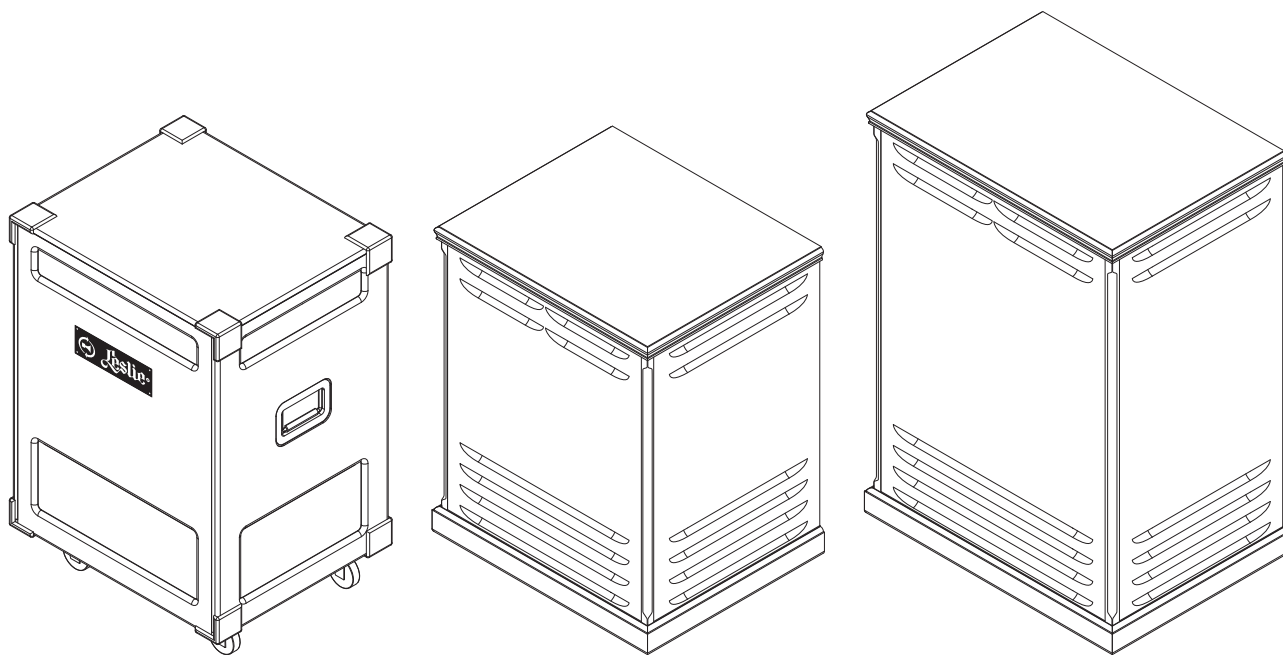


Leslie[®]
SPEAKERS

Innovative Sound Systems



Leslie PRO Series

Model 3500 / 3500W / 991

Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS

- Read these instructions.
- Keep these instructions.
- Heed all warnings.
- Follow all instructions.
- Do not use this apparatus near water.
- Clean only with dry cloth.
- Do not block any ventilation openings.
Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer.

Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When cart is used: use caution when moving the cart/apparatus combination to avoid injury from tip-over.

PORTABLE CART WARNING



S3125A

Unplug this apparatus during lightning storms, or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

ATTENTION: Pour réduire les risques de choc électrique ou d'incendie, ne pas exposer cet appareil à la pluie ou à l'humidité.



- THIS APPARATUS MUST BE EARTHED.
- The socket-outlet shall be installed near the apparatus and shall be easily accessible.



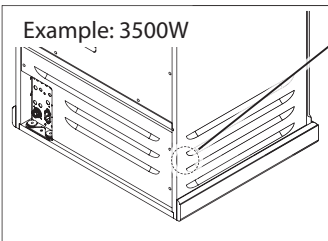
注意：感電の恐れありキャビネットをあけるな


ATTENTION: RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK,
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

	The lightning flash with arrowhead symbol within an equilateral triangle, indicates that dangerous voltage constituting a risk of electric shock is present within this unit.
	The exclamation point within equilateral triangle, indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

WARNING: Do not insert your fingers through the gaps. There are rotating parts inside.



	This mark on the unit warns that there are rotating parts inside this unit and there is a risk of getting your fingers caught.
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For the USA



NOTE: This equipment has been tested and found to comply with the limits for a Class B digital unit, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- ♦ Reorient or relocate the receiving antenna.
- ♦ Increase the separation between the equipment and receiver.
- ♦ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- ♦ Consult the dealer or an experienced radio/TV technician for help.

For CANADA

This class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

For EU countries



In case in the future your instrument gets too old to play/use or malfunctions beyond repair, please observe the instructions of this mark, or, if any question, be sure to contact your dealer or your nearest town or municipal office for its proper disposal.



For UNITED KINGDOM

FOR YOUR SAFETY, PLEASE READ THE FOLLOWING TEXT CAREFULLY

This appliance is supplied with a molded 3-pin mains plug for your safety and convenience.

The plug contains a 13 amp fuse.

Should the fuse need to be replaced, please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS11362.

Check for the ASTA mark  or the BSI  mark on the body of the fuse.

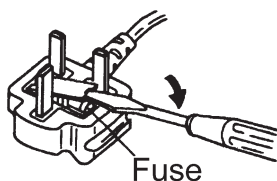
If the plug contains a removable fuse cover, you must ensure that it is refitted when the fuse is replaced.

If the fuse cover is lost, the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be obtained from your local Hammond Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME, THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT-OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

To replace the fuse, open the fuse compartment with a screwdriver and replace the fuse and fuse cover.



THANK YOU

for your purchase of the Leslie® Speaker System. Your new Leslie Speaker is the culmination of many years of research and dedication to the art of sound reproduction. This Leslie Speaker has been designed to provide the utmost in musical enchantment plus dependable service.

The Leslie Speaker system sets revolutionary new standards of organ speaker performance, achieving heights of musical excellence never before considered possible. Not just another speaker - it marks a major breakthrough in organ sound, perhaps the most significant step forward since the introduction of the electric organ.

Many features have been included in this speaker to insure the finest organ sound possible. Please take a moment to read this manual, then turn on your new Leslie Speaker and enjoy your playing to the fullest.

MAIN FEATURES

- ♦ The Leslie 3500 / 3500W / 991 cabinets are single channel cabinets having two rotors and three Rotor Modes. These cabinets contain a 300W High-Power amplifier (Bass 220W, Horn 80W). A massive 15" Woofer reproduces the deep bass sounds and a new custom Horn Driver containing a Neodymium magnet reproduces the higher frequencies. These drivers, combined with the 300W High-Power amplifier, produce a deep, powerful and dynamic sound.
- ♦ These cabinets are equipped with a transistorized "Push-Pull" amp that can create the classic "Overdrive" sound at any volume level without overloading the power amplifier or speakers.
- ♦ A 3-band equalizer and HORN LEVEL control are included that allow you to fine-tune the sound quality to your preference.
- ♦ A variable-frequency BASS OUT jack is included that can be used as a Sub-Woofer or full-range reinforced output.
- ♦ These cabinets feature two input connectors - an 11-pin plug for connecting Hammond Organs such as XK-3, XK-3c, XK-5, etc. and a ROTARY INPUT jack for connecting instruments with standard ¼" LINE OUT audio connections.
- ♦ The brushless DC Servo motors are not affected by power frequency variations or voltage changes, making them more stable under all performing conditions. These motors give you the ability to adjust the Slow and Fast speeds and Rise and Fall Times of the rotors.
- ♦ The ¼" Foot Switch jack allows you to control the Leslie rotors using either a "normally open" (e.g. Hammond FS-9H) or a "latching" (e.g. Hammond FS-10TL) switch to change Rotor Modes.

TYPE

1-channel (Rotary Channel Only)
Mechanical 2 Rotors

POWER OUTPUT

Horn

80 W RMS

Low

220 W RMS
(total power 300 W RMS)

SPEAKERS

Horn

High-compression Driver

Low

15" (38cm) Woofer

CONTROLS

Volume

Volume, Horn Level

Overdrive

On/Off, Gain

Equalizer

Bass, Middle, Treble

Power

Power Switch, 11-pin Power Remote

Rotor Adjust

Rise Time, Fall Time, Slow Speed, Fast Speed (ind. adjustable for Horn and Low Rotors)

MOTORS

Brushless DC Servo Motor x 2

INDICATORS

Power, Standby, Mode (Slow, Stop, Fast)

CONNECTORS

11-pin Input socket with Stationary L and R through Outputs,
Rotary Input ¼," impd. 10kΩ sensitivity 100mV (-18dBu),
Foot SW (with Type switch)
Bass Out (with Frequency control, 0dBu)
AC Inlet

POWER CONSUMPTION

105 W

DIMENSION

3500

W 62.6 x D 52.5 x H 89.9 cm
W 24.6 x D 20.7 x H 35.4 inches

3500W

W 64.5 x D 53.0 x H 79.4 cm
W 25.4 x D 20.9 x H 31.3 inches

991

W 74.2 x D 52.4 x H 104.5 cm
W 29.2 x D 20.6 x H 41.1 inches

WEIGHT

3500

53.4 kg / 117.7 lbs

3500W

50.4 kg / 111.1 lbs

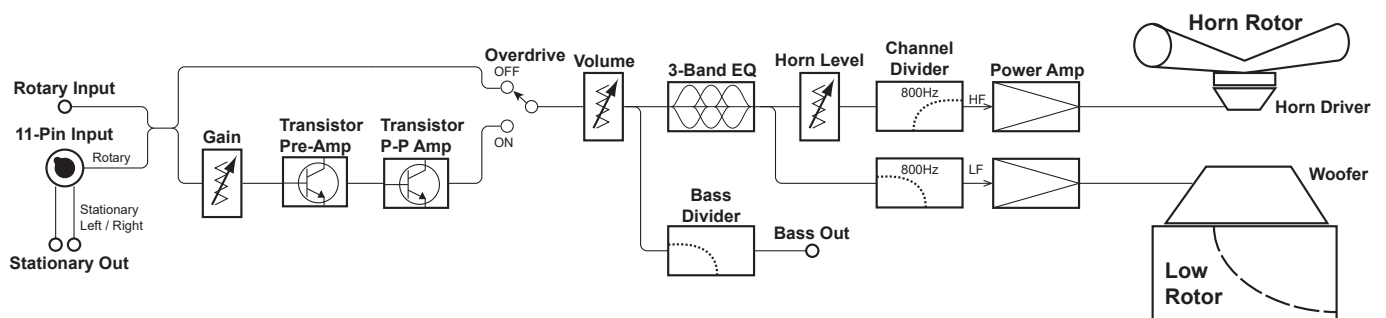
991

63.3 kg / 139.6 lbs

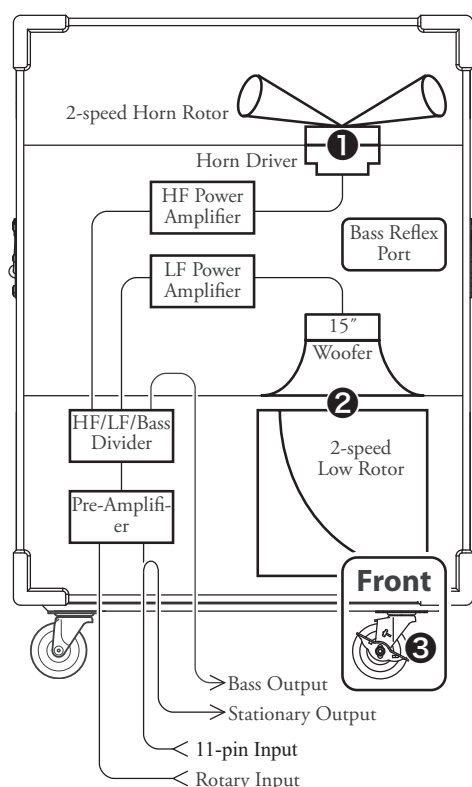
OPTIONAL

11-pin Leslie Cable LC11-7M
Foot Switch FS-9H
Foot Switch FS-10TL

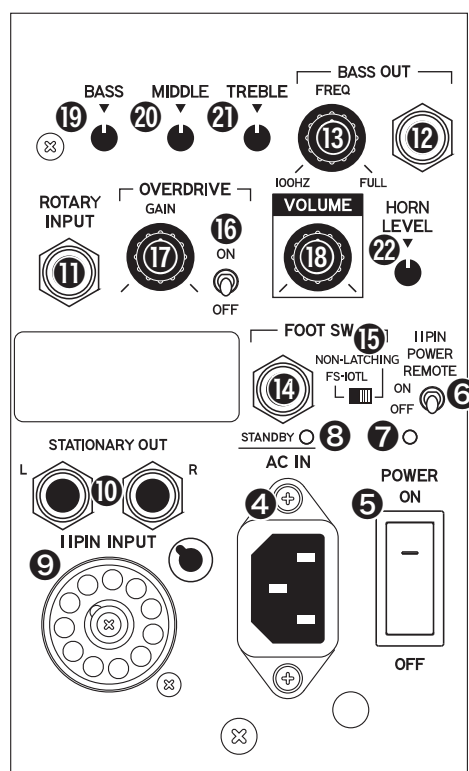
BLOCK DIAGRAM



INTERNAL STRUCTURE



MAIN CONTROL PANEL



REAR

① Horn Driver / Horn Rotor

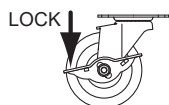
Reproduces the high frequencies (above approx. 800 Hz).

② 15" Woofer / Low Rotor

Reproduces the low frequencies (below approx. 800 Hz).

③ Casters (front, 3500 only)

The casters located on the front of this cabinet should be locked during a performance and unlocked when transporting the cabinet.



MAIN CONTROL PANEL

POWER SUPPLY

④ AC Receptacle

Use to connect the AC power cord (included).

⑤ POWER switch

Turns the power to the cabinet "ON" or "OFF."

⑥ 11-PIN POWER REMOTE switch (p.11)

Allows the cabinet to be turned "ON" from the power switch of an organ connected via the 11-pin interface.

NOTE: If your instrument is not connected via the 11-pin interface, set this switch to the "OFF" position. If it is set to "ON," the cabinet will not turn "ON."

⑦ POWER indicator

Indicates the power status.

ON.....Power is "ON."

OFF.....Power is "OFF"

⑧ STANDBY indicator (p.11)

This LED will light when:

- ♦ The cabinet is in STANDBY mode for 11-pin Remote.
- ♦ The amplifier is shut down due to a malfunction.

AUDIO INPUTS AND OUTPUTS

⑨ 11-PIN INPUT socket (p.8)

Use to connect an organ equipped with an 11-pin Leslie interface.

⑩ STATIONARY OUT (L)(R) jack (p.9)

Use these jacks to output sound from the Stationary Channels of an organ having 3-channel sound.

⑪ ROTARY INPUT jack (p.8)

Use to connect an instrument with LINE OUT jacks using standard ¼" plugs.

⑫ BASS OUT jack (p.9)

Use this jack to output audio from the Rotary Channel.

Use the ⑬ [FREQ] knob to adjust the Bass sounds going to a bass amp, Sub-Woofer or full-range reinforced output.

⑬ BASS OUT FREQ knob (p.9)

This adjusts the cut-off frequency of the Low-Pass Filter to the ⑫ BASS OUT jack.

FOOT SWITCH

14 FOOT SW jack (p.8)

Allows you to control the Leslie rotors using the FS-9H or FS-10TL Foot Switch.

NOTE: Use this jack only if you are connected to the cabinet via the ROTARY INPUT jack. Do not connect a Foot Switch to this jack if you are connected to this cabinet via the 11-pin INPUT.

The following (optional) Foot Switches can be used:

- ♦ FS-9H (non-latching, normally open type), or equivalent.
- ♦ FS-10TL Leslie Foot Switch.

15 FOOT SW TYPE switch (p.8)

This selects the type of Foot Switch to be used.

NON-LATCHING.....Use Hammond FS-9H or similar "non-latching/normally open" switch. The rotors will switch between SLOW and FAST each time the Foot Switch is pressed. If the Foot Switch is pressed and held for 1.5 seconds or longer, the Rotors will STOP.

FS-10TL.....Use Leslie FS-10TL.

AUDIO CONTROL

16 OVERDRIVE switch (p.12)

Use this switch to turn Overdrive "ON" or "OFF."

17 OVERDRIVE GAIN knob (p.12)

Use this control to adjust the amount of Overdrive.

18 VOLUME knob (p.10)

Use this control to adjust the total volume of the cabinet.

19 BASS knob (p.12)

Use this control to boost or cut the Bass frequencies (around 35Hz).

20 MIDDLE knob (p.12)

Use this control to boost or cut the Middle frequencies (around 600Hz).

21 TREBLE knob (p.12)

Use this control to boost or cut the Treble frequencies (around 10kHz).

22 HORN LEVEL knob (p.12)

Use this control to adjust the level of the Horn Driver and to balance the sound level between the Horn Driver and Woofer.

tips ROTOR MODE OPTIONS

SLOW

Rotors will turn slowly (Chorale), producing an effect suitable for use with hymns, classical style music and some slower songs.

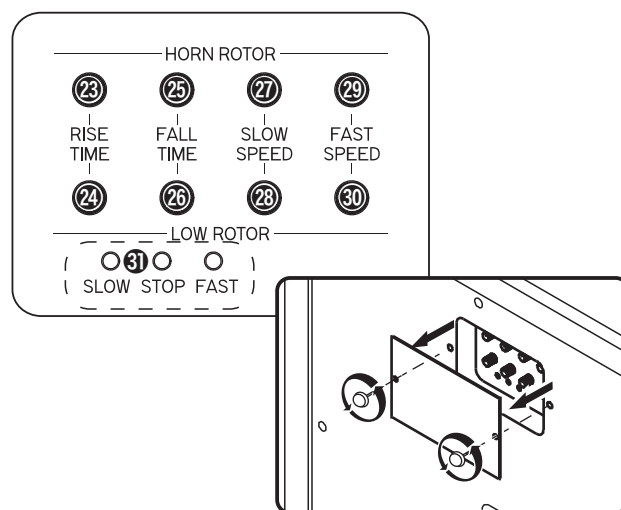
STOP

Rotors do not turn.

FAST

Rotors will speed up and rotate fast (Tremolo) to produce a rich full sound.

ROTOR CONTROL PANEL



The Rotor Control Panel is located inside the ornamental Nameplate on the back panel of the cabinet.*

These controls allow you to customize the SLOW and FAST speeds of both the Horn and Low Rotors as well as the Rise (rate from STOP/SLOW to FAST) and Fall (rate from FAST to SLOW/STOP) times of both rotors.

23/24 RISE TIME knobs - HORN / LOW Rotors

These allow you to adjust the time for the rotors to reach the FAST speed from the SLOW speed or STOP. Turning them clockwise will increase the time.

25/26 FALL TIME knobs - HORN / LOW Rotors

These allow you to adjust the time for the rotors to reach the SLOW speed or STOP from the FAST speed. Turning them clockwise will increase the time.

27/28 SLOW SPEED knobs - HORN / LOW Rotors

These allow you to adjust the rotor speed of the SLOW mode.

29/30 FAST SPEED knobs - HORN / LOW Rotors

These allow you to adjust the rotor speed of the FAST mode.

NOTE: The default values for each setting are shown below. These are the values when each knob is in its center position.

	RISE TIME	FALL TIME	SLOW SPEED	FAST SPEED
HORN ROTOR	1.8[s]	2.4[s]	44[rpm]	402[rpm]
LOW ROTOR	7.0[s]	5.5[s]	42[rpm]	372[rpm]

31 ROTOR MODE indicators

These LEDs indicates the current state of the rotors..

NOTE: These three LEDs will all flash according to the speed of the Low Rotor for a few seconds after the power to the cabinet is turned "ON."

* These controls are normally covered by the ornamental Nameplate; however, they can be accessed by removing the plate as shown in the figure.

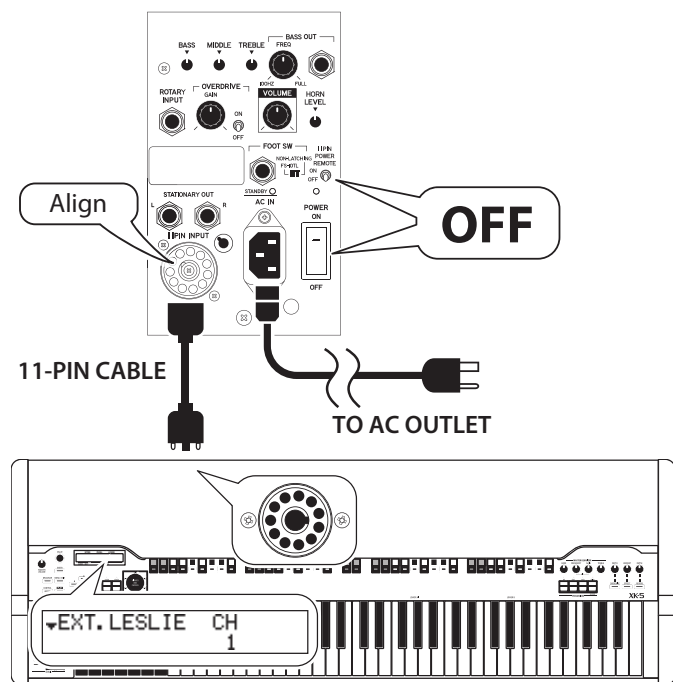
NOTE: Because the ornamental Nameplate contains model information for the cabinet, be sure to keep it and the knob bolts in a secure place if you remove them.

MAKING THE CONNECTIONS

Connect cables and accessories and operate the switches on this unit as shown below and on the next page.

NOTE: Make sure the power to both the instrument and the cabinet is "OFF" before making any of the following connections.

CONNECTING AN ORGAN WITH AN 11-PIN LESLIE INTERFACE



Applicable HAMMOND Models:

Single-channel models:

.....B-3 mk2, C-3 mk2, New B-3, New C-3, XK-2 etc.

Models with channel switching:

.....SK PRO, SKX PRO, SKX, XK-5/-4/-3/-3C, A-162, A-405, XB-3/-3M etc.

Steps

- 1 Connect the organ to the cabinet as shown on the left.

Cable used:

- ♦ 11-pin Leslie Cable LC11-7M (optional)

NOTE: You can also connect the organ to two cabinets using the 11-pin Leslie "Y" Cable LC11Y-7M (optional).

NOTE: When using this connection, do not connect any cables or devices to the FOOT SW jack, ROTARY INPUT jack. This is to insure the Rotor Modes will switch correctly.

- 2 Turn the [11-PIN POWER REMOTE] switch to "OFF."
- 3 If the organ has a provision for setting the number of channels of an external Leslie, set the [EXT.LESLIE CH] of the connected organ at 1.

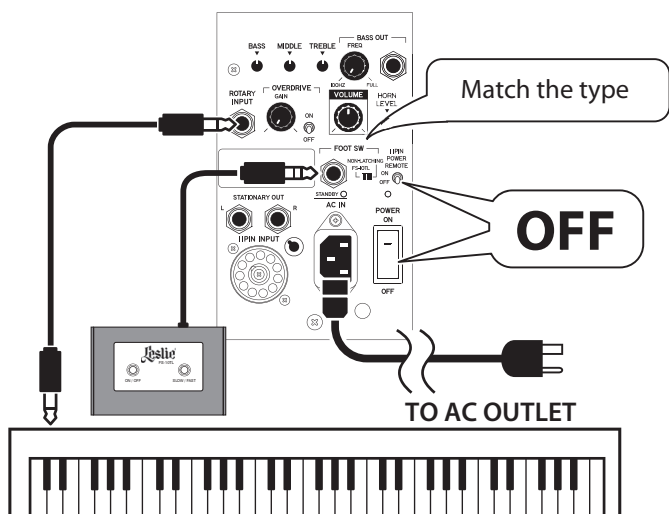
NOTE: Please refer to the Owner's Manual of the organ for instructions on how to set the number of channels.

tips LESLIE CABLE

Because a Leslie cabinet can receive both an audio signal and control voltages for operating the rotors, a special cable (Leslie LC11-7M) is used for connection between an organ and a Leslie Speaker having both audio and control signals.

Both the Leslie connections are "keyed;" that is, each connection contains a notch which insures that the pins properly match up.

CONNECTING AN INSTRUMENT WITH A 1/4" AUDIO INTERFACE



Steps

- 1 Connect the cabinet and the instrument as shown on the left.

Cable used:

- ♦ 1/4" mono phone cable (optional)

- 2 Turn the [11-PIN POWER REMOTE] switch to "OFF."
- 3 Connect a Foot Switch (FS-9H or FS-10TL) to the [FOOT SW] jack.

NOTE: A Foot Switch must be connected to the cabinet in order to switch Rotor Modes.

- 4 Select the Foot Switch Type using the [FOOT SW TYPE] selector.

NON-LATCHING

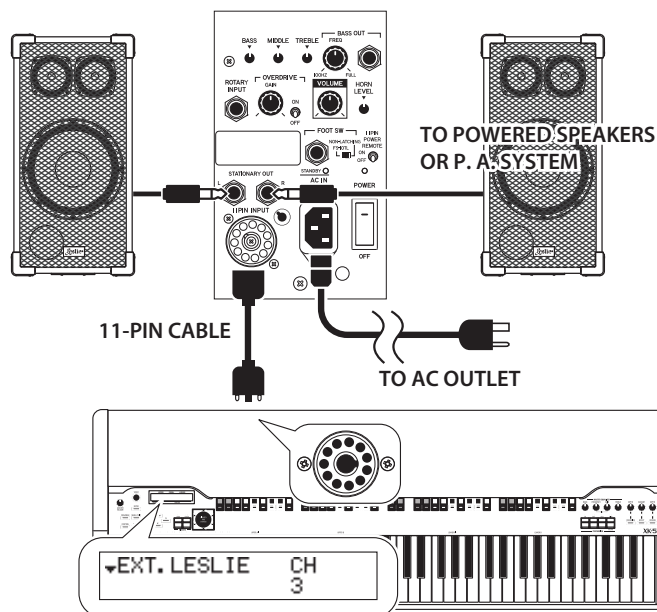
.....Use Hammond FS-9H or similar "non-latching/normally open" switch. The rotors will switch between SLOW and FAST each time the Foot Switch is pressed. If the Foot Switch is pressed and held for 1.5 seconds or longer, the Rotors will STOP.

FS-10TL

.....Use Leslie FS-10TL.

NOTE: If your instrument has a built-in digital Leslie or "Rotary Cabinet" simulator, turn it "OFF" when using this connection.

CONNECTING AN ORGAN WITH AN 11-PIN AND 3-CHANNEL LESLIE INTERFACE



If your organ has 3-channel audio (both Rotary and Stationary Channels), the sound from the Stationary Channels (such as Pipe Organ, Piano, Aux In, etc.) can be sent directly to external powered speakers or a PA system.

Applicable HAMMOND Models:

Three-channel models:

.....XT-100, XH-200, XE-1, 935, A-305, A-405, 910 Chapel Organ

Models with channel switching:

.....SK PRO, SKX PRO, SKX, XK-5/-4/-3/-3C, A-162, A-405, XB-3 / XB-3M etc.

Steps

- 1 Connect the organ to the cabinet as shown on the left.

Cable used:

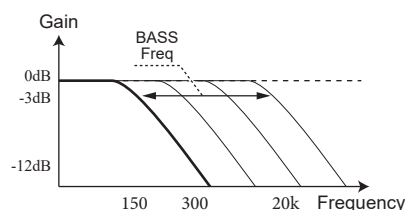
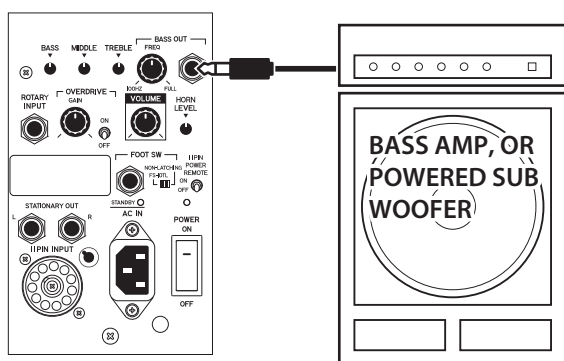
- ♦ 11-pin Leslie Cable LC11-7M (optional)

NOTE: When using this connection, do not connect any cables or devices to the FOOT SW jack or ROTARY INPUT jack. This is to insure the Rotor Modes will switch correctly.

- 2 Turn the [11-PIN POWER REMOTE] switch to "OFF"
- 3 If the organ has a provision for setting the number of channels of an external Leslie, set the [EXT.LESLIE CH] of the connected organ at 3.

NOTE: Please refer to the Owner's Manual of the organ for instructions on how to set the number of channels.

USING A SUB WOOFER TO REINFORCE BASS



You can connect the Leslie 3500 / 3500W / 991 cabinet to a bass amp or powered Sub-Woofer via the [BASS OUT] jack to reinforce the Bass tones (see the illustration on the left).

After both the cabinet and the connected amplifier or Sub-Woofer are turned "ON," use the [FREQ] knob to get the Bass frequency response you prefer.

Turn the [FREQ] knob to the left if you are using a Bass amp or powered Sub-Woofer to emphasize the Bass tones. Turn the knob to the right to introduce higher frequencies in addition to Bass frequencies (illustration at lower left).

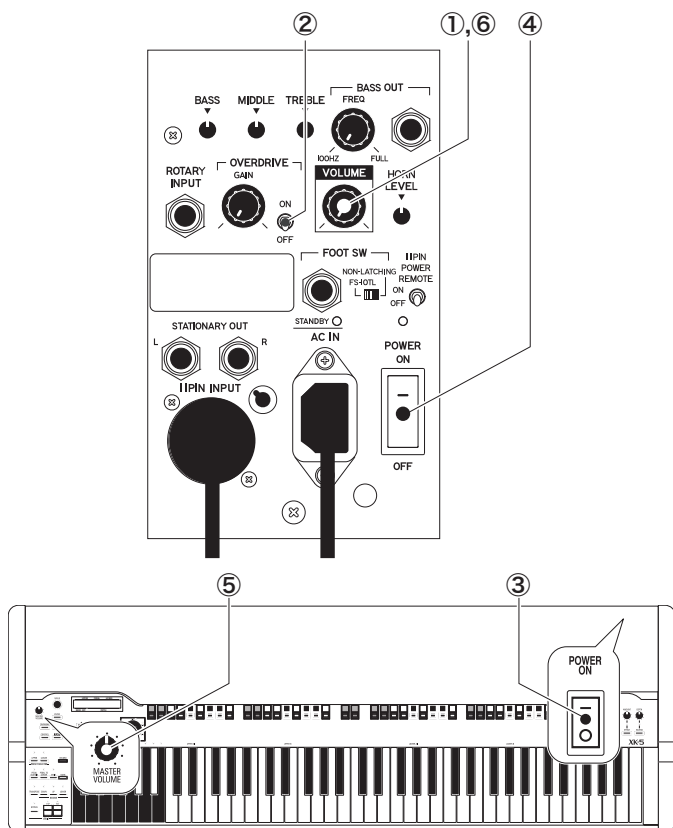
Turning the knob all the way to the right will allow the full frequency response of the cabinet to sound through a connected audio device such as a powered amp or speaker. Some organists use a mix of Leslie animation and "dry" sound. This will achieve that effect.

CAUTION

Do not place this unit in direct sunlight, near heat sources, or in a location subject to excessive heat or cold.

After making the connections described on the previous pages, follow the procedures on this page to turn the power to the cabinet “ON.” Please follow these procedures to prevent malfunction or damage.

BASIC PROCEDURE



Steps

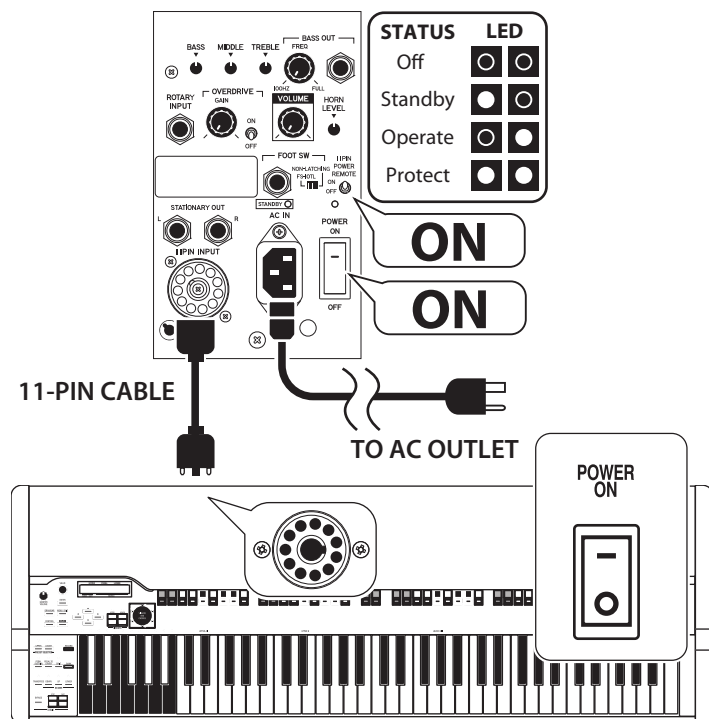
- ① Turn the [VOLUME] knob on the cabinet to its minimum position as shown on the left to avoid a loud “pop” or other sudden loud sound when power is turned “ON.”
- ② Turn the [OVERDRIVE] switch “OFF” to adjust the volume at a “clean” or undistorted setting.
- ③ Turn the power to the connected instrument ON.
- ④ Turn the [POWER] Switch to the Leslie cabinet “ON.”
 - ♦ The rotors will automatically start rotating at FAST mode.
 - ♦ After 6 seconds, the rotors will switch from FAST mode to the current speed according to the position of the Leslie switches on the organ or the Foot Switch setting.
- ⑤ Adjust the volume of the connected instrument to a normal performance level (for example, “12:00” or “2:00” position with a rotary knob, half or 3/4 volume with a slider).
- ⑥ Adjust the [VOLUME] knob of the cabinet while playing the instrument to determine the appropriate setting.

⚠ CAUTION

The [VOLUME] knob should be set to a moderate level to prevent distortion or overdriving the speakers (see the illustration on the left). Excessive volume may cause serious damage to the cabinet.

- ⑦ Verify that the Rotor speeds will change in response to either the Leslie switches on the connected instrument or a Foot Switch.

11-PIN POWER REMOTE FUNCTION



If you are connected to the cabinet using the 11-pin interface, you can use the 11-PIN POWER REMOTE function to turn the power to the cabinet “ON” using the power switch on the organ.

NOTE: This function is only available when connecting to the cabinet using the 11-pin interface.

Steps

- ① Make sure the power to both the organ and the cabinet are “OFF.”
- ② Connect the cabinet to the organ using the 11-pin interface (optional Leslie Cable LC11-7M).
- ③ Turn the [11-PIN POWER REMOTE] switch to “ON.”
- ④ Turn the [POWER] Switch on the cabinet to “ON.”
 - ♦ The [STANDBY] indicator will light, indicating the cabinet is in STANDBY mode.
- ⑤ Turn the power to the organ “ON.”
 - ♦ The cabinet and the organ will both turn “ON” and the [POWER] indicator will light.

NOTE: If you turn the power to the connected organ “OFF,” the cabinet will revert to STANDBY mode and the [STANDBY] indicator will light.

NOTE: Even if you turn the [POWER] switch to “OFF” or pull out the AC cord in STANDBY mode, the [STANDBY] indicator will remain lit for about 30 seconds. This is because a small amount of AC charge remains within the cabinet and is not a malfunction.

NOTE: In rare cases, the Rotors may not turn even if the POWER indicator LED is “ON.” If this occurs, turn the [11-PIN POWER REMOTE] switch “OFF,” wait a few seconds, then turn it “ON” again.

PROTECTION CIRCUIT

If a malfunction occurs while using this cabinet, such as:

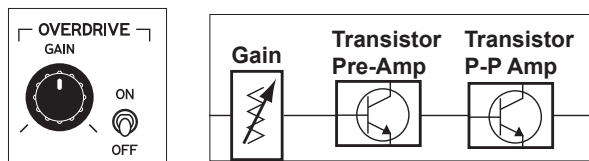
- ♦ Overcurrent
- ♦ Overheating
- ♦ DC voltage on the speaker output
- ♦ Low power voltage

the amplifier will shut down and the [STANDBY] indicator LED will light to protect the circuitry from damage.

If this occurs, turn the power to the cabinet “OFF,” wait approximately 1 minute, then turn the power back “ON.”

If doing the above does not resolve the problem, contact your dealer for service.

OVERDRIVE

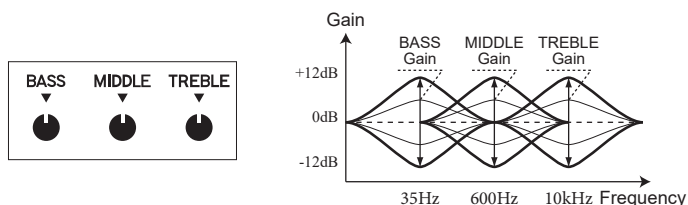


The “Overdrive” effect is a distorted sound created by routing the audio signal into the transistorized “Push-Pull” amplifier.

To use the Overdrive, turn the [OVERDRIVE] switch to “ON” and adjust the [OVERDRIVE GAIN] knob until the desired amount of Overdrive distortion is achieved.

If adding Overdrive creates excessive volume, adjust the [VOLUME] knob until the desired level is achieved.

EQUALIZER



The 3-band Equalizer divides the audio signal into 3 frequency bands (Bass, Middle and Treble) and allows you to boost or cut each band.

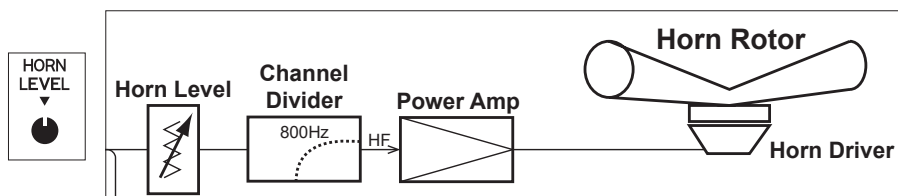
When these knobs are in their center (detente) position, the frequency response will be “flat” - no boost or gain.

BASS This allows you to adjust the low Pedal notes or bass line.

MIDDLE This allows you to adjust the prominence of the chords or melody.

TREBLE This allows you to adjust the higher frequencies such as Leakage Tone or “Key Click.”

HORN LEVEL



Use this control to adjust the level of the Horn Driver and to balance the sound between the Horn Driver and Woofer.

“Standard” Horn Level is, the [HORN LEVEL] knob at its center (detente) position.

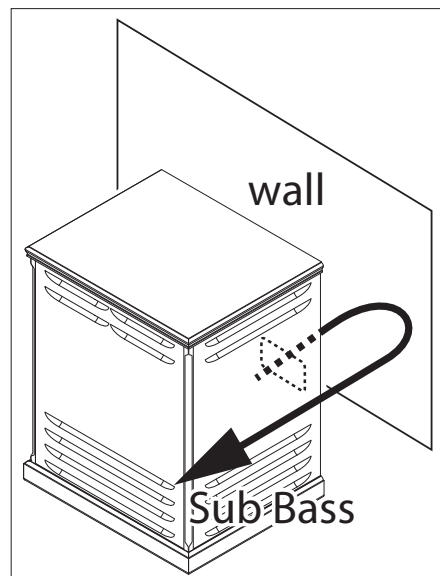
tips “PUSH-PULL” AMPLIFIER

An audio signal has “positive” and “negative” voltages. Normally, a preamplifier uses a single transistor to amplify both voltages along with a bias voltage.

The “Push-Pull” amplifier on the 3500 / 3500W / 991 uses an “NPN” transistor to amplify the “positive” voltage and a “PNP” transistor for the “negative” voltage. This is done to increase the power output from the amplifier and improve the Overdrive effect.

tips BASS REFLEX

For a permanent installation (such as home, recording studio, etc.) a rich bass by means of the “bass reflex” effect can be gotten by placing the Bass Reflex Port (opening at the back of the cabinet) toward the wall (about 6 to 9 inches).

**tips** DIFFERENCE BETWEEN “TREBLE” AND “HORN LEVEL”

The [TREBLE] knob boosts or cuts the upper portion of the frequency band.

The [HORN LEVEL] knob adjust the total volume of the audio signal going through the Horn Driver (above approximately 800Hz) and allows you to adjust the level balance between the Horn Driver and Woofer.

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 Manual, total accuracy cannot be guaranteed.

Should the owner 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:

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Product Registration

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