

## ADDENDA TO HX-50 TRANSMITTER TECHNICAL DESCRIPTION AND OPERATING INSTRUCTIONS MANUAL

This addenda information together with the HX-50 Technical Description and Operating Instructions Manual comprises all the necessary information to operate the HX-50-A Transmitter.

Add paragraph 3-16 to Page 12 of the HX-50 Manual to read as follows:

### 3-16 ZBZ SWITCH AND CALIBRATE LEVEL CONTROL.

This control, another HAMMARLUND-UNIQUE feature, is located directly below the "BAND SELECTOR" switch. Operation of this control permits instantaneous, fool-proof, positive, zero-beating of the HX-50-A Transmitter frequency with a received signal, without disturbing any operating controls other than the "FREQUENCY" knob.

The ZBZ SWITCH AND CALIBRATE LEVEL CONTROL is a potentiometer and a momentary push switch combined. Pushing in on the knob closes a switch which operates a relay, placing the HX-50-A in the following conditions:

1. One pair of relay contacts opens the cathode return of the speech amplifier tube, thus disabling the speech and VOX amplifier circuits, thereby eliminating feedback.
2. A second pair of contacts shunts a capacitor from one side of the balanced modulator to ground, which reinserts carrier to become the calibrating signal. This signal is accurately set by the crystals selected for the particular mode of operation. (i.e. upper sideband, lower sideband, AM or CW) and therefore assures that the calibrate signal will perfectly coincide with the transmitter signal regardless of mode selection.
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. (Rotation of the knob adjusts the level of the calibrating signal.)

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. (This feature may also be used when answering the telephone, talking to the XYL, etc.)

When the calibrating signal is no longer needed, releasing the pressure on the push switch will cause a momentary keying of the transmitter. This should cause no interference because of its short duration and is only a by-product of the ZBZ relay action.

Further versatility in the HX-50-A is brought about by the remote control capabilities of ZBZ. The ZBZ switch is internally connected to the terminal strip on the rear of the HX-50-A so that a foot switch, knee switch or similar device may be utilized thereby leaving the operator with both hands free, normally one for the receiver and the other for the transmitter.