

CONTROLAIRE MTT-10 & UTT-10A

6 METER - REVISION

The purpose of this paper is to describe changes made to 27 megacycle equipment to convert its operation to 6 meters. Frequencies available are either 52 or 53 megacycles. As to operating information, we are supplying the 27mc operating instructions. All information contained therein applies except for those changes noted in this revision.

1. Notice the revised 6 meter circuit diagram. In the area of the RF oscillator and RF amplifier there have been some circuit changes for 6 meter operation. You may compare the two diagrams if you desire, to note the changes. With reference to the tone signal oscillators and the modulator, these remain the same.
2. No center loaded antenna is used. For 6 meter operation a full 1/4 wave straight antenna is employed. Its length is approximately 51".
3. Notice the absence of the sub-antenna as described in the 27 mc instructions. It is not needed due to the revised circuitry. With main antenna removed the transmitter will still emit a controlled weak signal from the grommet hole in the top of the case. For receiver tuning or sensitivity check purposes point the top of the case toward receiver antenna. You should get proper operation up to a 2' distance. If not, consider the receiver out of tune or insensitive but correct before flying.
4. Factory assembled transmitters have had the RF tuning adjusted and sealed. They should remain in tune indefinitely. As to tuning procedure, it will be presented in its entirety because some owners of 27 mc units may elect to convert from information contained in the circuit diagram. It is not recommended that the beginner attempt this but, by token of those having a proper license for operation, they should have the knowledge to make the conversion. To adjust RF tuning start by first adjusting the oscillator trimmer to minimum capacitance and amplifier trimmer to half capacitance. With a 100 ma meter installed in plus battery lead, turn transmitter on and note reading. By reason of the preadjustment to the trimmers, the RF section should not be operative and the current flow on meter should be about 20 ma. This is the idle current of the transmitter. Again note meter and with insulated tuning tool start adjusting oscillator trimmer toward maximum capacitance. At one point the current should rise abruptly to about 35 to 45 ma. This indicates the oscillator has started to operate. From this point and as a matter of proper oscillator loading continue to increase capacitance until an additional 3 to 5 ma of current is added to the initial jump point. This should complete the proper adjustment to oscillator trimmer. To adjust RF amplifier either adjust trimmer for point of maximum reading on field strength meter or minimum flow on milliamp meter. They both will coincide.

REVISION PARTS REQUIRED AND PRICE LIST

	<u>Price Ea.</u>
1 ea. 3rd Overtone Crystal (52 or 53 megacycle)	\$ 5.95
2 ea. 2N-708 Transistors	2.10
1 ea. Oscillator Coil- L130
1 ea. RF Amplifier Coil - L530
1 ea. 4.5 to 25 mmfd Trimmer Capacitor90
1 ea. 51" Collapsible Antenna	3.95
3 ea. .01 mf Disc Condenser20
1 ea. 15 mmfd Disc Condenser25
1 ea. 12 UH R.F. Choke35
1 ea. 15K Ohm Resistor12
Complete Kit of all parts	14.98
Factory conversion including parts, labor, guarantee	19.98 Net

14.42

