



SERVICE BULLETIN

EQUIPMENT SERIES: 30L

BULLETIN NO. 3

DATE: 4-2-62
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EQUIPMENT TYPE: R-F LINEAR AMPLIFIER 30L-1

SUBJECT A: TO LOWER OPERATING TEMPERATURE OF PA TUBES

SUBJECT B: TO ELIMINATE PILOT LIGHT FLUCTUATION WITH R-F EXCITATION

SUBJECT A: TO LOWER OPERATING TEMPERATURE OF PA TUBES

This modification will reduce the operating temperature of the PA tubes by reducing the idling current from 130 to approximately 110 milliamperes. This is accomplished by changing the value of resistors R12 and R28 to 2K and 39 ohms, respectively, to increase the bias voltage to approximately 3 volts. These changes in resistance values increase the load on the bias supply so that resistor R9 also must be changed from 82 to 47 ohms.

MODIFICATION PROCEDURE:

1. Remove a-c cord from power source and disconnect all other external leads.
2. Remove the four feet and the screw centered between the rear feet.
3. Place the unit in an upright position with panel toward operator. Lift lid and remove the two bright flat-head screws in panel rim.
4. Remove unit from cabinet. This is most easily accomplished by placing unit face down on a well padded surface and sliding cabinet off.
5. Remove PA and power supply top covers.
6. Turn unit and remove eight screws from rear panel. Remove panel.
7. Remove the two screws that hold the antenna connector mounting bracket in place.
8. Carefully turn bracket so that inner parts are exposed. Use care so that attaching wires are not broken.
9. Carefully unsolder and remove resistor R28 from insulated standoff terminals near antenna coaxial connector. Replace it with new 39-ohm resistor (745-1293-00).
10. Remount bracket to its original position.
11. Carefully remove the resistors or resistor across coil terminals of relay K1.

NOTE: In some units, the resistance across the coil of relay K1 consists of three 3.2K, 2-watt resistors in parallel (R12, R13, and R14). In other units R13 and R14 have been deleted and R12 changed to a 3K, 7-watt resistor.

12. Install new 2K resistor R12 (710-9010-00) between the relay coil terminals. Mount this resistor to allow about 1/4-inch clearance above relay armature.
13. Remove bottom cover from unit.
14. Locate the five-terminal terminal strip to which R9, R15, CR20, and C10 are connected. (Reference may be made to figure 6-1 in the 30L-1 Instruction Book.)
15. Clip leads of 82-ohm resistor R9 close to the solder terminals and remove resistor. Install new 47-ohm resistor R9 (745-5596-00) in its place. With a pair of pliers clamp the cathode lead of CR20 while soldering to protect diode from heat.
16. Replace bottom cover, PA and power supply top covers to places from which removed.
17. Replace cabinet and feet to unit chassis. Reconnect a-c cord and other external leads that may have been disconnected.

PARTS REQUIRED:

Modification kit 553-2435-00 which consists of the following items:

| <u>Qty</u> | <u>Description</u> | <u>Collins Part Number</u> |
|------------|----------------------------|----------------------------|
| 1 | Resistor, 39 ohm, 1/2 watt | 745-1293-00 |
| 1 | Resistor, 2000 ohm, 7 watt | 710-9010-00 |
| 1 | Resistor, 47 ohm, 2 watt | 745-5596-00 |

For modification parts, price quotations (minimum order charge is \$15.00), and availability contact Collins Radio Company, Service Parts Department, Cedar Rapids, Iowa 52406. All parts orders must specify the Collins modification kit number, or part numbers, quantity required, and reference this service bulletin.

SUBJECT B: TO ELIMINATE PILOT LIGHT FLUCTUATION WITH R-F EXCITATION

The purpose of this modification is to eliminate pilot light fluctuations with r-f excitation of the amplifier. The pilot light, in some amplifiers, may increase in brilliance when the amplifier is driven by the exciter, especially when operating in the lower frequency bands. These fluctuations are caused by r-f voltage on the filament transformer leads.

The modification essentially consists of adding two 0.01-uf capacitors C30 and C74 across the 1000-pf filament feed-through capacitors C71 and C42. (These feed-through capacitors are denoted as C71 and C43 in the 3rd and later editions of the 30L-1 Instruction Book.)

MODIFICATION PROCEDURE:

1. Remove a-c cord from power source and disconnect all other external leads.
2. Remove four feet and the screw centered between the rear feet.
3. Place unit in an upright position with panel toward operator. Lift lid and remove the two bright flat-head screws in panel rim.
4. Slide unit from cabinet.
5. Locate large filament choke L8. Note that two leads (no. 12 enamel wire) connect to 811A filament terminals and the other two leads connect to the two 1000-pf, feed-through capacitors. Reference may be made to figure 6-2 in 30L-1 Instruction Book.
6. Install new 0.01-uf capacitor C30 (913-3013-00) from one of these feed-through capacitors to adjacent ground lug (some shields are terminated at this lug).
7. Install new 0.01-uf capacitor C74 (913-3013-00) from the other feed-through capacitor to the adjacent ground lug.
8. Reassemble unit and return to operation.

PARTS REQUIRED:

| <u>Qty</u> | <u>Description</u> | <u>Collins Part Number</u> |
|------------|--------------------|----------------------------|
| 2 | Capacitor, 0.01-uf | 913-3013-00 |

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