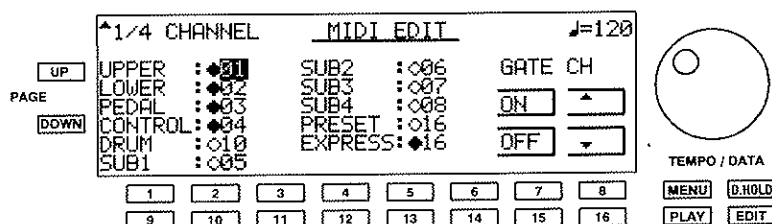
MIDI Channel

This Advanced Feature Menu screen allows you to:

1.   Select which MIDI Channel each portion of the instrument will transmit or receive on.

2.   Turn MIDI transmission "ON" or "OFF" for each section of the instrument.

The MIDI Channel assignments are:

UPPER - Upper Manual Note ON/Note OFF & Pitch Bend data - transmit & receive.
LOWER - Lower Manual Note ON/Note OFF & Pitch Bend data - transmit & receive.
PEDAL - Pedal Keyboard Note ON/Note OFF & Pitch Bend data - transmit & receive.
CONTROL - Controller data (Modulation, etc.) - transmit & receive, except Expression.
DRUM, SUB1, SUB2, SUB3 - These are special channels for use with Song or Sequence disks. All Program Numbers & Drum Kits GM/GS-compatible.
PRESET - Preset Piston data - transmit & receive.
EXPRESSION - Expression Pedal data (Controller #11) - transmit & receive.

Notice that the choices are arranged in two columns. You can use the numbered Select Touch Buttons to switch back and forth between columns as well as make individual choices within each column. The current choice will be displayed in reverse video (green lettering against a black background).

Use the Number 1, Number 2 or Number 3 Select Touch Buttons to scroll <u>up</u> the left column.

Use the Number 9, Number 10 or Number 11 Select Touch Buttons to scroll <u>down</u> the left column.

Use the Number 4, Number 5 or Number 6 Select Touch Buttons to scroll <u>up</u> the right column.

Use the Number 12, Number 13 or Number 14 Select Touch Buttons to scroll <u>down</u> the right column.

Use the Number 7 Select Touch Button to turn MIDI transmission "ON".

Use the Number 15 Select Touch Button to turn MIDI transmission "OFF".

The dot at the left of the channel number will indicate whether MIDI transmission is "ON" or "OFF" (◆ = "ON", ◇ = "OFF").

Use the Number 8 Select Touch Button to scroll <u>up</u> through the MIDI Channel numbers. You can select from 1 through 16.

Use the Number 16 Select Touch Button to scroll <u>down</u> through the MIDI Channel numbers.

MIDI Edit Menu - Screen 2/4
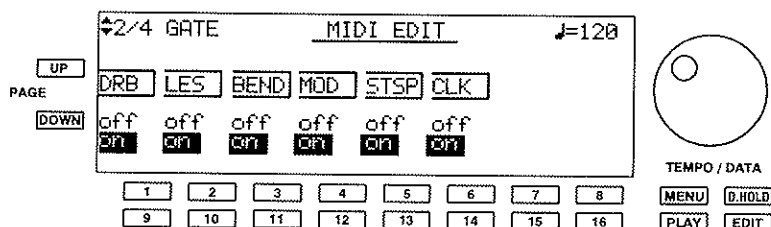
From Screen 1 of the MIDI Edit Menu, touch the PAGE UP Select Touch Button. This Advanced Feature Menu screen allows you to select which of the Controllers you want to use to transmit MIDI Controller data.

Drawbar Filter

This Advanced Feature will allow Drawbar changes to be recognized by a MIDI Sequencer that has the capability to save MIDI Controller data. You can also send Drawbar data changes to another organ that is connected via MIDI.

Use the Number 1 Select Touch Button to turn the Drawbar Filter "OFF". No Drawbar data will be sent

Use the Number 9 Select Touch Button to turn the Drawbar Filter "ON". Drawbar data will be sent.

Leslie Filter

This Advanced Feature will allow Controller data to be sent out using the LESLIE FAST Touch Tab.

Use the Number 2 Select Touch Button to turn the Leslie Filter "OFF". No Controller data for the LESLIE FAST Touch Tab will be sent.

Use the Number 10 Select Touch Button to turn the Leslie Filter "ON". Controller data for the LESLIE FAST Touch Tab will be sent.

Pitch Bend Wheel Filter

This Advanced Feature will allow Pitch Bend data to be sent out using the Pitch Bend Wheel of the optional CU-2 Control Center.

Use the Number 3 Select Touch Button to turn the Pitch Bend Wheel Filter "OFF". No Pitch Bend data will be sent

Use the Number 11 Select Touch Button to turn the Pitch Bend Wheel Filter "ON". Pitch Bend data will be sent.

Modulation Wheel Filter

This Advanced Feature will allow Pitch Bend data to be sent out using the Modulation Wheel of the optional CU-2 Control Center.

Use the Number 4 Select Touch Button to turn the Modulation Wheel Filter "OFF". No Modulation data will be sent.

Use the Number 12 Select Touch Button to turn the Modulation Wheel Filter "ON". Modulation data will be sent.

MIDI Start/Stop Filter

This Advanced Feature will allow you to transmit MIDI Start/Stop messages.

Use the Number 5 Select Touch Button to turn the MIDI Start/Stop Filter "OFF". No MIDI Start-Stop data will be sent.

Use the Number 13 Select Touch Button to turn the MIDI Start/Stop Filter "ON". MIDI Start-Stop data will be sent.

Use the Rhythm START/STOP Touch Tab to transmit MIDI Start/Stop messages. A MIDI Start message will be transmitted at the beginning of a sequence. If you touch the Rhythm STOP/START Touch Tab while a sequence is playing, the organ will transmit a MIDI Stop message.

MIDI Clock Filter

This Advanced Feature will allow you to synchronize your MIDI slave devices with the organ. When this switch is "ON", the organ will send out MIDI Clock messages at the MIDI-prescribed rate of 24 clock counts per quarter note.

Use the Number 6 Select Touch Button to turn the MIDI Clock Filter "OFF". No MIDI Clock data will be sent.

Use the Number 14 Select Touch Button to turn the MIDI Clock Filter "ON". MIDI Clock data will be sent.

MIDI Edit Menu - Screen 3/4
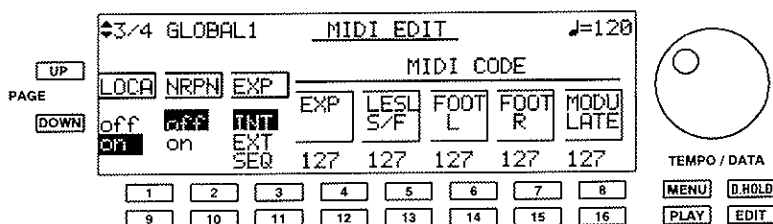
From Screen 2 of the MIDI Edit Menu, touch the PAGE UP Select Touch Button. This Advanced Feature Menu screen allows you to turn MIDI Local Control and NRPN "ON" or "OFF", select

whether or not the Expression Pedal transmits MIDI volume data and select the Controller numbers for the different Controllers on the organ.

Local Control

"Local Control" in the MIDI realm refers to the ability of a MIDI instrument to play its own sounds. For example, your Hammond Organ is normally set up to play any sound registered for the manuals and pedals in addition to being able to transmit or receive MIDI data. However, there may be occasions when you want the organ to play the sounds from a connected MIDI instrument without also playing its own sounds.

Use the Number 1 Select Touch Button to turn Local Control "OFF".

Use the Number 9 Select Touch Button to turn Local Control "ON".

NRPN

A Non Registered Parameter Number (NPRN) event is similar to a Controller event. The difference is that with NRPN data, both the parameter number and the data value can be any number from 0 through 16,383 (the valid values for Controller numbers and data are from 0 through 127). When NRPN is "ON", the organ will send and recognize control codes, such as turning Touch Tabs "ON" or "OFF".

Use the Number 2 Select Touch Button to turn NRPN "OFF".

Use the Number 10 Select Touch Button to turn NRPN "ON".

EXP INT/EXT/SEQ

This menu page will allow you to choose whether you want to control the volume of a connected MIDI device from the organ's Expression Pedal. You can select "INT" (the Expression Pedal will control the volume of the internal organ sounds), "EXT" (the Expression Pedal will control the volume of a connected MIDI slave instrument) or "SEQ" (the Expression Pedal will control the volume of music played using the Disk Drive).

Use the Number 3 Select Touch Button to scroll <u>up</u> through the choices.

Use the Number 11 Select Touch Button to scroll <u>down</u> through the choices.

Controller Numbers

You can select the Controller numbers for each of the controllers on the organ from 0 through 127.

Use the Number 4 Select Touch Button to scroll <u>up</u> through the choices for the Expression Pedal.

Use the Number 12 Select Touch Button to scroll <u>down</u> through the choices for the Expression Pedal

Use the Number 3 Select Touch Button to scroll <u>up</u> through the choices for the LESLIE FAST Touch Tab.

Use the Number 11 Select Touch Button to scroll <u>down</u> through the choices for the LESLIE FAST Touch Tab.

Use the Number 3 Select Touch Button to scroll <u>up</u> through the choices for the left ProFoot Foot Switch.
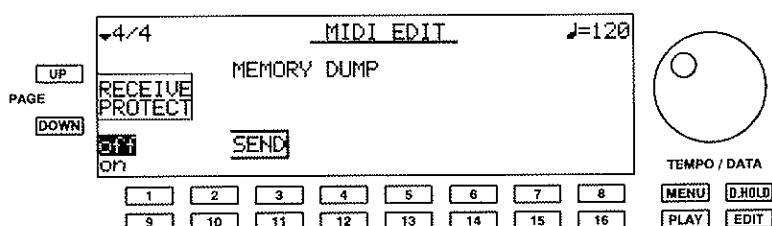
Use the Number 11 Select Touch Button to scroll <u>down</u> through the choices for the left ProFoot Foot Switch.

Use the Number 3 Select Touch Button to scroll <u>up</u> through the choices for the Modulation Wheel.

Use the Number 11 Select Touch Button to scroll <u>down</u> through the choices for the Modulation Wheel.

MIDI Edit Menu - Screen 4/4

```
 4/4              MIDI EDIT       ♩=120
                 MEMORY DUMP
  UP
PAGE   RECEIVE
       PROTECT
 DOWN
       off        SEND
       on                              TEMPO / DATA

    1    2    3    4    5    6    7    8    MENU  D.HOLD
    9    10   11   12   13   14   15   16   PLAY  EDIT
```

From Screen 3 of the MIDI Edit Menu, touch the PAGE UP Select Touch Button. This Advanced Feature Menu screen allows you to store whatever is in the organ's Presets and Global Data to a MIDI Data recorder, or to another organ.

Receive Protect ON/OFF

This setting allows you to prevent the internal memory of your organ from being accidentally overwritten.

Use the Number 1 Select Touch Button to turn Receive Protect "OFF".

Use the Number 9 Select Touch Button to turn Receive Protect "ON".

Sending Data Out

1.   Make sure that the MIDI recorder is ready to receive data (RECORD).

2.   Touch the Number 11 Select Touch Button to start the data DUMP to the MIDI Data recorder. When all information has been sent, the Information Center Display will flash, "Data Completed".

Receiving Data

1.   Make sure that the word "off" is displayed in reverse video (green lettering against a black background). If "on" is displayed, Touch the Number 9 Select Touch Button turn Receive Protect "off".

2.   Start the MIDI recorder. The Information Center Display will show the following message:
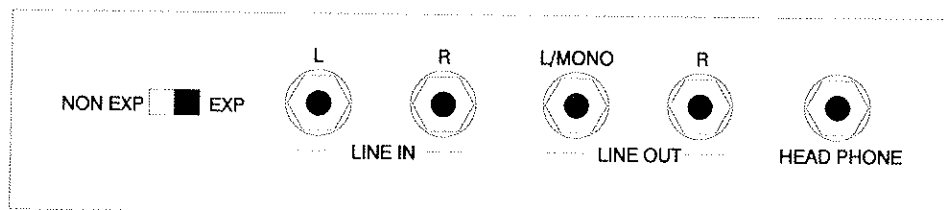
MIDI Memory Dump
    Now Receiving...

                Please wait.

3.   When all information has been sent, Screen 4 of the MIDI Edit Menu will return.

REFERENCE

◆ Accessory Panel

The Accessory Panel is located under the manuals on the right side of the organ.

LINE IN

The organ has Left and Right Audio inputs as well as NON EXP/EXP. You can run cables from the L (left) and R (right) stereo input connectors to the stereo output connectors of a CD player, musical instrument, etc. If the audio system is used in the monophonic mode, plug its cable into L.MONO. If you are using the LINE IN inputs, you can also use the NON EXP/EXP switch to select whether or not you want to control the volume of your external instrument from the Expression Pedal of the organ.

LINE OUT

L and R are the output connector for the stationary channels. Run these cables from L and R to the input connectors of a MIDI compatible instrument.

HEAD PHONE

If headphones are connected, the organ's speaker system is silenced to allow noise free practice.

◆ MIDI and CU-2 Control Center Panel

This jack panel is located under the manuals on the left side of the organ.
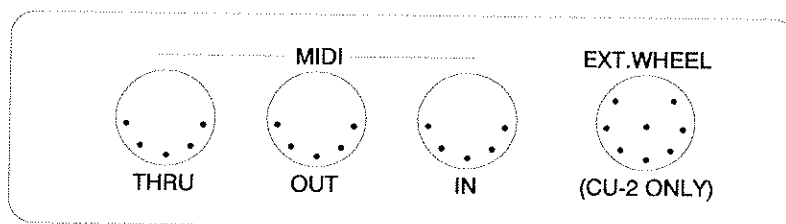
MIDI OUT

Run a MIDI cable from the MIDI OUT connector to MIDI IN connector of a MIDI slave instrument.

MIDI THRU

Run a MIDI cable from the MIDI OUT connector of a MIDI device to the MIDI THRU.

MIDI IN

Run a MIDI cable from this MIDI IN connector to the MIDI OUT or MIDI THRU connector of a MIDI compatible optional instrument.

EXT. WHEEL (CU-2 Control Center)

Connect the CU-2 Control Center to the organ via this jack.

♦ Specifications

XT-100

Keyboards
Two 49 Note Manuals & 13 Pedals

Upper Manual
9 Drawbars w/Sustain, Vibrato & Chorus (V1,V2,V3,C1,C2,C3)
Touch-Response Percussion 2 & 3, Fast, Soft
30 Orchestral Voices w/Variable Volume, Effect, Tone, Chorus
214 Custom Voices w/Tone & Vari. Vol. Ctrl.
16 User Voices
Upper Strings 1 & 2 w/Chorus & Vari. Vol. Ctrl.

Lower Manual
9 Drawbars w/Sustain, Vibrato & Chorus (V1,V2,V3,C1,C2,C3)
Orchestra to Lower Manual
Lower Strings Lower Choir w/Chorus & Vari. Vol. Ctrl.
214 Custom Voices w/Tone & Vari. Vol. Ctrl.

Pedals
2 Pedal Drawbars 16' & 8' w/Sustain (V1,V2,V3,C1,C2,C3)
3 Pedal Voices w/ Vari Vol. Ctrl.
Custom Pedal Voice
Pedal to Lower
Lower to Pedal

Rhythm
98 Rhythms with 4 Variations (392 patterns total)
Intro & Ending, Fill In 1 & 2
Manual Drums
AutoChord, AutoBand 1, AutoBand 2, Auto Bass
Easy Play System, Memory, Touch Start, Touch Tempo, Tempo Wheel

ProFeatures
ProChord
ProFoot
Transpose
Lower Split
Sequencer
Digital Leslie w/ Ext. Leslie Connector
Digital Reverb (4 Programs)
10 Programmable Presets
Upper & Lower Drawbar Cancel
3 ½ Disk Drive (Set Up, AutoBand Style & Song Disks)

Controls
MIDI In\Out\Thru
Headphone
Aux IN, Aux OUT

Dimensions
W 128cm, H 107cm, D 68cm (Walnut finish)

Power Output
2 - 50 watt chs, Speakers: 2 - 12", 2 - 4", 2 4 × 1.6"

XH-200

Keyboards
Two 61 Note Manuals & 25 Pedals

Upper Manual
9 Drawbars w/Sustain, Vibrato & Chorus (V1,V2,V3,C1,C2,C3)
Touch-Response Percussion 2 & 3, Fast, Soft
30 Digital Orch. / Solo Voices w/Effect, Tone, Chorus & Vari. Vol. Ctrl.
214 CustomVoices w/Tone & Vari. Vol. Ctrl.
Upper Strings 1 & 2 w/Chorus & Vari. Vol. Ctrl.

Lower Manual
9 Drawbars w/Sustain, Vibrato & Chorus (V1,V2,V3,C1,C2,C3)
Orchestra to Lower Manual
Lower Strings w/Chorus & Vari. Vol. Ctrl.
214 Custom Voices w/Tone & Vari. Vol. Ctrl.

Pedals
2 Pedal Drawbars 16' & 8' w/Sustain (V1,V2,V3,C1,C2,C3)
3 Pedal Voices w/ Vari Vol. Ctrl.
Custom Pedal Voice
Pedal to Lower
Lower to Pedal

Rhythm
98 Rhythms with 4 Variations (392 patterns total)
Intro & Ending, Fill In 1 & 2
Manual Drums
AutoChord, AutoBand 1, AutoBand 2 Auto Bass
Easy Play System, Memory, Touch Start, Touch Tempo, Tempo Wheel

ProFeatures
ProChord
ProFoot
Transpose
Lower Split
Sequencer
Digital Leslie w/ Ext. Leslie Connector
Digital Reverb (4 Programs)
10 Programmable Presets
Upper & Lower Drawbar Cancel
3 ½ Disk Drive (Set Up, AutoBand Style & Song Disks)

Controls
MIDI In\Out\Thru
Headphone
Aux IN, Aux OUT

Dimensions
W 130cm, H 114cm, D 68cm (Walnut finish)

Power Output
3 - 50 watt chs, Speakers: 1 - 15", 2 - 8", 2 - 4", 2 - 4" × 6"

♦ Instrument Care

Cabinet And Bench

As with any piece of furniture, direct sunlight can damage the finish of your instrument. Use a soft dry cloth for dusting. To remove fingerprints or dulling film, use a soft cloth slightly moisten with water and a little mild soap. Immediately wipe dry with a soft dry cloth.

Keys And Buttons

To clean keys and buttons, use a clean soft cloth moistened with water. Do not use any solvents, thinners or dryers such as alcohol, gasoline, lighter fluid, carbon tetrachloride, etc. These solutions may affect the letters and/or finish on the buttons and keys.

Moving Your Instrument

It is not necessary to bolt or fasten any parts of the instrument when moving. Careful consultation with your mover will assure you of a satisfactory moving job.

Hammond maintains a policy of continuously improving and upgrading its instruments and therefore reserves the right to change specifications without notice. Although every attempt has been made to insure the accuracy of the descriptive contents of this Guide, total accuracy cannot be guaranteed. Should the player require further assistance, inquiries should first be made to your Authorized Hammond Dealer. If you still need further assistance, contact Hammond at the following addresses:

In Japan Contact:

HAMMOND SUZUKI Ltd.
25-12, Ryoke 2 Chome
Hamamatsu 430 (Shizuoka)
JAPAN

In the United States contact:

HAMMOND SUZUKI USA, Inc.
733 Annoreno Dr.
Addison, IL 60101
UNITED STATES

In the United Kingdom contact:

HAMMOND SUZUKI (U.K.)
19 Presley Way
Crown Hill
Milton Keynes MK8 OES
UNITED KINGDOM

In Europe contact:

HAMMOND SUZUKI EUROPE B.V
Ir. D.S. Tuynmanweg 4A
4131 PN Vianen
P.O. Box 282
4130 EG Vianen
THE NETHERLANDS

In Germany contact:

HAMMOND SUZUKI DEUTSCHLAND GmbH
Karlstraße 38
89129 Langenau
GERMANY

Technical materials are available and can be obtained by mailing a request to the appropriate address listed above marked ATTENTION: SERVICE DEPARTMENT.

CAUTION: Service instructions are for use by qualified personnel only. To avoid risk of electric shock, the user should not perform any servicing or changing of the instrument's specifications other than those listed in this guide. All other servicing should be referred to qualified service personnel.

CAUTION

Danger of explosion if lithium battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

ADVARSELL

Lithiumbatteri. Eksplosionsfare ved fejlagtig håndering. Udskiftning må kun ske med batteri af samme fabrikat og type. Lebér det brugte batteri tilbage til leverandøren.

Norge: ADVARSEL

Lithiumbatteri - Eksplosjonsfare. Ved utskiftning benyttes kun batteri som anbefalt av apparatfabrikanten. Brukt batteri returneres apparatleverandøren.

verige: VARNING

Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller et ekvivalent typ som rekommenderes av apparattillverkaren, Kassera använt batteri enlig fabrikantens instruktion.

Finland: VAROITUS

Paristo voi räjähtää, jos se on virheelliseeti ansennettu Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin, Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

Hammond Model XT-100 / XH-200 Basic Features Guide