



*Sk1*

*Sk2*

*Sk1-73*

*Sk1-88*

**DRAWBAR  
EFFECTS**

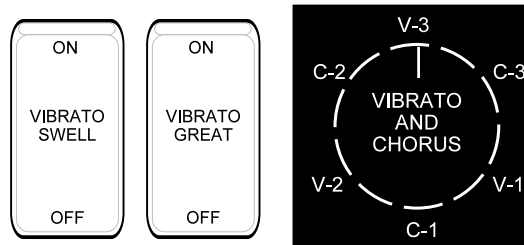


## DRAWBAR EFFECTS

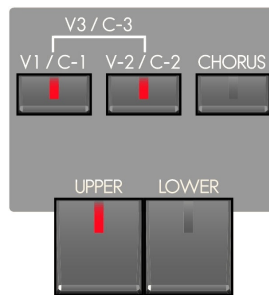
You can add **Vibrato/Chorus**, **Leslie**, **Sustain** and **Overdrive** to the Drawbar sounds of your Sk-series instrument. In the following section, each effect is explained in detail.

### ◆ VIBRATO & CHORUS

The Vibrato and Chorus controls on vintage Hammond console organs with either a “2” or a “3” as part of their model designation (B-2, B-3, etc.) consist of two tilt tablets and a six-position rotary knob to the left of the Drawbars which look like this:



The same Vibrato and Chorus choices are made on the Sk-series instruments by means of five Touch Tabs.



### Vibrato/Chorus ON / OFF

To turn the Vibrato or Chorus effect "ON," touch the appropriate Touch Tab "ON" (LED lit).

#### UPPER

This Touch Tab turns the Vibrato effect “ON” for the Upper Manual.



#### LOWER

This Touch Tab turns the Vibrato effect “ON” for the Lower Manual.

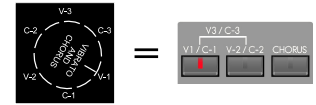


**NOTE:** If you are using the Sk1, Sk1-73 or Sk1-88, the LOWER Vibrato Touch Tab will work only if the SPLIT Touch Tab is “ON” (LED lit).

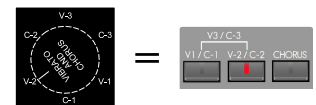
### Amount of Vibrato and Chorus

The following paragraphs will explain how to select the desired amount of Vibrato or Chorus, and how the Touch Tab settings on the Sk-series instruments correspond to the settings on a vintage Hammond Organ.

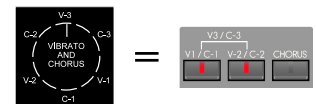
**V-1 - (Small Vibrato)** - This produces the vibrato equivalent of most orchestral solo instruments.



**V-2 - (Wide Vibrato)** - This is the standard depth vibrato to produce the effect of a theater organ.



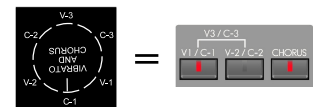
**V-3 - (Full Vibrato)** - By pressing both the V-1/C-1 and the V-2/C-2 Touch Tabs at the same time, you turn "ON" Vibrato 3. Vibrato 3 gives the fullest amount of vibrato, adding much warmth and enhancing your music.



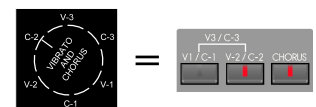
### Chorus

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

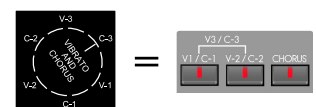
**C-1 - (Small Chorus)** - This produces the light chorus effect.



**C-2 - (Wide Chorus)** - This is the standard depth of the chorus effect.



**C-3 - (Full Chorus)** - By pressing both the V-1/C-1 and the V-2/C-2 Touch Tabs at the same time along with the CHORUS Touch Tab, you get the fullest amount of Chorus, adding warmth that enhances your Drawbar settings.

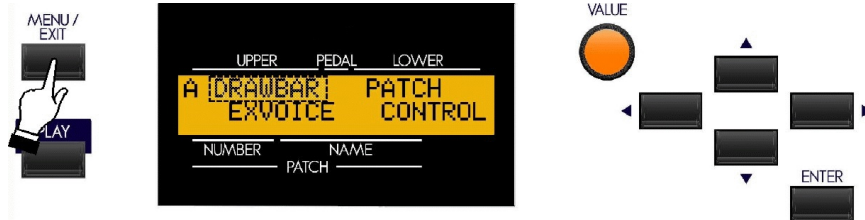


### ◆ VIBRATO Edit Menu (VIB&CHO Menu)

This Advanced Feature Menu allows you to make changes to the Vibrato/Chorus effect.

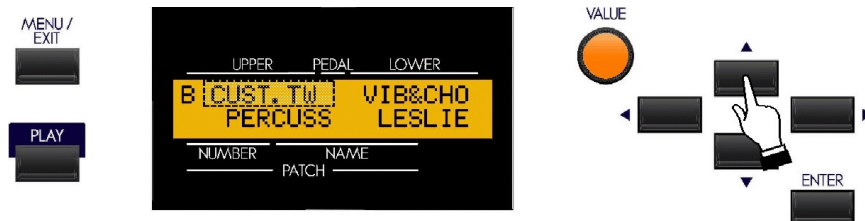
#### Accessing the VIBRATO Edit Menu using the MENU/EXIT Touch Button:

1. From the PLAY Screen, touch the MENU/EXIT Touch Button to see the first screen of the MENU Mode.



You will see “A” displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 4 Pages and that Page 1 is displaying.

2. Touch the PAGE UP Touch Button once. The “B” screen of the MENU Mode will now display.



You will now see “CUST.TW” in the upper left corner of the Information Center Display, and it will be blinking.

3. Touch the PAGE RIGHT Touch Button twice. The letters “VIB&CHO” will now blink.



4. Touch the ENTER Touch Button.

#### Accessing the VIBRATO Edit Menu Using the Shortcut:

Touch and hold any of the VIBRATO/CHORUS Touch Tabs. After approximately 1 second, you will see the screen shown at the top of the next page.

You are now in the VIBRATO Edit Menu. You may now use the PAGE NAVIGATION Touch Buttons in conjunction with the VALUE Rotary Control to make various changes to the Vibrato and Chorus. These changes are explained starting on the next page.

## VIBRATO Edit Menu - Page 1

*If you followed the instructions on the previous page, you should now see Page 1 of the VIBRATO Edit Menu. The legend underneath the word "RATE" should now be blinking.*



## Vibrato Rate

This Advanced Feature allows you to select the Vibrato/Chorus Rate that you prefer. The data chart below shows the options you may select.

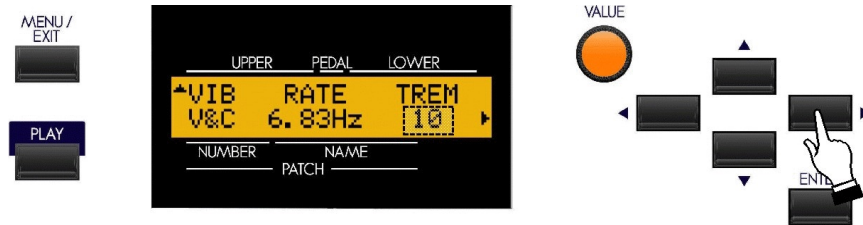
VIBRATO RATE Options
6.10
6.50
*6.83
7.00
7.25

\*default setting

Turn the VALUE Rotary Control to the **right** to make the Vibrato Rate **faster**.

Turn the VALUE Rotary Control to the **left** to make the Vibrato rate **slower**.

From the previous screen, touch the **PAGE RIGHT** Touch Button once. The numbers underneath the word “**TREM**” should now be blinking.



### Tremulant Amount

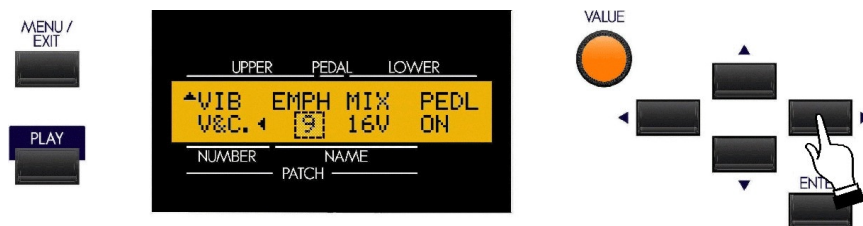
On an organ, a periodic raising and lowering of the pitch is called **Vibrato**, while a periodic raising and lowering of volume is sometimes known as a **Tremulant**. In a vintage Hammond Organ, the Vibrato effect contains not only a periodic shift in pitch, but also a slight amplitude, or volume, change, particularly in the higher frequencies. This Advanced Feature allows you to set the Tremulant amount of the Vibrato for each setting.

Turn the VALUE Rotary Control to the **right** to **increase** the amount of Tremulant.

Turn the VALUE Rotary Control to the **left** to **decrease** the amount of Tremulant.

### VIBRATO Edit Menu - Page 2

From the previous screen, touch the **PAGE RIGHT** Touch Button once. Page 2 of the **VIBRATO** Edit Menu should now display. The numbers underneath the word “**EMPH**” should now be blinking.



### Vibrato Chorus High Frequency Emphasis (EMPH)

This Advanced Feature allows you to set the amount that the higher frequencies are emphasized when Vibrato Chorus (C1, C2 or C3) is selected. You can select from “0” (mellow) to “9” (bright).

Turn the VALUE Rotary Control to the **right** to **emphasize** the higher frequencies

Turn the VALUE Rotary Control to the **left** to **de-emphasize** or **roll off** the higher frequencies.

*From the previous screen, touch the PAGE RIGHT Touch Button once. The word underneath the word “PEDAL” should now be blinking:*



### Vibrato Chorus Mix

As explained on page 3, the Chorus effect is produced by mixing two audio signals together - one containing Vibrato and a “dry” signal with no Vibrato. The amount of Vibrato versus non-Vibrato signal can vary when comparing vintage organs. This Advanced Feature allows you to control the amount of Vibrato signal versus the amount of “dry” or non-Vibrato signal. You can select from “D64” (only the dry signal with no Vibrato) through “63V” (only the Vibrato signal, with no dry signal). The middle or “EVEN” setting will mix the Vibrato and non-Vibrato signals together in equal amounts.

Turn the VALUE Rotary Control to the **right** to **increase** the amount of Vibrato signal.

Turn the VALUE Rotary Control to the **left** to **decrease** the amount of Vibrato signal.

*From the previous screen, touch the PAGE RIGHT Touch Button once. The word underneath the word “PEDAL” should now be blinking:*



### Vibrato On Pedal (PEDAL)

This Advanced Feature Menu Page allows you to select whether you want Vibrato to also affect the Pedal Drawbar tones when the VIBRATO LOWER Touch Tab is “ON.” This replicates the Vibrato function on a vintage Hammond Organ.

Turn the VALUE Rotary Control to turn Vibrato **on** or **off** for the Pedal Drawbar tones.



## ◆ LESLIE®

Your Hammond Sk-series instrument has a built-in digital Leslie effect that replicates the sound of a twin-rotor Leslie Speaker cabinet. In addition, the Sk-series instrument can also be used with a variety of different Leslie Speaker cabinets. There is a full explanation of how to use the Sk-series instrument with a Leslie Speaker cabinet starting on page 20.

### What Is A “Leslie Speaker?”

When the Hammond Organ was first introduced in the mid 30's, it was not “self-contained” - in other words, the sound-producing apparatus was not contained within the console. In order to hear the sounds produced by the organ’s tone generators, a separate “tone cabinet” containing an amplifier and speaker system had to be connected to the organ console via a special cable. The Hammond Organ Company for many years manufactured many different models of tone cabinets specifically for use with Hammond Organs. The best known of these is probably the PR-40 model, which used a 40-watt tube amplifier to drive a set of speakers.



Hammond PR-40 Tone Cabinet



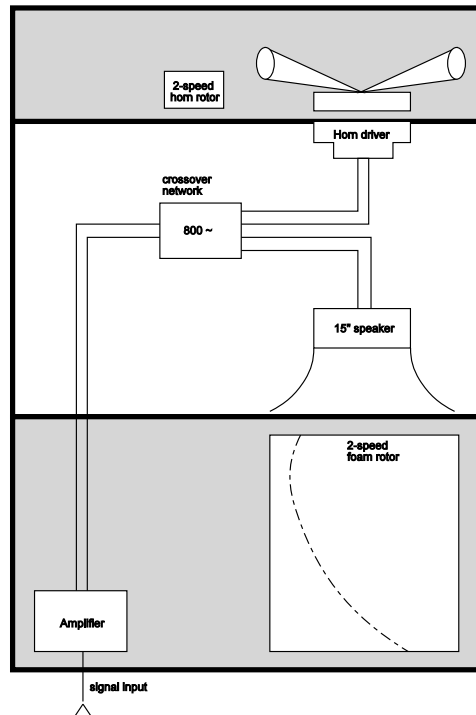
A typical Leslie Speaker cabinet.

The Hammond engineers had very definite ideas about what a Hammond Organ should sound like and the Hammond speakers were designed to deliver that sound. In the late 30's, however, an independent engineer and organ enthusiast named Donald J. Leslie wanted a sound from a Hammond Organ more nearly approximating the sound of a theatre organ, particularly a realistic theatre organ tremulant. He found that rotating a baffle in front of a stationary speaker created the effect of a tremulant (the well-known “Doppler effect”) and called the subsequent speaker the “Vibratone.” (The “Vibratone” designation was eventually dropped and subsequent models would be known simply as Leslie Speakers.) Over a hundred models of Leslie Speakers have been made over the years; probably the best known being the models 122, 142, 145 and 147, all of which have 40-watt vacuum-tube amplifiers. The 122 and 147 are both 41" tall (see above photo), while the 142 and 145 are 33" tall. The 122 and 142 have the same electronics, as do the 145 and 147.

Although the 122 and 147, as well as the 142 and 145, share identical cabinet designs, they are electrically dissimilar - the 122/142 is designed specifically for use with a Hammond Organ whose preamplifier has “GG” terminals (a “balanced” signal output), whereas the 147/145 has an “unbalanced” input more suitable for use with self-contained organs - other brands as well as Hammond. Additionally, the 122 and 147 have different high-frequency responses - the 122 rolls off the treble at 6K to reduce key click, while the 147 does so at 8K, resulting in a slightly brighter overall sound.

## What Are “Horn” and “Bass?”

The basic Leslie Speaker design, as represented by the 122 and 147 families of cabinets, divides the sound between “treble” (above 800Hz) and “bass” (below 800Hz). The treble frequencies are routed to a treble speaker or “driver,” while the bass tones sound through a bass speaker (typically 15”). In the classic design, the speakers themselves do not move - a baffle is rotated in front of each speaker to produce animation. The shape of the baffle for the high frequencies is similar to the bell of a horn, hence the popular designation “horn.” The figure below illustrates this.



The Leslie cabinet type shown above connects to the organ console by means of a special connector kit which allows proper routing of both the audio signal and the electrical voltage necessary to operate the rotors.

The first Leslie speakers used two motors to rotate the baffles at a speed suitable for recreating theatre-organ-type tremulant which were controlled by a toggle switch on the side of the speaker cabinet. In the mid-60's an additional motor was added to both Horn and Bass which spun the rotors much more slowly to suggest the sound of a “celeste,” or a compound organ stop with two or more ranks slightly detuned. Also added were switches which could be mounted to the front of an organ console to allow the organist to control the rotor speeds, and therefore the sound, while playing- “Chorale” described the effect produced by the Slow motors, while “Tremolo” was the designation used when the Fast motors were engaged. The picture below shows a typical Leslie switch of this kind.

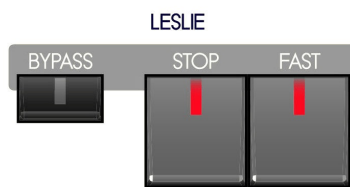


In more recent years there have been two important additions to the classic Leslie design:

1. The introduction of an 11-pin interface to allow a Leslie Speaker to handle more than one audio channel, as well as to isolate line voltage from the audio signal path.
2. The replacement of separate Fast and Slow motors with variable speed motors for both Horn and Bass. The newer motor design reduces the total number of motors from four to two, and also allows for “Brake” mode, or the ability to shut the rotors completely off (previously a special “brake kit” had to be added to the cabinet to permit this feature).

New digital technology has now made it possible to recreate the Doppler effect without using moving parts. This technology has been incorporated into the Sk-series instruments. The following pages explain how the internal digital Leslie of your Hammond Sk-series instrument works.

## LESLIE Touch Tabs



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

### LESLIE BYPASS

When this Touch Tab is "OFF" (LED not lit), the Drawbars will sound through the internal Leslie channel. Touching the BYPASS Touch Tab "ON" (LED lit) will change the sounds produced by the Drawbars from the Leslie channel to the stationary channel. The speed of the rotors of either the internal digital Leslie or a connected Leslie Speaker depends upon the position of the LESLIE FAST Touch Tab.

### LESLIE STOP

When this Touch Tab is "OFF" (LED not lit), the Leslie effect is that of an acoustic Leslie Speaker cabinet with the rotors turning either slowly (Chorale) or Fast (Tremolo). Touching the LESLIE STOP Touch Tab "ON" (LED lit) will cause the Leslie rotors to stop turning.

### LESLIE FAST

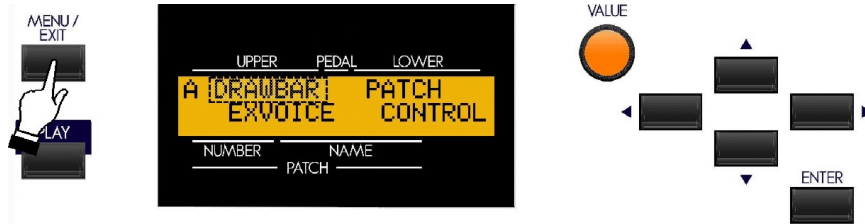
When this Touch Tab is "OFF" (LED not lit), the Leslie effect is that of an acoustic Leslie Speaker cabinet with the rotors turning slowly (Chorale). Touching the LESLIE FAST Touch Tab "ON" (LED lit) will cause the Leslie effect to speed up and rotate fast (Tremolo) to produce a rich, full sound.

◆ **LESLIE Edit Menu**

These Advanced Feature Menu Pages allow you to make various changes to the characteristics of the inbuilt digital Leslie.

**Accessing the LESLIE Edit Menu Using the MENU/EXIT Touch Button:**

1. From any of the PLAY Screens, touch the MENU/EXIT Touch Button to see the first screen of the MENU Mode.



You will see “A” displayed in the extreme upper left corner of the Information Center Display. This indicates that the MENU Mode has 4 Pages and that Page 1 is displaying.

2. Touch the PAGE UP Touch Button once. The “B” screen of the MENU Mode will now display.



You will now see “CUST.TW” in the upper left corner of the Information Center Display, and it will be blinking.

3. Touch the PAGE RIGHT Touch Button three times. The word, “LESLIE” will now blink.



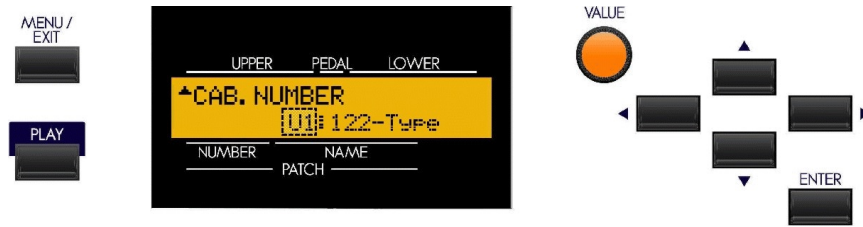
4. Touch the ENTER Touch Button.

**Accessing the LESLIE Edit Menu Using the Shortcut:**

Touch and hold any of the three LESLIE Touch Tabs. After approximately 1 second, you will see the screen shown at the top of the next page.

You are now in the LESLIE Edit Menu. You may now use the PAGE NAVIGATION Touch Buttons in conjunction with the VALUE Rotary Control to make various changes to the parameters of the digital Leslie. These changes are explained starting on the next page.

If you followed the instructions on the previous page, you should now see Page 1 of the LESLIE Edit Menu.



## Leslie Parameters

Your Hammond SK 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. Level or Volume for both Horn and Bass Rotor.
7. Microphone Settings (Angle and Distance)

## What Is A “Leslie Cabinet?”

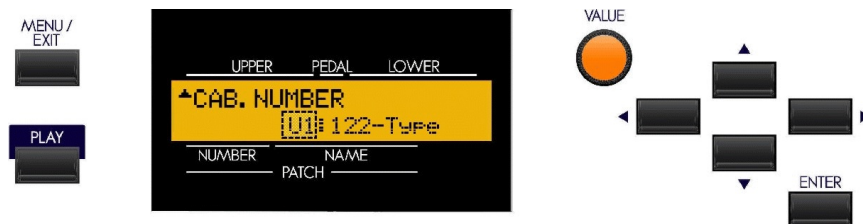
The following pages explain how to set various characteristics of the digital Leslie, including speed settings and levels for the Horn and Bass Rotors, settings for emulating various ways Leslies are “miked” either for recording or live performance, etc. All of these parameters can be saved as a Leslie Cabinet.

The Sk-series instruments have 16 different Leslie Cabinets. Eight (8) of these are User Cabinets (indicated by a “U”) while the other eight (8) are Preset Cabinets (indicated by a “P”). The Preset Cabinets are permanently written in memory, but the User Cabinets can be overwritten with your own settings. You can even re-name them if you wish.

The first two pages of the Leslie Edit Menu allow you to select the Leslie Cabinet you wish to use or modify, as well as name a custom Leslie Cabinet you have created. The remaining pages allow you to modify the sonic characteristics of the selected Leslie Cabinet. After you have made all of your changes, you can save them as a User Cabinet.

Please consult page 22 and the pages which follow for more information about creating, saving and naming your own Leslie Cabinets.

## LESLIE Edit Menu - Page 1 - Leslie Cabinet Type



This Advanced Feature allows you either to select the Leslie Cabinet Type that you prefer, or to select a User Cabinet to modify.

Turn the VALUE Rotary Control to the **right** to scroll **forward** through the choices.

Turn the VALUE Rotary Control to the **left** to scroll **backward** through the choices.

*From the previous screen, touch the PAGE UP Touch Button once. The Information Center Display should now look similar to this:*



## LESLIE Edit Menu - Page 2 - Leslie Cabinet Name

This Advanced Feature allows you to name a Leslie User Cabinet.

**NOTE:** This would normally be the final step after you have made the rest of your parameter settings and are satisfied with the results. You should have also saved your settings.

**NOTE:** Naming a Leslie User Cabinet is covered in more detail starting on page 23.

Use the PAGE LEFT and PAGE RIGHT Select Touch Buttons to select the character to be edited.

Turn the VALUE Rotary Control to the **right** to scroll **forward** through the characters.

Turn the VALUE Rotary Control to the **left** to scroll **backward** through the characters.

*The available characters include: Punctuation Marks (space - . ' &), Numeric Characters (0 ~ 9), Upper-case Letters ("A ~ Z"), and Lower-case Letters ("a ~ z").*

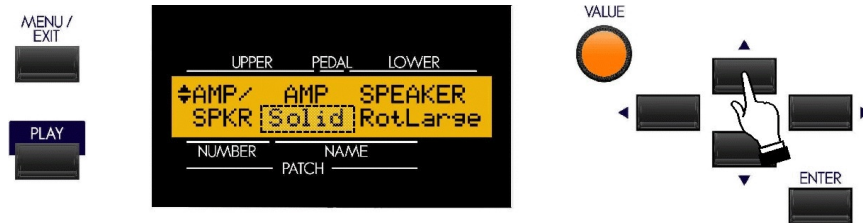
The following pages describe how to change the various Leslie Parameters.

**NOTE:** For a complete listing of all parameters that can be saved as a Leslie Cabinet, consult the Leslie Parameters page of the APPENDIX section of this Guide.

**SPECIAL NOTE:** These Advanced Features DO NOT affect a connected external Leslie Speaker.

### LESLIE Edit Menu - Page 3

From the previous screen, touch the **PAGE UP Touch Button** once. You should now see Page 3 of the **LESLIE Edit Menu**.



The legend underneath the word “AMP” should now be blinking.

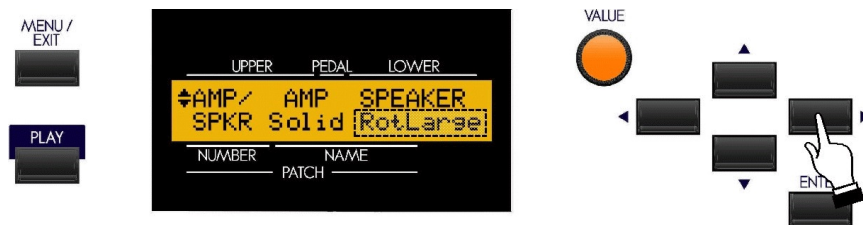
### Leslie Amplifier Type

This Advanced Feature allows you to select the Amplifier characteristics. The data chart below shows the options you may select.

LESLIE AMPLIFIER TYPES	
Description	Function
Solid	A “solid-state” or transistorized amplifier with a flat frequency response.
Tube	Frequency curves and peaks more typical of a vacuum-tube amplifier

Turn the VALUE Rotary Control to make your selection.

From the previous screen, touch the **PAGE RIGHT Touch Button** once.



The legend underneath the word “SPEAKER” should now be blinking.

### Leslie Speaker Type

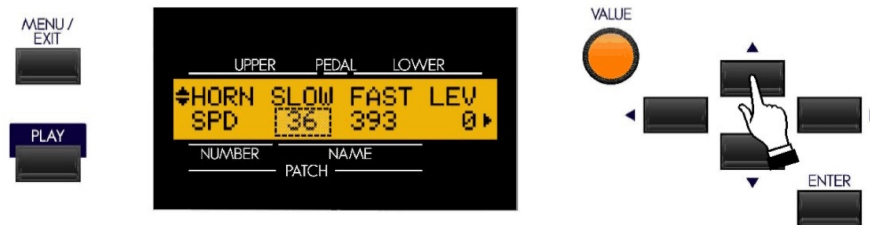
This Advanced Feature allows you to select the overall sonic characteristics of the selected Cabinet Type. The data chart below shows the options you may select.

LESLIE SPEAKER TYPES	
Description	Function
RotSmall	A small (33" tall) cabinet such as a model 142 or 145.
RotLarge	A standard-size (41" tall) speaker such as a 122 or 147.
Station	A “stationary” cabinet with no rotors such as a traditional Hammond speaker (PR-40, PR-20, QR-40, etc.).

Turn the VALUE Rotary Control to make your selection.

**NOTE:** For more information about Leslie Speaker types as well as Hammond speakers, please consult page 7.

*From the previous screen, touch the PAGE UP Touch Button once. The Information Center Display should now look like this:*



*The legend underneath the word “SLOW” should now be blinking.*

### LESLIE Edit Menu - Page 4 - Leslie Horn Settings

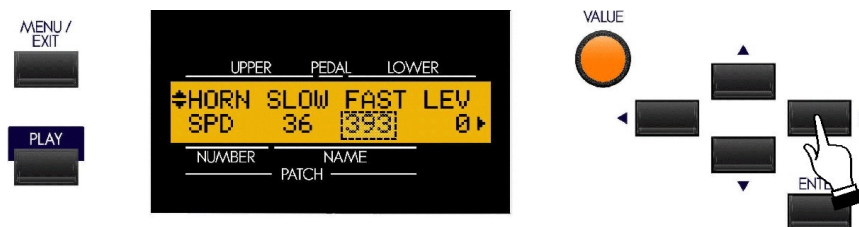
This Advanced Feature allows you to select the settings for the digital Leslie Horn that you prefer. You can change the Slow and Fast speed settings as well as the Level or volume setting.

#### Leslie Slow Speed - Horn

This Advanced Feature allows you to set the rate for the Slow Speed of the digital Leslie Horn. The default setting is “36.” You can select “0rpm,” which will cause the Horn Rotor to stop, or from “24” through “318rpm.”

Turn the VALUE Rotary Control to make your selection.

*From the previous screen, touch the PAGE RIGHT Touch Button once. The Information Center Display should now look like this:*



*The legend underneath the word “FAST” should now be blinking.*

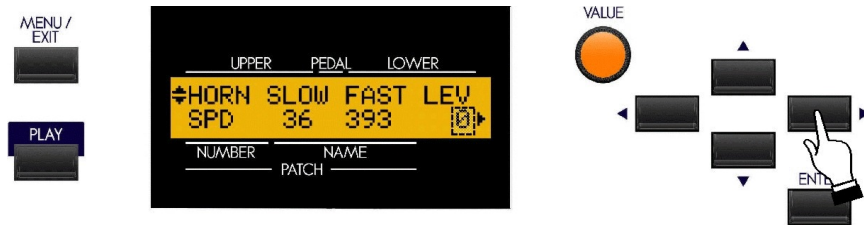
#### Leslie Fast Speed - Horn

This Advanced Feature allows you to set the rate for the Fast Speed of the digital Leslie Horn. The default setting is “393.” You can select from “0rpm,” which will cause the Horn Rotor to stop, or from “375rpm” through “453rpm.”

Turn the VALUE Rotary Control to make your selection.



From the previous screen, touch the **PAGE RIGHT Touch Button** once. The Information Center Display should now look like this:



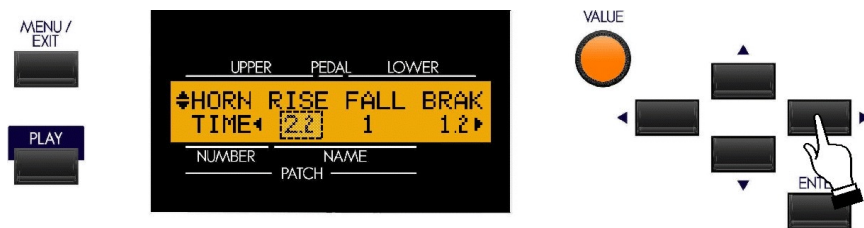
The legend underneath the word **“LEV”** should now be blinking.

### Leslie Level - Horn

This Advanced Feature allows you to adjust the volume level of the digital Horn. You can select from “0” through “-12db.”

Turn the VALUE Rotary Control to make your selection.

From the previous screen, touch the **PAGE RIGHT Touch Button** once. The Information Center Display should now look like this:



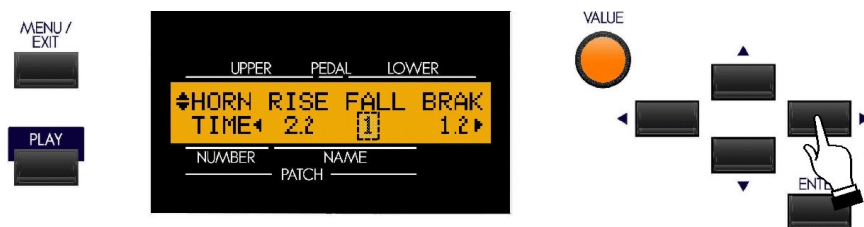
The legend underneath the word **“RISE”** should now be blinking.

### Leslie Rise Time - Horn

This Advanced Feature allows you to adjust the amount of time the Horn Rotor will take to accelerate to Fast (Tremolo) speed. You can select from “0.2” through “5” seconds in 0.2-second increments

Turn the VALUE Rotary Control to make your selection.

From the previous screen, touch the **PAGE RIGHT Touch Button** once. The Information Center Display should now look like this:



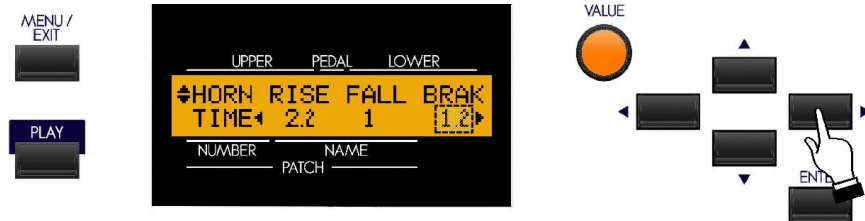
The legend underneath the word **“FALL”** should now be blinking.

### Leslie Fall Time - Horn

This Advanced Feature allows you to adjust the amount of time the Horn Rotor will take to accelerate to Fast (Tremolo) speed. You can select from “0.2” through “5” seconds in 0.2-second increments.

Turn the VALUE Rotary Control to make your selection.

From the previous screen, touch the **PAGE RIGHT Touch Button** once. The Information Center Display should now look like this:



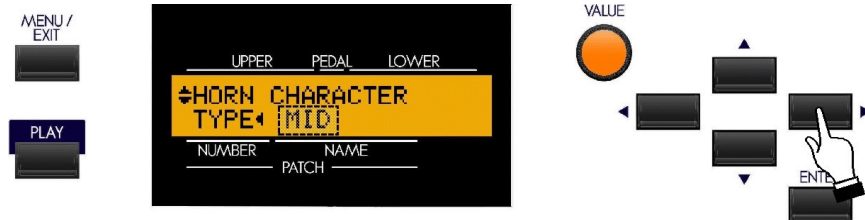
The legend underneath the word **“BRAK”** should now be blinking.

### Leslie Brake Time - Horn

This Advanced Feature allows you to adjust the amount of time the Horn Rotor will take to accelerate to Fast (Tremolo) speed. You can select from “0.2” through “5” seconds in 0.2-second increments.

Turn the VALUE Rotary Control to make your selection.

From the previous screen, touch the **PAGE RIGHT Touch Button** once. The Information Center Display should now look like this:



The legend underneath the word **“MID”** should now be blinking.

### Leslie Sound Character - Horn

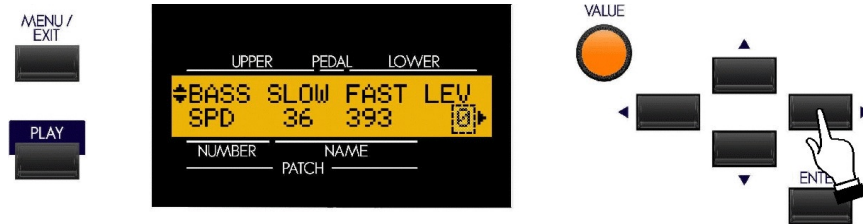
This Advanced Feature allows you to change the sound characteristics of the Horn Rotor.

The data chart below shows the options you may select.

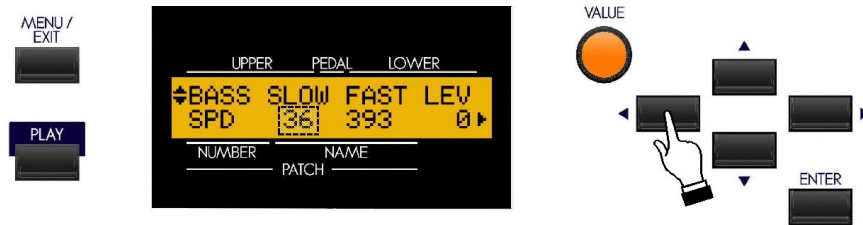
HORN CHARACTER Options	
Description	Function
0	Flat response with none of the frequencies rolled off or boosted.
MID	Emphasizes certain mid-range frequencies.
DEEP	Emphasizes certain lower frequencies.

Turn the VALUE Rotary Control to make your selection.

*From the previous screen, touch the PAGE UP Touch Button once. The Information Center Display should now look like this:*



*From the above screen, touch the PAGE LEFT Touch Button two times. The Information Center Display should now look like this:*



*The legend underneath the word “SLOW” should now be blinking.*

### LESLIE Edit Menu - Page 5 - Leslie Bass Settings

This Advanced Feature Menu allows you to select the settings for the digital Leslie Bass that you prefer. You can change the Slow and Fast speed settings as well as the Level or volume setting.

#### Leslie Slow Speed - Bass

This Advanced Feature allows you to set the rate for the Slow Speed of the digital Leslie Bass frequencies. The default setting is “36.” You can select “0rpm,” which will cause the Horn Rotor to stop, or from “24rpm” through “318rpm.”

Turn the VALUE Rotary Control to make your selection.

*From the previous screen, touch the PAGE RIGHT Touch Button once. The Information Center Display should now look like this:*



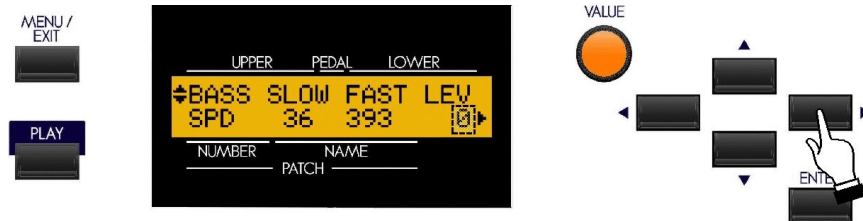
*The legend underneath the word “FAST” should now be blinking.*

#### Leslie Fast Speed - Bass

This Advanced Feature allows you to set the rate for the Fast Speed of the digital Leslie Bass frequencies. The default setting is “393.” You can select “0rpm,” which will cause the Horn Rotor to stop, or from “375rpm” through “453rpm.”

Turn the VALUE Rotary Control to make your selection.

*From the previous screen, touch the PAGE RIGHT Touch Button once. The Information Center Display should now look like this:*



*The legend underneath the word “LEV” should now be blinking.*

### Leslie Level - Bass

This Advanced Feature allows you to adjust the volume level of the digital Leslie Bass frequencies. You can select from “0” through “-12db.”

Turn the VALUE Rotary Control to make your selection.

*From the previous screen, touch the PAGE UP Touch Button once. The Information Center Display should now look like this:*



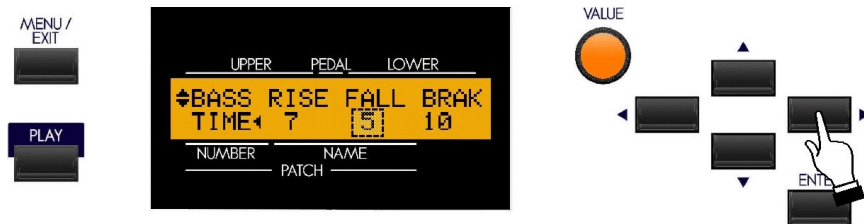
*The legend underneath the word “RISE” should now be blinking.*

### Leslie Rise Time - Bass

This Advanced Feature allows you to adjust the amount of time the Horn Rotor will take to accelerate to Fast (Tremolo) speed. You can select from “0.5” through “12.5” seconds in 0.5-second increments.

Turn the VALUE Rotary Control to make your selection.

*From the previous screen, touch the PAGE RIGHT Touch Button once. The Information Center Display should now look like this:*



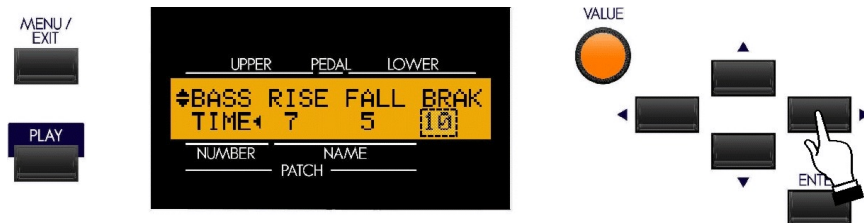
*The legend underneath the word “FALL” should now be blinking.*

### Leslie Fall Time - Bass

This Advanced Feature allows you to adjust the amount of time the Horn Rotor will take to accelerate to Fast (Tremolo) speed. You can select from “0.5” through “12.5” seconds in 0.5-second increments.

Turn the VALUE Rotary Control to make your selection.

*From the previous screen, touch the PAGE RIGHT Touch Button once. The Information Center Display should now look like this:*



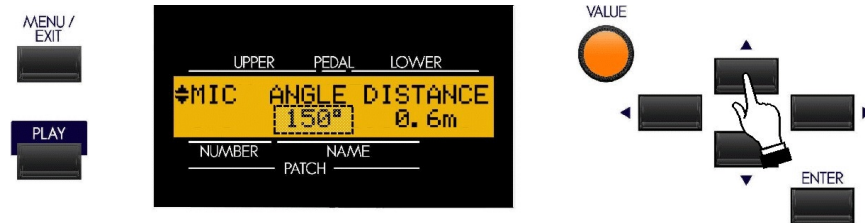
*The legend underneath the word “BRAK” should now be blinking.*

### Leslie Brake Time - Bass

This Advanced Feature allows you to adjust the amount of time the Horn Rotor will take to accelerate to Fast (Tremolo) speed. You can select from “0.5” through “12.5” seconds in 0.5-second increments.

Turn the VALUE Rotary Control to make your selection.

*From the previous screen, touch the PAGE UP Touch Button once. You should now see Page 6 of the LESLIE Edit Menu. The Information Center Display should now look like this:*



*The legend underneath the word “ANGLE” should now be blinking.*

## LESLIE Edit Menu - Page 6 - Leslie Microphone Settings

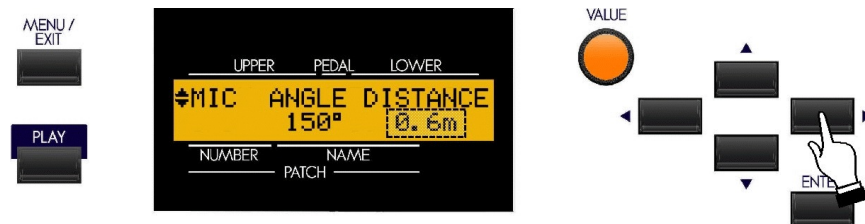
When a Leslie Speaker cabinet or combination of cabinets is used in a large facility such as an auditorium or outdoor arena, the Leslie(s) are frequently "miked" to insure that the sound carries adequately. Sound technicians have discovered that the placement of the microphones greatly affects the character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

### Leslie Microphone Setting - ANGLE

The ANGLE setting recreates the effect of two microphones. "0" setting is monaural, or both microphones placed in the center. Each higher number has the effect of moving the microphones further apart from each other, resulting in greater stereo separation. The maximum setting is “180°.”

Turn the VALUE Rotary Control to make your selection.

*From the previous screen, touch the PAGE RIGHT Touch Button repeatedly until Page 3 of the DRAWBAR Edit Menu displays. The Information Center Display should now look like this:*



*The legend underneath the word “DISTANCE” should now be blinking.*

### Leslie Microphone Setting - DISTANCE

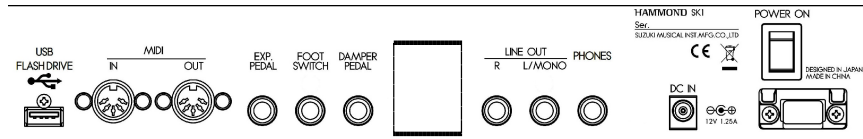
The DISTANCE setting recreates the effect of setting the microphones at different distances from a Leslie Speaker cabinet, since distance has an effect on how the Leslie Speaker reproduces through a sound system. The choices are given in metric measurements (meters or fractions). You can select from “0.3” to “2.7” meters.

Turn the VALUE Rotary Control to make your selection.

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

## Connecting a Leslie Speaker Cabinet

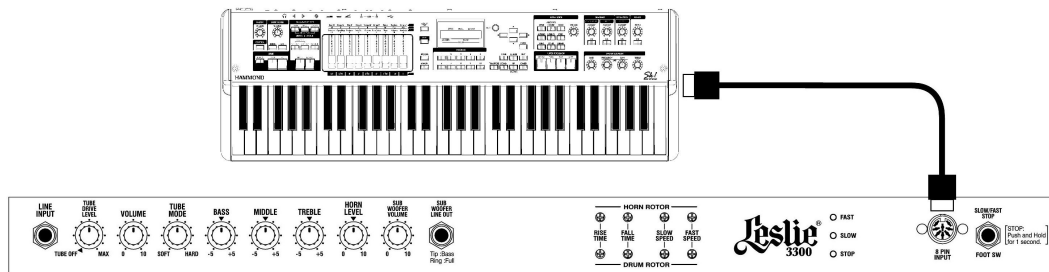
Your Hammond Sk-series instrument has a special 8-pin DIN jack located on the Accessory Panel designed to make it possible to connect a Leslie Speaker cabinet or speaker system.



The connection is made by means of a special 8-pin DIN cable supplied with each applicable Leslie Speaker.

## Connecting the Sk-series to an 8-pin Leslie Speaker

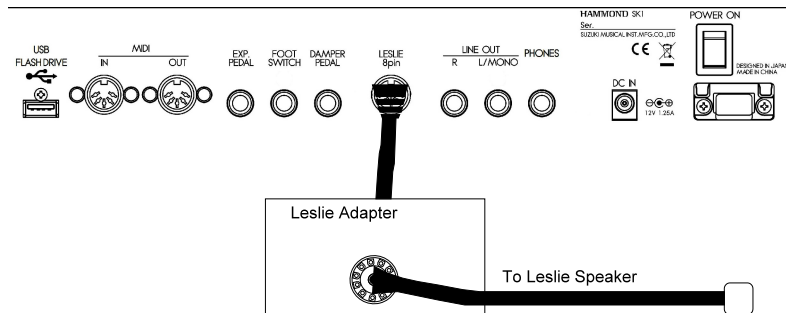
Some Leslie Speakers such as the 21 System and the model 3300 have an 8-pin connection built in. Your Sk-series instrument will connect directly to these cabinets via the special 8-pin DIN cable supplied with the speaker or speaker system. Connect one end of the cable to the 8-pin jack on the cabinet and the other end to the corresponding jack on the SK, as shown below.



## Connecting the Sk-series to a classic Leslie Speaker

The majority of Leslie Speakers available do not have an 8-pin connection, but have a large multi-pin socket for the audio connection as well as motor control. You can connect your Sk-series instrument to one of these cabinets via a special adapter kit available from Hammond. To do this:

1. Connect one end of the Adapter Kit to the multi-pin plug on the back of your Leslie Speaker cabinet.
2. Connect the other end of the Adapter Kit to the Leslie 8-pin jack on the back of the SK.



**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.

### ◆ Creating your own Leslie Cabinets

As stated on page 11, the Sk-series instruments have 16 different Leslie Cabinets. Eight (8) of these are User Cabinets (indicated by a “U”) while the other eight (8) are Preset Cabinets (indicated by a “P”). The Preset Cabinets are permanently written in memory, but the User Cabinets can be overwritten with your own settings. You can even re-name them if you wish.

There are 8 Preset cabinets, each designed to duplicate the sound of a particular model Leslie Speaker:

The data chart below shows the options you may select.

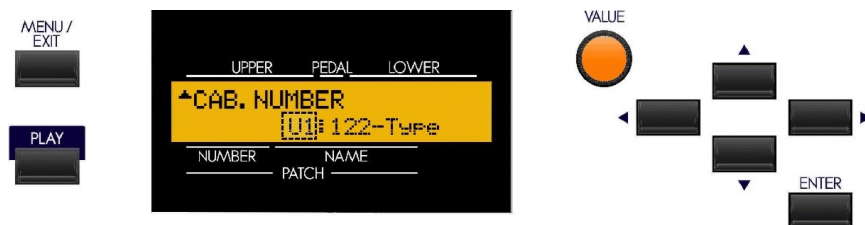
Leslie Cabinet Types	
Name	Description
<b><u>122-Type</u></b>	Duplicates the characteristics of a 122-type Leslie Speaker, which is the most common Leslie Speaker used on a vintage Hammond Organ.
<b><u>147-Type</u></b>	Duplicates the characteristics of a 147-type Leslie Speaker - tube sound but with slightly more high frequencies, etc.
<b><u>31H-Type</u></b>	Duplicates the characteristics of a 60" "tall boy" Leslie Speaker such as the model 31H - tube sound with slightly more bass, etc.
<b><u>760-Type</u></b>	Duplicates the characteristics of a single-channel solid-state-type Leslie Speaker, such as the model 760, which was designed to be a solid-state counterpart to the model 122.
<b><u>722-Type</u></b>	Duplicates the characteristics of a two-channel solid-state-type Leslie Speaker such as the model HL 722, which was the Leslie model designed for the model B-3000 Hammond Organ manufactured in the late 70's.
<b><u>825-Type</u></b>	Duplicates the characteristics of a solid-state-type Leslie Speaker with a single 12" speaker and a single rotating baffle, such as a model 825 (9-pin interface), or 820 (later version of 825 with 11-pin interface).
<b><u>Rock Type</u></b>	Duplicates the characteristics of a tube-type Leslie Speaker which has been subjected to hard use.
<b><u>PR-40-Type</u></b>	Duplicates the tonal characteristics of a Hammond PR-40 Tone Cabinet.

The factory settings for the User cabinets are identical to those for the Preset cabinets. To edit and save your own Leslie Cabinets, it is recommended that you first select the cabinet which already contains most of the characteristics you desire. In this way, fewer changes will be necessary to achieve the desired result.

### Saving a custom User Cabinet

#### TRY THIS:

1. Access the LESLIE Edit Menu using one of the two procedures described on page 10. You should now see Page 1 of the LESLIE Edit Menu.



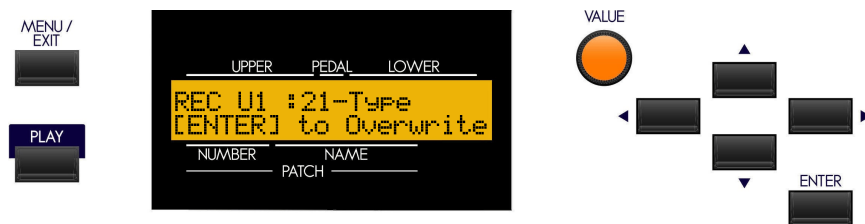
2. Use the VALUE Rotary Control to select the Leslie Cabinet you want to modify. Be sure to select one of the “U” or User cabinets.



3. Make whatever changes you want to the editable parameters - Slow and Fast Speeds, Rise and Fall Times, etc.
4. After you have made all your edits and you have the sound you want, Touch and Release the RECORD Touch Button.



The Information Center Display should now look similar to this:



5. If you DO NOT wish to save the parameters you have changed, touch the MENU/EXIT or PLAY Touch Button.

If you want to overwrite the Leslie Parameters with your new edited settings, touch the ENTER Touch Button. The bottom line of the Information Center Display will scroll the following:

Recording Cabinet...

After the above steps scrolling, your edits have been saved as a User Cabinet.

**IMPORTANT:** It is recommended that you create and then save a Leslie User Cabinet before re-naming it. It is also recommended that you rename your User Cabinet after saving it.

### Naming a custom User Cabinet

#### TRY THIS:

1. After creating and saving a User Cabinet, bring up Page 2 of the LESLIE Edit Menu. You should be able to do this by touching the PAGE UP Touch Button once since you are already in the LESLIE Edit Menu. The Information Center Display should look similar to this:



- Now name your User Cabinet by doing the following:

Use the PAGE LEFT and PAGE RIGHT Select Touch Buttons to select the character to be edited.

Turn the VALUE Rotary Control to the **right** to scroll **forward** through the characters.

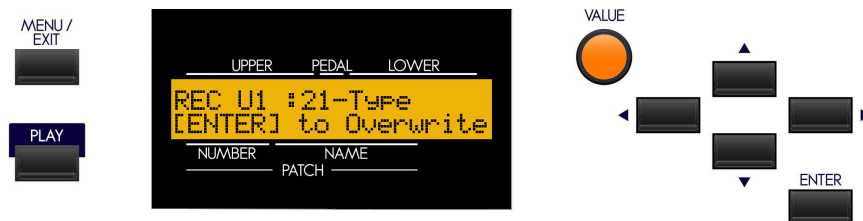
Turn the VALUE Rotary Control to the **left** to scroll **backward** through the characters.

*The available characters include: Punctuation Marks (space - . ' &), Numeric Characters (0 ~ 9), Upper-case Letters ("A ~ Z"), and Lower-case Letters ("a ~ z").*

- After you have finished editing, Touch and Release the RECORD Touch Button.



The Information Center Display should now look similar to this:



- If you DO NOT wish to save the name, touch the MENU/EXIT or PLAY Touch Button.

If you want to overwrite the Leslie Cabinet Name, touch the ENTER Touch Button. The bottom line of the Information Center Display will scroll the following:

Recording Cabinet...

After the above stops scrolling, your User Cabinet has been renamed.