TEN-TEC, Inc. HIGHWAY 411 EAST SEVIERVILLE, TENNESSEE 37862 (615) 453-7172

MODEL AC3

GENERAL

The Model AC3 has been designed to convert the frequency range of 21.0-21.5 MHz to an I.F. of 3.5-4.0 MHz. The dual gate MOSFET is used in the mixer for high sensitivity and low cross modulation.

The conversion oscillator is free-running at a frequency of 17.5 MHz. R.F. voltage at the antenna terminals should not exceed 10 V.R.M.S. When used with a high power transmitter, the antenna must be disconnected and/or shorted.

SPECIFICATIONS

Frequency range: 21.0-21.5 MHz
I. F. frequency: 3.5-4.0 MHz
Voltage gain: 8
Power: 12 V.D.C. @ 8 ma.
Input impedance: 50-75 Ohm
Output impedance: 50-75 Ohm
Size: 2" Wide x 4" deep x 2" high

CONNECTIONS

B: Output
G_3: Output ground
A: Antenna
G_2: Antenna ground
P: + 12 V.D.C.
G_1: Ground

INSTALLATION

( ) Mount the AC3 as shown in figure 1 using the hardware provided.
( ) Connect terminal ("G1") of AC3 to terminal ("G1") of VOl.
( ) Connect terminal ("P") of the AC3 to terminal ("P") of the VOl.
( ) Disconnect the wires from terminals ("A") and ("G1") on the MX1 board. Dress the wires along the front panel to switch No. 1. Cut excess wire from the lead that was connected to ("A") on the MX1 board and connect it to the center terminal of the top row of terminals on switch No. 1. Run the wire that was connected to ("G_1") on the MX1 board to the shield between the frames of the tuning capacitors located below the switches.

( ) Using a twisted pair of wires, connect terminals ("B") and ("G_3") of the AC3 to switch No. 2 and the braid. Connect ("B") to the top right hand lug and connect ("G_3") to the ground braid.

( ) Using a twisted pair of wires, connect terminals ("A") and ("G_2") of the AC3 to switch No. 1 and the ground braid. Connect ("A") to the top right hand lug and ("G_2") to the ground braid.

( ) Using a twisted pair of wires, connect terminals ("A") and ("G_1") of the MX1 to switch No. 2. Connect terminal ("A") to the center lug and ("G_1") to the ground braid.

( ) Connect a wire between the left terminal of switch No. 1 and the left terminal of switch No. 2.

OPERATION

1) Set 80,40 switch to 80. Set 80-40, 15 switches to 15.

2) Peak "REC" control as for 80 meter operation. (Near maximum C.W. rotation.)

3) Use a fundamental 15 meter crystal or a third overtone 15 meter crystal for the transmitter.

4) Place the "TRANS", "RECV" switch in "TRANS" and the "VFO", "XTAL" switch in "XTAL".

5) Close the key and tune the "OSC" control for maximum indication on the meter. Tune the "AMP" control for a dip in the meter or maximum output. The "OSC" control will be about 11 o'clock and the "AMP" control very near maximum C.C.W. rotation.

ALIGNMENT

The AC3 has been aligned at the factory and should not require further adjustments.

OSCILLATOR ALIGNMENT. Place a tuning wand through the top slug in the shield can (L3) and into the bottom slug. Use a crystal or other known frequency for calibration. Tune the receiver to the known frequency and adjust the bottom slug until the signal is heard.

Mixer input coil (L1) and output coil (L2) are peaked for maximum sensitivity. They have been adjusted for the CW portion of 15 meters. To obtain maximum sensitivity in the phone portion of the band. They will have to be re-adjusted.

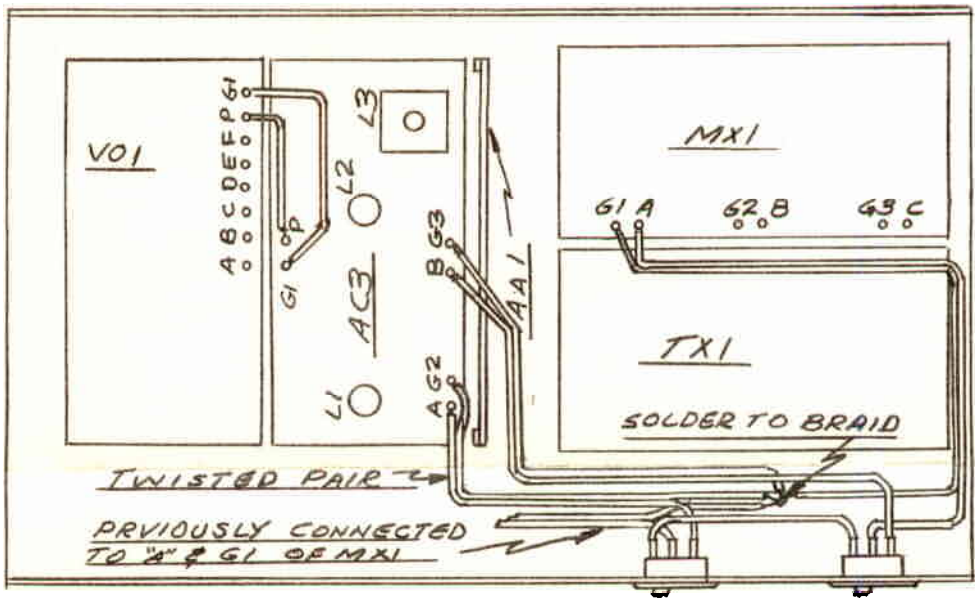

FIG. 1

SWITCH NO 1 SWITCH NO 2