

H. H. SCOTT, INC.
111 Powder Mill Rd.
Maynard, Mass.

TO: All Warranty Service Stations

SUBJECT: LK-150 KIT MODIFICATION

- Enclosed you will find:
- (1) Supplementary Assembly Sheet D-LK-150-1B (revised).
 - (2) Chart AM-1 (revised).
 - (3) A "marked up" Service Bulletin/Schematic for the LK-150.
 - (4) A schematic diagram of the LK-150 (as the unit should look after modification).

This is a modification to the power supply of the LK-150. The instruction sheet along with other revised material is now being shipped with all LK-150's being shipped from the factory.

However, should any previous LK-150's be brought in for your attention, this modification should be made. Initial LK-150's supplied capacitor can "C2" rated at 2x30/500. For the past year, however, the can supplied (C2) has been rated 4x20/450. The modification instructions enclosed assume that the can "C2" is rated at 4x20/450. (IF YOU RECEIVE AN ORIGINAL LK-150 WITH C2 RATED AT 2x30/500, DROP ME A NOTE AND THE NEW CAN WILL BE SENT IMMEDIATELY TO YOU). As you will note, the change is simple. Other than the capacitor (C2) change, the modification merely involves by-passing two resistors, R-10 and R-110, and insertion of a 6.8K, 2 watt load at C201 (see marked-up schematic).

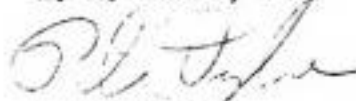
Under separate cover we are sending you a supply of capacitor covers for the 4 stand-up capacitors. THESE MUST BE INSTALLED OVER THE STAND-UP FILTER CANS AFTER THIS MODIFICATION IS CARRIED OUT AS ONE OF THE CANS IS HOT. Also being sent is a supply of 22K and 10K resistors so that you can carry out the modification when necessary. (We have no 6.8K resistors in stock at the moment, so parallel these two. I wanted to get the necessary parts to you as quickly as possible).

SPECIAL WARRANTY PROCEDURE (FOR THIS LK-150 MODIFICATION ONLY)

Whenever an LK-150 is brought to you that does not incorporate this modification, you are authorized to make a \$4.50 charge to the factory for carrying out the modification.

If there are any questions at any time, please do not hesitate to contact me as I am most anxious to offer whatever help I can.

Very truly yours,
H. H. SCOTT, INC.



Peter Dyke
Asst. Sales Manager

PD:dz

ENCL.

IMPORTANT NOTICE

Since the original introduction of the LK-150, the H. H. Scott Engineering Dept. has developed a new power supply circuit which, with certain wiring changes, will noticeably increase the power output of the LK-150. In addition, distortion is further reduced so as to be virtually unmeasurable at all power levels right up to maximum. Rather than wait for the next printing of the Instruction Booklet to make this change, we have decided to offer the modification immediately.

These new instructions are given on the inside of this sheet. You will also find a picture of the new wiring arrangement plus the list of changes called for in the assembly instructions. These changes primarily involve the electrolytics which are identified as C1, C2, C3, and C4 in your Instruction Booklet. A different C2 is being supplied than originally called for.

Except for the changes indicated, the book and color charts are completely accurate and can be followed faithfully. The enclosed Chart AM-1, which you use for installing the mechanical parts and for the concluding double-check, includes all the revisions.

IMPORTANT

Before beginning the assembly, GO THROUGH THE INSTRUCTION BOOK AND MAKE A LITTLE CHECK IN FRONT OF ALL THE ASSEMBLY STEPS AFFECTED BY THE SUPPLEMENTARY INSTRUCTIONS. Thus, when you reach these steps during the assembly, your attention will be drawn to the Supplementary sheet.

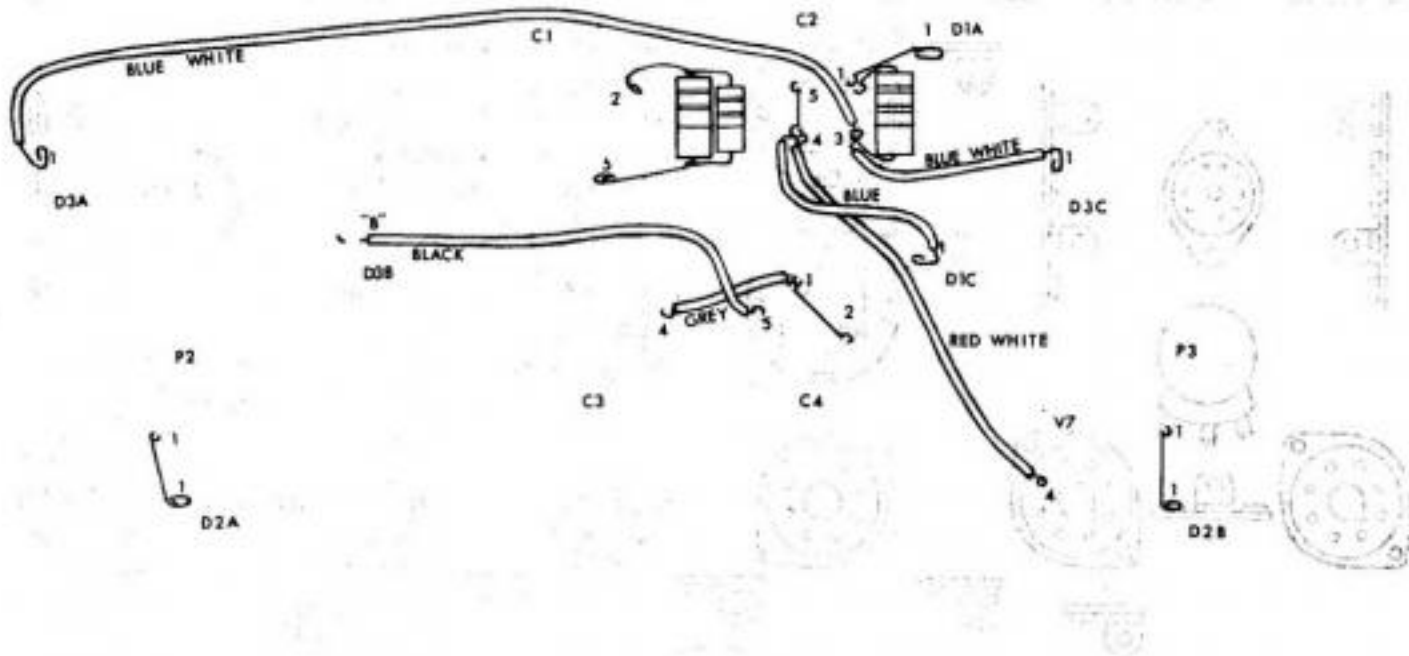
Supplementary Assembly Sheet

Page 11 Al-7 The can C2 supplied is now a 4x20/450. In positioning this can, refer to the chart on the reverse side.

REPLACE THE INSTRUCTIONS IN THE BOOKLET WITH THE FOLLOWING

Page 12 Bm1-8 Connect a 5-3/4" red/white wire from pin 4, V7 (S3) to Pin 4, C2.
Bm1-20 Connect a 3-3/4" blue wire from pin 4, C2 to pin 1, D1C.
Bm1-22 Connect a 3 1/2" blue/white wire from pin 3, C2 to pin 1, D3C.

Page 13 Bm1-23 Connect a 2 1/2" heavy grey wire from pin 4, C3 (S1) to pin 1, C4.
Bm1-24 Omit soldering Pin 5, C1.
Bm1-25 Connect a 5" heavy black wire from Ground Lug "B" (ground lug "B" refers to the small hole in the side of the terminal strip which is on the strip riveted to the chassis), D3B to pin 5, C4 (S1).



Add these two steps:

BM1-26 Connect a buss wire from pin 1, D1A to pin 1, C2.

BM1-27 Connect a buss wire from pin 4, C2 (S3) to pin 5, C2 (S1).

REPLACE THE INSTRUCTIONS IN THE BOOKLET WITH THE FOLLOWING

- Page 13 BM2-8 Connect a 10 $\frac{1}{2}$ " blue/white wire from Pin 1, D3A to Pin 3, C2.
- Page 14 BM2-30 Connect a 1-3/4" buss wire from pin 1, C4 (S2) to pin 2, C4 (S1).
- Page 15 BM3-7 Omit soldering Pin 2, C1.
- BM3-7A Connect the combined 22K 1 watt resistor (red/red/orange) and 10K 2 watt resistor (brown/black/orange) from pin 2, C1 (S3) to pin 5, C1 (S2).
- BM3-9 Connect a large 10K resistor (brown/black/orange) from pin 1, C2 (S2) to pin 3, C2 (S3).
- Page 16 BM6-6 Connect a buss wire (omit 22K resistor red/red/orange) from pin 1, P2 (S1) to pin 1, D2A (S3).
- BM6-8 Connect a buss wire (omit 22K resistor red/red/orange) from pin 1, P3 (S1) to pin 1, D2B (S2).

Parts Required for the Above Changes

2 Resistors: 1 22K 1 watt; 1 10K 2 watt

SERVICE BULLETIN for LK-150 STEREO POWER AMPLIFIER

SPECIFICATIONS

The following data was obtained from a group of 50 home-built units. They represent conservative performance specifications of what the average kit builder can expect if he follows all instructions precisely. It is the opinion of H. H. Scott engineers that most kits will exceed these specifications.

Power Output: 65 watts per channel IHFM Music Power Rating
 60 watts per channel Steady State (RMS)

Distortion & Noise Measurements

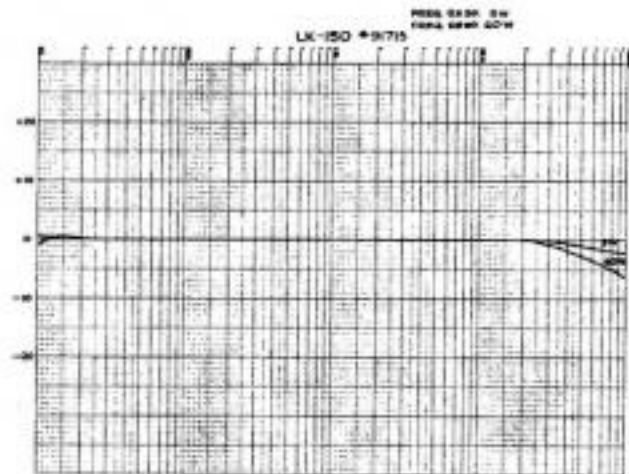
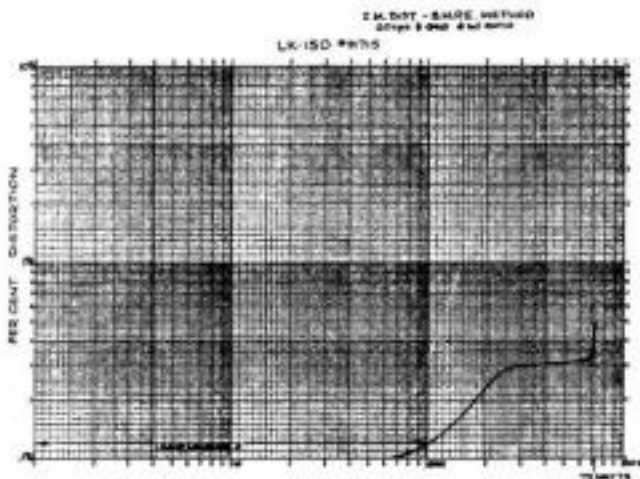
The distortion and noise in the LK-150 is so low that it is of the same magnitude as the top quality laboratory test equipment used for the measurements. As a result, it is not possible to obtain guaranteed data. Suffice to say, once distortion and noise have become too low to measure accurately, they are much too low to hear, also. All measurements made with Subsonic rolloff switches in Lab position and Input Level set for 2.5 v.

Test Equipment

- Hewlett-Packard 200CD, Wide Range Audio Oscillator (residual distortion 0.05%).
- Hewlett-Packard 400D, Vacuum Tube Voltmeter.
- Hewlett-Packard 330B, Distortion Analyser (distortion 0.1%).
- Square Wave Generator (designed and built by H. H. Scott Engineering Dept).
- Sola 5005, Constant Voltage Regulator.
- Tektronix Type 561, Oscilloscope.

Total Harmonic Distortion: Under 0.5% at rated output. Unmeasurable at normal listening levels.

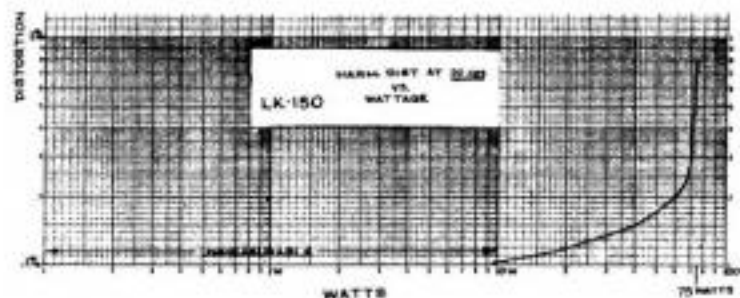
Intermodulation Distortion: Under 0.5% at 72 watts (RMS)



Power Band (IHFM Method): Under 19 cycles to over 25 kc. (Limit of test equipment).

Low Frequency Power & Distortion

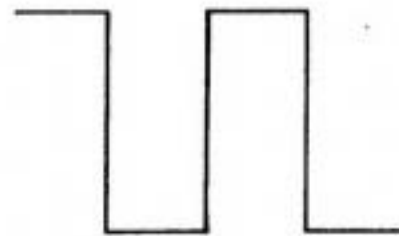
At 20 cycles, the LK-150 will produce 75 watts per channel with less than 2% total distortion. It is at the low frequencies that power is really needed.



Square Wave Response



10cps



1KC

Hum & Noise: - Better than -85 db below rated output. (Limit of test equipment).
Crosstalk: - Over 75 db of separation.
Feedback: - In excess of 21 db.

Damping Factor: Over 16 to 1 in 2.5 v. position of Input Level. Over 8 to 1 in 1.5 v. position of Input Level (for use with certain low efficiency air suspension speakers).

Sensitivity: 2.5 v. (for use with H. H. Scott and other high output preamplifiers).
1.5 v. (for low output preamplifiers).

Controls: Input Level Switch; Channel A & B subsonic rolloffs; On-Off; Channel A and B bias potentiometers.

AC Convenience Outlets: - Two

Fuse: - 3.2 amps, externally accessible.

Impedances: - 4, 8, and 16.

Tube Complement: - 2-7199; 2 pairs of matched 6550; 2-GZ34/5AR4; plus 1 selenium rectifier.

Chassis Construction: Electrolytic aluminum for lowest hum, better conductivity, and best heat dissipation.

GENERAL SERVICE NOTES

1. Check the tubes, particularly those in the power output stage and the rectifier every year. If the tubes are outside the manufacturer's ratings or show gas, they should be replaced. Gassy tubes may damage other components of the circuit. Output tubes should always be a matched pair.
2. When the amplifier is being checked yearly, clean the tubes of dust so that they may radiate their heat more effectively.
3. If at any time the hum or noise increases noticeably, check the power output tubes. This symptom is often an indication of gassy tubes.
4. If the amplifier blows fuses frequently, check the line voltage. If it rises above 125 volts, drop the line voltage by means of an auto-transformer or place a voltage regulator transformer between the amplifier and the line. If the line voltage is correct, check the amplifier itself. Do not use fuse sizes other than the fuse size specified.
5. Other routine tests can be performed to insure that the unit meets or exceeds the specifications outlined previously. Only use parts and tubes specified by H. H. Scott, Inc. The use of non-standard parts or tubes will preclude obtaining the performance stated in the specifications.

If you have any further questions, write to:

Technical Services Dept.
H. H. Scott, Inc.
111 Powder Mill Road
Maynard, Mass.