

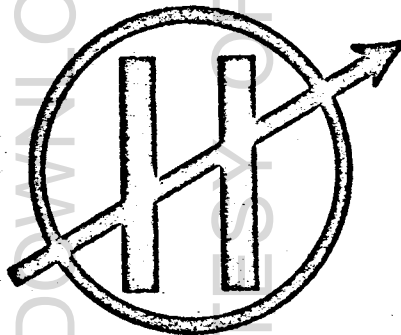
5/5/65
we

ZBZ

FACTORY INSTALLATION PART NO. 9215-01-00001

FIELD INSTALLATION PART NO. 9215-01-00002

INSTALLATION AND OPERATING INSTRUCTIONS



THE HAMMARLUND MANUFACTURING COMPANY

73-88 Hammarlund Drive.

Mars Hill, North Carolina, 28754



Instruction Sheet 9215-06-00001

INSTRUCTIONS FOR HX-50 ZBZ INSTALLATION

Purpose:

To permit rapid zero beating of the HX-50 transmitter frequency with a received signal, without disturbing any operating controls other than the Variable Oscillator tuning.

Operation:

Connect a switch to terminal #6 (or #8) and #3 (ground).

Upon closing the switch contacts, the transmitter is automatically placed in "calibrate" without the necessity of operating any of the switches or controls.

After having found zero beat between the received signal and the transmitter, release the switch, whereupon the transmitter is immediately ready.

Theory of Operation:

When the relay is energized the following action takes place:

1. One pair of contacts opens the cathode return of the speech amplifier tube thus disabling the speech and VOX amplifier circuits.
2. A second pair of contacts shunts a capacitor from one side of the balanced modulator to ground, which permits a greater signal to appear on the grid of the 1st mixer.
3. A third pair of contacts decreases the cutoff bias to the RF driver stage to allow the RF level from it to leak through to the output.
4. A fourth set of contacts opens the VOX trip relay coil circuit and prevents the accidental turning on of the transmitter during the period of the zero beating operation.

Installation Instructions:

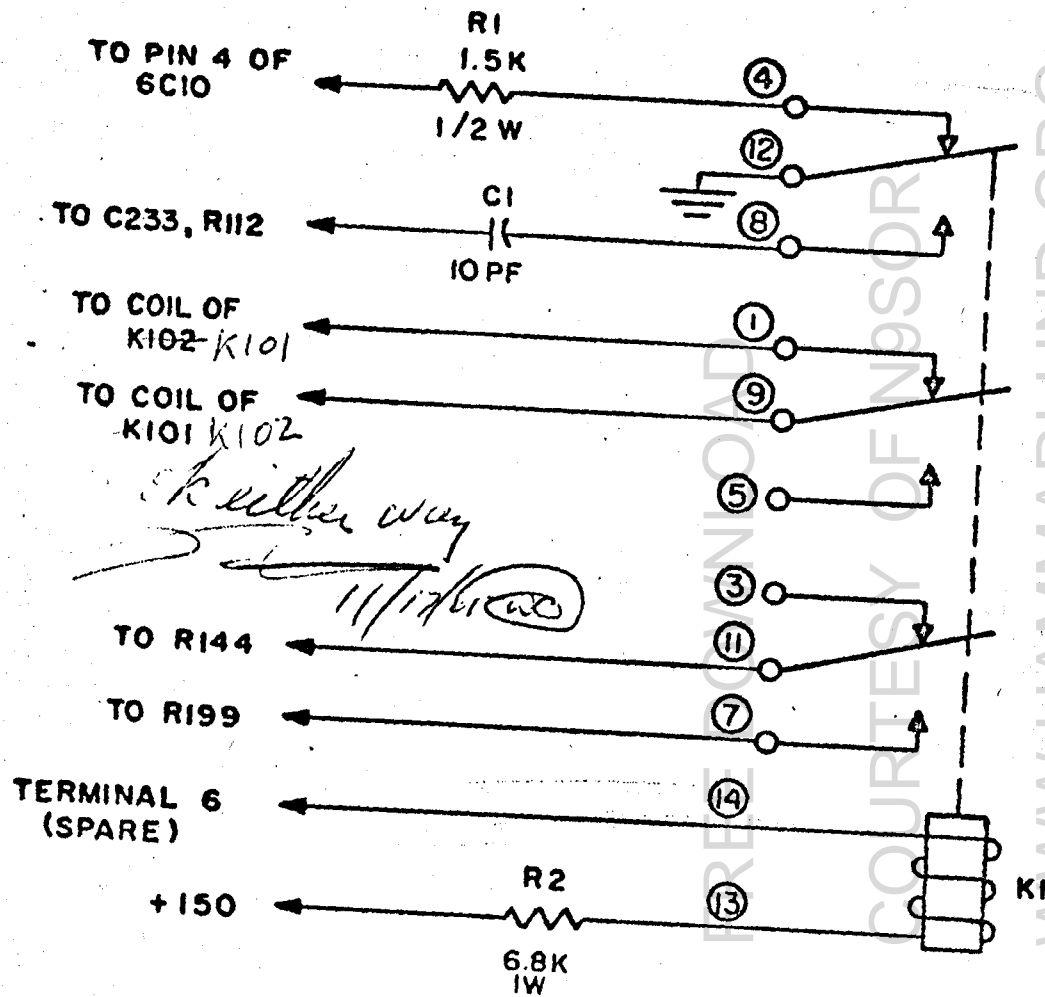
1. Remove resistor R107 (1.5K, 1/2W) from pin 4 of V101 (6C10) and ground.
2. Unsolder the gray wire from K102 relay coil terminal and redress it to reach the ZBZ relay, terminal #1. (See pictorial installation dwg.)
3. Install R2 the 6.8K, 1 watt resistor between pin 5 of V109 (OA2) and unused lug of terminal strip. (See pictorial installation dwg.)
4. Mount the ZBZ relay K1 to bracket.

Installation Instructions (Cont'd)

5. Remove the cable clamp holding the mike cable in place and mount the relay to the shield plate.
Discard cable clamp and dress mike lead under relay.
6. Solder the 1.5K, 1/2 watt resistor R1 and the 10 PF, C1 capacitor to the relay terminals. (See pictorial installation dwg.)
7. Solder the Orange wire, the Brown wire, and the two Red wires to the relay K1. (See pictorial installation dwg.)
8. Solder the short bare wire in place. (See pictorial installation dwg.)
9. Dress the components and wires in place and complete the installation in accordance with the installation drawing.
10. Check carrier balance and rebalance if necessary.
11. Connect the ZBZ operating switch which is not supplied between the TB101 terminal selected and ground (terminal #3). (See pictorial installation dwg.)

ZBZ PARTS LIST

	DESCRIPTION	PART NO.
C1	Fixed Silver Dur-Mica DM-15-10 PF 500V-----	1519-01-00015
K1	Relay 4 PDT -----	4515-02-00001
R1	1.5K ohms 1/2 W., 10% -----	4703-02-00334
R2	6.8K ohms 1 W., 5% -----	4704-01-00642
	Wire, Bare #22, 1" Lg. -----	6003-01-00003
	Wire, Brown #22, 15" Lg. -----	6006-01-00011
	Wire, Orange #22, 6" Lg. -----	6006-01-00033
	Wire, Red #22, 12" Lg. -----	6006-01-00022
	Wire, Brown #22, 7 1/4" Lg. -----	6006-01-00011
	Wire, Red #22, 6 1/4" Lg. -----	6006-01-00022

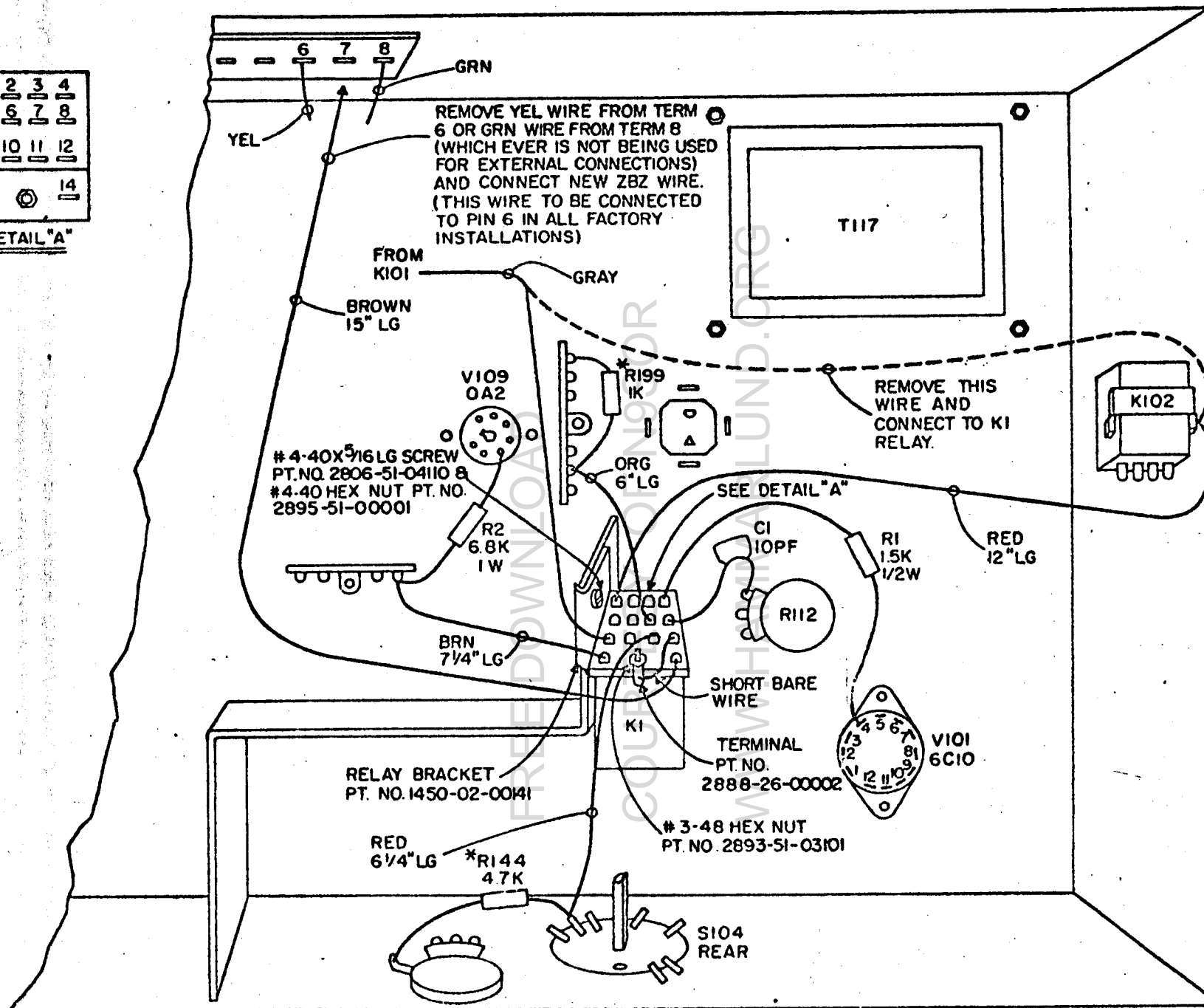


NOTE: NUMBERS IN ○ INDICATE CORRESPONDING NUMBERS IN DETAIL A.

WWW.HAMMARLUND.ORG

1	2	3	4
5	6	7	8
9	10	11	12
13	⊙	14	

DETAIL "A"



*FOR REFERENCE ONLY

ZBZ INSTALLATION DIAGRAM