

CONSOLE CONNECTOR KIT 7860 INSTALLATION INSTRUCTIONS
FOR USE WITH: Various Two-Channel Organs with Contra-phase Tremulants
LESLIE Speaker Model 520

KIT CONTENT

Console Connector	138488	Switch Assembly,	
Cable Assembly,		ECHO/VOLUME, black	138659
11-conductor, 30-foot	137357		
Hardware Package	137356		

CAUTION: Due to the presence of electrical potential and the danger of moving mechanical parts, installation procedures or adjustments requiring work inside the LESLIE speaker cabinet or the organ console should be performed only by service personnel authorized by the dealer or factory to perform such work.

INSTALLATION

CAUTION: DISCONNECT ORGAN POWER BEFORE PROCEEDING:

NOTE: Read the instructions completely through before beginning actual installation.

CONTROL UNIT MOUNTING (figures 1, 2)

1. Select a location under the keyboard shelf where the control is to be mounted, either left or right, as the organist prefers.
2. The plug on the control cable must pass into the interior of the organ. If no hole is available, use a hole saw to make a 1-inch diameter hole.

CAUTION: BE CAREFUL TO SELECT A LOCATION WHERE NO INTERNAL COMPONENT OR WIRING WILL BE DAMAGED WHEN THE HOLE IS MADE .

3. Indicate the control location on the under side of the shelf. Cut out the paper template (figure 2) provided in this instruction sheet.
4. Measure the width of the key strip at the place chosen for control mounting. Fold the template along the line corresponding to this width. If the keybed is flat (no separate key strip) do not fold the template at all.
5. Lay the template in position behind the key strip with the narrow portion toward the front of the organ, and use a sharp instrument or pencil to scribe the location of the four mounting screws. Start the holes for the screws.

NOTE: To retain maximum screw-holding power, merely break the surface of the wood.

6. Put the four leveling screws (flat-headed machine screws) into the holes indicated in figure 2, WITH THE HEADS UPWARD. Hold the control mounting bracket in position at the location marked for mounting. Adjust each of the four leveling screws so that the control is positioned just below the keybed, and is level. (See figure 1) (Be sure the control knobs do not protrude too much.)

CAUTION: If the leveling screw by the potentiometer must be turned down so much that it touches the potentiometer, cut off the screw end or use a shorter screw.

7. Select one set of four mounting screws which are sufficiently long to fasten the control to the organ but not so long as to damage internal wiring or components.
8. Fasten the mounting screws into the keyboard shelf in the locations previously marked.
9. Route the control cable through the hole prepared for it and through the organ into the area near the back panel.

CONSOLE CONNECTOR

This kit will generally be used to connect LESLIE Speaker Model 520 to organs with contra-phase tremulant systems and two independent channels; that is, two separate amplifiers feeding two loudspeaker systems. Most of the organ voices are usually identical in each channel, and are therefore reproduced in monoaural sound, while the contra-phase tremulants use the channels stereophonically. The pedal will generally appear in both channels, but in some organs may be in only one channel.

It is preferred to have the signal which is connected to the organ speaker adjacent to the left hand of the organist feed the left side channel of the model 520 cabinet (facing the front of the cabinet) .This is channel 2 of the cabinet which includes the 15" pedal/bass speaker. If however, the pedal signal is not available from the left speaker signal of the organ it will be necessary to connect the channel 2 input of the cabinet to the organ right speaker signal. The remaining signal to the opposite organ speaker is then connected to the channel 1 input of the console connector.(See figure 7 for wire colors.)

The connector will route these signals to the LESLIE cabinet when the control unit is switched to ECHO or ENSEMBLE, and returns the signals to the organ speakers when the control is switched to MAIN or ENSEMBLE.

In some organs one or the other of the speaker systems (or sometimes, both) consists of more than one speaker, with a crossover or dividing network separating the speakers. In such cases, the organ circuit must be interrupted so that the input wire of the console connector is connected to the organ amplifier for the system and the return wire from the console connector is connected to the input of the crossover or dividing network.

Occasionally the crossover network component (5) in the organ will be mounted and wired integrally on the amplifier printed circuit board or assembly. In these cases there will usually be separate wires connecting the amplifier to each speaker. The console connector input wire for the channel involved should be connected to the amplifier signal wire feeding the speaker considered to be the most important, leaving the secondary speaker permanently wired to the organ. The speaker not wired to the console connector will sound regardless of the setting of the control unit MAIN/ENSEMBLE/ECHO switch.

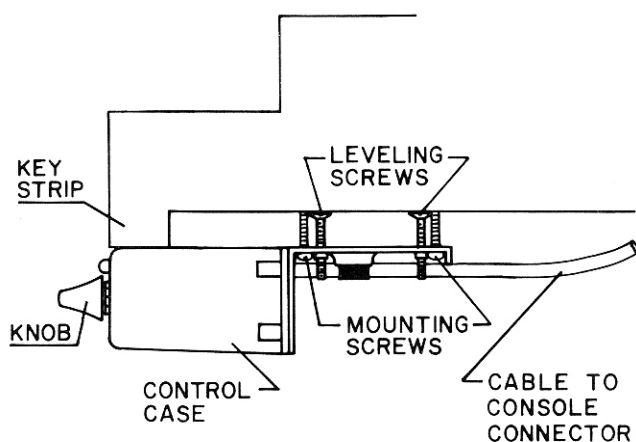


Figure 1. Control Mounted on Organ
CONSOLE CONNECTOR MOUNTING

Choose a location for the console connector in the area of the back panel, or other suitable place where the chassis can be firmly fastened and will not touch other components.

If it is intended that plug-in connection to the LESLIE speaker shall be made through the back panel of the organ, a suitable hole must be provided and the console connector mounted in such away that it is directly accessible from the outside. Choose a location with sufficient clearance for attachment of all plugs and sockets and where the 11-contact socket can be flush with the back panel. Using a hole saw or other suitable equipment make a 1-3/4-inch-diameter hole in the back panel, centered exactly on the socket.

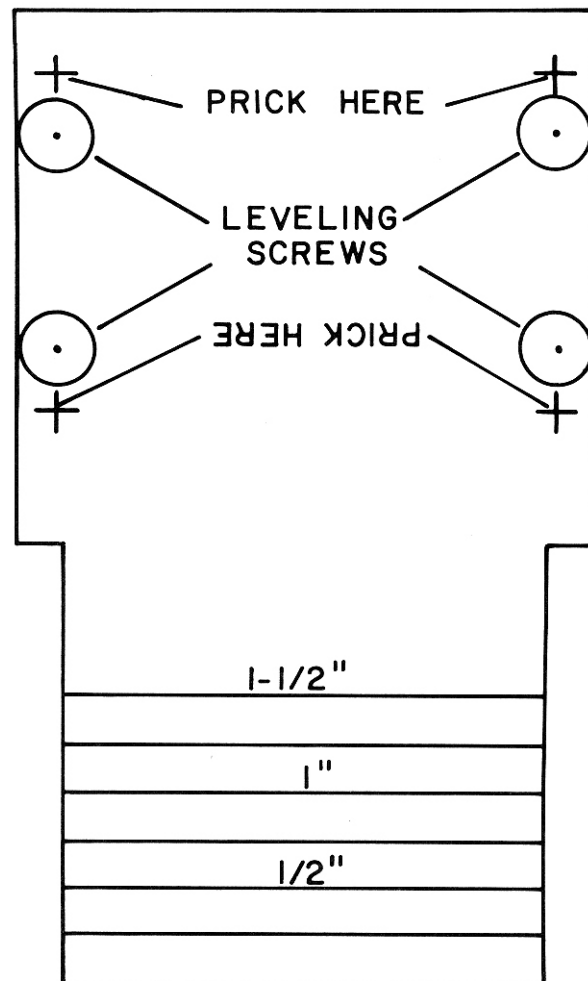


Figure 2. Control Location and
Mounting Template

If the console connector is not located adjacent to the back panel the connecting cable, after being attached to the 11-contact socket, must pass through a hole or opening in the back panel. On some organ models such an opening may already be available; if it is not, a small, triangular cut made at one of the lower corners of the back panel will usually provide sufficient space for the cable to pass through. Using 1/2-inch-long sheet metal screws provided in this kit, attach the console connector to the organ.

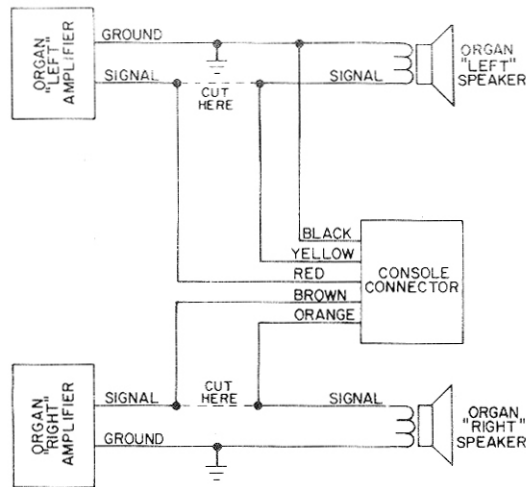


Figure 3. Interconnections,
Two-speaker Organ

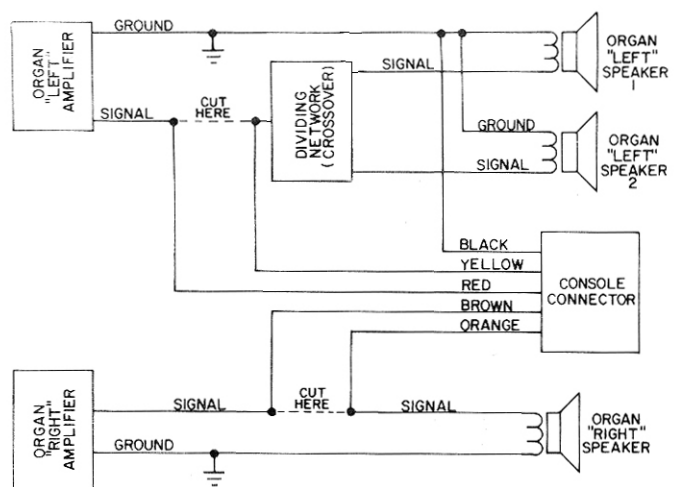


Figure 4. Interconnections When
Dividing Network is Present

CONSOLE CONNECTOR WIRING

NOTE: The wires which connect to the organ circuits terminate in male or female tab connectors which fit directly to standard speaker terminals. If the wires to the speakers are soldered on, a choice must be made as to whether the leads shall be unsoldered or the wires cut, in order to make the connections for the console connector.

Whichever method is selected, cut the tab connector from the end of the wire, strip 3/8-inch, and make the connection either by soldering the wire to the speaker terminal or using a wire nut to attach the appropriate wires together. In cutting wires inside the organ, be sure to cut at a distance of 3 or 4 inches from the terminal, leaving a workable length of wire on each side of the cut.

NOTE: The brown and orange wires are for channel 1 and the red and yellow for channel 2 of the console connector.

The following instructions assume that the pedal signal is available from the organ left speaker signal. If it is only available from the right speaker signal, substitute the BROWN wire for RED, ORANGE for YELLOW, RED for BROWN, and YELLOW for ORANGE.

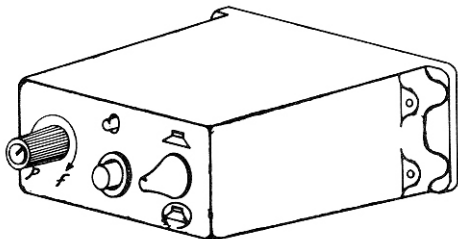
1. Connect the black wire to the ground wire of the left or right speaker in the organ.

2. Remove the signal wire from the left speaker in the organ; attach it to the RED wire from the console connector.
3. Attach the YELLOW wire to the speaker terminal just vacated. (If the wires in the organ are cut, connect the side that is still attached to the amplifier to the RED wire from the console connector. Connect the wire attached to the speaker to the YELLOW wire.)
4. Remove the signal wire from the right speaker in the organ; attach it to the BROWN wire from the console connector.
5. Attach the ORANGE wire to the speaker terminal just vacated. (If the wires in the organ are cut, connect the side that is still attached to the amplifier to the BROWN wire from the console connector. Connect the wire attached to the speaker to the ORANGE wire.)

FINAL PROCEDURES

1. Attach the plug from the control unit to the small rectangular socket (S3) on the console connector.
2. Using cable clamps, fasten the control cable to the organ frame or shelves so that it cannot move and, as far as is possible, does not touch any other wire or component.
- 3a. If the console connector has been mounted for direct plug-in, replace the back panel of the organ and fasten it securely in place. Connect the 11-conductor cable between the socket on the console connector and the LESLIE speaker.
- 3b. If the console connector has been mounted in a position where direct connection from the outside is not possible, attach the 11-conductor cable to the console connector socket. Route the cable to the area where it will pass through the organ back panel; attach the cable to the shelves or floor with cable clamps so that it cannot move and, as far as is possible, does not touch any other wire or component. Replace the back panel of the organ, making sure that the cable from the console connector is not pinched, and fasten the panel securely. Attach the other end of the cable to the LESLIE speaker.

CONTROLS



The control unit, mounted just below the organ keyboard, groups all the controls in one convenient location.

The center BUTTON, a push-on, push-off control, is used to actuate the LESLIE speaker system. With the button set to OFF, only the organ speakers operate. With the button set to ON (red light glowing) the speakers in the LESLIE speaker cabinet are ready to respond.

The DIAL, at the left, is the master VOLUME CONTROL. It can be used to increase or decrease the volume of the speaker relative to the organ volume.

The TOGGLE SWITCH, at the right, is a main-ensemble-echo switch. With the handle set upward the switch is in "main" position; i.e., only the organ speakers sound. With the handle set downward, the switch is in "echo" position; i.e., only the LESLIE speakers sound. With the handle in its center position the organ and LESLIE speakers will play "ensemble", i.e., both sounding at once.

The red light will help to remind you to turn the control off when you are through playing your organ.

Ordering Parts

Standard hardware, connectors, and electronic components should be purchased locally. Non-standard items may be obtained through a LESLIE speaker dealer. Orders should include part numbers as listed.

PARTS LIST: 138488 CONSOLE CONNECTOR ASSEMBLY

Socket, 11-contact (S2)	028852
Housing, socket, 12-circuit, miniature Molex with tabs (S3)	137286
Contact, insert, miniature Molex, female	065581
Connector, tab, AMP, male	029371
Connector, tab, Berg, female	029389
Resistor, wire-wound, 100-ohm, 3W7, 10% (R2, R3)	021675
Resistor, 33-ohm, 1W, 10% (R4, R5)	028332
Terminal Strip, 7-lug	117990

PARTS LIST: 138659 SWITCH ASSEMBLY

Switch and Cable Assembly	138662
Case	138663
Knob, switch, white	137291
Knob, pointer, white	138905
Screw, sheet metal, 4 x 1/2, hex washer head	136360
Nut, knurled	132430
Cork, adhesive	137419

PARTS LIST: 138662 SWITCH AND CABLE ASSEMBLY

Circuit Board Assembly	137339
potentiometer, dual, 500-ohm (R6, R7)	138850
Switch, lever, 3-position (ECHO) (SW1)	137305
Housing, plug, miniature Molex, 12-circuit, natural (white) (P3)	101310
Contact, insert, miniature Molex, male	065599
Shaft extension, .250 x 1.250 long	138678
Coupling, shaft extension	138676

PARTS LIST: 137357 CABLE ASSEMBLY

Plug Assembly, 11-pin (with screw) (P2)	137299
Plug, 11-pin, modified	137296
Socket, 11-contact (S1)	137297
Package, plug cap and screws	137457
(order for repair use) (contains cap body sections, screws, and tubing)	

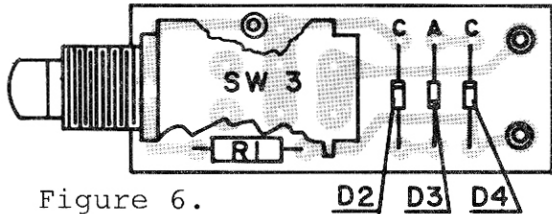


Figure 6.
Circuit Board Assembly 137339

PARTS LIST: 137339 CIRCUIT BOARD ASSEMBLY

Switch, push/push (SW3)	137303
Diode, silicon, 1-amp, 100 PIV (D2, D3, D4)	021154
Diode, light-emitting (D1)	137315
Resistor, 47-ohm, 1/2W, 10% (R1)	016311
Etched Circuit Board	137281

Schematic, next page

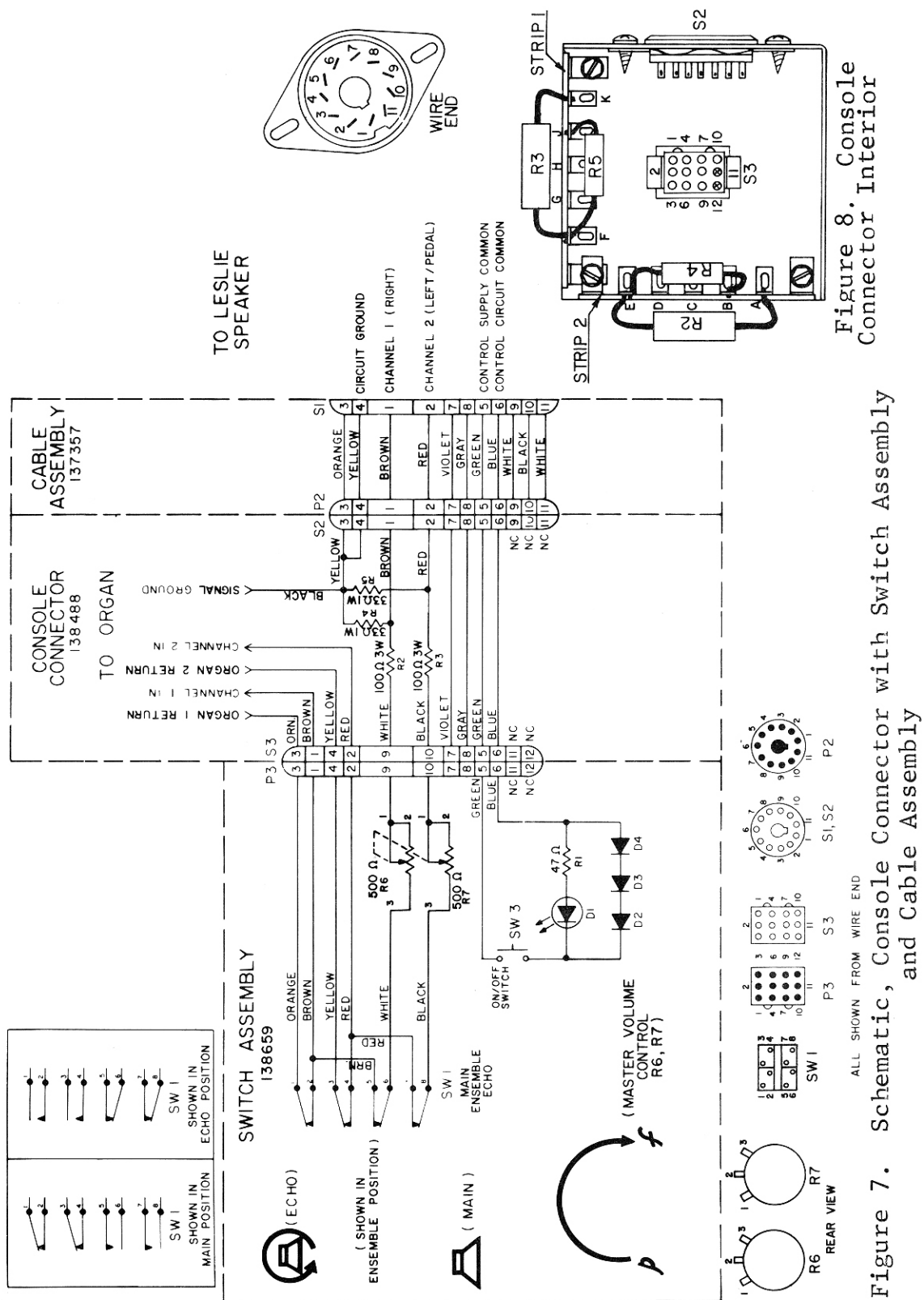


Figure 8. Console Connector Interior