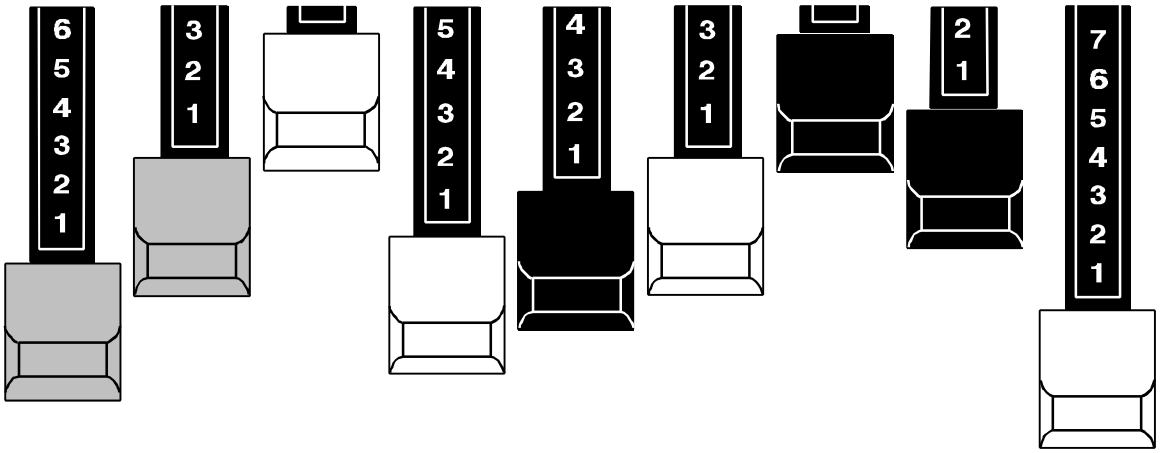


HA < O >

XB-1

DRAWBAR KEYBOARD

Quick Features Guide

HAMMOND SUZUKI, LTD.
Hamamatsu, Japan

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 Keyboard.

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, either alone or in combination with an amplifier and speakers or headphones, 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 location or position does not interfere with its proper ventilating

The product should not be located away from heat sources such as radiators, heat registers or other products that produce heat.

This product should be connected to a power source only of the type described in the operating instructions or as marked on the product.

The power-supply cord should be unplugged from the outlet when left unused for a long period of time. When unplugging the power supply cord, do not pull on the cord, but grasp it by the plug.

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 into 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 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.

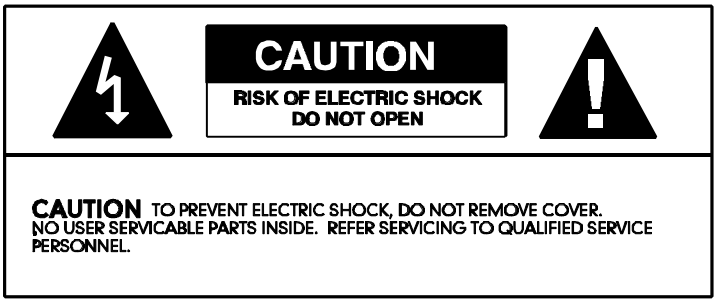
D. The product does not appear to operate normally or exhibits a marked change in performance.

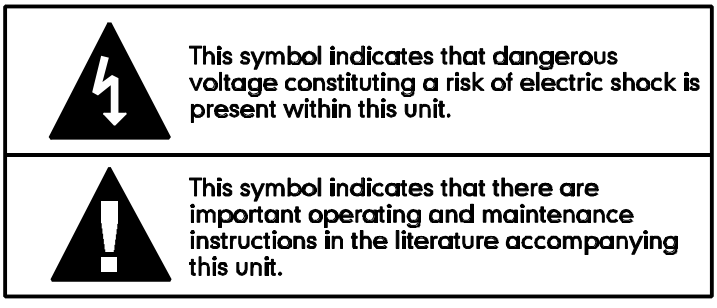
E. The product has been dropped or damaged.

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

This product must be grounded. If it should malfunction or break down, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounded conductor and a grounding plug. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

SAVE THESE INSTRUCTIONS





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

DANGER: Improper grounding of the equipment-grounding conductor can result in a risk of electric shock. Check with a qualified electrician or serviceman if you are in doubt as to whether the product is properly grounded. Do not modify the plug provided with the product - if it will not fit the outlet, have a proper outlet installed by a qualified electrician.

IMPORTANT - READ THIS FIRST

Your Hammond XB-1 Drawbar Keyboard is designed to give you the true and authentic sound of Hammond Harmonic Drawbars, as well as provide you a large variety of features to allow great flexibility in how you want to use the instrument. This Quick Reference Guide is designed to explain the operating features of your Hammond XB-1 as simply and graphically as possible.

Because we want to make this manual, as well as the instrument itself, as easy to understand as possible, the explanations in this manual are grouped by subject matter, and not in the order in which they necessarily appear in the Information Center Display (the screen in the center of the front panel). For example, all functions pertaining to Drawbars are grouped together, all Percussion features are treated as a group, and so on.

Also, each feature is treated as an explanation unto itself, and does not require you to already have prior working knowledge of some other feature. The explanations are presented such that, if you follow the steps outlined, the message you see in the Information Center Display screen will be identical to that shown in the manual at that stage of the explanation.

Do not be daunted by the number of steps required to perform each operation. Each step is simple. Simply bear these things in mind:

1. Read each step carefully.
2. Don't skip any of the steps.
3. Don't perform the steps out of sequence.

With these guidelines, you are well on your way to mastering all of the many sounds and features of your Hammond XB-1.

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INTRODUCTION

Basic Hook-Up

All connections are found on the Accessory Panel on the back of the XB-1.



♦ A.C. Power

Your Hammond XB-1 is shipped from the factory set for local A.C. power. To connect the XB-1 to A.C. power:

1. Locate the A.C. Power Cord that came with your XB-1.
2. Plug the female end of the Power Cord into the receptacle on the XB-1 marked, "AC IN."
3. Plug the other end of the Power Cord into an A.C. power outlet.

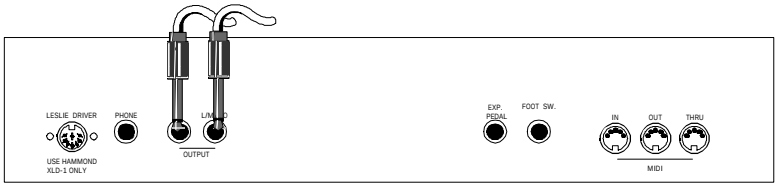
♦ Audio Connections

In order to hear the sounds produced by the XB-1, you will need to connect it to an amplifier or other external sound source. You can either:

1. Connect the XB-1 to an amplifier, or;
2. Connect the XB-1 to a Leslie Speaker cabinet.

Connecting to an Amplifier

1. Locate two audio cables with $^1/_4$" plugs on both ends of each cable.
2. Connect one end of each of the audio cables to the audio output connectors on the back of the XB-1.



NOTE: At this point it is assumed that you are using a keyboard or guitar amplifier that has $^1/_4$" phono plug inputs. We assume this since this is the most common type of connector used on these types of amplifiers.

3. Connect the other ends of each cable to the female $^1/_4$" audio input connectors of your amplifier.

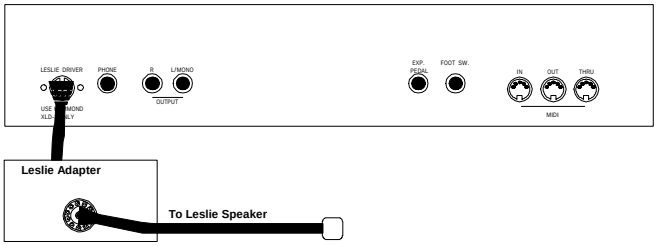
If your amplifier has only a single (1) female $^1/_4$" phono plug audio input, you can connect one end of one cable to one audio output connector on the XB-1, and the other end to the female $^1/_4$" audio input connector of your amplifier.

Connecting a Leslie Speaker

The XB-1 can be connected to an external Leslie Speaker cabinet using an optional Adapter Kit.

3. Connect one end of the Adapter Kit to the multi-pin plug on the back of your Leslie Speaker cabinet.

4. Connect the other end of the Adapter Kit to the XB-1's LESLIE DRIVER jack.



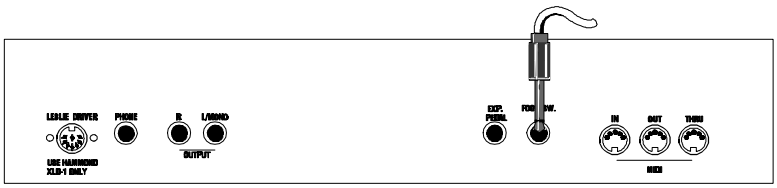
NOTE: Since different models of Leslie Speakers have different pin configurations, you will need to know the model number of your Leslie Speaker to determine whether it is compatible. Contact your Hammond Organ Dealer for more information regarding which adapter kit and/or cable you may need.

♦ MIDI Connections

In order to play the sounds produced by your XB-1, the unit must be connected via MIDI to a keyboard or other MIDI-compatible device. See the MIDI section starting on page 53 for more information about MIDI connections and your Hammond XB-1.

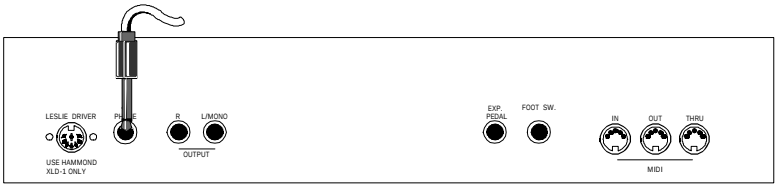
♦ Connecting a Foot Switch

You can connect an optional foot switch such as the Hammond model FS-9H foot switch to your XB-1. Simply plug the foot switch plug into the jack marked "FOOT SW" on the back of the XB-1.



♦ Connecting a Set of Headphones

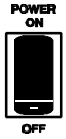
A stereo headphone jack is provided so that you may play or practice in privacy.



Basic Controls

The basic controls on your Hammond XB-1 include Drawbars, Touch Buttons, Rotary Controls and Wheel Controls. These controls allow you to make adjustments and voice changes on the instrument.

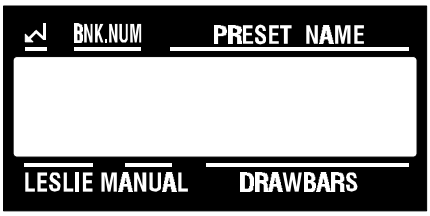
♦ ON / OFF Power Switch



Facing the keyboard, the ON / OFF Power Switch is located on the back left side of the rear panel facing the keyboard. Push this switch in at the top to turn the XB-1 "ON." To turn the unit "OFF," push the switch in at the bottom. When the XB-1 is "ON," the Information Center Display as well as certain LED's (Light Emitting Diodes) will light up showing that the unit is "ON."

♦ Information Center Display

The Information Center Display is an LCD (Liquid Crystal Display) located in the center of the front panel.



The Information Center Display has two modes: (1) the PLAY mode, and (2) the MENU mode. The Play mode allows you to graphically or numerically see the Drawbar settings for whichever manual is selected. The Menu mode allows you to change and edit the XB-1's software parameters such as Sustain Mode, Drawbar Voicing, MIDI parameters and other advanced functions.

NOTE: The Play and Menu modes are covered starting on page 5 of this Guide.

♦ Touch Buttons

Touch Buttons are the two groups of controls on either side of the Information Center Display and to the left of the keyboard in front of the Drawbars. The basic functions of these Buttons are:

1. Turning something "ON" or "OFF."
2. Modification of parameters - increasing or decreasing.
3. Selecting among multiple functions.
4. Confirmation - YES, NO or OK.

The Touch Buttons on the XB-1 operate in two different ways:

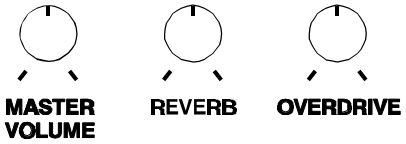
1. **Select Touch Buttons** will allow you to select among multiple functions such as selecting a Menu Page.

2. **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 information about Parameters is covered under "Information Center Display."

♦ Rotary Controls

The three Rotary Controls are located on the top panel to the left of the Touch Buttons. Turning a Rotary Control to the right (clockwise) will increase the intensity of the corresponding control. Turning the control to the left (counter-clockwise) will decrease the corresponding control's level.



MASTER VOLUME Control



This Rotary Control allows you to control the total or maximum volume of the entire instrument. Turn this control to the right to increase the total volume, and to the left to decrease the total volume.

REVERB Control



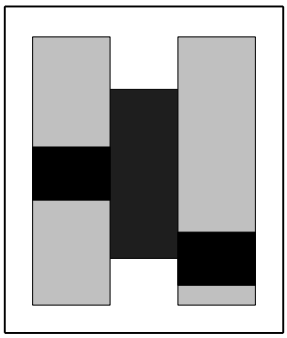
This Rotary Control allows you to control the total or maximum volume of digital Reverb. Turn this control to the right to increase the amount of Reverb, and to the left to decrease the amount of Reverb. Reverb is explained in detail starting on page 46.

OVERDRIVE Control



Overdrive 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. This Rotary Control allows you to control the total or maximum amount of Overdrive. Turn this control to the right to increase the amount, and to the left to decrease the amount.

♦ Pitch Bend and Modulation Wheels



Pitch Bend

You can adjust the pitch range, plus or minus, 12 half steps. For more information about how to change the Pitch Bend range, see page 89.

Modulation Wheel

The Modulation Wheel has several functions that can be selected. The two main uses are:

1. To send MIDI data to a connected MIDI device. Normally the Modulation Wheel will send Animation (Controller #1) but can be used to send any data for any numbered MIDI Controller. For more information about this function, see page 61.

2. To control certain internal functions of the XB-1 such as Leslie Slow/Fast. For more information about this function, see page 90.

Moving either control forward (away from you) will increase the intensity of the corresponding control. Moving either control downward (toward you) will decrease the corresponding control's level.

INFORMATION CENTER DISPLAY

The Drawbars, Touch Buttons and Rotary Controls control the operations necessary for performance on the XB-1. Advanced Features such as Drawbar Voice Mode, Attack Mode, etc., are accessed using the Information Center Display.

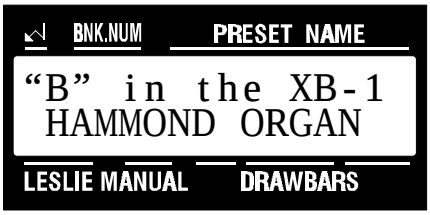
IMPORTANT: It is assumed at this point that you have just turned the XB-1 "ON" and have not touched the EDIT Touch Button. If you have, please turn the XB-1 "OFF," wait 5 seconds and turn it back "ON."

Play Mode

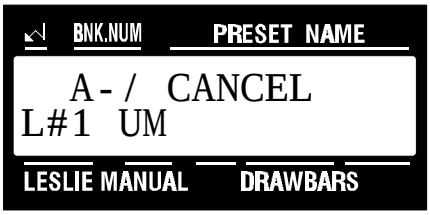
There are two (2) screen displays to the Play Mode - Graphic with parameters, and Numeric with parameters.

♦ Play Mode - Graphic Display

When the XB-1 is turned "ON," the LCD screen should look like this. This information is only displayed for a short time.



Once the opening message has disappeared, the display screen of your instrument should look similar to this:



The upper half of the display shows the Bank Number, Preset Number and Preset Name. The bottom half of the display shows, from left to right, the Leslie Preset, the Manual currently being displayed and the Graphic Drawbar setting for the manual.

♦ Play Mode - Numeric Display

Now, touch the UPPER Select Touch Button in the DRAWBAR SELECT Touch Button Section. The Information Center Display should now look like this:

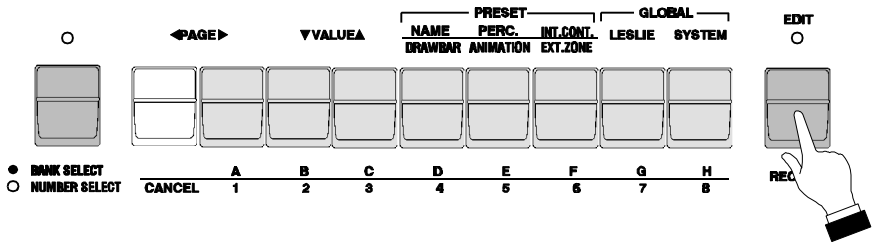


Now you are in the Numeric Display of the Play Mode. The upper half of the display shows the Bank Number, Preset Number and the Preset Name. The bottom half of the display shows, from left to right, the name of the Manual currently being displayed and the Numeric Drawbar setting for the manual.

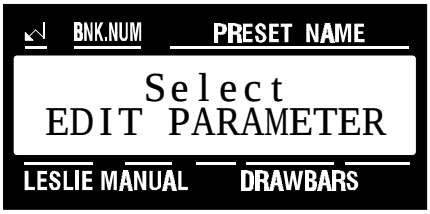
Menu Mode

There are eight (8) Menus on the XB-1. Each of these Menus allows you to access Advanced Features. These Advanced Features allow you to change parameters, turn something "ON" or "OFF," modify values, etc. These functions are explained in detail throughout this Guide.

♦ EDIT Touch Button



If you touch the gray EDIT Touch Button once, the Information Center Display will look like this:



There are two types of parameters you can edit on the XB-1 - Global and Preset parameters.

Preset Parameters

Preset Parameters are changes you can make to the instrument for the purpose of defining your own Preset settings. These are explained below.

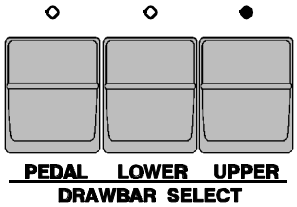
NAME - This Menu allows you to name your Presets. From the above message, touch the NAME/DRAWBAR Select Touch Button once to see this Menu.
DRAWBAR - This Menu allows you to change various characteristics of the Drawbars. From the above message, touch the NAME/DRAWBAR Select Touch Button two times to see this Menu.
PERC. - This Menu allows you to change various characteristics of the Percussion. From the above message, touch the PERC./ANIMATION Select Touch Button once to see this Menu.
ANIMATION - This Menu allows you to change various characteristics of features such as Vibrato, Reverb and Overdrive. From the above message, touch the PERC/ANIMATION Select Touch Button two times to see this Menu.
INT.CONT. - This Menu allows you to change various characteristics of the internal features of the XB-1, such as Manual Split. From the above message, touch the INT.CONT./EXT.ZONE Select Touch Button once to see this Menu.
EXT.ZONE - This Menu allows you to change various characteristics of the External Zones of the XB-1. From the above message, touch the INT.CONT./EXT.ZONE Select Touch Button two times to see this Menu.

Global Parameters

Global Parameters are parameters which affect the entire instrument, such as Master Tune, Transpose, etc. These cannot be saved to Presets.

LESLIE - This Menu allows you to change various characteristics of the internal digital Leslie. From the above message, touch the LESLIE Select Touch Button once to see this Menu.
SYSTEM - This Menu allows you to Transpose the XB-1, perform a MIDI Memory Dump, etc. From the above message, touch the SYSTEM Select Touch Button once to see this Menu.

DRAWBAR SELECT Touch Buttons

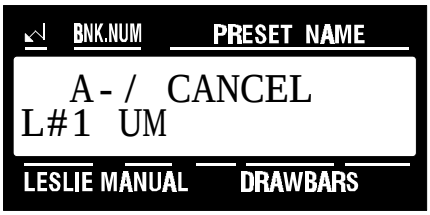


These Touch Buttons allow you to use the XB-1's Drawbar set to control sounds for Upper Manual, Lower Manual and Pedal. If an LED above a Touch Button is lit, the Drawbars will control the tones represented by that Touch Button.

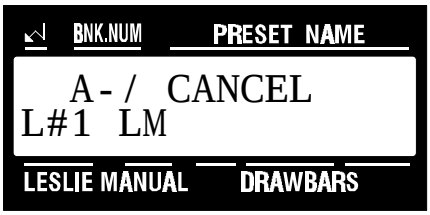
One of the Touch Buttons in the DRAWBAR SELECT section is always "ON" (red LED lit). Use the Touch Button that is currently "ON" to select Graphic or Numeric Drawbar Display.

TRY THIS:

1. After first turning the XB-1 "ON", the Information Center Display should look similar to this:

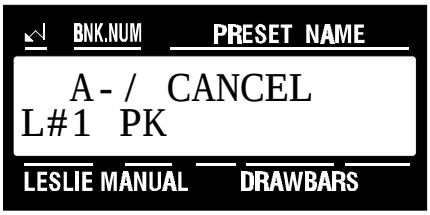


2. From the above display, touch the LOWER Select Touch Button. The Information Center Display should now look similar to this:



Now you see the Drawbar Display for the Lower Manual. (LM). To see the Graphic Display, touch the LOWER Select Touch Button again.

1. Now, touch the PEDAL Select Touch Button. The Information Center Display should now look similar to this:



Now you see the Drawbar Display for the Pedal Keyboard. (PK). To see the Graphic Display, touch the PEDAL Select Touch Button again.

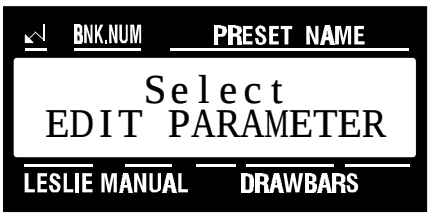
Notice that only two (2) Drawbar settings are shown in the Information Center Display. On most Hammond Organs with two manuals and pedals, there are two Drawbars for controlling the Pedal tones - one at "16'" pitch and the other at "8'" pitch. The XB-1 recreates this by using the Sub-Fundamental Drawbar (marked "16'") and the Fundamental Drawbar (marked "8'") to control the Pedal sounds.

♦ Drawbar Registration

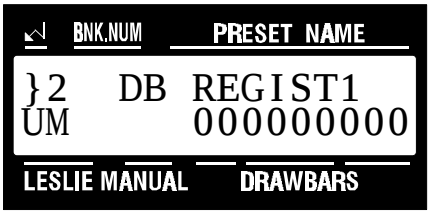
If, while you are editing, you want to verify the Drawbar Registrations for each section of the XB-1 (Upper Manual, Lower Manual and Pedal Keyboard), you can use the Drawbar Registration feature of the Information Center Display. This makes it easier to make all your changes during one editing session.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:

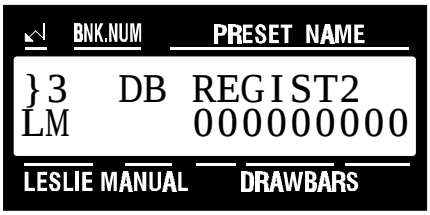


1. Touch the NAME/DRAWBAR Touch Button two times. The Information Center Display should look similar to this:



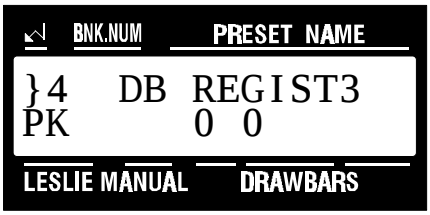
You will now see the Upper Manual Drawbar Registration shown numerically. You will also see that the LED for the UPPER Touch Tab in the DRAWBAR SELECT group is lit.

2. Now touch the PAGE "▸" Select Touch Button once. The Information Center Display should look similar to this:



You will now see the Lower Manual Drawbar Registration shown numerically. Notice that the LED for the LOWER Touch Tab in the DRAWBAR SELECT group is lit.

3. Now touch the PEDAL Select Touch Button in the DRAWBAR SELECT group once. The Information Center Display should look similar to this:



You will now see the Pedal Drawbar Registration shown numerically.

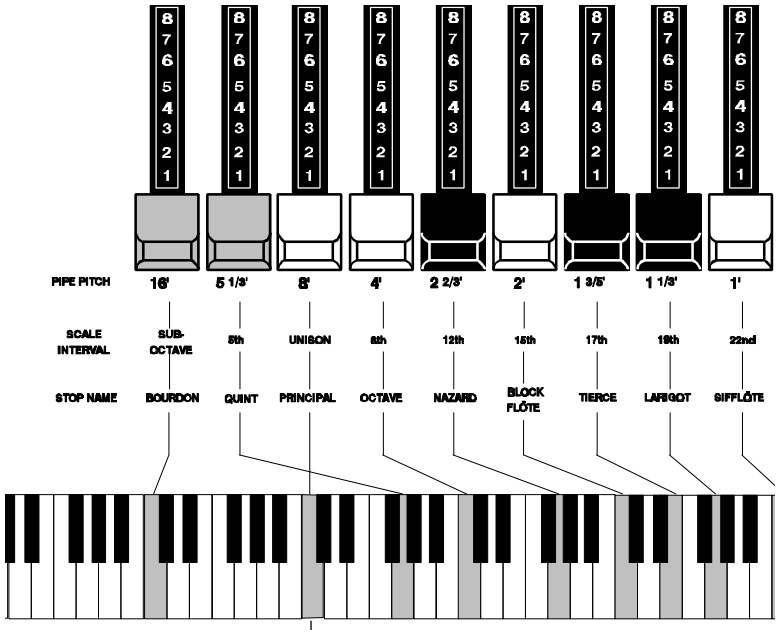
In this mode, you can use either the PAGE Touch Buttons or the DRAWBAR SELECT Touch Buttons to see the current Drawbar settings for both manuals and pedals.

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

DRAWBARS

Your Hammond XB-1 Drawbar Keyboard recreates the sounds of Hammond Harmonic Drawbars. Therefore, before explaining the features pertaining to Drawbars a few words of explanation about the Drawbars themselves are in order.

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.



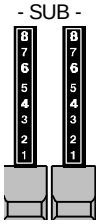
Each Drawbar is marked with a number followed by a footage mark. For example, the first white Drawbar is marked "8'." This is pipe organ terminology indicating that the pipe used to produce the lowest note on the keyboard on a pipe organ is actually eight feet long. The numbers from "1" to "8" on each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

Drawbars are divided into 3 groups of sound as well as 3 groups of color. We will first look at the 3 sound groups.

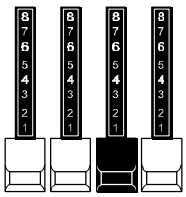
Sound Groups

You may think of these sound groups in terms of the three levels - The Sub being the deep pitches, the Foundation being the mid range of pitches and the Brilliance being the high pitches.

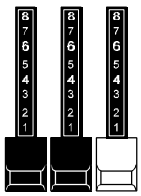
- SUB -



- FOUNDATION -



- BRILLIANCE -



TRY THIS:

1. Make sure all Drawbars, are "IN" (off) and that the LED above the UPPER Touch Button in the DRAWBAR SELECT Group is “ON.”

2. Hold down a C chord, starting with E above middle "C,” ("E,” "G" & "C" notes) with your right hand on the manual.

3. Starting with the 8' Drawbar, pull out and push in each of the FOUNDATION Drawbars one group at a time until you have a sound that you like.

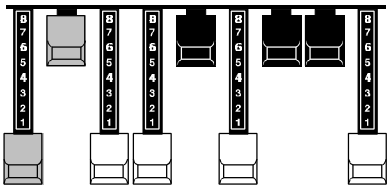
4. While still holding the "C" chord down, pull each of the brown SUB Drawbars out until you like the sound.

5. Now do the same with the BRILLIANCE Drawbars.

It's that easy to create your own custom Drawbar settings.

Color Groups

♦ White Drawbars



The first white Drawbar represents the "fundamental" or "8' base" tone. All of the other white Drawbars are octave intervals or harmonics of the fundamental tone. The tonal brilliance is greatly increased by adding white Drawbars, but the harmonics added are always in "consonance" or harmony.

TRY THIS:

1. Make sure all Drawbars are pushed "IN" (off) and that the LED above the UPPER Touch Button in the DRAWBAR SELECT Group is “ON.”

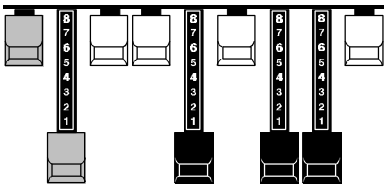
2. Hold down middle "C" on the Upper Manual.

3. Pull the first white Drawbar in the UPPER DRAWBARS group, marked “8”’, all the way out.

4. Now, one by one, pull the other Upper white Drawbars out in sequence.

As you add each Drawbar, you will hear the addition of the same note an octave higher in each case.

♦ Black Drawbars



The Black Drawbars represent the dissonant (discordant) harmonics which are also necessary in building rich tone colors.
The mellowness of a horn, the pungency of strings, and the brilliance of reed voices owe much of their character to the presence of these harmonics in different degrees.

TRY THIS:

1. Make sure all Drawbars are pushed "IN" (off) and that the LED above the UPPER Touch Button in the DRAWBAR SELECT Group is “ON.”

2. Hold down middle "C" on the manual.

3. Pull the first white Drawbar, marked “8”’, all the way out.

4. Now pull the 3 Black Drawbars all the way out.

The sound produced by the Drawbars is that of a clarinet.

♦ Brown Drawbars

In addition to the white and black Drawbars, there are two brown Drawbars in the group. These two Drawbars produce "sub-octave" effects. The first brown Drawbar is the sub-octave of the fundamental 8' Drawbar and is "one octave" lower in sound. The second brown Drawbar is the "sub-octave" of the third harmonic and sound a "fifth" or five tones above the fundamental. Both of these Drawbars are used to add depth and richness to many combinations. They also increase the range of the manual by one octave since a solo registration of the "8 foot," or normal pitch, can be set up using the first brown Drawbar as the fundamental and played one octave higher.

TRY THIS:

1. Make sure all Drawbars are "IN" (off) and that the LED above the UPPER Touch Button in the DRAWBAR SELECT Group is “ON.”
2. Hold down middle "C" on the manual.
3. Pull the first white Drawbar, marked “8',” all the way out.
4. While continuing to hold middle "C" down, pull the first brown Drawbar, marked “16',” all the way out.

You will now hear the sound of "C" one octave lower being added.

The second brown Drawbar is the "sub-octave" of the third harmonic. Both of these Drawbars are used to add depth and richness to many combinations. They also increase the range of the manual by one octave since a solo registration of the "8 foot," or normal pitch, can be set up using the first brown Drawbar as the fundamental and played one octave higher.

TRY THIS:

1. Make sure all Drawbars are "IN" (off) and that the LED above the UPPER Touch Button in the DRAWBAR SELECT Group is “ON.”
2. Hold down middle "C" on the manual.
3. Pull the first white Drawbar, marked “8',” all the way out.
4. While continuing to hold middle "C" down, pull the first brown Drawbar, marked “16',” all the way out. You will now hear the sound of "C" one octave lower being added.
5. Now pull the second brown Drawbar out, and you will hear it add a richness to the sound of the "C" note that you are holding down.

Tone Families By Shape

Regardless of the size of a pipe organ or its number of stops, all of its voices are related to four basic families of tone. The four basic families - FLUTE, REED, STRING and DIAPASON - can be quickly set up on the Drawbars by relating a pattern or shape to each family.

These are the generalities which apply to the tonal resources of the organ, and in themselves produce pleasant and usable effects. However, real beauty of tone is secured in two ways. The first way is to use registrations which have been devised by organists. The second way, and eventually the one that best expresses your own feeling for the music, is to create your own tonal effects, experimenting with and perfecting tones which you use to play your favorite selections.

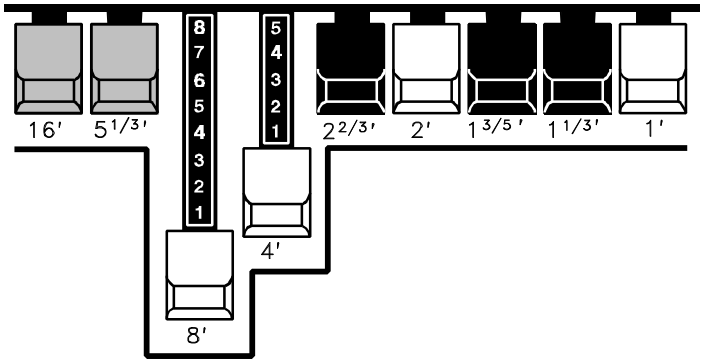
The Hammond Organ Drawbars allow you not only to set up any tonal effect you want, but also to make many fine variations of the tone. Only with the Hammond Drawbars can you play exactly the shade of tone you want for every selection and, perhaps even more important, for every size and type of room in which you play.

With the Hammond Organ Drawbars, a touch of a finger is all that is needed to make the tone quality softer or more brilliant, richer in one harmonic or another.

Typical Drawbar Registration Patterns For The Four Families Of Organ Sound

♦ Flute family (2 step pattern)



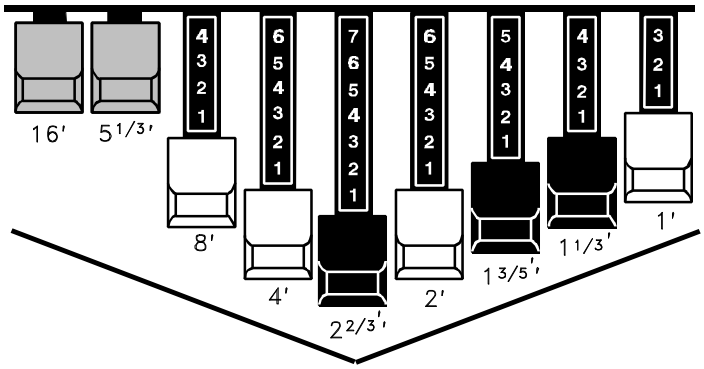


Flute Tones

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)

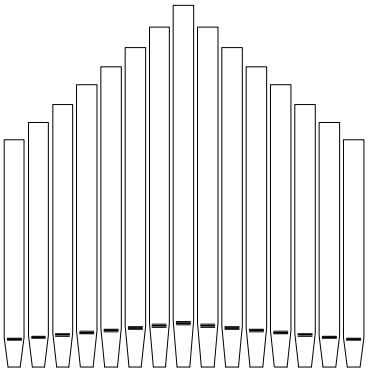


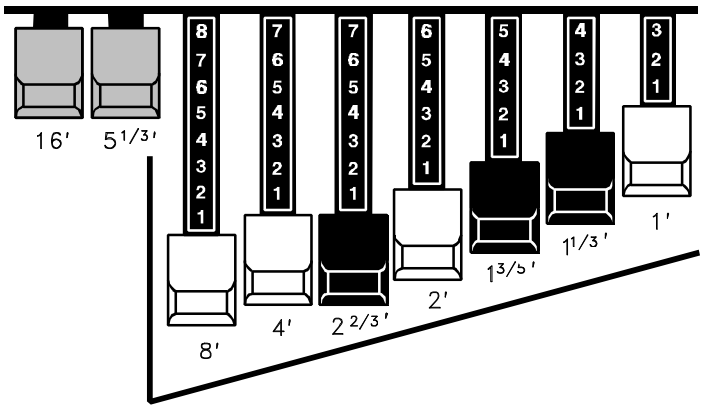


Reed Tones

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 Humana 8'	00 4720 123

♦ Diapason family (check mark pattern)

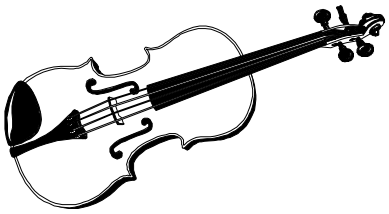


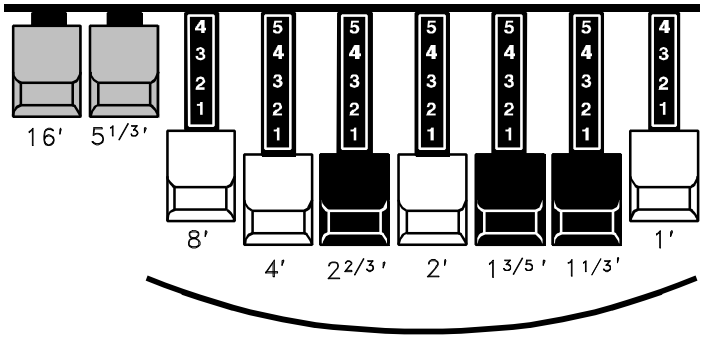


Diapason Tones

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

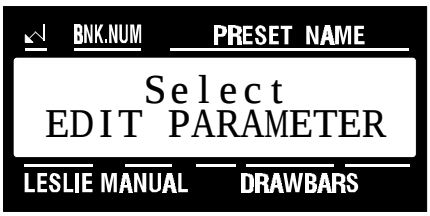
Cello 8'	00 3564 534
Dulciana 8'	00 7770 000
Gamba 8' I	00 3484 443
Gemshorn 8'	00 4741 321
Orchestral String 8'	00 1464 321
Salicional 8'	00 2453 321
Solo Viola 8'	00 2474 341
Solo Violin 8'	00 3654 324
Viola da Gamba 8'	00 2465 432
Violina 4'	00 0103 064
Violone 16	26 3431 000

♦ Drawbar Volume

Although the Drawbars give you individual control over each harmonic, you may still want to balance registrations for the manuals and pedals. This Advanced Feature allows you to set the volume of the Drawbar registrations for the following: (1) Upper Manual ("UM"), (2) Lower Manual ("LM") and (3) Pedal Keyboard ("PK"). You may select from “0" to “127" for each manual and pedals.

TRY THIS:

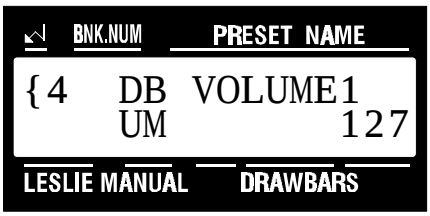
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button three times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the PAGE "▸" Select Touch Button to scroll forward through the manual selections ("UM" or Upper Manual, "LM" or Lower Manual, and "PK" or Pedal Keyboard). As you scroll forward through the Manual selections, you will see the upper left-hand corner of the display change from “S4" to “S5" to “S6.”

Use the PAGE "◂" Select Touch Button to scroll backward through the manual selections.

Use the VALUE "▴" Select Touch Button to scroll up through the volume increments.

Use the VALUE "▾" Select Touch Button to scroll down through the volume increments.

*default setting

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

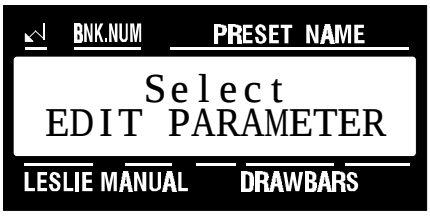
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ Drawbar Attack - Key Click Volume

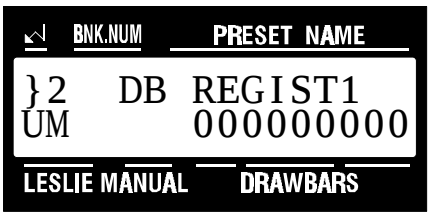
Each time a key was depressed on a tone-wheel Hammond Organ, a key-pop or click was produced. With the Attack Advanced Feature, you can change the type of attack or the personality of the key click.You can select “SLOW ATTACK,” “NO CLICK,:” “SOFT CLICK,” “NORMAL CLICK,” or “MAX CLICK” for Upper Manual, Lower Manual and Pedal Keyboard.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the NAME/DRAWBAR Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button three times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the PAGE "▸" Select Touch Button to scroll forward through the manual selections ("UM" or Upper Manual, "LM" or Lower Manual, and "PK" or Pedal Keyboard). As you scroll forward through the Manual selections, you will see the upper left-hand corner of the display change from “P5" to “P6" to “P7.”

Use the PAGE "◂" Select Touch Button to scroll backward through the manual selections.

Use the VALUE "▴" Select Touch Button to scroll up through the Drawbar Attack options.

Use the VALUE "▾" Select Touch Button to scroll down through the Drawbar Attack options.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

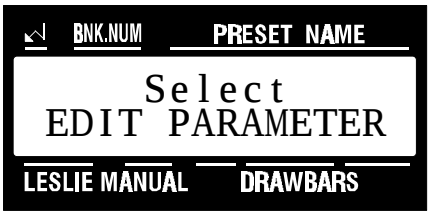
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ Drawbar Sustain

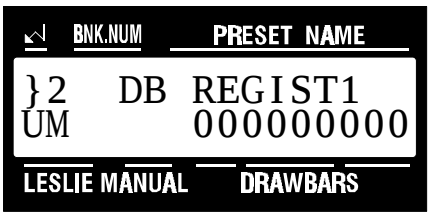
Sustain is used with the Drawbars to produce a lingering tone when keys are released. It is suited for producing sounds like harps, chimes or bells. This Advanced Feature allows you to select the Sustain Length for the following: (1) Upper Manual ("UM"), (2) Lower Manual ("LM") and (3) Pedal Keyboard ("PK").You can select either "OFF," "SHORT," "MEDIUM," or "LONG."

TRY THIS:

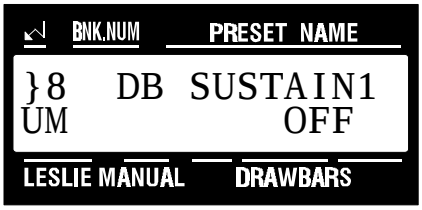
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the NAME/DRAWBAR Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button six times. The Information Center Display should look like this:



3. Now select the option you wish by doing the following:

Use the PAGE "▸" Select Touch Button to scroll forward through the manual selections ("UM" or Upper Manual, "LM" or Lower Manual, and "PK" or Pedal Keyboard). As you scroll forward through the Manual selections, you will see the upper left-hand corner of the display change from "P8" to "P9" to "P10."

Use the PAGE "◂" Select Touch Button to scroll backward through the manual selections.

Use the VALUE "▴" Select Touch Button to scroll up through the options.

Use the VALUE "▾" Select Touch Button to scroll down through the options.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

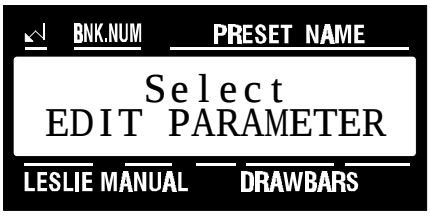
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ Drawbar Voice Mode

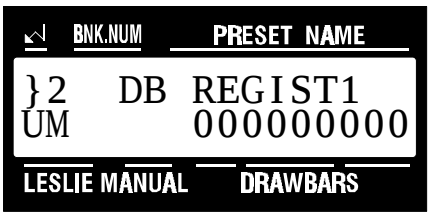
This Advanced Feature allows you to change the overall sound of the Drawbars. For the Upper and Lower Manuals, you can select: (1) "B3-TYPE," which reproduces the sound of the B-3 tone-wheel generator, (2) "MELLOW," which produces a pure sine-wave tone quality, or (3) "BRITE," which adds extra frequencies to the higher-pitched Drawbar tones. For the Pedal Keyboard, you can select either "NORMAL" or "MUTED."

TRY THIS:

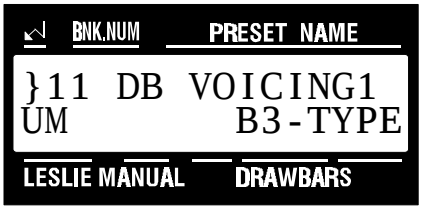
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the NAME/DRAWBAR Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button nine times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the PAGE "▸" Select Touch Button to scroll forward through the manual selections. As you scroll forward through the Manual selections, you will see the upper left-hand corner of the display change from "P11" to "P12" to "P13."

Use the PAGE "◂" Select Touch Button to scroll backward through the manual selections.

Use the VALUE "▴" Select Touch Button to scroll up through the Drawbar Voicing options.

Use the VALUE "▾" Select Touch Button to scroll down through the Drawbar Voicing options.

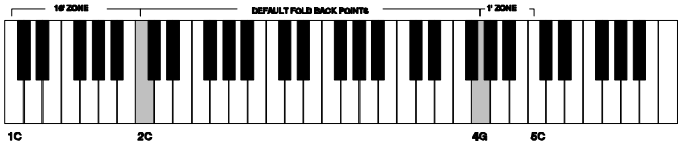
This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

♦ Drawbar Fold Back

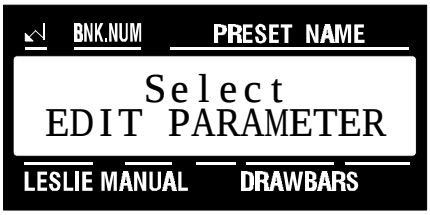
There are two function selections to the Drawbar Fold Back Advanced Feature Menu of the XB-1: (1) Select how low the Sub-Fundamental Drawbar will play on each manual (from “2C” down to “1C”). (2) Set the upper frequency limit for each manual (from “4G” to “5C”).

On the earliest model Hammond Organs, the Sub-Fundamental Drawbar (the one marked, “16’”) would continue to play all the way down to the lowest "C" ("1C"). Newer models such as the Hammond Models X-66, X-77 and Concorde do the same, however, the 8th harmonic Drawbar (the one marked “1’”) continues to play up the manual to the next to highest "C" ("5C") on the manual. On a B-3, the lowest note produced by the Sub-Fundamental Drawbar is the 2nd "C" ("2C") from the left end of the manual, while the highest note that can be played by the 8th harmonic Drawbar is the 4th "F♯" from the left end of the manual. The lower and higher keys on the manual "Fold Back,” in that they repeat the pitches played by other notes.

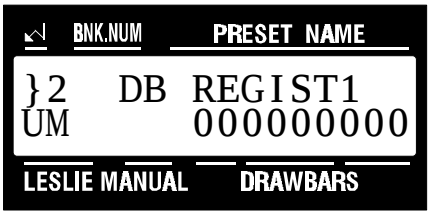


TRY THIS:

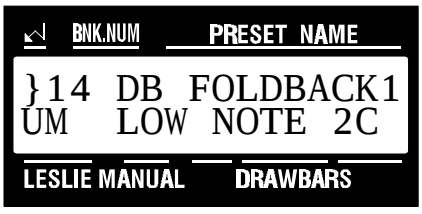
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the NAME/DRAWBAR Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button twelve times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the PAGE "▸" Select Touch Button to scroll forward through the manual and note selections.

Use the PAGE "◂" Select Touch Button to scroll backward through the manual and note selections.

Use the VALUE "▴" Select Touch Button to scroll up through the Foldback numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the Foldback numbers.

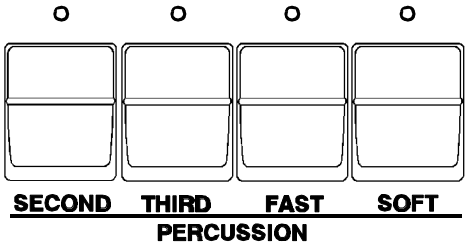
This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

Percussion

Your Hammond XB-1, in addition to recreating the sounds of Hammond Harmonic Drawbars, also faithfully replicates the Hammond Touch-Response Percussion Control. This feature is found on Hammond Organs containing a "3" as part of their model number (B-3, C-3, M-3, RT-3) as well the A-100 and D-100 series. On later tone-wheel Hammond models, the Percussion feature consisted of preset voices rather than harmonics. The Percussion feature on the XB-1 recreates the original implementation of Percussion. The following pages explain each part of this feature in detail.

♦ Percussion Touch Buttons

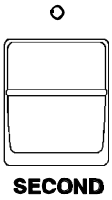


The Percussion Touch Button Section is located to the left of the Information Center Display. The first two Touch Buttons determine the pitch at which the Percussion tones sound.

NOTE: When either of these Touch Buttons are "ON" (LED lit), all of the Drawbars will be effective except the 8th harmonic Drawbar (last white Drawbar). When Percussion is "OFF," the 8th Harmonic Drawbar is effective as usual.

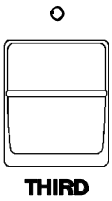
♦ SECOND

This Touch Button causes the Percussion tone to sound up one octave with respect to the Fundamental Drawbar (first white Drawbar).



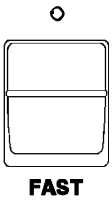
♦ THIRD

This Touch Button causes the Percussion tone to sound up an octave and a fifth with respect to the Fundamental Drawbar.



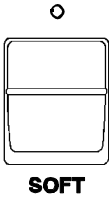
♦ FAST

When this Touch Button is "OFF" (LED not lit), the Percussion tone will decay (die away) slowly like a chime. When FAST DECAY is "ON" (LED lit) the Percussion effect will decay rapidly like a xylophone or glockenspiel.



♦ SOFT

When this Touch Button is "OFF" (LED not lit), the Percussion effect will be very prominent. You will also notice that the Upper Manual Drawbar tones are reduced in volume to compensate for the addition of the Percussion tones. When this Touch Button is "ON" (LED lit), the Percussion effect is much less prominent. The Upper Manual Drawbar volume remains unaffected by the addition of the PERCUSS. SOFT Touch Button.

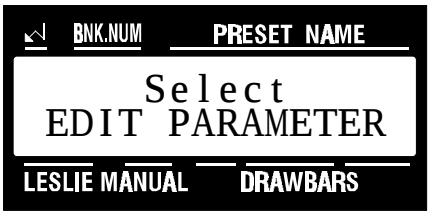


♦ Percussion Slow Decay

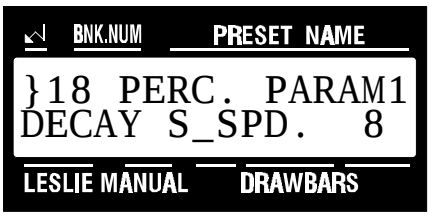
Although the Percussion has two rates of decay accessible from the Touch Buttons (NORMAL and FAST), you can adjust the decay rate that you prefer for each of the Touch Button settings. This Advanced Feature allows you to select the rate of "NORMAL" decay (FAST Touch Button "OFF").You can select from "1" (fastest) through "8" (longest). The default setting is "8."

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button once. The Information Center Display should look like this:



3. Now select the option you wish by doing the following:

Use the VALUE "▲" Select Touch Button to scroll up through the numbers.

Use the VALUE "▼" Select Touch Button to scroll down through the numbers.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

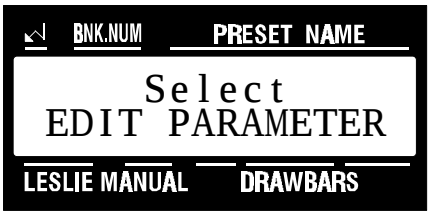
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ Percussion Fast Decay

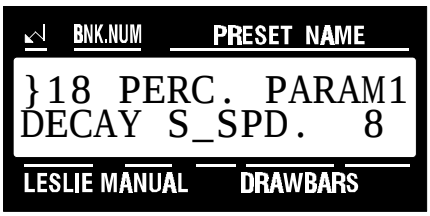
Although the Percussion has two rates of decay accessible from the Touch Buttons (NORMAL and FAST), you can adjust the decay rate that you prefer for each of the Touch Button settings. This Advanced Feature allows you to select the rate of "FAST" decay (FAST Touch Button "ON").You can select from "1" (fastest) through "8" (longest). The default setting is "3."

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button once. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

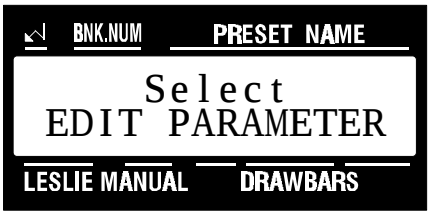
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ Percussion Normal Level

Although the Percussion has two volume settings accessible from the Touch Buttons (NORMAL and SOFT), you can adjust the absolute level that you prefer for each of the Touch Button settings. This Advanced Feature allows you to select the "NORMAL" (SOFT Touch Button "OFF") level.You can select from "1" (softest) through "16" (loudest). This will allow you to balance the amount of "normal" and "soft" Percussion sound (the choices provided by the Touch Buttons) with the sound produced by the Drawbars. The default setting is "11."

TRY THIS:

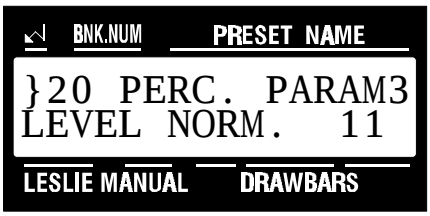
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button two times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

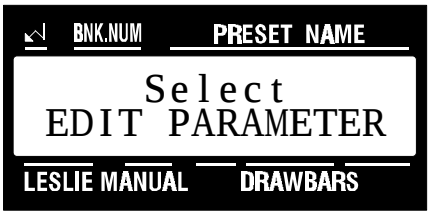
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ Percussion Soft Level

Although the Percussion has two volume settings accessible from the Touch Buttons (NORMAL and SOFT), you can adjust the absolute level that you prefer for each of the Touch Button settings. This Advanced Feature allows you to select the "SOFT" (SOFT Touch Button "ON") level.You can select from "1" (softest) through "16" (loudest). This will allow you to balance the amount of "normal" and "soft" Percussion sound (the choices provided by the Touch Buttons) with the sound produced by the Drawbars. The default setting is "8"

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button three times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

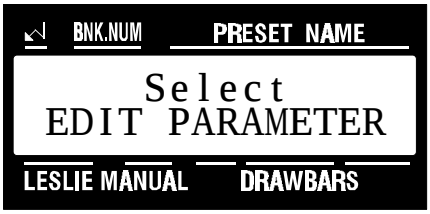
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ Percussion Touch

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

TRY THIS:

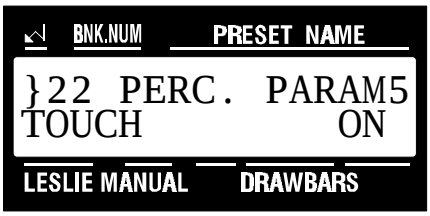
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button four times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn Percussion Touch "ON" or "OFF."

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

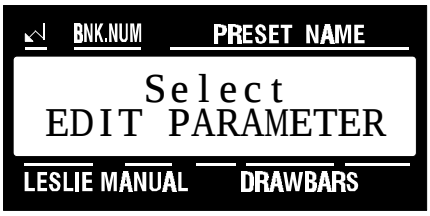
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ Percussion Velocity Sensitivity

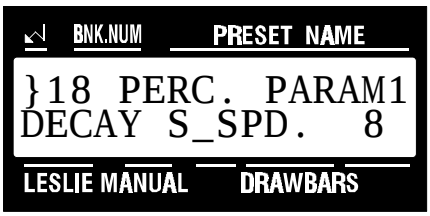
This Advanced Feature allows you to turn "ON" or "OFF" Percussion Velocity Sensitivity. When this feature is “ON,” the volume of Percussion is controlled by how fast keys are played. The faster keys are played, the louder the Percussion sounds. The more slowly keys are played, the softer the Percussion sounds. When this feature is “OFF,” each key will sound at the same volume level when played regardless of the speed or force with which the keys are struck. The default setting is “OFF.”

TRY THIS:

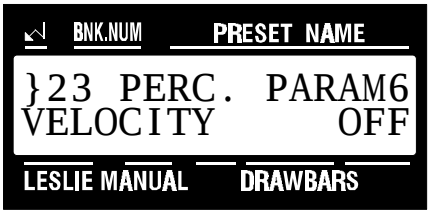
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button five times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn Percussion Velocity "ON" or "OFF."

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

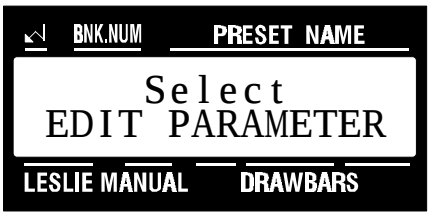
♦ Percussion Drawbar Cancel

On the original Hammond Organs with Touch-Response Percussion Control, such as the B-3, C-3 and RT-3, when the Swell Manual "B" Preset Key is engaged, and Percussion is "ON," the sound produced by the 8th harmonic Drawbar (1') is canceled. However, some pros would re-wire the organ so that the 8th harmonic Drawbar would continue to play while Percussion is "ON." The Percussion Drawbar Cancel Advanced Feature allows you to select whether the 8th harmonic Drawbar will continue to sound when Percussion is turned "ON."

When this feature is "ON," the 8th harmonic Drawbar will be canceled when Percussion is "ON." When this feature is "OFF," the 8th harmonic Drawbar will sound while Percussion is "ON."

TRY THIS:

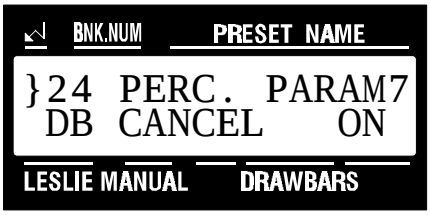
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button six times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn Percussion Touch "ON" or "OFF."

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

♦ Percussion Drawbar Level

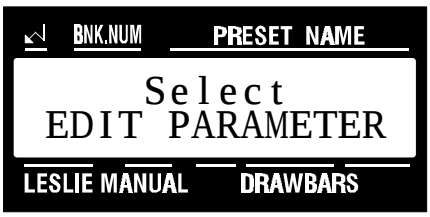
On the original Hammond Organs with Touch-Response Percussion Control, such as the B-3, C-3, RT-3 and A-100, when the Swell Manual "B" Preset Key is engaged, Percussion is "ON" at normal volume and a Drawbar setting is used, the volume of the Swell Manual Drawbars is reduced slightly in order to preserve the musical balance between Swell and Great Manuals. However, some pros would perform a modification so that the "B" Preset Drawbar settings would remain at full volume even if Percussion were "ON" at normal volume. This Advanced Feature allows you to select either option.

When the "-3db" setting is chosen, the Drawbars will be reduced by "-3db" in volume when Percussion is "ON" at normal volume. When "0db," the volume of the Drawbars will stay at the same level, or "0db," when Percussion is "ON" at normal volume.

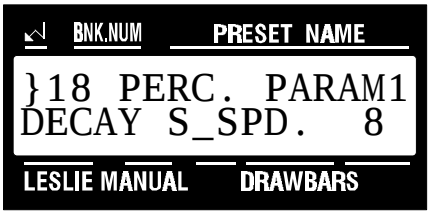
NOTE: A "decibel" is a unit of measurement for the loudness of sound waves, and is usually abbreviated "db."

TRY THIS:

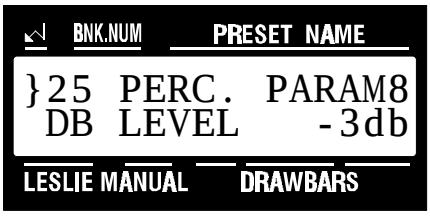
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button seven times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to select either "-3db" or "0db."

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

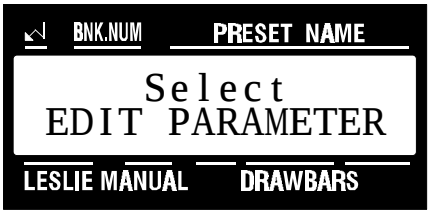
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ 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. When this feature is "ON," the Percussion tones will be gradually reduced in volume on the higher notes. When this feature is "OFF," the volume of the Percussion will stay at the same level throughout the entire compass of the manual.

TRY THIS:

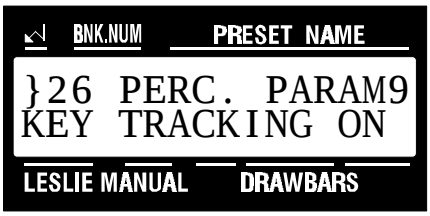
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button eight times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn Key Tracking "ON" or "OFF."

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

MANUAL SPLIT

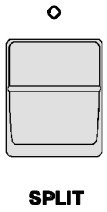
Although the XB-1 has a single manual, the manual can be Split so that one sound can be played on one part of the manual and a different sound can be played on another part of the manual.

Upper and Lower Manuals on the XB-1

When the manual is split, the effect is that of a conventional two-manual organ on which the Upper Manual would be played by the right hand and the Lower Manual would be played by the left hand. Therefore, when Split is "ON," the area to the right of the Split Point is referred to on the XB-1 as the Upper Manual and is abbreviated, "UM." The area to the left of the Split Point is designated as the Lower Manual and bears the abbreviation, "LM." You will notice both of these abbreviations in the Information Center Display. This is important to keep in mind because if you are making any changes to parameters affecting the Lower Manual, such as Drawbar Registration, you will not hear any change unless Split is "ON."

SPLIT Touch Button

Touch this Touch Button "ON" (LED lit) to activate the Split Point. Touch it "OFF" (LED not lit) to deactivate the Split Point and play the XB-1 as a single-manual instrument.



The following pages will explain the Advanced Features pertaining to the Split feature.

Advanced Features - Manual Split

♦ Split Point

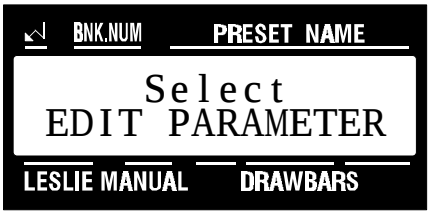
This Advanced Feature allows you to select the Split Point.

NOTE: The Split Touch Button must be "ON" (red LED lit) in order to hear the effect of this feature.

Changing the Split Point using the Value Touch Buttons

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the INT.CONT./EXT.ZONE Select Touch Button once. The Information Center Display should look like this:



3. Now select the option you wish by doing the following:

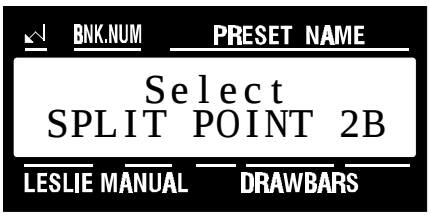
Use the VALUE "▲" Select Touch Button to move the Split Point up. The upper limit is "6C" (the highest note on the manual).

Use the VALUE "▼" Select Touch Button to move the Split Point scroll down. The lower limit is "1C" (the lowest note on the manual).

Changing the Split Point by Key Input

TRY THIS:

1. Touch and hold the SPLIT Touch Button. The red LED will flash repeatedly, and the Information Center Display should look like this:



2. Touch the note on the manual that represents the Split Point you wish. The note you touch will become the top note of the Lower Manual. All notes to the right of the note you touch will be assigned to the Upper Manual. When you touch the note that represents your chosen Split Point, the SPLIT Touch Button LED will stop flashing and your Split Point setting will be stored.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

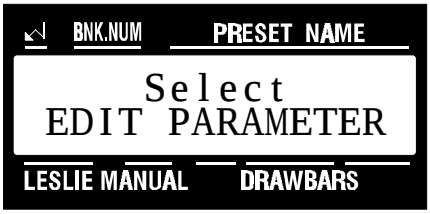
♦ Split Mode

This Advanced Feature allows you to select how the XB-1 will function when Split is active.You can select from : “UM + LM” (Upper Manual to the right of the Split Point and Lower Manual to the left of the Split Point), “UM + PK (Upper Manual right of Split and Pedal Keyboard left of Split) or “LM + PK” (Lower Manual right of Split and Pedal Keyboard left of Split). You will find this feature particularly useful if you are using another keyboard along with your XB-1 or two XB-1's connected together via MIDI to simulate “B-3" (two-manuals-and-pedals) operation.

NOTE: The Split Touch Button must be “ON” (red LED lit) in order to hear the effect of this feature.

TRY THIS:

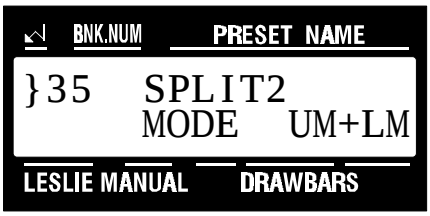
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the INT.CONT/EXT.ZONE Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button once. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▸" Select Touch Button to scroll up through the selections.

Use the VALUE “◂” Select Touch Button to scroll down through the selections.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

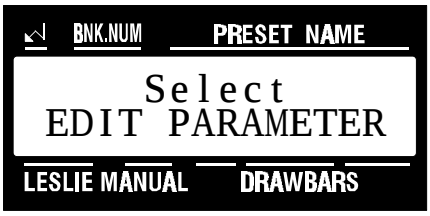
♦ Lower Manual Octave

This Advanced Feature allows you to select the Octave range in which the Lower Manual will play. This is so that you can play chords or chordal accompaniment to your right hand melody in the correct octave range.

NOTE: The Split Touch Button must be "ON" (red LED lit) in order to hear the effect of this feature.

TRY THIS:

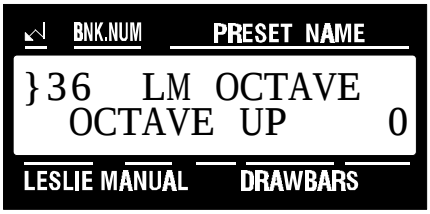
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the INT.CONT/EXT.ZONE Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button two times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to move the Lower Manual Octave up. The upper limit is "2" (the notes sound one, or two, two octaves higher than written).

Use the VALUE "▾" Select Touch Button to move the Lower Manual Octave down. The lower limit is "0" (the notes sound as written, or at "concert" pitch).

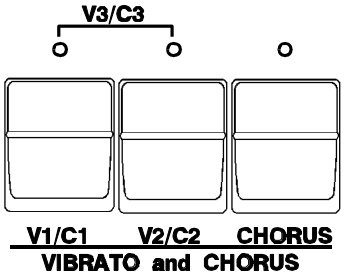
This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

EFFECTS

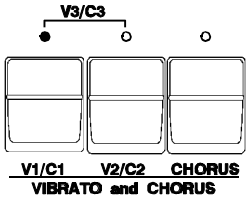
The XB-1 has the effects of Vibrato, Chorus, Leslie, Reverb, Overdrive, Treble adjustment and Oscillator Phase Control. By adding such effects, you can enhance the sound of your music.

Vibrato



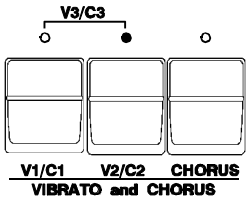
Your Hammond XB-1 has three Touch Buttons which control the degrees of Vibrato and Chorus.

♦ V1 - (Small Vibrato)



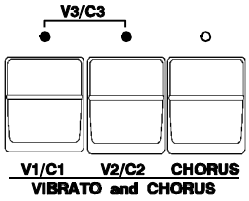
This produces the vibrato equivalent of most orchestral solo instruments. Touch the V1/C1 Touch Button to turn Vibrato 1 "ON."

♦ V2 - (Wide Vibrato)



This is the standard depth vibrato used with the Drawbars to produce the effect of a theater organ. Touch the V2/C2 Touch Button to turn Vibrato 2 "ON."

♦ V3 - (Full Vibrato)

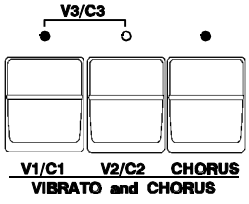


By pressing both the V1/C1 and the V2/C2 Touch Buttons at the same time, you turn "ON" Vibrato 3. Vibrato 3 gives the fullest amount of vibrato, adding much warmth and enhancing your music.

Chorus

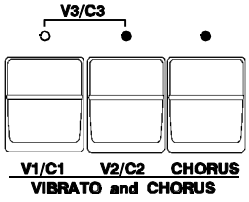
The third Touch Button selects the Chorus effect. When the CHORUS Touch Button is used, *half* of the tone is heard without Vibrato, and *half* contains the vibrato amount selected by the first two Touch Buttons.

♦ C1 - (Small Chorus)



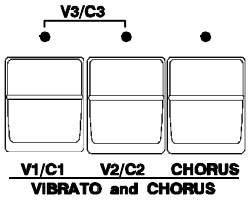
This produces the light chorus effect.

♦ C2 - (Wide Chorus)



This is the standard depth of the chorus effect.

♦ C3 - (Full Chorus)



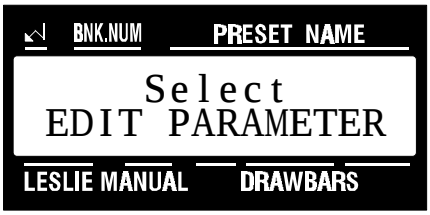
By pressing both the V1/C1 and the V2/C2 Touch Buttons at the same time along with the CHORUS Touch Button, you get the fullest amount of Chorus, adding warmth that enhances your Drawbar settings.

♦ Vibrato/Chorus Speed

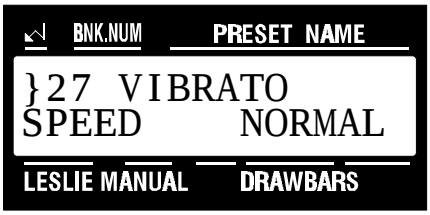
This Advanced Feature allows you to select the speed for the Vibrato and Chorus that you prefer.You can select “SLOW,” “MID,” “NORMAL,” “MIDFAST” or “FAST.”

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button two times. The Information Center Display should look like this:



3. Now select the option you wish by doing the following:

Use the VALUE "▲" Select Touch Button to scroll up through the options.

Use the VALUE "▼" Select Touch Button to scroll down through the options.

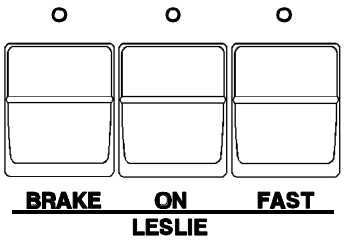
This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

Leslie

Your Hammond XB-1 has a built-in digital Leslie effect that replicates the sound of a Leslie Speaker cabinet. In addition, the XB-1 can also be used with a variety of different Leslie Speaker cabinets. There is a full explanation of how to use the XB-1 with a Leslie Speaker cabinet starting on page 45. The following paragraphs explain how the internal digital Leslie of your Hammond XB-1 works.

♦ Leslie Touch Buttons



These three Touch Buttons allow you to control either the internal digital Leslie or the rotors of a connected Leslie Speaker cabinet.

ON Touch Button

Normally when this Touch Button is "OFF" (LED not lit), the Drawbars will sound as if through a “straight” speaker cabinet (one with no rotors). Touching the ON Touch Button "ON" (LED lit) will change the sounds produced by the Drawbars from a “straight” sound to the sound produced by a Leslie Speaker. The speed of the Leslie effect depends upon the position of the FAST Touch Tab, which is explained below.

NOTE: This Button also works in conjunction with the BRAKE Touch Button, which is explained below.

FAST Touch Button

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

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

BRAKE Touch Button

When this Touch Button is "OFF" (LED not lit) and the ON Touch Button is “OFF”, the sound quality changes to simulate the effect of the Drawbar tones speaking through the Stationary channel of a multi-channel Leslie Speaker such as models 723, 750 or 914. When this Touch Button is “ON” and the ON Touch Button is “OFF”, the digital Leslie effect is "stopped" and the sound quality remains unchanged. This simulates the effect produced by a single-channel Leslie Speaker such as a 122 or 147.

♦ Leslie Parameters

Your Hammond XB-1 has a special group of Leslie Parameters. Using these special Leslie features, you can define different characteristics of how the built-in digital Leslie effect will perform. The Leslie Parameters are:

1. Slow Speed for both Horn and Bass Rotor.
2. Fast Speed for both Horn and Bass Rotor.
3. Rise Time for both Horn and Bass Rotor.
4. Fall Time for both Horn and Bass Rotor.
5. Brake Time for both Horn and Bass Rotor.
6. Volume for both Horn and Bass Rotor.
7. Microphone Settings (Angle and Distance)
8. Percussion Setting.

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 the speeds of the rotors, as well as time required for the rotors to speed up (Rise Time) and slow down (Fall Time). Your Hammond XB-1 includes in its Advanced Feature Menu advanced features which allow you to select the settings that you prefer for all of the above Leslie Parameters.

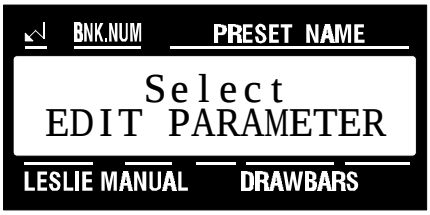
♦ Leslie Presets

Your Hammond XB-1 contains five different Leslie Presets which you can use to store different settings for all of the above Leslie Parameters. These Leslie Presets can then be assigned to Presets. This makes it very convenient to call up the Leslie performance characteristics you want all at once.

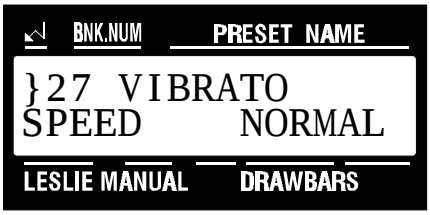
NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the PERC./ANIMATION Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE "▸" Select Touch Button once. The Information Center Display should look like this:



3. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the options.

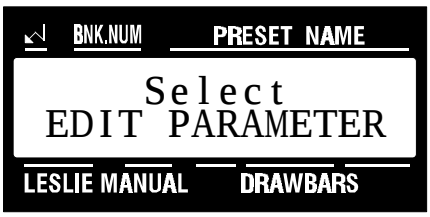
Use the VALUE "▾" Select Touch Button to scroll down through the options.

♦ Leslie Slow Speed

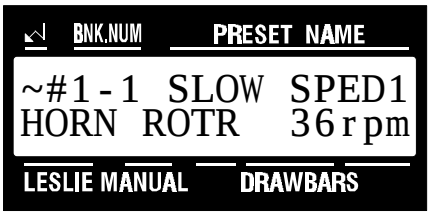
This Advanced Feature allows you to set the rate for the Slow Speed of the digital Leslie. The default setting is.You can select from “0rpm” through “48rpm.”

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the LESLIE Select Touch Button once. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the PAGE "▸" or the PAGE "◂" Select Touch Button to select between Horn and Bass Rotors.

Use the VALUE "▴" Select Touch Button to increase the number setting.

Use the VALUE "▾" Select Touch Button to decrease the number setting.

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.

This data can be included as part of a Leslie Preset, then the Leslie Preset can be stored to a Preset. To see a total listing of all Leslie Parameters, see the Leslie Parameter List.

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

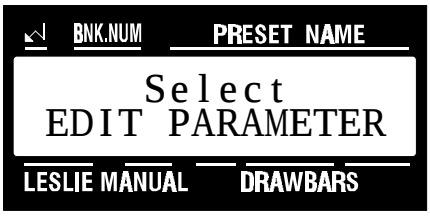
♦ Leslie Fast Speed

This Advanced Feature allows you to set the rate for the Fast Speed of the digital Leslie. You can select from “375rpm” through “435rpm” as well as “0.”

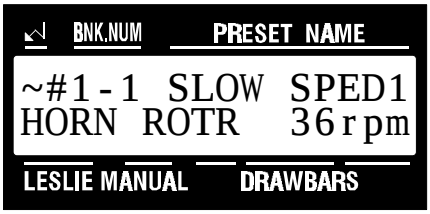
NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

TRY THIS:

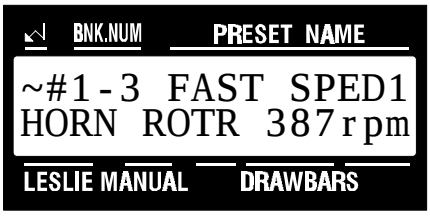
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the LESLIE Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button two times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the PAGE "▸" or the PAGE "◂" Select Touch Button to select between Horn and Bass Rotors.

Use the VALUE "▴" Select Touch Button to increase the number setting.

Use the VALUE "▾" Select Touch Button to decrease the number setting.

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.

This data can be included as part of a Leslie Preset, then the Leslie Preset can be stored to a Preset. To see a total listing of all Leslie Parameters, see the Leslie Parameter List.

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

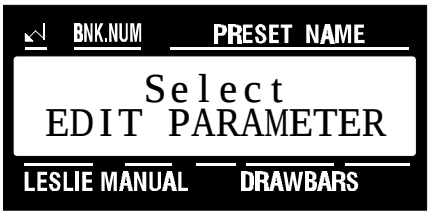
♦ Leslie Rise Time

This Advanced Feature allows you to set the rate for the Rise Time (the amount of time for the rotors to speed up from Off or Slow to Fast) of the digital Leslie.You can select from 0.2 through 5.0 sec. for the Horn Rotor and from 0.5 through 12.5 sec. for the Bass Rotor.

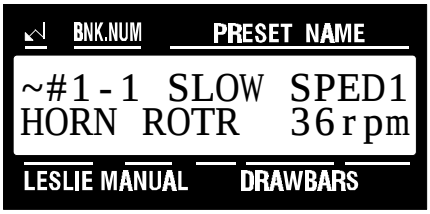
NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

TRY THIS:

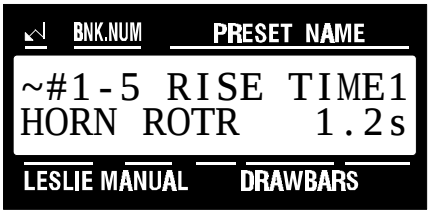
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the LESLIE Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button four times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the PAGE "▸" or the PAGE "◂" Select Touch Button to select between Horn and Bass Rotors.

Use the VALUE "▴" Select Touch Button to increase the number setting.

Use the VALUE "▾" Select Touch Button to decrease the number setting.

This data can be included as part of a Leslie Preset, then the Leslie Preset can be stored to a Preset. To see a total listing of all Leslie Parameters, see the Leslie Parameter List.

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

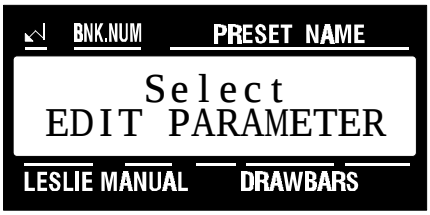
♦ Leslie Fall Time

This Advanced Feature allows you to set the rate for the Fall Time (the amount of time for the rotors to slow down from Fast to Slow) of the digital Leslie.You can select from 0.2 through 5.0 sec. for the Horn Rotor and from 0.5 through 12.5 sec. for the Bass Rotor.

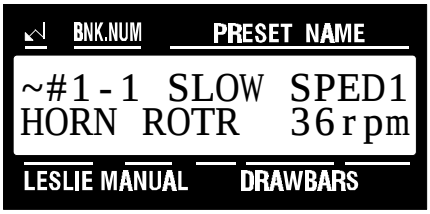
NOTE: This Advanced Features DOES NOT affect a connected external Leslie Speaker cabinet.

TRY THIS:

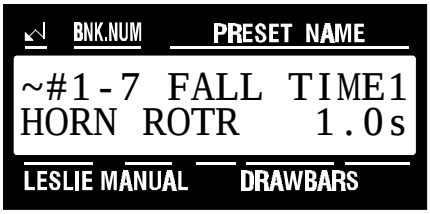
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the LESLIE Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button six times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the PAGE "▸" or the PAGE "◂" Select Touch Button to select between Horn and Bass Rotors.

Use the VALUE "▴" Select Touch Button to increase the number setting.

Use the VALUE "▾" Select Touch Button to decrease the number setting.

This data can be included as part of a Leslie Preset, then the Leslie Preset can be stored to a Preset. To see a total listing of all Leslie Parameters, see the Leslie Parameter List.

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

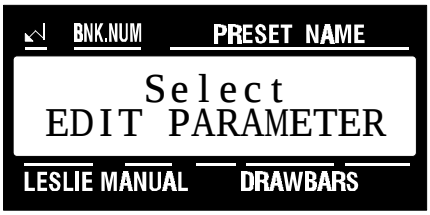
♦ Leslie Brake Time

This Advanced Feature allows you to select the settings for the digital Leslie Brake Time (the time required for the rotors to slow down to a dead stop) that you prefer.You can select from 0.2 through 5.0 sec. for the Horn Rotor and from 0.5 through 12.5 sec. for the Bass Rotor.

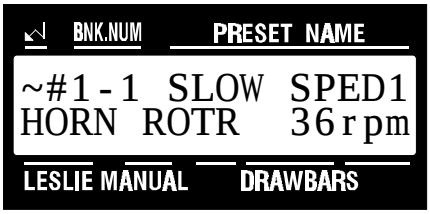
NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

TRY THIS:

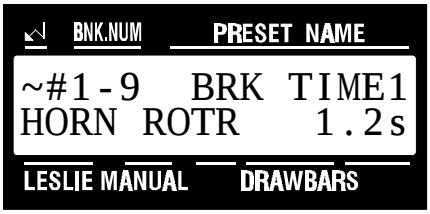
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the LESLIE Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button eight times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the PAGE "▸" or the PAGE "◂" Select Touch Button to select between Horn and Bass Rotors.

Use the VALUE "▴" Select Touch Button to increase the number setting.

Use the VALUE "▾" Select Touch Button to decrease the number setting.

This data can be included as part of a Leslie Preset, then the Leslie Preset can be stored to a Preset. To see a total listing of all Leslie Parameters, see the Leslie Parameter List.

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

♦ Leslie Volume Balance

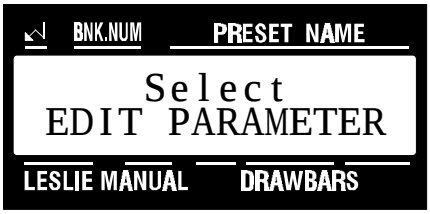
This Advanced Feature allows you to adjust the balance between the Horn and Bass Rotors of the digital Leslie.You can select from 0db through -12db for both Horn and Bass Rotors.

NOTE: A “decibel” is a unit of measurement for the loudness of sound waves, and is usually abbreviated, “db.”

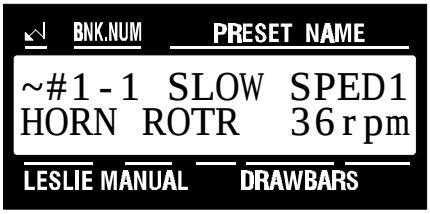
NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

TRY THIS:

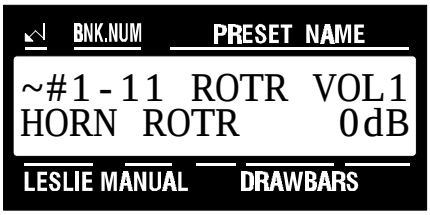
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the LESLIE Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button ten times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the PAGE "▸" or the PAGE "◂" Select Touch Button to select between Horn and Bass Rotors.

Use the VALUE "▴" Select Touch Button to increase the number setting.

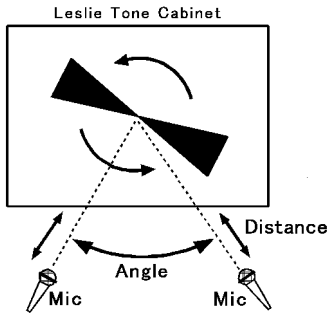
Use the VALUE "▾" Select Touch Button to decrease the number setting.

This data can be included as part of a Leslie Preset, then the Leslie Preset can be stored to a Preset. To see a total listing of all Leslie Parameters, see the Leslie Parameter List.

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

♦ Leslie Microphone Setting

When a Leslie Speaker cabinet or cabinets are 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) (see the diagram below).

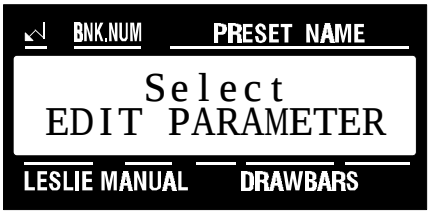


This Advanced Feature allows you to simulate various microphone distances and angles using the built-in digital Leslie effect.

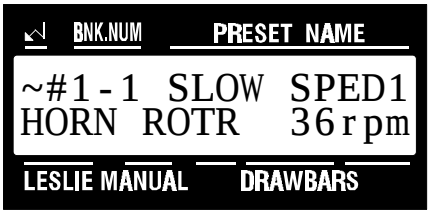
NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

TRY THIS:

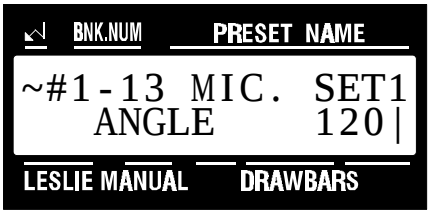
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the LESLIE Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button twelve times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the PAGE "▸" or the PAGE "◂" Select Touch Button to select "ANGLE" or "DISTANCE."

Use the VALUE "▴" Select Touch Button to increase the number setting.

Use the VALUE "▾" Select Touch Button to decrease the number setting.

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

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

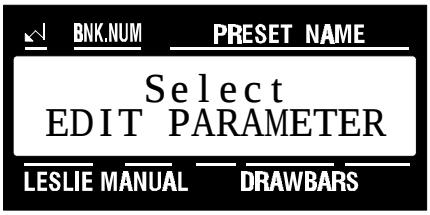
♦ Leslie Percussion Setting

This Advanced Feature allows you to select whether you want the Percussion tones to receive the Leslie effect. In the "ON" position, the Percussion tones receive Leslie animation. In the "OFF" position, the Percussion tones are "dry"; that is, they do not receive animation from the Leslie.

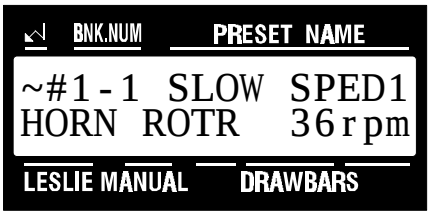
NOTE: This Advanced Feature DOES NOT affect a connected external Leslie Speaker cabinet.

TRY THIS:

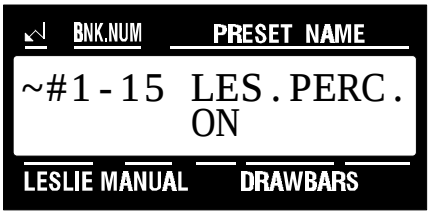
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the LESLIE Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button fourteen times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn this feature "ON" or "OFF."

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

Using a Leslie Speaker Cabinet

Your Hammond XB-1 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 (Chorale), 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 (Tremolo) 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.

There are two ways to control the speed of the rotors of a connected Leslie Speaker cabinet:

1. Using the Leslie Touch Buttons. This is explained on page 35.

2. Using a Foot Switch. This is explained starting on page 95.

NOTE: If more than one of the above options is selected, the rotors of the connected Leslie Speaker cabinet will respond to whichever control is in use.

Reverb

Using Reverb adds the beautiful concert hall effect to all voices when you are playing. It counteracts the "deadening" effect of carpets, drapes or furniture in whatever acoustical environment you may be in.

Located to the right of the VOLUME Rotary Control is the REVERB Rotary Control. This Rotary Control allows you to control the total or maximum volume of digital Reverb. Turn this control to the right to increase the amount of Reverb, and to the left to decrease the amount of Reverb. Setting the REVERB Rotary Control to the center position (half way) or more will produce a moderate amount of reverberation.

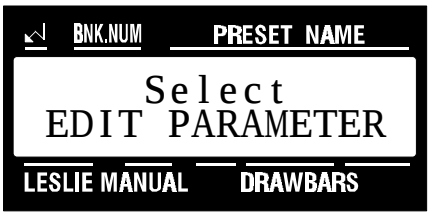


♦ Reverb Mode

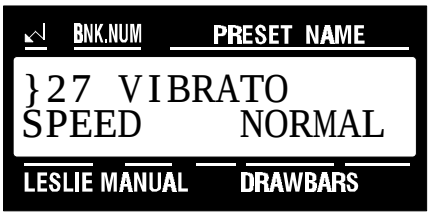
This Advanced Feature allows you to select from four different types of Reverb.You can select "ROOM," "LIVE," "HALL" or "CHURCH."

TRY THIS:

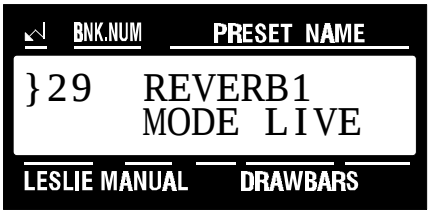
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button two times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the options.

Use the VALUE "▾" Select Touch Button to scroll down through the options.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

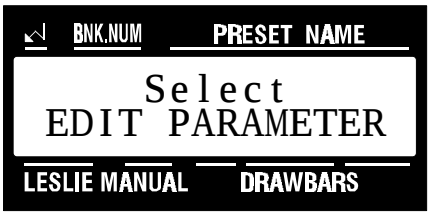
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ Reverb Level

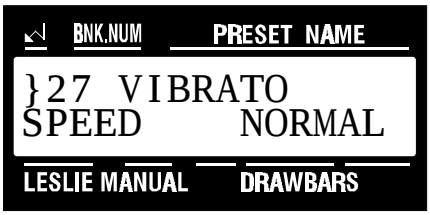
This Advanced Feature allows you to set the numeric level of the Reverb.You can select from “0" to “15.”

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button three times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the REVERB Rotary Control to make your numeric setting, or:

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

Overdrive

Overdrive 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. This Advanced Feature allows you to adjust the amount of Overdrive that you prefer.

Located to the right of the REVERB Rotary Control is the OVERDRIVE Rotary Control. This Rotary Control allows you to control the total or maximum volume of Overdrive. Turn this control to the right to increase the amount of Overdrive, and to the left to decrease the amount of Overdrive.

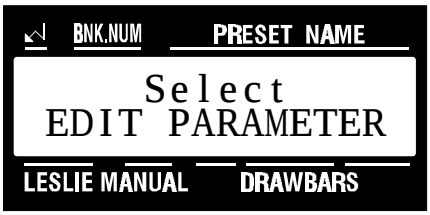


♦ Overdrive Level

This Advanced Feature allows you to set the numeric level of the Overdrive.You can select from “0" to “15.”

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button four times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the OVERDRIVE Rotary Control to make your numeric setting, or:

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

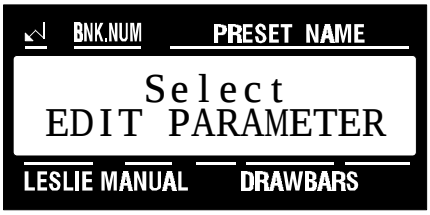
NOTE: You can exit by touching the EDIT Select Touch Button.

Treble Level

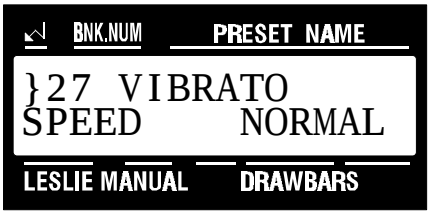
This Advanced Feature allows you to adjust the overall brightness of the sound from the XB-1.You can select from “1" through “6.” The default Setting is “5".

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button five times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the options.

Use the VALUE "▾" Select Touch Button to scroll down through the options.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

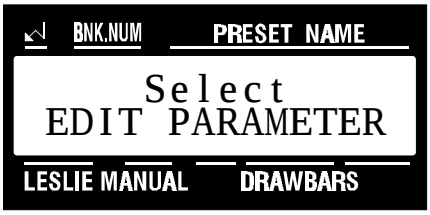
NOTE: You can exit by touching the EDIT Select Touch Button.

Oscillator Phase Control

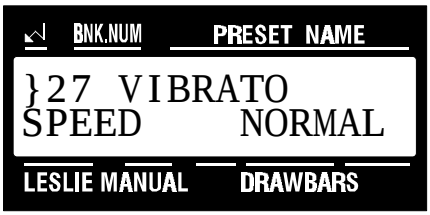
This Advanced Feature allows you to subtly adjust the sound of the XB-1 Drawbar sounds by altering the "phase" relationship between notes played on the different manual settings. When this setting is "ON," all notes played will automatically be "in phase" with each other regardless of when the keys are played. When this setting is "OFF," the interaction of the phases of each note will depend on when notes are pressed.

TRY THIS:

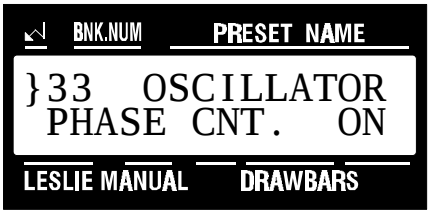
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the PERC./ANIMATION Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button six times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn this function "ON" or "OFF."

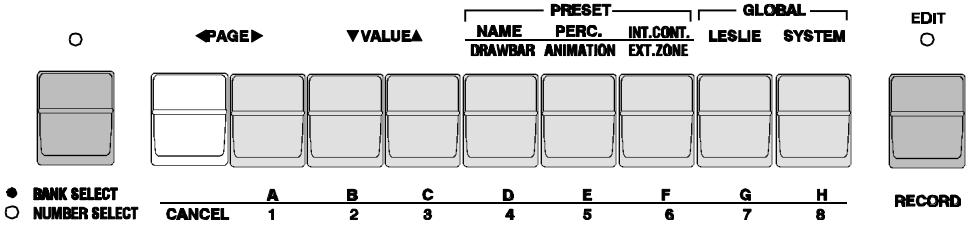
NOTE: This is a subtle effect and may require careful listening to detect the difference between the settings.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

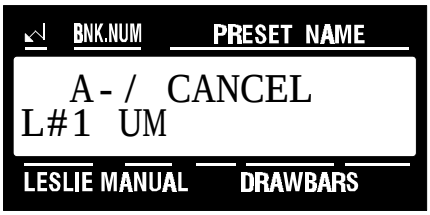
PRESETS

The registrations contained in the Presets are pre-programmed at the factory but can be programmed with your own registrations. These factory Presets can be restored by doing the RESET ALL procedure.



CANCEL Mode

Touch the white CANCEL Touch Button. The Information Center Display should look similar to this:



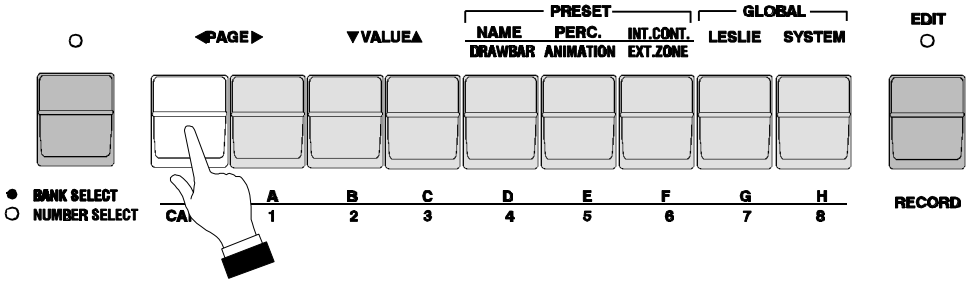
The XB-1 is now in CANCEL Mode. You now have control over Drawbar settings, Touch Button settings such as Vibrato and Percussion, and Advanced Feature settings.

Preset Banks

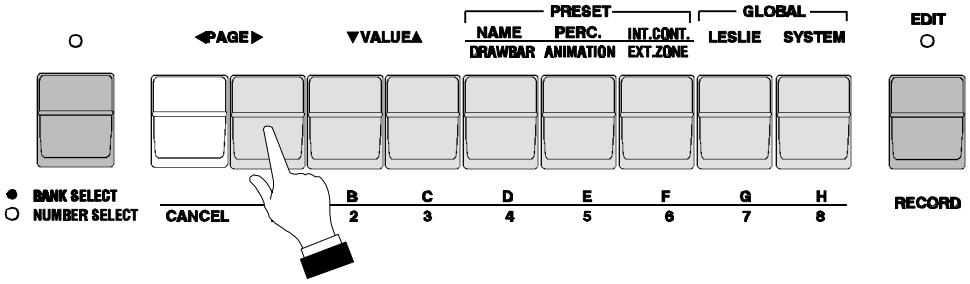
You can select from among 8 different Preset Banks. This allows you to control 64 (8 × 8) Presets using the same eight Preset Touch Buttons.

TRY THIS:

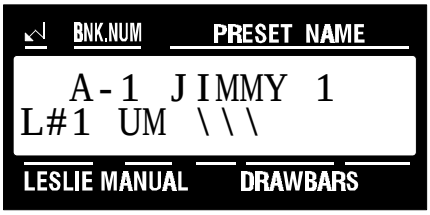
1. Touch the white CANCEL Touch Button to make sure you are in CANCEL Mode.



2. Touch the first gray Touch Button in the PRESET Section.



The Information Center Display should look like this:



Notice the legend, “A-1" in the top left of the Information Center Display. This tells you that the selected bank is “A” and that the Preset number is “1".

Now, notice the Touch Button marked “BANK SELECT/NUMBER SELECT.” When the LED for this Select Touch Button is “OFF,” touching different Preset Touch Buttons will call up different Preset numbers within a Bank. When the LED for this Select touch Button is “ON,” touching different Preset Touch Buttons will select different Banks. The Preset Number will remain constant, but the Bank number will change (“A-1,” “B-1,” “C-1,” etc.)

TRY THIS:

1. Touch the BANK SELECT/NUMBER SELECT Touch Button “ON.” The red LED will light.

2. Touch different Preset Touch Buttons and note how the bank number changes.

Refer to the legend printed below the Preset Touch Buttons for the Preset and Bank numbers. When the LED above the BANK SELECT/NUMBER SELECT Touch Button is “ON,” the top row of numbers has priority. When the LED above the BANK SELECT/NUMBER SELECT Touch Button is “OFF,” the bottom row of letters has priority.

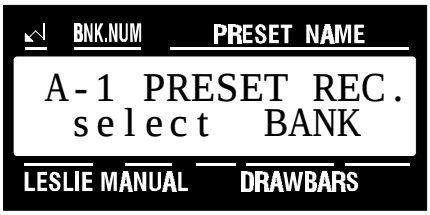
Recording Your Own Presets

TRY THIS:

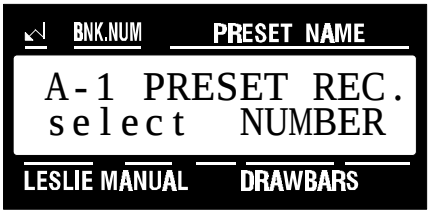
1. Select a Preset using the Preset Touch Buttons.

2. Make whatever changes you wish using the Drawbars, Percussion or Preset Parameters.

3. Touch and Hold the EDIT/RECORD Touch Button. The red LED will start flashing and the Information Center Display will look similar to this:



4. Touch one of the Preset Touch Buttons to select the Bank . The Information Center Display should now look like this:



5. Touch the Preset Select Touch Button that represents the number you want to save to. The Information Center Display will flash, “Data Recording,” then return to Play Mode. Your new preset is now saved.

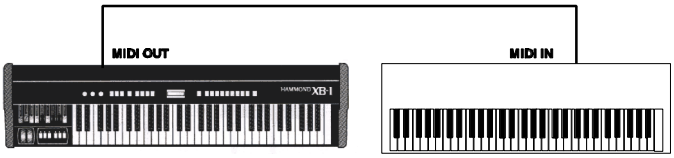
MIDI

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

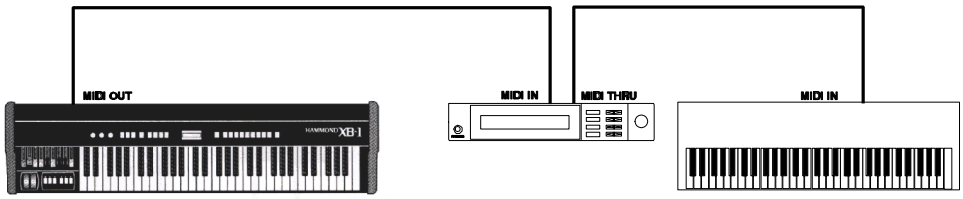
In order to allow communication to take place, all MIDI-equipped instruments have at least two MIDI jacks - MIDI IN and MIDI OUT. MIDI IN is for receiving MIDI data from another instrument, while MIDI OUT is for sending MIDI data out to another instrument.



In the example above, the keyboard of the sending or transmitting instrument (MIDI OUT) is 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. 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 and is the most basic MIDI hookup.)

♦ MIDI THRU

The MIDI THRU function 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 MIDI IN, where it can be passed on to another instrument via MIDI THRU. The picture shown below shows how this is done.



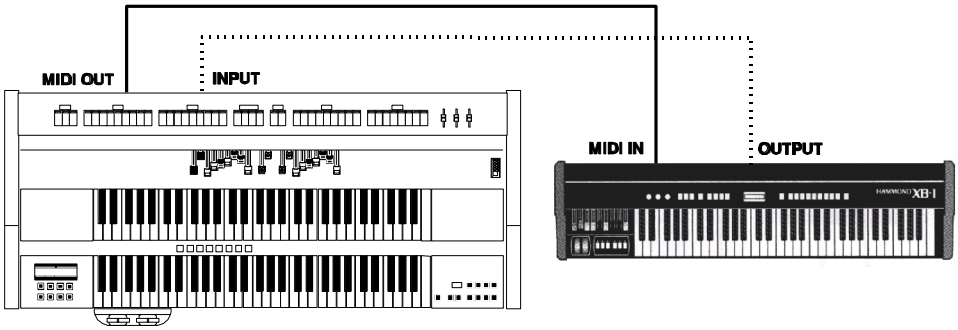
In the above example, the MIDI data goes from the sending instrument (MIDI OUT) to another instrument (MIDI IN), which receives the data and passes it along to a third instrument via the MIDI THRU connection.

Typical Applications

♦ Example 1: The XB-1 connected to an amplifier.

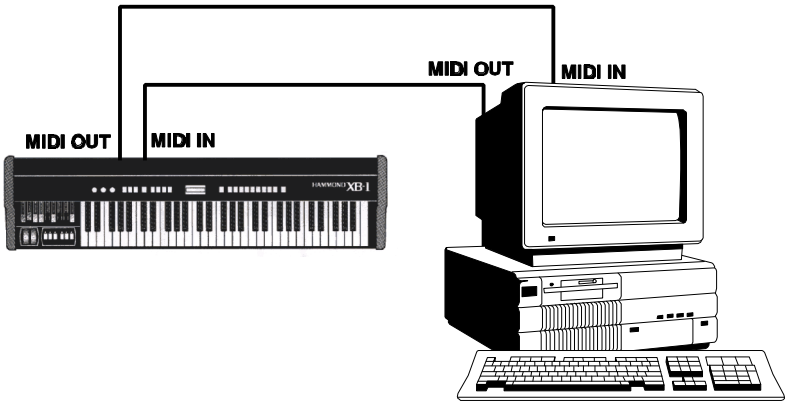


♦ Example 2: The XB-1 sounding through a self-contained keyboard instrument.



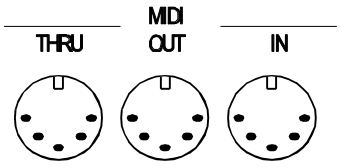
If you connect the audio output from the XB-1 to the INPUT jack(s) of an instrument with self-contained speakers, such as an organ or electronic piano,, you will be able to hear the XB-1 through the speaker system of the other instrument.

♦ Example 3: 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. You will also need a MIDI interface and MIDI software for your computer.

Your Hammond XB-1 has MIDI IN, MIDI OUT and MIDI THRU jacks. These are located on the back right hand side of the instrument.



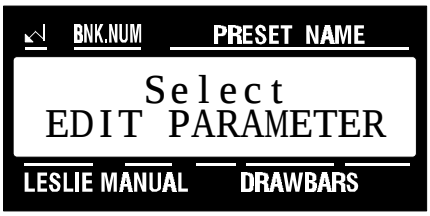
The following pages will describe the MIDI Advanced Features of your Hammond XB-1.

MIDI Channels

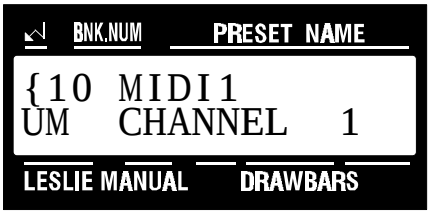
This Advanced Feature allows you to assign MIDI channels for the following: (1) Upper Manual ("UM"), (2) Lower Manual ("LM") and (3) Pedal Keyboard ("PK").You can select MIDI Channels from 1 through 16 as well as “OFF” (no MIDI transmission or reception) for all three Manuals.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3: Now select the option you wish by doing the following:

Use the PAGE "▸" Select Touch Button to scroll forward through the manual selections ("UM" or Upper Manual, "LM" or Lower Manual, and "PK" or Pedal Keyboard).

Use the PAGE "◂" Select Touch Button to scroll backward through the manual selections.

Use the VALUE "▴" Select Touch Button to scroll up through the MIDI Channel numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the MIDI Channel numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

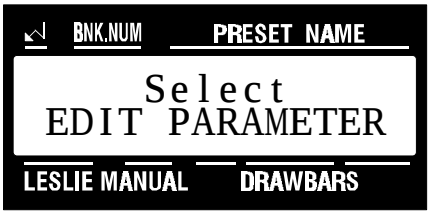
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Expression Control

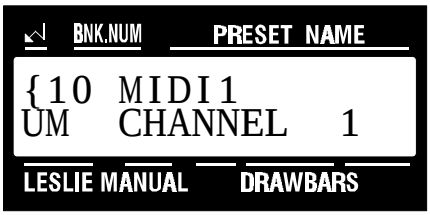
This Advanced Feature allows you to control how Expression data (Controller #11) is sent from the XB-1. The default setting is "INDIV," meaning that Expression data is received individually for Upper, Lower and Pedal on whatever MIDI Channel each is set for. However, on personal keyboards and home organs by certain manufacturers, Expression data is transmitted on one MIDI Channel only. By using this parameter, you can select on which MIDI channel the XB-1 will receive. In this way, all sounds from the XB-1 can be under expression while receiving Expression data on only one MIDI Channel. (NOTE: If you are also using the Keyboard Split function of the XB-1, the MIDI channel setting for the Expression Control parameter must be the same as the MIDI channel setting for the Upper Manual in order for the entire instrument to receive expression.)

TRY THIS:

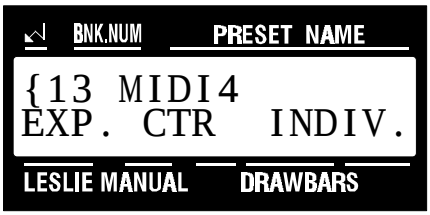
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button three times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the choices.

Use the VALUE "▾" Select Touch Button to scroll down through the choices.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

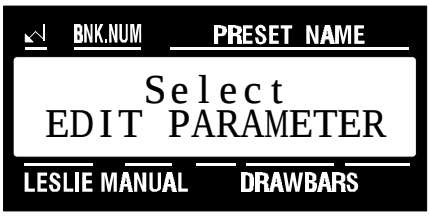
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Omni Mode

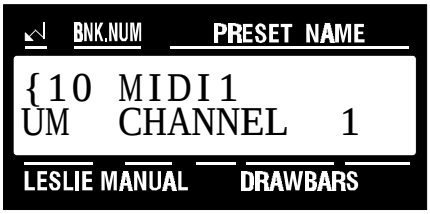
This Advanced Feature allows you to turn "ON" or "OFF" Omni Mode. When Omni Mode is "OFF," the XB-1 will recognize MIDI data being sent to it on MIDI Channel 1. When Omni Mode is "ON," the XB-1 recognizes MIDI data being sent to it from any MIDI Channel.

TRY THIS:

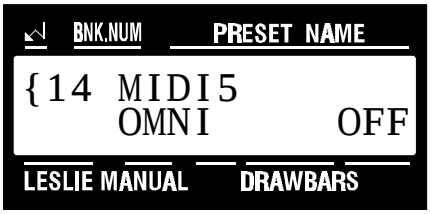
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button four times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn OMNI Mode "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

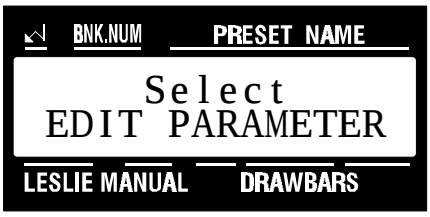
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Local Control

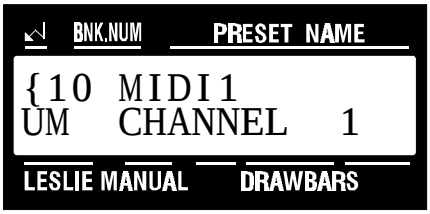
This Advanced Feature allows you to turn Local Control "ON" or "OFF." When Local Control is "ON," the XB-1 will play both its internal sounds and the sounds from a connected MIDI device. When Local Control is "OFF," the XB-1 will play only the sounds from a connected MIDI device and the XB-1's internal sounds are silenced.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button five times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn Local Control "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

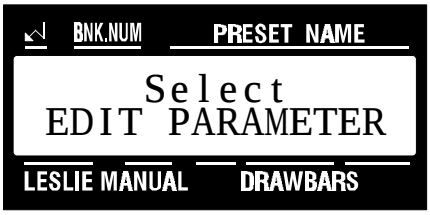
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI NRPN

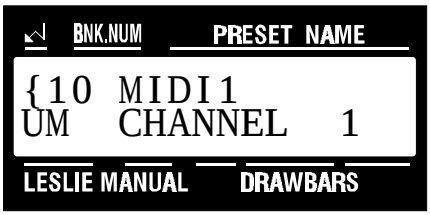
This Advanced Feature allows you to turn "ON" or "OFF" NRPN. "NRPN," or Non-Registered Parameter Number, is an expanded control change message, each function of which is implemented differently by different manufacturers. The Hammond XB-1 uses NRPN to allow you to control such parameters as Percussion 2nd and 3rd Harmonic ON/OFF, Vibrato or Chorus ON/OFF, Leslie ON/OFF and Leslie Slow/Fast.

TRY THIS:

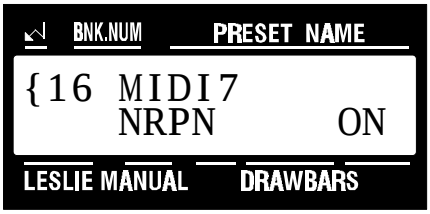
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button six times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn NRPN "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

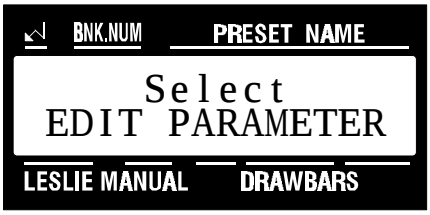
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Foot Switch Controller Number

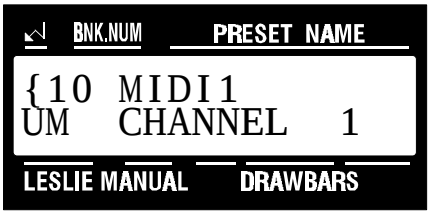
This Advanced Feature allows you to select the Controller number for the Foot Switch. The default setting is “64" (Damper).

TRY THIS:

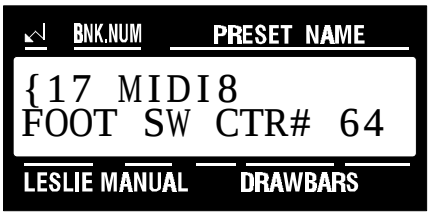
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button seven times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

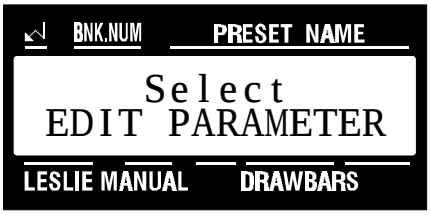
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Modulation Wheel Controller Number

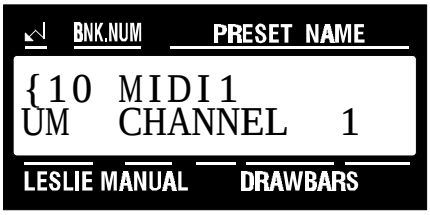
This Advanced Feature allows you to select the Controller number for the Modulation Wheel. The default setting is “1" (Vibrato).

TRY THIS:

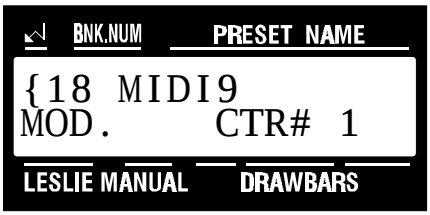
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button eight times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

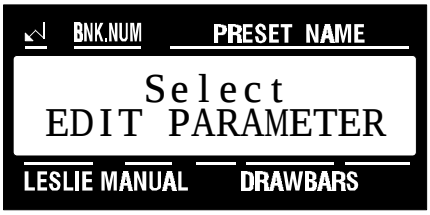
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Expression Pedal Controller Number

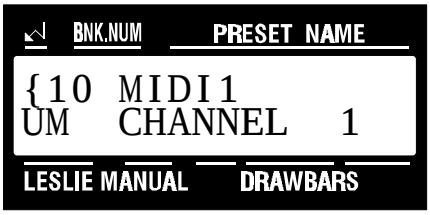
This Advanced Feature allows you to select the Controller number for a connected Expression Pedal. The default setting is "7" (Volume).

TRY THIS:

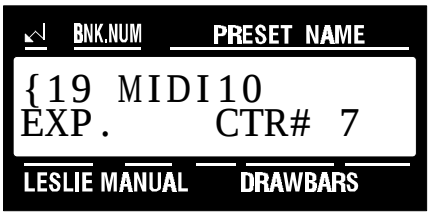
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button nine times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

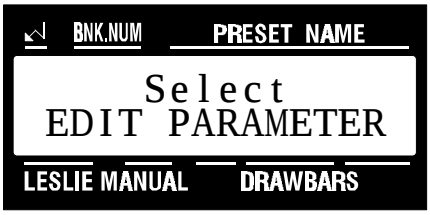
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Leslie SLOW/FAST Controller Number

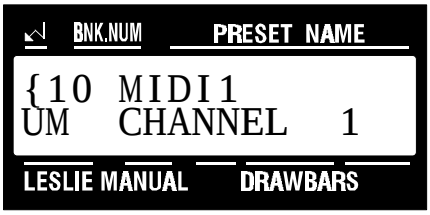
This Advanced Feature allows you to select the Controller number for the Leslie SLOW/FAST function. The default setting is "92."

TRY THIS:

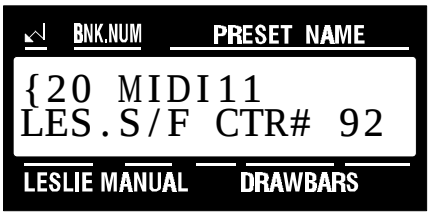
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button ten times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

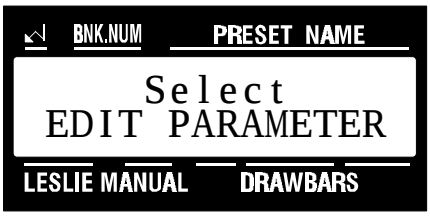
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Program Change

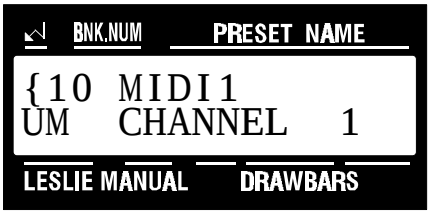
This Advanced Feature allows you to turn the MIDI Program Number Gate "ON" or "OFF." When this switch is "ON," incoming Program changes made during performance are recognized by the XB-1. When this switch is "OFF," the XB-1 ignores all incoming Program change messages. The default setting is "ON."

TRY THIS:

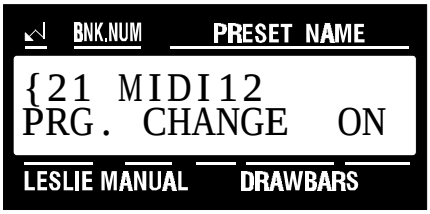
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button eleven times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn Program Change "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

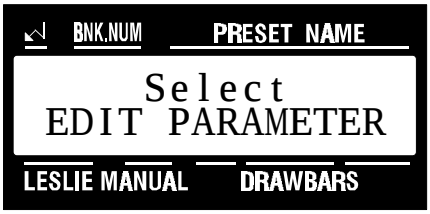
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Drawbar Change

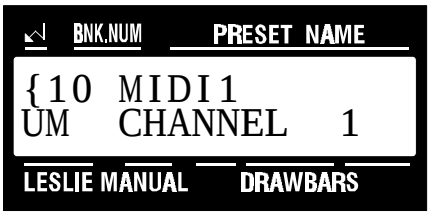
This Advanced Feature allows you to turn the MIDI Drawbar Change Gate "ON" or "OFF." When this switch is "ON," incoming Drawbar changes made during performance (Controllers #50, 51 & 52) are recognized by the XB-1. (These are treated separately from the other Controllers such as Volume, Modulation, Expression, etc. See the next page for information about MIDI Control Change. See the MIDI Controller list for a complete listing of Controllers.) When this switch is "OFF," the XB-1 ignores incoming Drawbar Changes. The default setting is "ON."

TRY THIS:

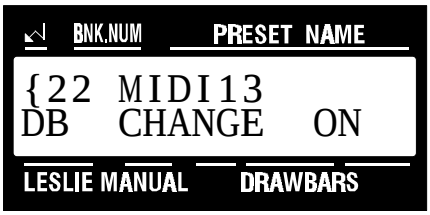
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button twelve times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn Drawbar Change "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

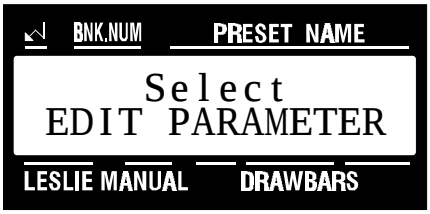
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Control Change

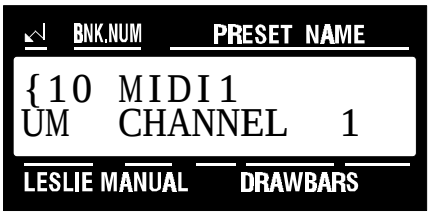
This Advanced Feature allows you to turn the MIDI Control Change Gate "ON" or "OFF." When this switch is "ON," incoming Control changes made during performance, such as Volume, Modulation, Expression, etc., are recognized by the XB-1. When this switch is "OFF," the XB-1 ignores all incoming Control change messages other than Drawbar changes. (See the previous page for information about MIDI Drawbar Change. See the MIDI Controller List for a complete listing of Controllers.) The default setting is "ON."

TRY THIS:

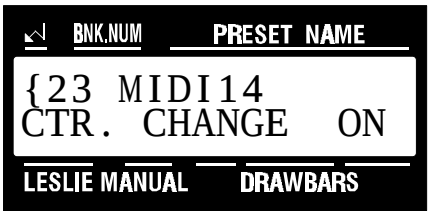
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button thirteen times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn Control Change "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

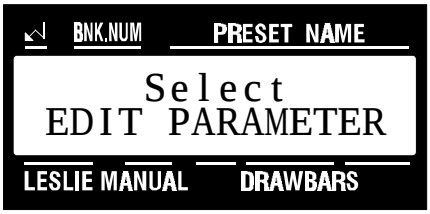
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Transmit Bender Data ON / OFF

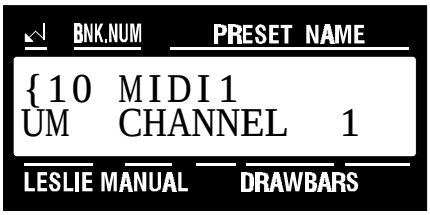
This Advanced Feature allows you to select whether you want a connected MIDI instrument to receive Pitch Bend data sent from the XB-1. When this switch is "ON," Pitch Bend data will be sent from the XB-1 when the Pitch Bend Wheel is moved. When this switch is "OFF," the XB-1's Pitch Bend Wheel can still be used to bend the internal sounds of the XB-1; however, Pitch Bend data will be transmitted through the MIDI OUT connector to a connected MIDI instrument. The default setting is "ON."

TRY THIS:

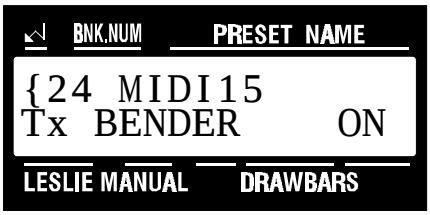
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button fourteen times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn this feature "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

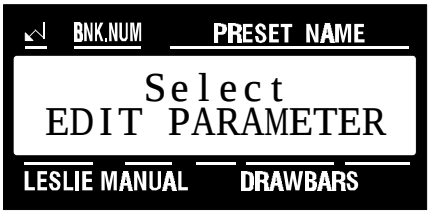
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Transmit Modulation Wheel Data ON / OFF

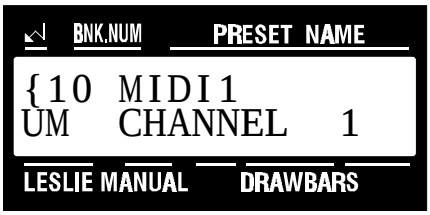
This Advanced Feature allows you to select whether you want a connected MIDI instrument to receive Modulation data sent from the XB-1. When this switch is "ON," Modulation or other MIDI data will be sent from the XB-1 when the Modulation Wheel is moved. When this switch is "OFF," the XB-1's Modulation Wheel can still be used to control internal functions of the XB-1; however, no MIDI data will be transmitted through the MIDI OUT connector to a connected MIDI instrument. The default setting is "ON."

TRY THIS:

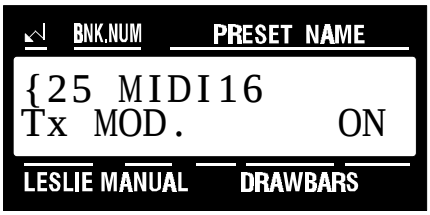
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button fifteen times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn this feature "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

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

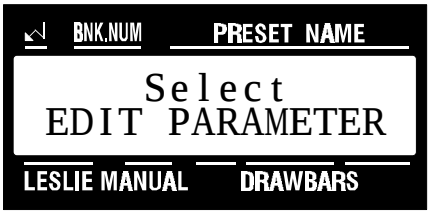
MIDI Receive Breath Controller Data ON / OFF

Your Hammond XB-1 can receive Breath Control (Controller #2). This is so that the XB-1 can be played using a MIDI wind controller. This Advanced Feature allows you to select whether you want the XB-1 to receive Breath Control. The default setting is "OFF."

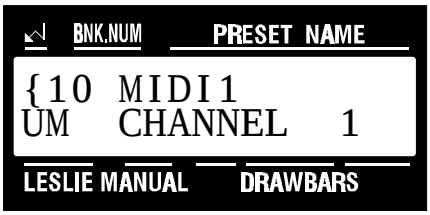
NOTE: The XB-1 treats incoming Breath Control data as Volume data.

TRY THIS:

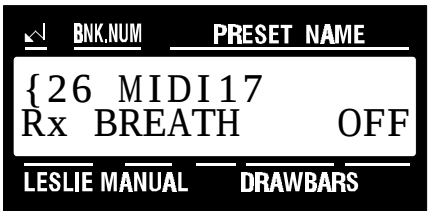
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button sixteen times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn this feature "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

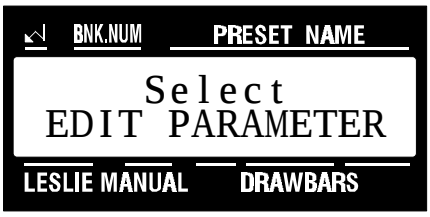
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Receive After Touch Data ON / OFF

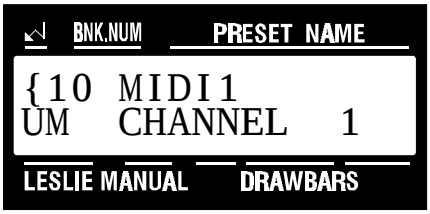
This Advanced Feature allows you to select whether you want the XB-1 to receive After Touch data, and how you want the XB-1 to respond to After Touch data. You may select "OFF," Leslie Slow/Fast control, Overdrive or Pitch Bend. The default setting is "OFF."

TRY THIS:

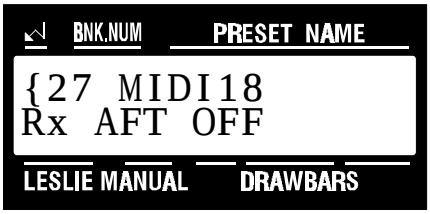
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button seventeen times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the options.

Use the VALUE "▾" Select Touch Button to scroll down through the options.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

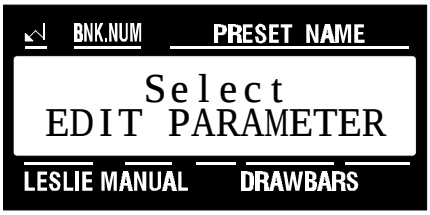
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Maximum Volume

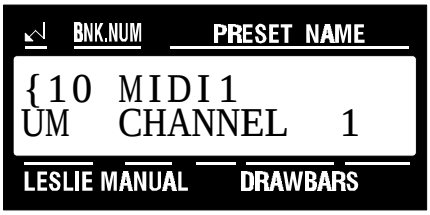
This Advanced Feature allows you to assign the maximum amount of MIDI Volume. The default setting is "127."

TRY THIS:

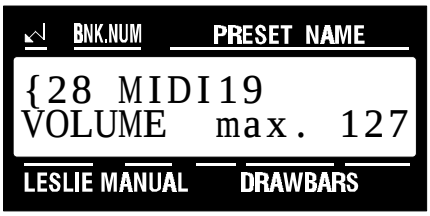
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button eighteen times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

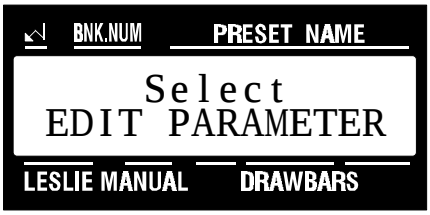
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Minimum Volume

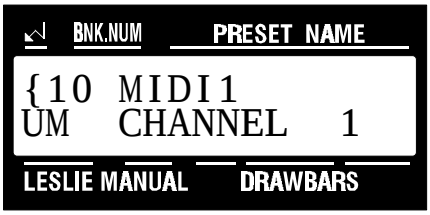
This Advanced Feature allows you to assign the minimum amount of MIDI Volume. The default setting is "40."

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button nineteen times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the MIDI Channel numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the MIDI Channel numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

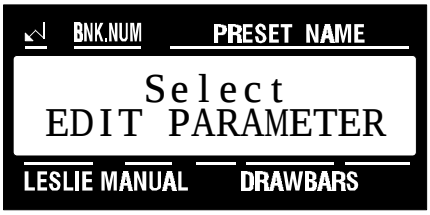
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI Receive Transpose ON / OFF

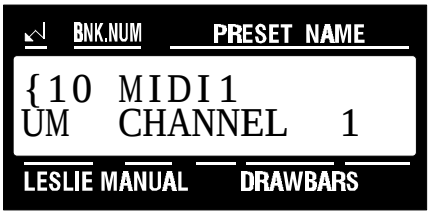
This Advanced Feature allows you to transpose incoming MIDI Note data.You can transpose the data up or down 6 half-steps (-6 ~ +6). The default setting is "0".

TRY THIS:

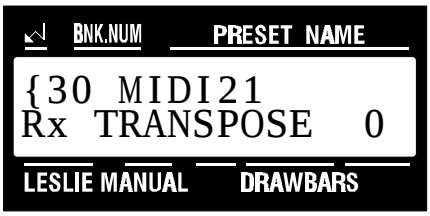
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button twenty times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to raise the pitch by semitones.

Use the VALUE "▾" Select Touch Button to lower the pitch by semitones.

NOTE: This setting DOES NOT affect the pitch of the XB-1 Drawbar or Percussion tones. For information on how to transpose the XB-1 itself, see page 94

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

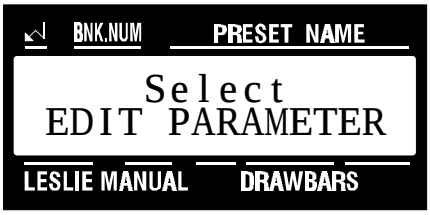
NOTE: You can exit by touching the EDIT Select Touch Button.

MIDI SOFT THRU ON/OFF

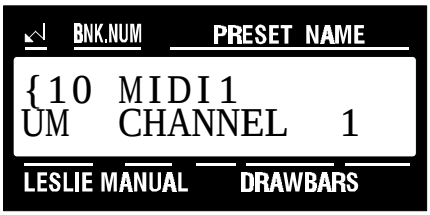
Some MIDI sequencers are capable of mixing MIDI IN information with MIDI OUT information. This is called SOFT THRU and can be useful if you are recording sequences and want to listen to previously recorded tracks as well as a track you are currently recording. Your Hammond XB-1 has MIDI SOFT THRU which can be turned "ON" or "OFF" using this Advanced Feature.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button two times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button twenty-one times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▾" or the VALUE "▴" Select Touch Button to turn this function "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

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

External Zones

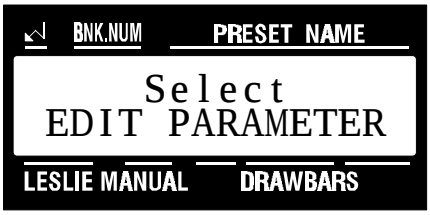
In addition to Upper and Lower Manuals, the XB-1 has two additional "manuals" called External Zones. These can be assigned MIDI Channel numbers, Program Numbers, "low" and "high" limits and other MIDI data. These Zones allow you to control additional sounds from the XB-1 keyboard, thereby giving your XB-1 the ability to function as a MIDI Master Controller for a sequencer, sound modules, or whatever you wish. For example, you could have Piano on one part of the keyboard, Strings playing from another part of the keyboard, Wood Bass from another area of the keyboard and Trumpet from still another portion of the keyboard.

♦ External Zone MIDI Channels

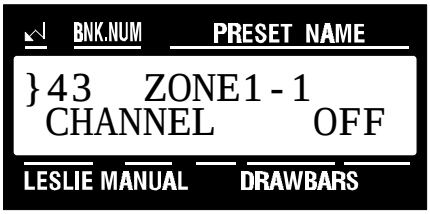
This Advanced Feature allows you to assign MIDI channels for the External Zones.You can select MIDI Channels from 1 through 16 as well as "OFF" (no MIDI transmission or reception) for both External Zones.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



3: Now select the option you wish by doing the following:

Use the INT.CONT./EXT ZONE Select Touch Button to select EXT. ZONE 1 or EXT. ZONE 2.

NOTE: When you touch the INT.CONT./EXT.ZONE Select Touch Button repeatedly, you are actually toggling between the INT.CON T. and EXT.ZONE Menus. As a result, you will also see the SPLIT Menu display along with EXT.ZONE 1 and EXT.ZONE 2.

Use the VALUE "▲" Select Touch Button to scroll up through the MIDI Channel numbers.

Use the VALUE "▼" Select Touch Button to scroll down through the MIDI Channel numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

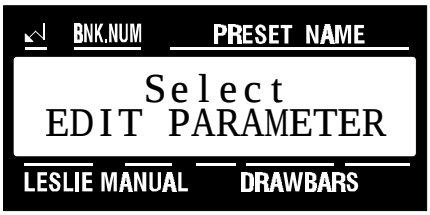
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ External Zone Program Number

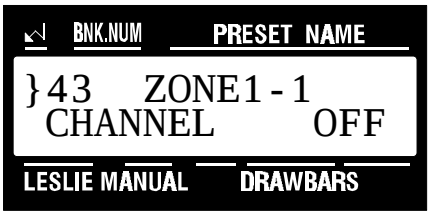
This Advanced Feature allows you to set the Program Numbers for both of the External Zones.

TRY THIS:

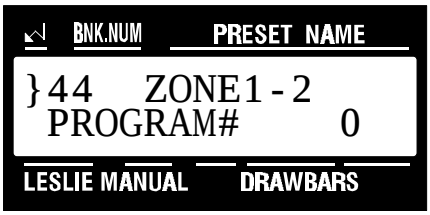
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE "▸" Select Touch Button once. The Information Center Display should look like this:



3: Now select the option you wish by doing the following:

Use the INT.CONT./EXT ZONE Select Touch Button to select EXT. ZONE 1 or EXT. ZONE 2.

NOTE: When you touch the INT.CONT./EXT.ZONE Select Touch Button repeatedly, you are actually toggling between the INT.CON T. and EXT.ZONE Menus. As a result, you will also see the SPLIT Menu display along with EXT.ZONE 1 and EXT.ZONE 2.

Use the VALUE "▴" Select Touch Button to scroll up through the choices.

Use the VALUE "▾" Select Touch Button to scroll down through the choices.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

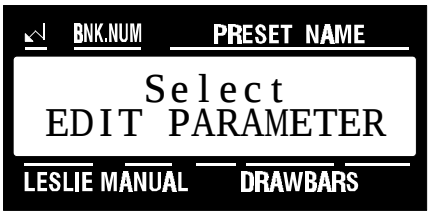
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ External Zone Program Bank

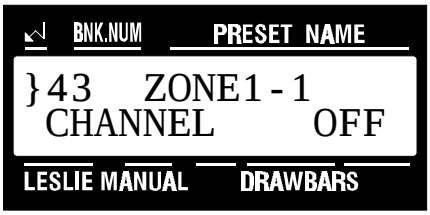
This Advanced Feature allows you to select different Bank numbers for voices.You can select the “MSB” (Most Significant Bit) and the “LSB” (Least Significant Bit) for each Bank selection. This is so that you have access to the great number of voices available on modern GS-compatible sound modules. Please refer to the documentation for your module to determine the Bank numbers for specific voices.

TRY THIS:

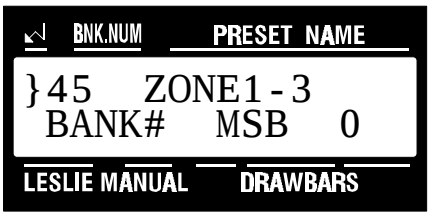
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE ”▸” Select Touch Button two times. The Information Center Display should look like this:



4: Now select the option you wish by doing the following:

Use the INT.CONT./EXT ZONE Select Touch Button to select EXT. ZONE 1 or EXT. ZONE 2.

NOTE: When you touch the INT.CONT./EXT.ZONE Select Touch Button repeatedly, you are actually toggling between the INT.CON T. and EXT.ZONE Menus. As a result, you will also see the SPLIT Menu display along with EXT.ZONE 1 and EXT.ZONE 2.

Use the PAGE “▴” and the PAGE “▾” Select Touch Buttons to select “MSB” or “LSB.”

Use the VALUE "▴" Select Touch Button to scroll up through the choices.

Use the VALUE "▾" Select Touch Button to scroll down through the choices.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

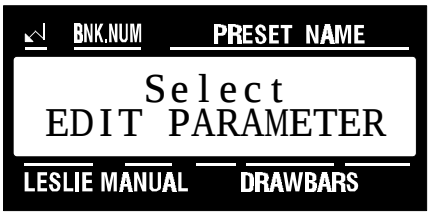
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ External Zone Key Map

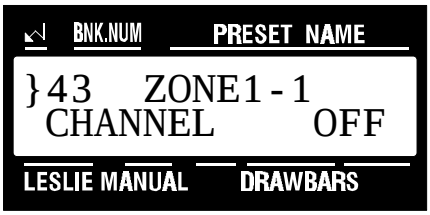
This Advanced Feature allows you to set the Low and High note ranges for the External Zones.

TRY THIS:

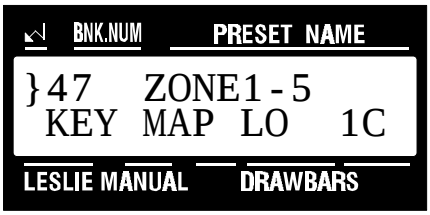
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE "▸" Select Touch Button four times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the INT.CONT./EXT ZONE Select Touch Button to select EXT. ZONE 1 or EXT. ZONE 2.

NOTE: When you touch the INT.CONT./EXT.ZONE Select Touch Button repeatedly, you are actually toggling between the INT.CON T. and EXT.ZONE Menus. As a result, you will also see the SPLIT Menu display along with EXT.ZONE 1 and EXT.ZONE 2.

Use the PAGE "▸" and "◂" Select Touch Buttons to select either "LO" (the lower limit of the zone) or "HI" (the upper limit of the zone).

Use the VALUE "▴" Select Touch Button to scroll up through the choices.

Use the VALUE "▾" Select Touch Button to scroll down through the choices.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

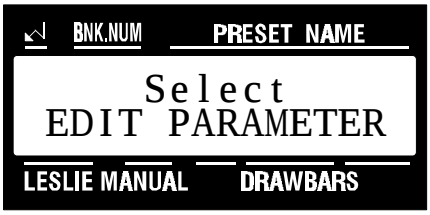
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ External Zone Key Octave

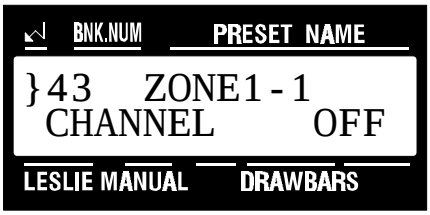
This Advanced Feature allows you to select the Octave range in which each External Zone will play. You may select from "-4" (down four octaves) to "+4" (up four octaves). The default setting is "0."

TRY THIS:

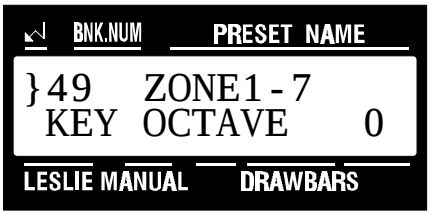
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE "▸" Select Touch Button six times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the INT.CONT./EXT ZONE Select Touch Button to select EXT. ZONE 1 or EXT. ZONE 2.

NOTE: When you touch the INT.CONT./EXT.ZONE Select Touch Button repeatedly, you are actually toggling between the INT.CON T. and EXT.ZONE Menus. As a result, you will also see the SPLIT Menu display along with EXT.ZONE 1 and EXT.ZONE 2.

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

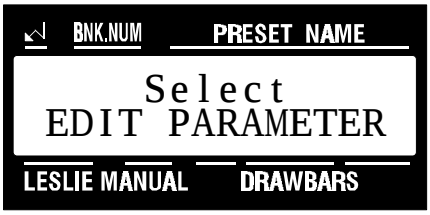
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ External Zone Maximum Volume

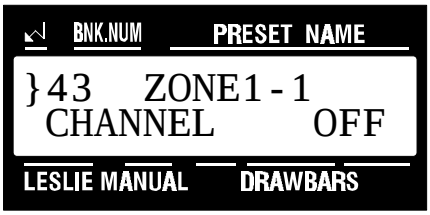
This Advanced Feature allows you to set the maximum Volume for the External Zones. You may select from “64" to “127.” The default setting is “127.”

TRY THIS:

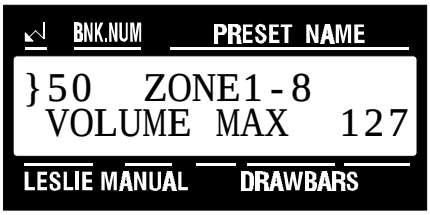
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE ”▸” Select Touch Button seven times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the INT.CONT./EXT ZONE Select Touch Button to select EXT. ZONE 1 or EXT. ZONE 2.

NOTE: When you touch the INT.CONT./EXT.ZONE Select Touch Button repeatedly, you are actually toggling between the INT.CON T. and EXT.ZONE Menus. As a result, you will also see the SPLIT Menu display along with EXT.ZONE 1 and EXT.ZONE 2.

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

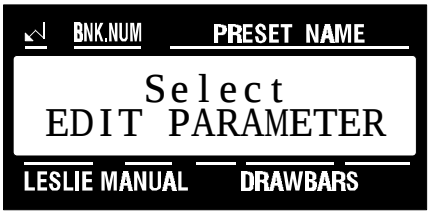
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ External Zone Minimum Volume

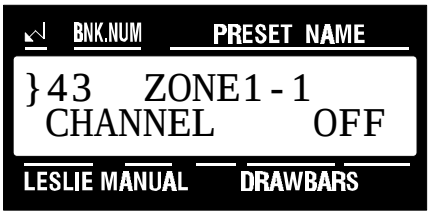
This Advanced Feature allows you to set the minimum Volume for the External Zones. You may select from “0" to “64.” The default setting is “0.”

TRY THIS:

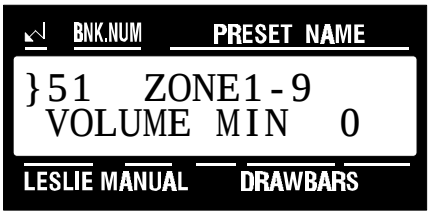
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE ”▸” Select Touch Button eight times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the INT.CONT./EXT ZONE Select Touch Button to select EXT. ZONE 1 or EXT. ZONE 2.

NOTE: When you touch the INT.CONT./EXT.ZONE Select Touch Button repeatedly, you are actually toggling between the INT.CON T. and EXT.ZONE Menus. As a result, you will also see the SPLIT Menu display along with EXT.ZONE 1 and EXT.ZONE 2.

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

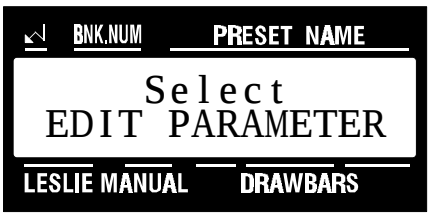
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ External Zone Velocity Curve

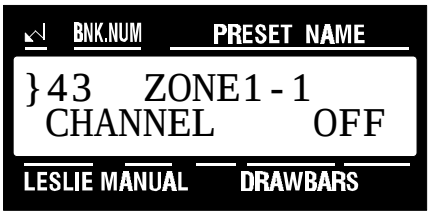
The XB-1 can transmit MIDI Key Velocity information. This Advanced Feature allows you to select the Velocity Curve you wish for each External Zone. You may select from 6 different curves plus "OFF" (all Note data sent at a velocity of 100). The default setting is "1."

TRY THIS:

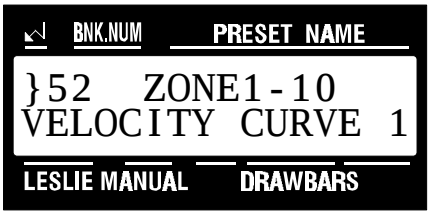
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE "▸" Select Touch Button nine times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the INT.CONT./EXT ZONE Select Touch Button to select EXT. ZONE 1 or EXT. ZONE 2.

NOTE: When you touch the INT.CONT./EXT.ZONE Select Touch Button repeatedly, you are actually toggling between the INT.CON T. and EXT.ZONE Menus. As a result, you will also see the SPLIT Menu display along with EXT.ZONE 1 and EXT.ZONE 2.

Use the VALUE "▴" Select Touch Button to scroll up through the choices.

Use the VALUE "▾" Select Touch Button to scroll down through the choices.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

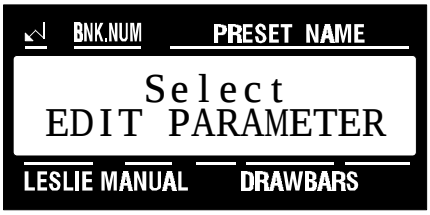
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ External Zone Bender (Pitch Bend)

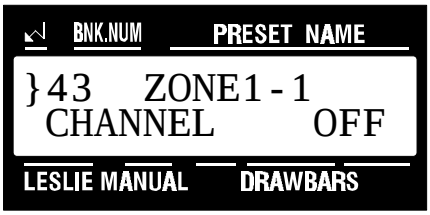
This Advanced Feature allows you to select whether you want to transmit Pitch bend data to a connected MIDI instrument. The default setting is "ON."

TRY THIS:

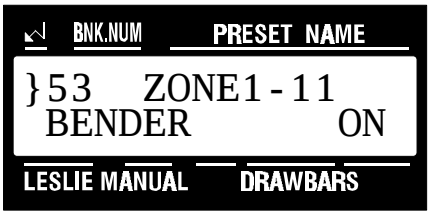
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE "▸" Select Touch Button ten times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the INT.CONT./EXT ZONE Select Touch Button to select EXT. ZONE 1 or EXT. ZONE 2.

NOTE: When you touch the INT.CONT./EXT.ZONE Select Touch Button repeatedly, you are actually toggling between the INT.CON T. and EXT.ZONE Menus. As a result, you will also see the SPLIT Menu display along with EXT.ZONE 1 and EXT.ZONE 2.

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn this function "ON" or "OFF,".

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

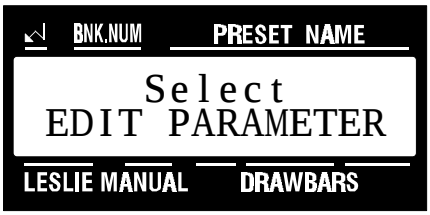
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ External Zone Modulation

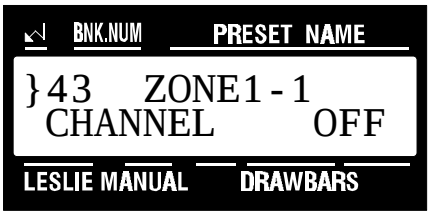
This Advanced Feature allows you to select whether you want to send Modulation Data from the External Zones.

TRY THIS:

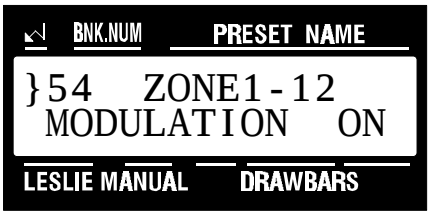
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE "▸" Select Touch Button eleven times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn this function "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

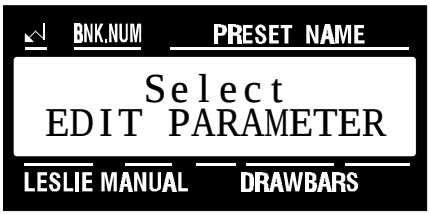
NOTE: You can exit by touching the EDIT Select Touch Button.

♦ External Zone Damper

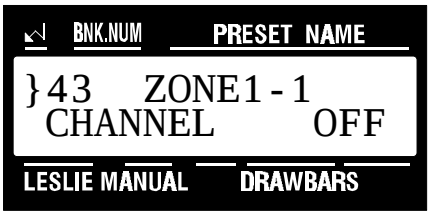
This Advanced Feature allows you to select whether you want to send Damper Data from the External Zones.

TRY THIS:

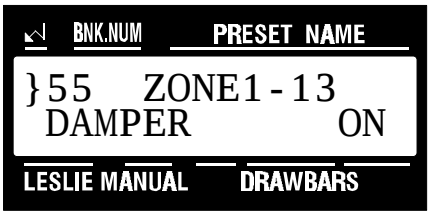
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button two times. The Information Center Display should look like this:



2. Touch the PAGE "▸" Select Touch Button twelve times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to turn this function "ON" or "OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

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

MIDI Implementation Chart

FUNCTION		TRANSMITTED	RECOGNIZED	REMARKS
Basic Channel	Default	1	1	Upper Channel *1
	Changed	1 ~ 16	1 ~ 16	
Mode	Default	Mode 3	Mode 3	
	Messages	×	×	
	Altered	**********	**********	
Note Number:		36 - 96	36 - 96	Transpose ±6
	True voice	**********	**********	
Velocity	Note ON	○	○	
	Note OFF	×	×	
After Touch	Key's	×	×	
	Ch's	×	×	
Pitch Bend		○	○	
Control Change	Bank Select 0	○	×	External Zones Only
	32	○	×	External Zones Only
	Modulation 1	○	○	
	Breath Control 2	×	○	Main Volume
	Main Volume 7	○	○	Main Volume
	Expression 11	○	○	Expression
	Tremolo 92	○	○	Leslie Slow/Fast
	Hold 64	○	○	Damper
	NRPN lsb 98	○	○	If NRPN SW. is ON
	NRPN msb 99	○	○	
	RPN lsb 100	○	○	Bend Sensitivity
	RPN msb 101	○	○	
	Data Entry 6	○	○	
	SW Drawbar 80	○	○	
	GT Drawbar 81	○	○	
	PK Drawbar 82	○	○	
Program Change	:True #	○ 1 - 65	○ 1 - 65	Cancel + 8 Banks
		**********		× 8 Presets
System Exclusive		○	○	
Common	:Song Pos	×	×	
	:Song Sel	×	×	
	:Tune	×	×	
System Real Time	:Clock	×	×	
	:Commands	×	×	
Aux Messages	:Local On/Off	×	×	
	:All Notes Off	○	○	(123)
	:Active Sense	○	○	
	:Reset	×	×	
Notes		*1: LOWER ch : 2 ZONE1 ch : OFF PEDAL ch : 3 ZONE2 ch : OFF		

Mode 1 : OMNI ON, POLY Mode 2 : OMNI ON, MONO ○ : Yes
Mode 3 : OMNI OFF, POLY Mode 4 : OMNI OFF, MONO × : No

MIDI Implementation - Each Channel

		ORGAN ZONES						EXT. ZONES				EXP CONT	
		UM		LM		PK		ZONE1		ZONE2			
		OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN	OUT	IN
MIDI CHANNELS		1~16, OFF		1~16, OFF		1~16, OFF		1~16 OFF	×	1~16 OFF	×	INDI.	1~16, INDI.
PROGRAM CHANGE		○	○	×	×	×	×	○	×	○	×	×	×
PITCH BEND		○	○	○	○	○	○	○	×	○	×	×	×
CONTROL	Bank Select MSB 0	×	×	×	×	×	×	○	×	○	×	×	×
	LSB 32	×	×	×	×	×	×	○	×	○	×	×	×
	Modulation 1	○	○	×	×	×	×	○	×	○	×	×	×
	Volume 7 (2) See note 1	○	○	○	○	○	○	See note 3	×	See note 3	×	See note 3	×
	Expression 11 See note 2	○	○	○	○	○	○	○	×	○	×	○	○
	Tremolo 92	○	○	×	×	×	×	×	×	×	×	×	×
	Hold 1 (Damper) 64	○	○	○	○	○	○	○	×	○	×	×	×
	NRPN LSB 98	○	○	×	×	×	×	×	×	×	×	×	×
	NRPN MSB 99	○	○	×	×	×	×	×	×	×	×	×	×
	RPN LSB 100	○	○	×	×	×	×	×	×	×	×	×	×
	RPN MSB 101	○	○	×	×	×	×	×	×	×	×	×	×
	DATA ENTRY MSB 6	○	○	×	×	×	×	×	×	×	×	×	×
	UM DRAWBAR 80	○	○	×	×	×	×	×	×	×	×	×	×
	LM DRAWBAR 81	×	×	○	○	×	×	×	×	×	×	×	×
	PK DRAWBAR 82	×	×	×	×	○	○	×	×	×	×	×	×
AFTER TOUCH	CH's	×	○	×	×	×	×	×	×	×	×	×	×
	KEY's	×	×	×	×	×	×	×	×	×	×	×	×

Note 1: Volume data is normally received as Controllers #2 and #7.
The last data received takes priority regardless of the Controller number.
Volume data is received as Controller #2 only when "Rx. BREATH CONTROL" is "ON."

Note 2: Expression data is normally transmitted as Controller #11, but can be changed to any other controller number from 0 through 127.
When "MIDI EXP. CTR." is set for "INDIV", Expression data can be received on MIDI Channels 1 through 16.
If different MIDI channels contain different Expression data, each Manual will respond with whatever Expression data is contained in each MIDI channel.

Note 3: If the Expression data controller number is changed to 7, Volume data will be transmitted along with Expression data.

Drawbar MIDI Data

```
Control Change        Bx 50h yy :Upper
                      Bx 51h yy :Lower      x: MIDI channel for each manual
                      Bx 52h yy :Pedal      yy: data
```

	Upper / Lower Data:yy									Pedal Data:yy	
DRAWBAR	16'	5 1/3'	8'	4'	2 2/3'	2'	1 3/5'	1 1/3'	1'	16'	8'
Level 0	00h(0)	09h(9)	12h(18)	1Bh(27)	24h(36)	2Dh(45)	36h(54)	3Fh(63)	48h(72)	00h(0)	09h(9)
Level 1	01h(1)	0Ah(10)	13h(19)	1Ch(28)	25h(37)	2Eh(46)	37h(55)	40h(64)	49h(73)	01h(1)	0Ah(10)
Level 2	02h(2)	0Bh(11)	14h(20)	1Dh(29)	26h(38)	2Fh(47)	38h(56)	41h(65)	4Ah(74)	02h(3)	0Bh(11)
Level 3	03h(3)	0Ch(12)	15h(21)	1Eh(30)	27h(39)	30h(48)	39h(57)	42h(66)	4Bh(75)	03h(4)	0Ch(12)
Level 4	04h(4)	0Dh(13)	16h(22)	1Fh(31)	28h(40)	31h(49)	3Ah(58)	43h(67)	4Ch(76)	04h(5)	0Dh(13)
Level 5	05h(5)	0Eh(14)	17h(23)	20h(32)	29h(41)	32h(50)	3Bh(59)	44h(68)	4Dh(77)	05h(6)	0Eh(14)
Level 6	06h(6)	0Fh(15)	18h(24)	21h(33)	2Ah(42)	33h(51)	3Ch(60)	45h(69)	4Eh(78)	06h(7)	0Fh(15)
Level 7	07h(7)	10h(16)	19h(25)	22h(34)	2Bh(43)	34h(52)	3Dh(61)	46h(70)	4Fh(79)	07h(8)	10h(16)
Level 8	08h(8)	11h(17)	1Ah(26)	23h(35)	2Ch(44)	35h(53)	3Eh(62)	47h(71)	50h(80)	08h(9)	11h(17)

System Exclusive Messages

1. FORMAT

F0h	System Exclusive
55h	SUZUKI I.D. Number
[DID]	Device No.
10h	Model ID Number (High)
0Bh	Model ID Number (Low)
11h	Command (Data packet)
[BODY]	DATA
F7h	End of Exclusive

2. BODY

02h	Data Type (02:User program)
[PNH]	Packet Number(High) 0001~7F7F
[PNL]	Packet Number (Low)
[DATA]	256byte ASCII (128byte data)
[SUM]	Check Sum (7bit) 256byte ASCII XOR

3. ACKNOWLEDGE

F0h	System Exclusive
55h	SUZUKI I.D. Number
[DID]	Device No.
10h	Model ID Number
0Bh	Model ID Number
14h	Command Acknowledge
[AK]	AK Type 00h:Normal 05h:Check Sum Error 06h:Protect SW On
[PNH]	Packet Number (High)
[PNL]	Packet Number (Low)
F7h	End of Exclusive

4. HAND SHAKE COMMUNICATION
(One way transfer)

Master	Slave
Data out Packet1	→
	← Acknowledge
Data out Packet2	→
	← Acknowledge
	:
Data out Packet58	→
	← Acknowledge

The organ will wait for the data for 20ms is no acknowledge is received and transmit the next data of the packet number. (ONE WAY TRANSFER)

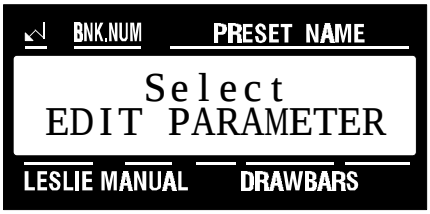
SPECIAL ADVANCED FEATURES

Bend Length

This Advanced Feature allows you to assign the range of the Pitch Bend Wheel for the internal organ sounds. You can select from ± 1 through 12. The default setting is "1."

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button once. The Information Center Display should look like this:



2. Touch the PAGE "▸" Select Touch Button three times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the PAGE "▸" Select Touch Button to scroll forward through the manual selections. As you scroll forward through the Manual selections, you will see the upper left-hand corner of the display change from "P37" to "P38" to "P39."

Use the PAGE "◂" Select Touch Button to scroll backward through the manual selections.

Use the VALUE "▴" Select Touch Button to scroll up through the numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the numbers.

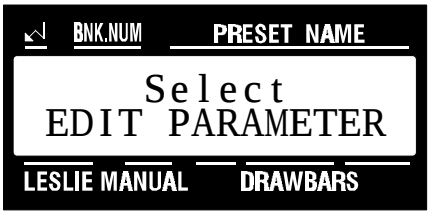
NOTE: You can exit by touching the EDIT Select Touch Button.

Modulation Mode

This Advanced Feature allows you to assign the internal function of the XB-1 that the Modulation Wheel will control.You can select “OFF,” “LES S/F” (the LESLIE FAST Touch Button will turn “ON” or “OFF”) or “OVERDRIVE”. The default setting is "OFF.”

TRY THIS:

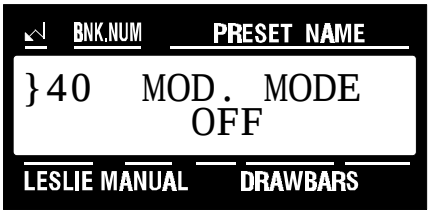
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button once. The Information Center Display should look like this:



2. Touch the PAGE ”▸” Select Touch Button six times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the choices.

Use the VALUE "▾" Select Touch Button to scroll down through the choices.

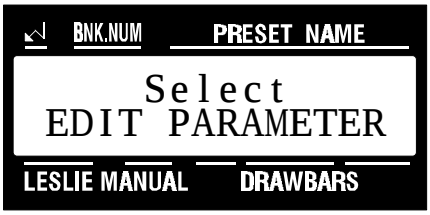
NOTE: You can exit by touching the EDIT Select Touch Button.

Organ Zone Key Map

This Advanced Feature allows you to set the Low and High note ranges for the internal Organ Zones.

TRY THIS:

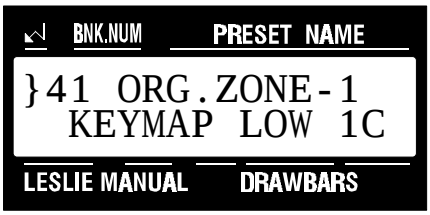
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



1. Touch the INT.CONT./EXT.ZONE Select Touch Button once. The Information Center Display should look like this:



2. Touch the PAGE "▸" Select Touch Button three times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the PAGE "▸" and "◂" Select Touch Buttons to select either ORG. ZONE-1 or ORG. ZONE-2. As you scroll forward through the Manual selections, you will see the upper left-hand corner of the display change from "P41" to "P42."

Use the PAGE "▸" and "◂" Select Touch Buttons to select either "LOW" (the lower limit of the zone) or "HI" (the upper limit of the zone).

Use the VALUE "▴" Select Touch Button to scroll up through the choices.

Use the VALUE "▾" Select Touch Button to scroll down through the choices.

This data CAN be stored to a Preset. To see a total listing of all Preset Parameters, see the Preset Parameter List.

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

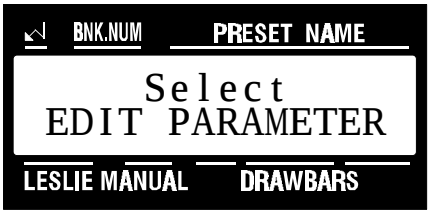
Master Tune

This Advanced Feature allows you to change the overall tuning pitch of the entire instrument.You can select from “430Hz” to “450Hz.” The default setting is “440Hz.”

NOTE: The term “Hz” is an abbreviation for **Hertz**, and refers to the frequency of a pitch measured in cycles per second. The note reference commonly used is “A440,” meaning that a note consisting of 440 Hertz will be the pitch “A.” This is the international standard used to tune most musical instruments.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button once. The Information Center Display should look like this:



3. To change the pitch of the XB-1, do the following:

Use the VALUE "▲" Select Touch Button to raise the pitch.

Use the VALUE "▼" Select Touch Button to lower the pitch.

default setting is "440Hz.”

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

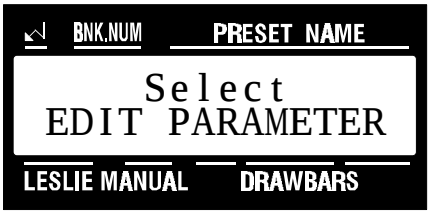
NOTE: You can exit by touching the EDIT Select Touch Button.

Tune Mode

This Advanced Feature allows you to change the overall temperament of the entire instrument.You can select either “E-TEMPERA” (equal-tempered scale similar to standard piano tuning.) Or “”B3-PITCH” (alters the frequency of certain notes in a manner similar to the characteristics of the tone-wheel generator used in the B-3, C-3 and similar instruments). The default setting is “B-3-PITCH.”

TRY THIS:

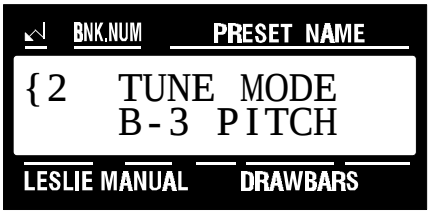
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button once. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to select either "E-TEMPERA" or "B3-Pitch.”

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

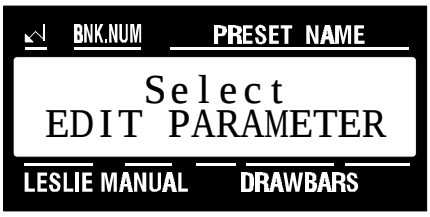
NOTE: You can exit by touching the EDIT Select Touch Button.

Transpose

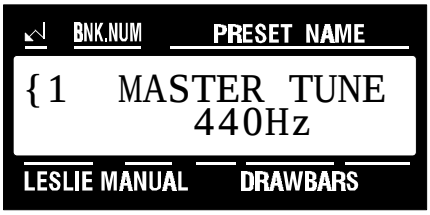
This Advanced Feature allows you to shift the musical key of the entire instrument. This is useful if you have a piece of music written in one key but which needs to sound in another key.You can transpose the XB-1 up or down 6 half-steps (-6 ~ +6). The default setting is "0".

TRY THIS:

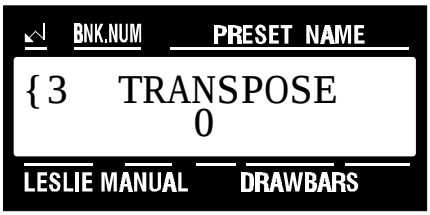
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button two times. The Information Center Display should look like this:



4. To transpose the XB-1, do the following:

Use the VALUE "▴" Select Touch Button to raise the pitch by semitones.

Use the VALUE "▾" Select Touch Button to lower the pitch by semitones.

NOTE: If the XB-1 is transposed and you wish to return to concert pitch (no transposition), touching the VALUE "▴" and the VALUE "▾" Select Touch Buttons together will restore regular pitch.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

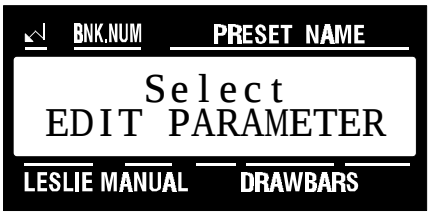
NOTE: You can exit by touching the EDIT Select Touch Button.

Foot Switch Function

This Advanced Feature allows you to select different functions for the Foot Switch.You can select from:
“OFF” - Disables the foot switch, allowing it to be used strictly for sending MIDI Controller #64 (Sustain).
“LES S/F” - Use for turning the Leslie rotor(s) “SLOW” or “FAST.”
“UM DAMPER” - Allows Upper Manual Drawbar tones to be "damped" or sustained.
“LM DAMPER” - Allows Lower Manual Drawbar tones to be "damped" or sustained.
“PRESET FW” - Allows you to change Presets. Each time the Foot Switch is pressed the next Preset number in sequence will be selected.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE “▸” Select Touch Button six times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the options.

Use the VALUE "▾" Select Touch Button to scroll down through the options.

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

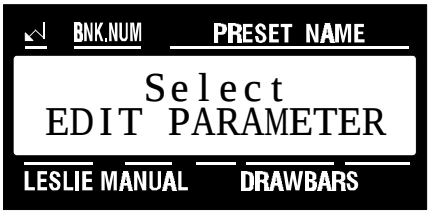
NOTE: You can exit by touching the EDIT Select Touch Button.

Foot Switch Press "ON"/Press "OFF"

This Advanced Feature allows you to select different modes of operation for the Foot Switch. "PRESS ON" refers to a foot switch that "closes," or makes contact, when depressed, such as the Hammond model FS-9H foot switch. Some foot switches from other manufacturers "open," or break contact, when depressed. Use this Advanced Feature to select the correct mode of operation for your particular Foot Switch.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button seven times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to select either "PRESS ON" or "PRESS OFF."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

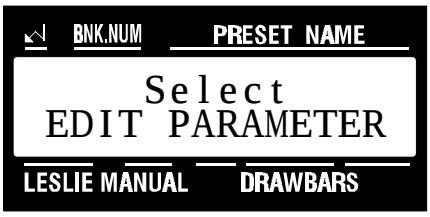
NOTE: You can exit by touching the EDIT Select Touch Button.

Foot Switch Alternate/Momentary

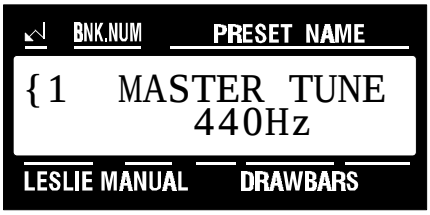
This Advanced Feature allows you to select either "ALTERNATE" (pressing and releasing the Foot Switch toggles between "ON" and "OFF") or "MOMENTARY" (pressing the Foot Switch turns its function "ON," while releasing the Foot Switch turns the selected function "OFF") function for the Foot Switch. The default setting is "ALTERNATE."

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button eight times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use either the VALUE "▴" or the VALUE "▾" Select Touch Button to select either "ALTERNATE" or "MOMENTARY."

This is a System Parameter, and this data CAN NOT be stored to a Preset. To see a total listing of all System Parameters, see the System Parameter List.

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

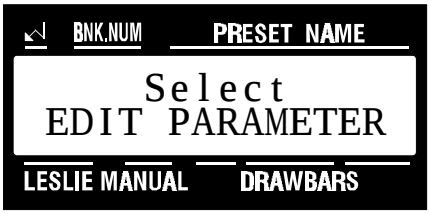
SPECIAL UTILITY FEATURES

Memory Dump - All Data

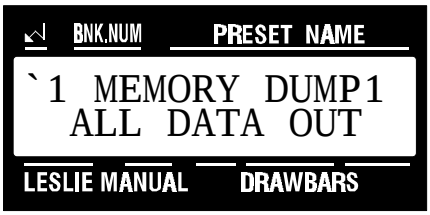
This Advanced Feature allows you to save and retrieve the XB-1's Preset, Global and Leslie Parameters to and from a MIDI Data recorder.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button three times. The Information Center Display should look like this:



3. Make sure that the XB-1 is connected to a MIDI Data recorder before you send or receive MIDI data, then do the following:

Sending Data Out - Make sure that the MIDI recorder is ready to receive data (RECORD). Touch the VALUE "▲" Select Touch Button, then touch it again to start the data dump to the MIDI Data recorder. The Information Center Display will show, "Transmitting...." When all information has been sent, the Information Center Display will flash, "Data completed!."

Receive Data In - Touch the PAGE "▸" Select Touch Button once. Make sure that the word "ON" appears to the right of the word "RECEIVE" in the Information Center Display. If "OFF" is displayed, Touch either the VALUE "▲" or the VALUE "▾" Select Touch Button to change the word "OFF" to "ON." This will turn Receive Mode "ON," allowing the XB-1 to receive incoming data. Start the MIDI recorder. When all information has been received, the PLAY Screen will return.

NOTE: If you attempt a Data Dump to the XB-1 when "OFF" is displayed, the Information Center Display will flash, "Data Protect !" This ensures that you do not accidentally overwrite data.

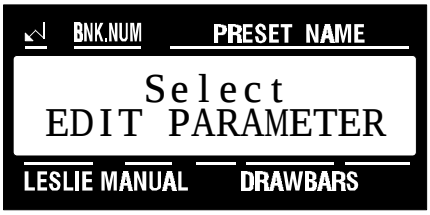
NOTE: You can exit by touching the EDIT Select Touch Button.

Memory Dump - Current Settings

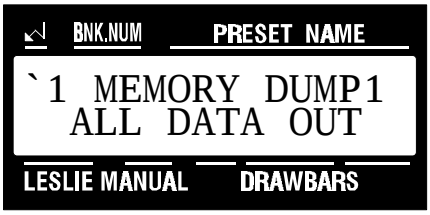
This Advanced Feature allows you to send the current registration (Switches, Menu parameters, etc.) to a Sequencer in preparation for playing back a Sequence.

TRY THIS:

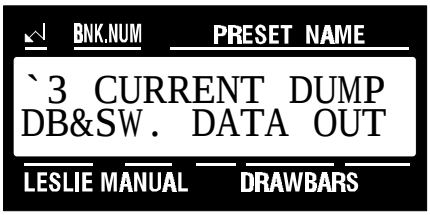
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button three times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button two times. The Information Center Display should look like this:



4. Make sure that the XB-1 is connected to a MIDI Data recorder before you send or receive MIDI data and that the MIDI recorder is ready to receive data (RECORD).

5. Touch the VALUE "▴" Select Touch Button, then touch it again to start the Data Dump to the MIDI Data recorder. The Information Center Display will show, "Transmitting...." When all information has been sent, the Information Center Display will flash, "Data completed!."

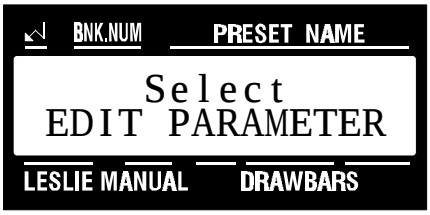
NOTE: You can exit by touching the EDIT Select Touch Button.

Preset Copy

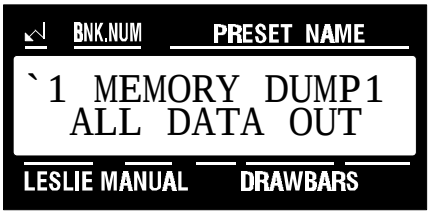
This Advanced Feature allows you to copy the entire contents of one Preset number to another Preset number. This is useful if you have two or more registrations you want to use with many parameter settings in common.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button three times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button three times. The Information Center Display should look like this:



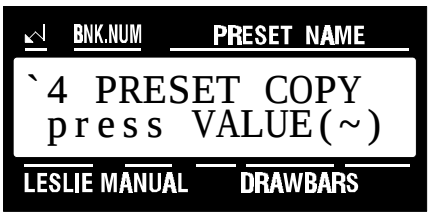
4. Now select the option you wish by doing the following:

Use the PAGE "▸" and the PAGE "◂" Select Touch Button to move back and forth between the source Preset - the Preset you want to copy from - and your destination Preset - the Preset you want to copy to. The source Preset is listed on the left, and the destination Preset is listed on the right.

Use the VALUE "▴" Select Touch Button to scroll up through the Preset numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the Preset numbers.

5. After you have made your selections, touch the PAGE "▸" Select Touch Button. The Information Center Display should look like this:



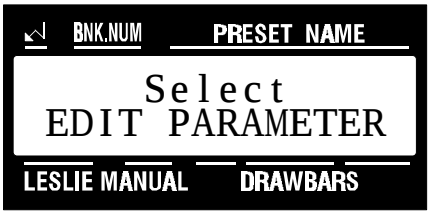
6. Touch the VALUE "▴" Select Touch Button. When the Information Center Display flashes, "Data completed!", the Preset Copy process is complete.

Preset Back to Default

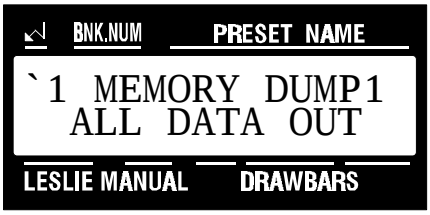
This Advanced Feature allows you to restore the contents of one Preset to the factory default settings. This is useful if you don't want to reset the entire instrument, but only one or a few Presets.

TRY THIS:

1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button three times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button six times. The Information Center Display should look like this:

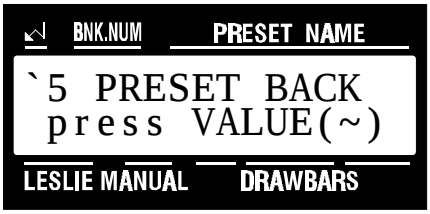


4. Now select the option you wish by doing the following:

Use the VALUE "▴" Select Touch Button to scroll up through the Preset numbers.

Use the VALUE "▾" Select Touch Button to scroll down through the Preset numbers.

5. After you have made your selections, touch the PAGE "▸" Select Touch Button. The Information Center Display should look like this:



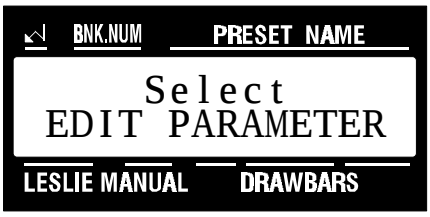
6. Touch the VALUE "▴" Select Touch Button. When the Information Center Display flashes, "Data completed!", the Preset will have been restored to its default settings.

Reset Procedure

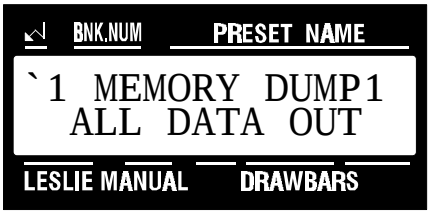
NOTE: Doing the following procedure will erase all parameters, settings and registrations, returning the XB-1 to the original Hammond factory default settings. To ensure that important data is saved, save your information to a MIDI Data recorder before doing this procedure.

TRY THIS:

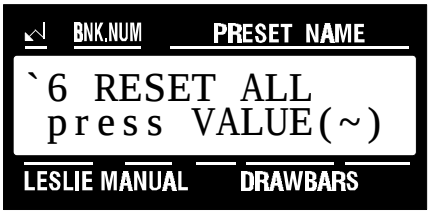
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button three times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button eight times. The Information Center Display should look like this:



4. Now select the option you wish by doing the following:

Use the PAGE "▸" and the PAGE "◂" Select Touch Button to select "RESET ALL" (reset all parameters), "RESET PRESET) (reset only the Preset data), "RESET LESLIE" (reset only the Leslie parameters) or "RESET SYSTEM (reset only the System parameters).

5. After you have your selection from the above choices, touch the VALUE "▴" Select Touch Button. The Information Center Display will show, "Are you sure?"

6. If you DO NOT want to reset the XB-1, touch the EDIT Select Touch Button. The red LED will turn "OFF." If you want to reset the XB-1, touch the VALUE "▴" Select Touch Button. The Information Center Display will briefly display the opening message and the XB-1 will be reset.

♦ Quick All Reset Procedure

If you already know that you want to reset all of the XB-1's parameters to their factory default settings, do the following:

1. Turn the XB-1 "OFF."

2. Touch and hold all three of the DRAWBAR SELECT Touch Buttons (UPPER, LOWER and PEDAL).

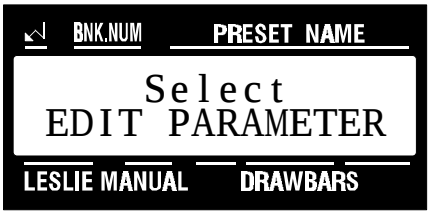
3. While holding the three DRAWBAR SELECT Touch Buttons, turn the power to the XB-1 "ON." All parameters will be reset.

Expression Monitor

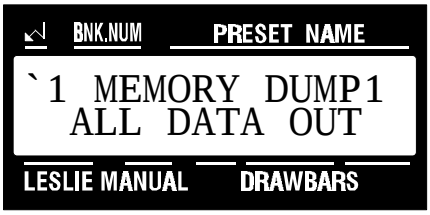
This is a special Advanced Feature screen which allows you to see the current position of a connected Expression Pedal shown numerically, or to see incoming MIDI Expression Data from, for example, a sequencer.

TRY THIS:

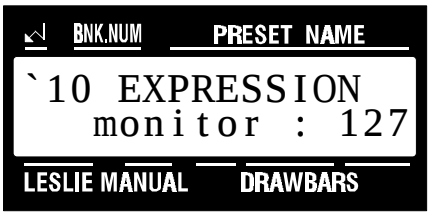
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



2. Touch the SYSTEM Select Touch Button three times. The Information Center Display should look like this:



3. Touch the PAGE "▸" Select Touch Button twelve times. The Information Center Display should look like this:



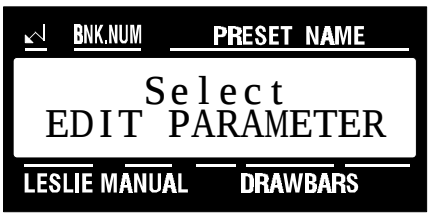
The current level of Expression Data will be shown. If you do not have an Expression Pedal connected to the XB-1, this number should be “127" or the maximum setting. If you are using an Expression Pedal, moving it will cause the number to change, or, if you are playing back MIDI data from a sequencer, you will see the number change in response to incoming MIDI data.

Demo Songs

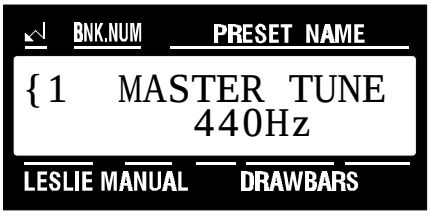
This Advanced Feature allows you to hear several musical selections representing different kinds of music designed to give examples of how the XB-1 will sound in different musical settings.

TRY THIS:

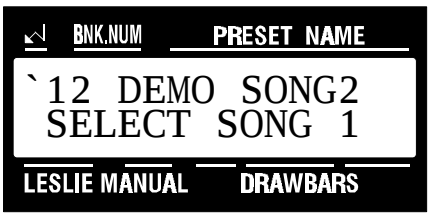
1. Touch the EDIT Select Touch Button. The red LED will light, and the Information Center Display should look like this:



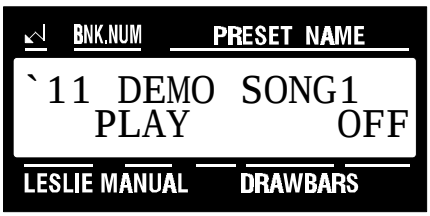
2. Touch the SYSTEM Select Touch Button once. The Information Center Display should look like this:



3. Touch the PAGE "◂" Select Touch Button once. The Information Center Display should look like this:



4. From the above screen, touch the PAGE "▸" Select Touch Button once. The Information Center Display should look like this:



5. Touch the VALUE "▴" Select Touch Button once. The Demo Songs will start playing and continue until you touch the VALUE "▾" Select Touch Button, which will change the Information Center Display message from "ON" to "OFF" and stop the music.

The XB-1 contains 3 Demo Songs which will play one after the other in a continuous chain ("1," "2," "3," "1," "2," "3." etc.). If you would like to start the chain with a particular song:

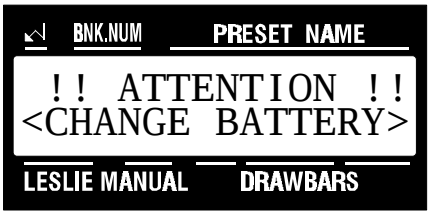
1. Repeat steps 1, 2 and 3 above.

2. Use the VALUE "▴" and "▾" Select Touch Buttons to select which Demo Song will start playing first.

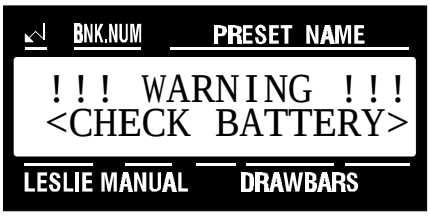
3. Follow steps 4 and 5 above. The Demo Song chain will start from the song you selected and continue until stopped.

Important Note - Battery

Your Hammond XB-1 uses a battery-backed RAM to remember your changes to the Preset, Leslie and System Parameters. When the battery voltage becomes low, the Information Center Display will show this message:



If you see this message, you should immediately back up your parameter changes, if you have made any. If there is no battery installed in the unit, or if the battery is completely dead, the Information Center Display will show this message:



After the above message is displayed, the XB-1 will re-initialize itself, and the factory default settings will be restored. Therefore, it is a good idea to periodically back up your data.

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 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. LTD.
19 Presley Way
Crownhill
Milton Keynes MK8 OE5
UNITED KINGDOM

In Germany, Switzerland and Austria contact:

HAMMOND SUZUKI
DEUTSCHLAND GmbH
Karlstraße 38
D-89129 LANGENAU/ULM
GERMANY

In Europe contact:

HAMMOND SUZUKI EUROPE
B.V
Industriepark Hagestein
Ir. D.S. Tuynmanweg 4A
4131 PN Vianen
THE NETHERLANDS

All other countries contact:

HAMMOND SUZUKI Ltd.
25-12, Ryoke 2 Chome
Hamamatsu 430 (Shizuoka)
JAPAN

Technical materials are available and can be obtained by mailing a request to the appropriate address listed above marked ATTENTION: SERVICE DEPARTMENT.

Manufacturer:
SUZUKI MUSICAL INSTRUMENT MFG. CO., Ltd
25-12, Ryoke 2 Chome
Hamamatsu 430 (Shizuoka)
JAPAN

ACKNOWLEDGMENTS

In appreciation of the many fine players who have made their contributions to Hammond over the years:

Axel Alexander
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Jackie Davis
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Lenny Dee
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Artie Dunn
Eddie Dunstedter
Charles Earland
Richard Ellsasser
Keith Emerson
Fred Feibel
Virgil Fox
Ken Griffin
Jon Hammond
Glenn Hardman
Porter Heaps
Richard "Groove" Holmes
Milt Herth
Al Kooper
Eddie Layton
Jon Lord
Captain Jack McDuff
Jimmy McGriff
Lee Micheals
Don Patterson
Big John Patton
Richard Purvis
Rosa Rio
Freddie Roach
Bryan Rodwell
Dr. Mario Salvador
Shirley Scott
Hal Shutz
Ethel Smith
Jimmy Smith
Paul Taubman
Shay Torrent
Juan Torres
Rick Wakeman
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Walter Wanderly
Lew White
Baby Face Willette
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Pietro Yon
Larry Young

and many others too numerous to list.

Appendix A - System Parameter List

Number	Function	Parameter	Default Settings
01	Master Tune	430 ~ 450 Hz	440
02	Tune Mode	Equal Temperament, B-3 PITCH	B3-PITCH
03	Transpose	-6 ~ 0 ~ +6	0
04	Drawbar Volume Upper	0 ~ 127	127
05	Drawbar Volume Lower	0 ~ 127	127
06	Drawbar Volume Pedal	0 ~ 127	127
07	Foot Switch Select	Leslie Slow/Fast Upper Damper Lower Damper Preset Forward OFF	Leslie Slow/Fast
08	Foot Switch MODE1 Press	ON, OFF	On
09	Foot Switch MODE 2	Alternate, Momentary	Alternate
10	MIDI Channel Upper	1 ~ 16, Off	1
11	MIDI Channel Lower	1 ~ 16, Off	2
12	MIDI Channel Pedal	1 ~ 16, Off	3
13	MIDI Expression Control	1 ~ 16, Individual	Individual
14	MIDI Local Control	On, Off	On
15	MIDI OMNI	On, Off	Off
16	MIDI NRPN	On, Off	Off
17	MIDI Foot Switch Controller Number	0 ~ 127	64
18	MIDI Modulation Wheel Controller Number	0 ~ 127	1
19	MIDI Expression Pedal Controller Number	0 ~ 127	7
20	MIDI Leslie SLOW/FAST Controller Number	0 ~ 127	92
21	MIDI Progarm Change	On, Off	On
22	MIDI Drawbar Change	On, Off	On
23	MIDI Controller Change	On, Off	On
24	MIDI Bender Data Transmit	On, Off	On
25	MIDI Modulation Data Transmit	On, Off	On
26	MIDI Breath Controller Receive	On, Off	Off
27	MIDI After Touch Receive	Off, Leslie Slow/Fast, Overdrive, Pitch Bend	Off
28	MIDI Maximum Volume	0 ~ 127	127
29	MIDI Minimum Volume	0 ~ 127	40
30	MIDI Transpose Receive	-6 ~ 0 ~ +6	0
31	MIDI SOFT THRU	On, Off	Off

Appendix B - Leslie Parameter (NRPN) List

```
Bx 62h(99) 00       x  : UPPER CHANNEL
Bx 63h(99) aa       aa : NRPN code
Bx 06h( 6) bb       bb : NRPN data
```

Number	Function	NRPN Code [aa]	NRPN Data [bb]
01	Horn Rotor Slow Speed	70 (112)	0,24 ~ 48rpm: 00 ~ 0C
02	Bass Rotor Slow Speed	71 (113)	0,24 ~ 48rpm: 00 ~ 0C
03	Horn Rotor Fast Speed	72 (114)	0,375 ~ 435rpm: 00 ~ 15
04	Bass Rotor Fast Speed	73 (115)	0,375 ~ 435rpm: 00 ~ 15
05	Horn Rotor Rise Time	74 (116)	0.2 ~ 5.0s: 00 ~ 18
06	Bass Rotor Rise Time	75 (117)	0.5 ~ 12.5s: 00 ~ 18
07	Horn Rotor Fall Time	76 (118)	0.2 ~ 5.0s: 00 ~ 18
08	Bass Rotor Fall Time	77 (119)	0.5 ~ 12.5s: 00 ~ 18
09	Horn Rotor Brake Time	78 (120)	0.2 ~ 5.0s: 00 ~ 18
10	Bass Rotor Brake Time	79 (121)	0.5 ~ 12.5s: 00 ~ 18
11	Horn Rotor Volume	7A (122)	0 ~ -12db: 00 ~ 0C
12	Bass Rotor Volume	7B (123)	0 ~ -12db: 00 ~ 0C
13	Microphone Angle	7C (124)	0 ~ 180◦: 00 ~ 06
14	Microphone Distance	7D (125)	0.3 ~ 2.7m: 00 ~ 09
15	Leslie Percussion	7F (126)	Off: 00 On: 7F

Appendix C - Preset Parameter (NRPN) List

Number	Function	NRPN code [aa]	NRPN data [bb]
	(SWITCH)		
Panel	Vibrato Mode	45 (69)	1: 00 2:01 3: 02
Panel	Vibrato Chorus	0B (11)	Off: 00 On: 7F
Panel	Lelsie Brake	6E (110)	Off: 00 On: 7F
Panel	Leslie On	09 (9)	Off: 00 On: 7F
Panel	Leslie Fast	00 (0)	Slow: 00 Fast: 7F
Panel	Split	None	Off: 00 On: 7F
Panel	Percussion Second Harmonic	12 (18)	Off: 00 On: 7F
Panel	Percussion Third Harmonic	13 (19)	Off: 00 On: 7F
Panel	Percussion Fast Decay	16 (22)	Off: 00 On: 7F
Panel	Percussion Soft	15 (21)	Off: 00 On: 7F
	(NAME)		
01	Preset Name	None	10 Characters
	(DRAWBAR)		
02	Drawbar Registration Upper	None (Bx 50 yy)	
03	Drawbar Registration Lower	None (Bx 51 yy)	
04	Drawbar Registration Pedal	None (Bx 52 yy)	
05	Drawbar Attack Upper	3B (59)	Slow Attack: 00 No Click: 01 Soft Click: 02 Norm Click: 03 Max Click: 04
06	Drawbar Attack Lower	3C (60)	Slow Attack: 00 No Click: 01 Soft Click: 02 Norm Click: 03 Max Click: 04
07	Drawbar Attack Pedal	3D (61)	Slow Attack: 00 No Click: 01 Soft Click: 02 Norm Click: 03 Max Click: 04
08	Drawbar Sustain Upper	1C (28)	Off: 00 Short: 01 Mid: 02 Long: 03
09	Drawbar Sustain Lower	1D (29)	Off: 00 Short: 01 Mid: 02 Long: 03
10	Drawbar Sustain Pedal	1E (30)	Off: 00 Short: 01 Mid: 02 Long: 03
11	Drawbar Voicing Upper	38 (56)	B3-Type: 00 Mellow: 01 Brite: 02
12	Drawbar Voicing Lower	39 (57)	B3-Type: 00 Mellow: 01 Brite: 02
13	Drawbar Voicing Pedal	3A (58)	B3-Type: 00 Mellow: 01 Brite: 02
14	Drawbar Foldback Upper Low	5B (91)	1C ~ 2C: 00 ~ 0C
15	Drawbar Foldback Upper High	5C (92)	4G ~ 5C: 2B ~ 30
16	Drawbar Foldback Lower Low	5D (93)	1C ~ 2C: 00 ~ 0C
17	Drawbar Foldback Lower High	5E (94)	4G ~ 5C: 2B ~ 30

Number	Function	NRPN code [aa]	NRPN data [bb]
	(PERCUSSION)		
18	Percussion	50 (80)	1 ~ 8: 00 ~ 07
19	Percussion	51 (81)	1 ~ 8: 00 ~ 07
20	Percussion	52 (82)	1 ~ 16: 00 ~ 0F
21	Percussion	53 (83)	1 ~ 16: 00 ~ 0F
22	Percussion	57 (87)	Off: 00 On: 7F
23	Percussion	58 (88)	Off: 00 On: 7F
24	Percussion	5A (90)	Off: 00 On: 7F
25	Percussion	5F (95)	Odb: 00 -3db: 7F
26	Percussionr	6C (108)	Off: 00 On: 7F
	(ANIMATION)		
27	Vibrato Speed	3F (63)	Slow: 00 Mid: 01 Norm: 02 Midfst: 03 Fast: 04
28	Leslie Preset	6F (111)	#1 ~ #5: 00 ~ 04
29	Reverb Mode	7E (126)	Room: 00 Live: 01 Hall: 02 Church: 03
30	Reverb Level	None	0 ~ 15: 00 ~ 0F
31	Overdrive Level	6D (109)	0 ~ 15: 00 ~ 0F
32	Treble	6A (106)	1 ~ 6: 00 ~ 05
33	Oscillator Phase Control	6B (110)	Off: 00 On:: 7F
	INT. CONT.		
34	Split Point	None	1C ~ 6C: 00 ~ 3C
35	Split Voice	None	Lower: 00 Pedal: 01
36	Lower Octave Up	None	0: 00 1: 01 2: 02
37	Bend Length Upper	None (RPN)	
38	Bend Length Lower	None (RPN)	
39	Bend Length Pedal	None (RPN)	
40	Modulation Mode	None	Off: 00 Leslie Slow/Fast: 01
41	Organ Zone Keymap Low	None	1C ~ 6C: 00 ~ 3C
42	Organ Zone Keymap High	None	1C ~ 6C: 00 ~ 3C
	EXT. CONT.		
43	Zone 1 MIDI Channel	None	None
44	Zone 1 MIDI Program Number	None	None
45	Zone 1 Bank Number LSB	None	None
46	Zone 1 Bank Number MSB	None	None
47	Zone 1 Keymap Low	None	None
48	Zone 1 Keymap High	None	None
49	Zone 1 Key Octave	None	None
50	Zone 1 Maximum Volume	None	None
51	Zone 1 Minimum Volume	None	None
52	Zone 1 Velocity Curve	None	None
53	Zone 1 Pitch Bend	None	None
54	Zone 1 Modulation	None	None
55	Zone 1 Damper	None	None
56	Zone 2 MIDI Channel	None	None
57	Zone 2 MIDI Program Number	None	None
58	Zone 2 Bank Number LSB	None	None
59	Zone 2 Bank Number MSB	None	None
60	Zone 2 Keymap Low	None	None
61	Zone 2 Keymap High	None	None
62	Zone 2 Key Octave	None	None
63	Zone 2 Maximum Volume	None	None
64	Zone 2 Minimum Volume	None	None
65	Zone 2 Velocity Curve	None	None
66	Zone 2 Pitch Bend	None	None
67	Zone 2 Modulation	None	None
68	Zone 2 Damper	None	None

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.

Sverige:

VARNING

Explosionsfara vid felaktigt batteribyte. Anvānd samma batterityp eller et ekvivalent typ som rekommenderes av apparattillverkaren, Kassera anvānt batteri enlig fabrikantens instruktion.

Finland:

VAROITUS

Paristo voī rājāhtāā, jos se on virheelliseeti ansennettu Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin, Hāvītā kāytetty paristo valmistajan ohjeiden mukaisesti.

Manufacturer assumes no responsibility for loss of memory caused by damage to the unit after purchase, such as power surges, battery replacement, repair, etc.



HAMMOND SUZUKI, LTD., Hamamatsu, Japan