

# Instructions

for the



## RELAY MODIFICATION KIT

(830-94)

Model HL-2200-AC

### PARTS LIST

Your kit contains the following parts. For service and parts ordering information, refer to your HL-2200 Manual.

3-21-7	2	4700 $\Omega$ , 7-watt resistor
61-45	1	DPDT switch
69-116	1	DPST relay
431-41	1	2-lug terminal strip
432-137	9	Push-on connectors
344-2	27"	Medium black wire
344-7	14"	Large black wire
346-20	9-1/2"	Heat-shrinkable sleeving
		Solder
		Instruction sheet

## INSTALLATION INSTRUCTIONS

Refer to Pictorial 1 for the following steps.

- ( ) Unplug your amplifier from the AC outlet.
- ( ) Remove the covers from your HL-2200 Linear Amplifier by removing the four side screws and the four feet. Then turn the Amplifier upside down as shown.
- ( ) Locate the DPST relay and bend over lugs 1 and 2 as shown.
- ( ) Temporarily remove the nut and lockwasher at K2. Then install the 2-lug terminal strip and the DPST relay as shown and replace the hardware. CAUTION: Do not overtighten the hardware.
- ( ) Unplug the connector from switch Z lug 1 and temporarily connect it to relay K2 lug 6.
- ( ) Unplug the connector from switch Z lug 4 and connect it to relay K2 lug 4.
- ( ) Unplug the connector from switch Z lug 2 and cut off the other end of the wire as close to tie point AW as possible. Discard the wire and connector.
- ( ) Unplug the connector from switch Z lug 5 and cut off the black-red wire as close to the connector as possible. Then unplug the other end of the black wire from switch AN lug 5 and discard the wire. The black-red wire will be connected later.
- ( ) Remove 1/4" of insulation from the black-red wire coming from hole AK.
- ( ) Refer to inset drawing #3 and wrap the leads of one 4700Ω, 7-watt resistor around the leads of the other 4700Ω, 7-watt resistor as shown. Solder the leads together and cutoff the excess lead lengths.
- ( ) Bend the long leads of the combination 4700 Ω, 7-watt resistor to fit into the lugs 1 and 2 of terminal strip TS and wrap them around the lugs (NS). Cut off the excess lead lengths.

NOTE: When you are instructed to prepare a wire, cut it to the indicated length and remove 1/4" of insulation from both ends.

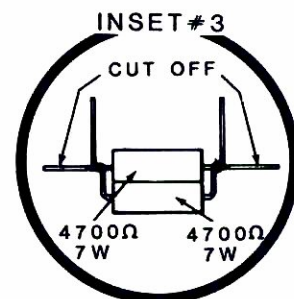
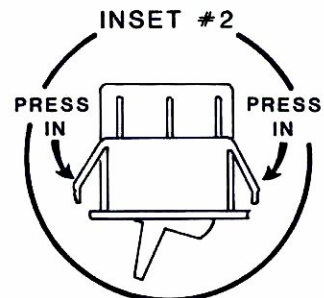
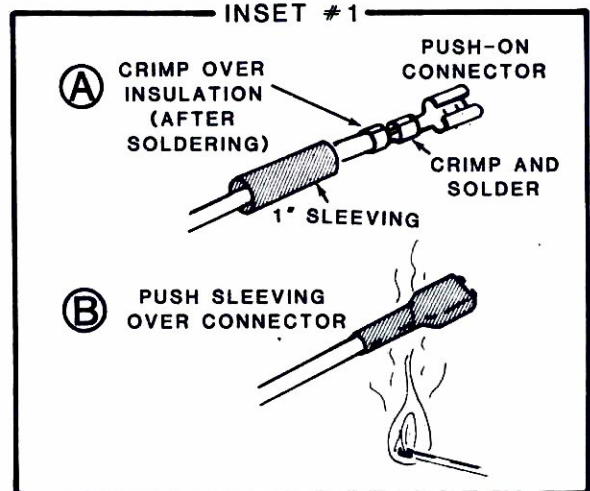
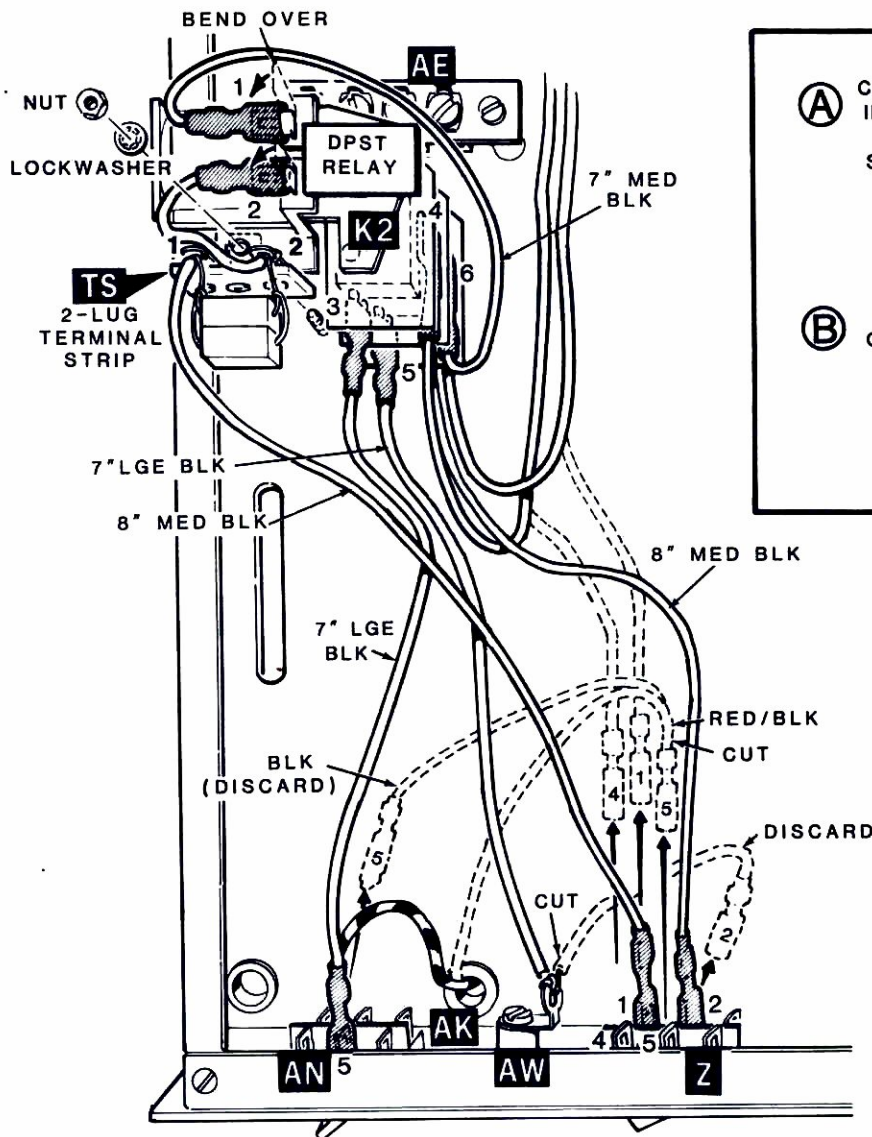
- ( ) Prepare a 7" large black wire. Then install a push-on connector and a 1" length of heat-shrinkable sleeving on one end as shown in inset drawing #1.

NOTE: In the following steps, (NS) means not to solder because other wires will be added later. "S-" with a number following it, such as (S-3), means to solder the connection. The number "-3" tells you that there are three wires in the connection.

- ( ) Solder the free end of the black-red lead coming from grommet AK and the bare end of the prepared black wire onto one push-on connector (S-2). Then cut a 1" length of heat-shrinkable sleeving, slide it over the wires and connector, and shrink it with a match or hot soldering iron.
- ( ) Push the connector with these two wires onto switch AN lug 5 and the other connector onto relay K2 lug 3.
- ( ) Prepare a 7" medium black wire and install a push-on connector and 1" length of sleeving as before.
- ( ) Unplug the black wire from relay K2 lug 6, cut off and discard the connector, and prepare the wire end. Then solder this wire end and the bare wire end of the 7" prepared wire onto one push-on connector. As before, install a 1" length of sleeving and push the connector onto relay K2 lug 6. Push the connector of the 7" wire onto relay K2 lug 1.
- ( ) Prepare a 7" large black wire and install a push-on connector and 1" length of sleeving on one end.
- ( ) Push the connector of the prepared 7" wire onto relay K2 lug 5. Solder the other end to tie point AW.
- ( ) Refer to inset drawing #2 and remove and discard switch Z. Then replace it with the switch supplied with this Modification Kit.

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- ( ) Prepare two 8" medium black wires. Install a push-on connector and a 1" length of sleeving on one end of each wire.
- ( ) Connect the push-on connector on the end of one 8" medium black wire over lug 1 of switch Z. Connect the other end to terminal strip TS lug 1 (NS).
- ( ) Pull the connector from relay K2 lug 4 and cut it off and discard it. Then prepare the end of the wire.
- ( ) Connect a push-on connector on the end of the wire you just prepared and on the end of the remaining 8" medium black wire with the other push-on connector.
- ( ) Cut a 1" length of heat-shrinkable sleeving and shrink it in place over the push-on connector with the two wires.
- ( ) Connect the push-on connector on the end of the two wires to relay K2 lug 4. Connect the push-on connector on the end of 8" wire to switch Z lug 2.
- ( ) Prepare a 3" medium black wire.
- ( ) Cut a 1" length of sleeving.
- ( ) Install a push-on connector and a 1" length of heat-shrinkable sleeving on one end of the 3" prepared wire. Shrink the sleeving in place over the connector.

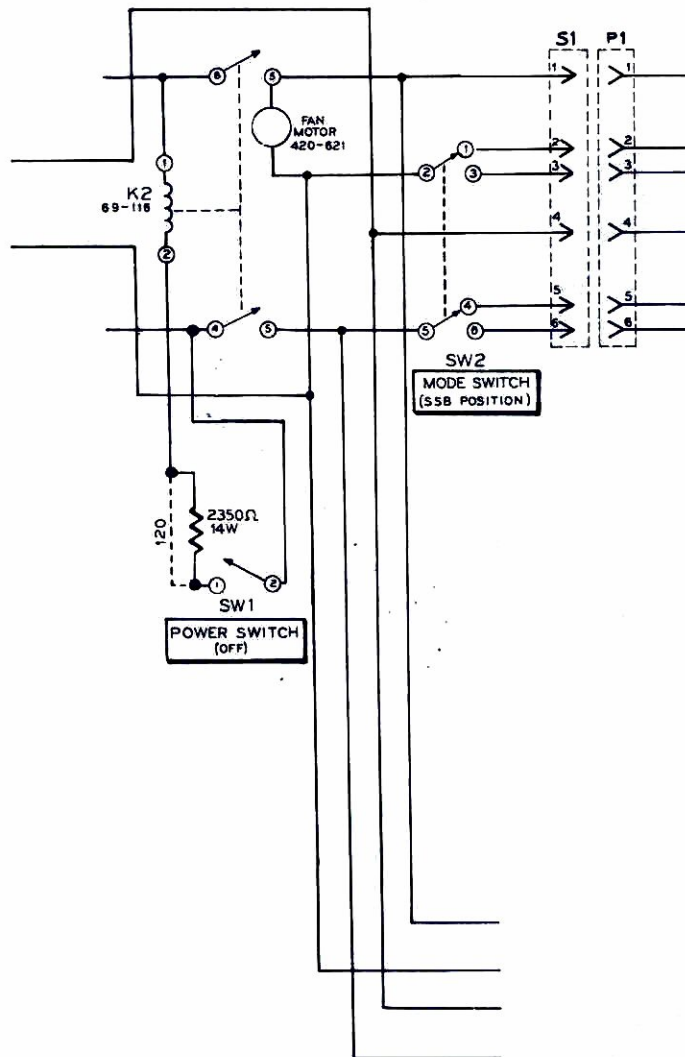


PICTORIAL 1

NOTE: If your unit is wired for 120 VAC, perform the next step, otherwise, skip the step.

- ( ) Connect the push-on connector on the end of the 3" wire to K2 lug 2. Connect the other end of the wire to terminal strip TS lug 1 (S-3), TS lug 2 (S-1).
- ( ) For 240 VAC units, connect the push-on connector on the end of the 3" wire to K2 lug 2. Connect the other end of the wire to terminal strip TS lug 2 (S-2), TS lug 1 (S-2).

- ( ) Cut out and tape the partial schematic (supplied with this document) over the corresponding area of the schematic supplied with your HL-2200 Manual.
- ( ) This completes the installation of your Modification Kit. Replace the cabinet and feet.



**PARTIAL SCHEMATIC**