

HX-500  
IMPROVED POWER TRANSFORMER REPLACEMENT

If the bias rectifier modification as recommended in service bulletin #5001-1 has not been performed it is recommended that it be done at this time. The necessary information is included in these instructions and parts list.

INSTALLATION INSTRUCTIONS



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Since the inception of the HX-500 a number of design improvements have been incorporated. Among these improvements are the change of the rectifier tubes from a pair of 12AX4GTB's to 5R4GYB and the use of a solid state diode in the bias rectifier circuit. The rectifier tube change requires the use of a new power transformer. The solid state diode provides instant bias for the 6L46 tubes and prevents possible excessive cathode current when the transmitter AC power is initially applied. These two changes will improve the long term reliability of the HX-500.

The following illustrations refer to the modifications. Figure 1 illustrates the components and wires to be removed. Figure 2 illustrates the components and wires to be installed. Figure 3 is the power supply schematic after modification.

The replacement procedure is as follows:

- A. See Figure 1: Unit before modification.
  1. Remove V18 and V19 (2-12AX4GTB tubes).
  2. Unsolder and remove transformer T16, #42351-1.
  3. Unsolder and remove resistors R157 and R158, the two 1 meg 1/2 watt resistors at V18, pin 8.
  4. Unsolder both ends and remove the red-green wire attached to V17, pin 5 and the terminal strip adjacent to V20.
  5. Unsolder and remove the three red wires connecting corresponding pins of V18 and 19, pins 3, 7 and 8.
  6. Remove the V19 socket.
  7. Unsolder and disconnect the socket end of the yellow wire on V17, pin 2.
  8. Unsolder and disconnect the socket end of the orange wire V18, pin 3.
- B. See Figure 2: Unit after modification.
  9. Install the new power transformer (T16) #42351-3.
  10. Install the terminal strip, part #M16650-68, using the hardware provided.
  11. Connect the yellow wire removed from V17, pin 2, to the insulated terminal on the added terminal strip. Solder with step 13.
  12. Connect to V18, pin 8, the orange wire removed from V18, pin 3. Solder with step 14.
  13. Install the diode CR-5, as indicated and solder the connections.
  14. Connect and solder the new transformer leads as indicated.
  15. Install cross connections on V17 between pins 1 and 5, and also between pins 2 and 7. Solder connections.
  16. Remove R133 (1.5k 1 watt resistor) located adjacent to V20 socket, and replace with a 3.9k 2 watt resistor. Solder connections.
  17. Remove R137 (3k 10 watt resistor) located on the side of the chassis adjacent to the power transformer and replace with a 750 ohm 10 watt resistor. Solder connections.
  18. Remove R138 (1.5k 10 watt resistor) located adjacent to R137 and replace with a 1.8k 10 watt resistor. Solder connections.

19. Remove R132 (220 ohm 10 watt resistor) connected to capacitor C166A and replace with a 15 ohm 2 watt resistor. Solder connections.
20. Install a 5R4GYB tube in V18 socket.
21. Check for proper wiring and measure voltages as indicated on the schematic, Figure 3.

HX-500 IMPROVED POWER TRANSFORMER REPLACEMENT  
PARTS LIST

Schematic Designation	Description	Hammarlund Part Number
R132	Resistor, fixed 15 ohm $\pm 10\%$ , 2 watt	K19304-156
R137	Resistor, fixed 750 ohm $\pm 10\%$ , 10 watt	K19337-10
R138	Resistor, fixed 1.8k $\pm 10\%$ , 10 watt	K19337-11
T16	Transformer, power	P42351-3
V18	Tube, electron (5R4GYB)	K16205-2

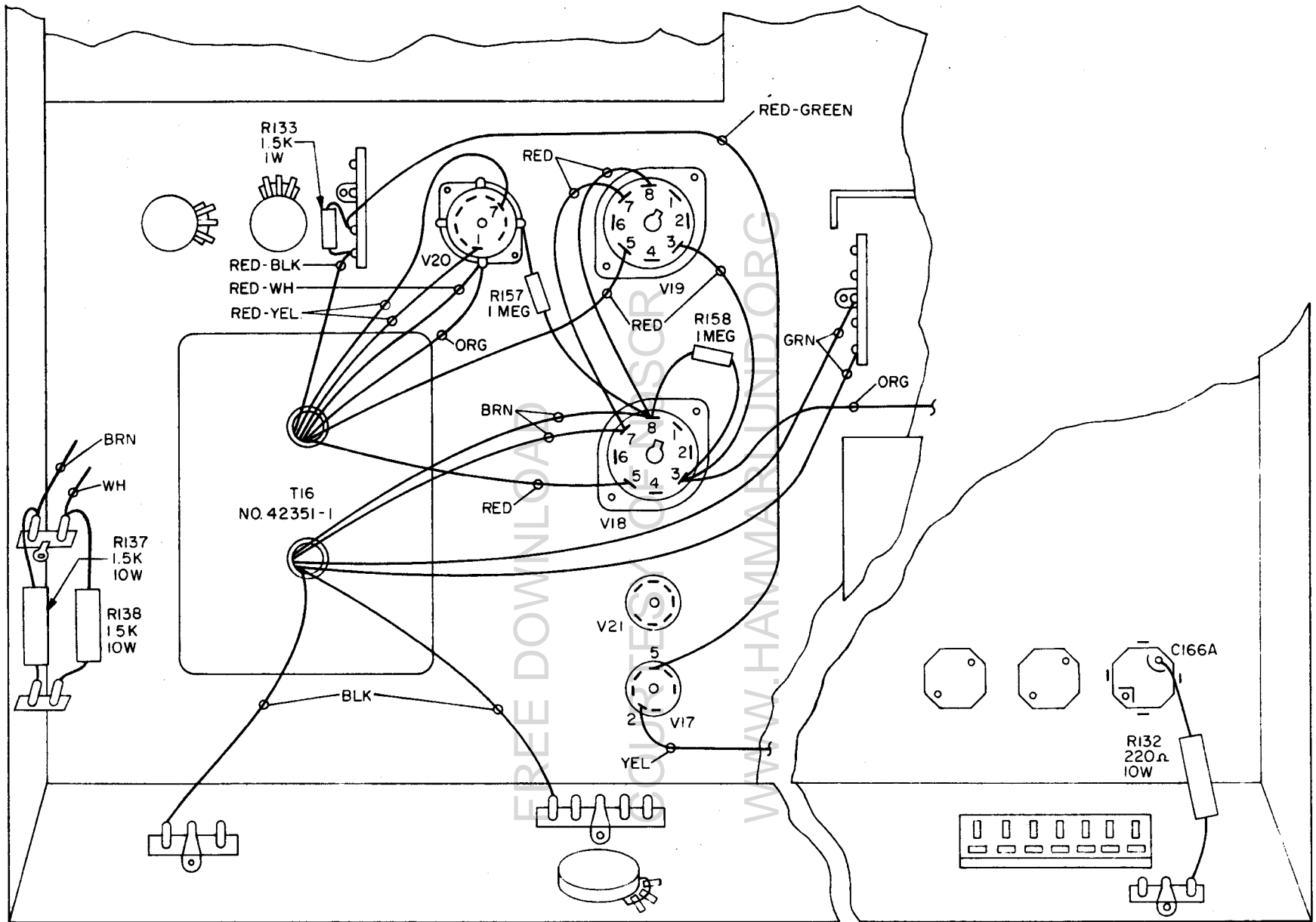
HX-500

BIAS RECTIFIER MODIFICATION

R133	Resistor, fixed 3.9k $\pm 10\%$ , 2 watt	K19304-32
CR5	Diode, silicon INI490 (400 V PIV - 250 ma)	K41212-1
	Terminal strip	M16650-68
	Screw # 4-40 X 1/4 lg bind hd.	K10016-18
	Pal nut # 4-40 X 1/4	K40120-1

NOTE

The new power transformer, Part #P42351-3 listed above, is now the only replacement transformer for the HX-500. We can no longer supply the earlier part numbers, using the 12AX4 rectifiers. A new power transformer will be supplied to all HX-500 transmitter owners for a period of one year from date of purchase, despite the 90 day warranty normally applying to this equipment. It is suggested that the other parts listed above be purchased from a local electronic supply house since all of these parts are standard and readily available. The new power transformer and above parts will also be available as a complete kit part #P42351-3K for a total charge of \$24.95.



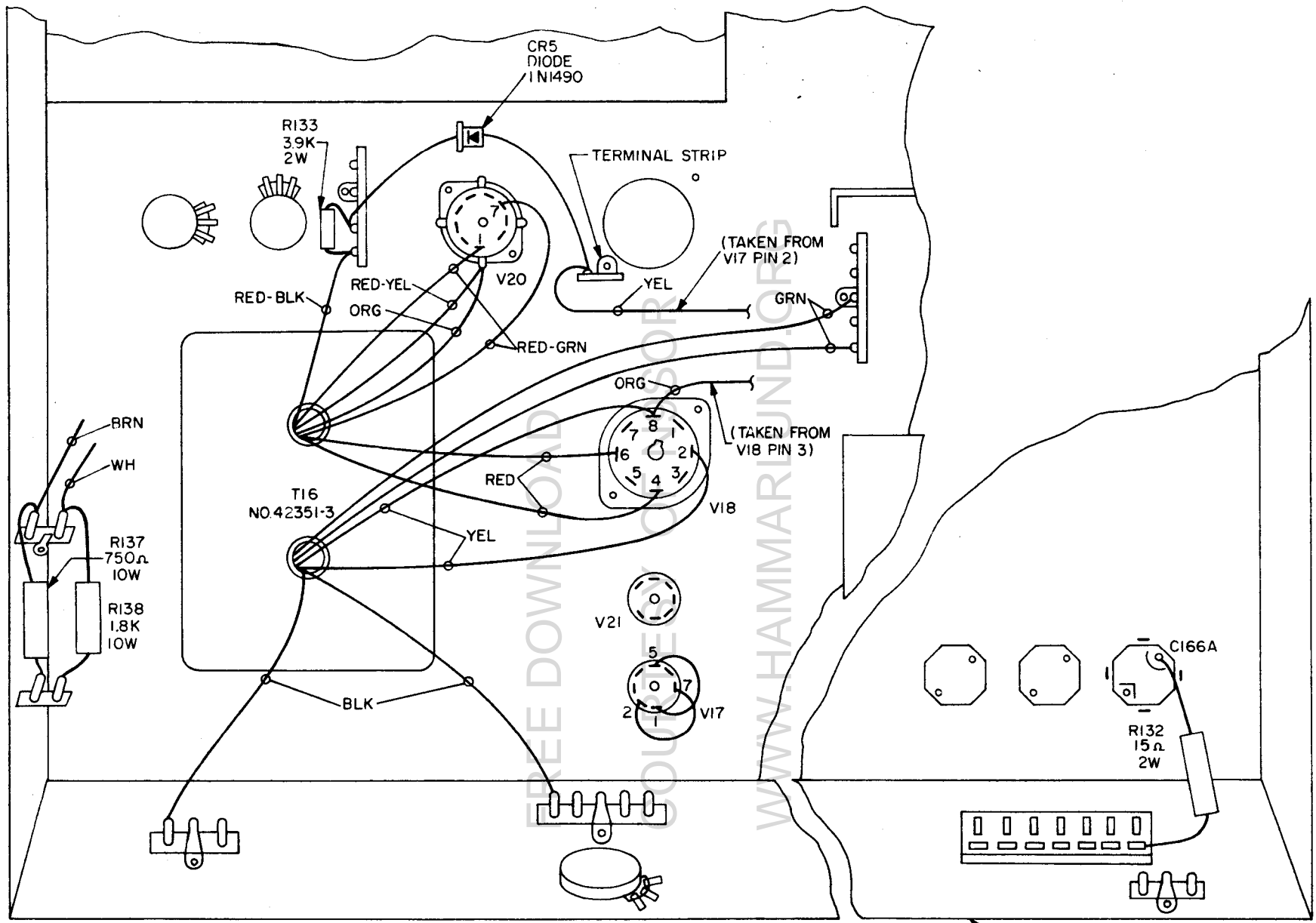
UNIT BEFORE MODIFICATION

FIGURE 1

No. 42202

P

SHEET 1 OF 2



UNIT AFTER MODIFICATION

FIGURE 2