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TR-6000 10 Watt AM Broadcast Transmitter Manual

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TR-6000 AM Broadcast Transmitter

Operating Instructions

Overview

The TR-6000 is a solid-state, class D AM transmitter specially designed for traveler's information, carrier current, roadside radio, and other low-power broadcast band AM applications.

The unit features a frequency synthesized oscillator, full remote control, LED power and audio meters, 0 to10 watt output power, short circuit protections, balanced audio inputs, and monitor and headphone outputs. The TR-6000 is shipped factory set for 10-watt operation. 10-watt units are provided with a 24-volt external power supply. The TR-6000 can be powered by storage batteries (not supplied).

The TR-6000 is FCC certified for TIS operation anywhere within the AM broadcast band.

Available Options

- brackets for wall or 19' EIA rack mounting
- super stable crystal option @ 1.5 ppm
- ultra stable crystal option

Front Panel Controls

Power switch - supplies DC to the unit
Do not power up without a 50 ohm output load.
Meter switch - illuminates power and VU LED meters.
Leave off to increase efficiency for battery or solar operation.
Power Adjust - sets RF output level
Set (with no modulation required) to desired carrier level on 10 watt scale
Mod(ulation) adjust - set for 100% modulation on VU meter

For TIS operation the internal audio filter must be engaged. Consult the internal parts layout diagram for location.

Connections

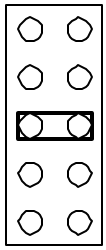
CAUTION: Make all connectors prior to applying DC voltage via the supplied transformer or any external DC source.

RF out - Connect to 50 ohm load
Audio input - Apply line-level balanced audio source
DC in - Apply 24 volts to 24 volt terminals via DC transformer connect or DC input
screw terminals (do not apply both inputs simultaneously, however DC may be derived from the DC terminals for low-current applications when the transformer is utilized).
Relay contacts - (Depending on internal strap programming) This relay can control or be controlled by the transmitter for external device remote control.
Switched monitor audio control - controls the audio output feed to a remote location for remote monitoring.
Switched monitor audio out - balanced/switched (see above) monitor feed.
Monitor audio out - balanced/non-switched audio feed.

TR-6000 Jumper Settings

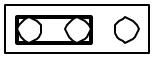
J3 Power Control Relay Configuration

Note: * Indicates Factory Setting

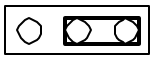


- Relay power supplied by main + input (fused)
- Relay power supplied by N.O. contact
- * - Relay power supplied by common contact
- Relay power supplied by N.C. contact
- Relay power supplied by main + input (unfused)

J5 TIS audio filter enable

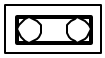


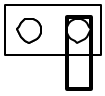
TIS filter disabled *



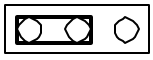
TIS filter enabled

J6 VU meter display mode

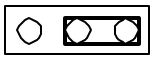
Install jumper for bar mode  bar mode

Leave open for dot mode  dot mode *

J7 Power LED to follow metering switch

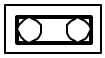


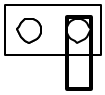
Power LED independent of metering *



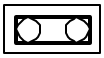
Power LED follows metering

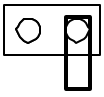
J9 Standard oscillator disable

Jump to disable the standard oscillator 

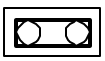
Enable the standard oscillator  *

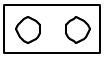
J12 Power meter display mode

Jump for bar mode 

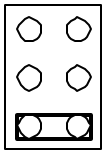
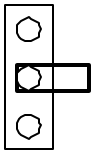
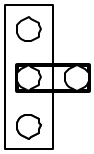
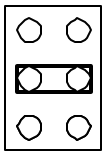
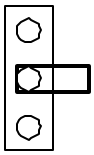
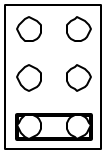
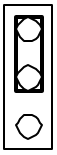
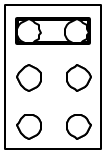
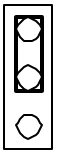
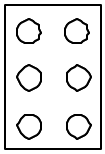
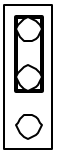
Open for dot mode  *

J15 Relay Supply Voltage

24V Supply  *

48V Supply 

Note: Jumper representations on this page are orientated to match circuit board silk screens.

J8	Clock Source	J10	Reference I/O	J11
* 	Standard Oscillator	* 	No I/O	* 
	TCXO		No I/O	
	Standard Oscillator		Standard Oscillator Out	
	TCXO		TCXO Out	
	External Reference In		External Reference In	

Note: * Indicates Factory Setting

TR-6000 Frequency Change Procedure

1. Set dip switches S1, S2 and S3 for the desired output frequency.
2. Set the output filter jumpers for low or high band.
3. Adjust the power control VR1 to its minimum position.
4. Turn VR10 and VR11 fully counter clockwise.
5. Apply power to the unit.
6. Measure the oscillator frequency at U11 pin 13.
7. Adjust C57 for an oscillator frequency of 10 MHz.
8. Check for the carrier frequency (Test Point A).
9. Adjust VR8 for a 45% duty cycle square wave at U17 pin 5 (Test Point D).
10. Adjust VR9 for a 45% duty cycle square wave at U18 pin 5 (Test Point B).
11. Adjust VR1 for 10 volts on the drain of Q6.
12. Adjust VR7 for 5 volts on the center tap of T3.
13. Adjust C123 for maximum power output.
14. Increase VR10 and VR11 until the bottom half the gates signals of Q8 and Q9 are just below zero volts (Test Point C & E).
15. Increase VR1 to its maximum position and adjust VR2 for the desired maximum power (Not to exceed 10 watts).
16. Calibrate the RF power meter with VR13.
17. Apply a -50 dBm, 1 KHz audio signal to J4 +/-.
18. Adjust VR3 fully clockwise.
19. Adjust VR4 for maximum modulation.
20. Turn VR3 counter clockwise to reduce the modulation percentage and re-adjust VR4 for maximum modulation.
21. Increase the audio generator level to 0 dBm and adjust VR3 to the point just below clipping of the RF envelope.
22. Adjust VR6 for 90% to 95% modulation.
23. Check the audio frequency response, carrier frequency and RF spectral purity of the unit.
24. Decrease the audio generator level in 10 dB steps and check for at least approximately 80% modulation down to a -35 dBm level.
25. Calibrate the VU meter to 0 with VR5.
26. Check the carrier frequency and RF spectral purity of the unit.
27. Seal all potentiometers except VR1, VR3 and VR12.
28. Install the top cover.
29. Turn the unit on and re-adjust C123 for maximum power output.

TR-6000 Test Procedure

1. Check the circuit board for solder shorts and bad solder joints.
2. Check the alignment of the terminal strips, headphone jack and potentiometers.
3. Check for proper installation of diodes, transistors and IC's.
4. Set all potentiometers except VR10 and VR11 to their center position.
5. Set potentiometers VR10 and VR11 fully counter clockwise.
6. Install a jumper on J7 for "power LED independent of metering."
7. Install a jumper on J5 for "TIS filter disabled."
8. Install a power jumper on J13.
9. Remove U12.
10. Set dip switches S1, S2 and S3 for the desired output frequency.
11. Apply power to the unit and check for the power LED to illuminate.
12. Check the output of the variable regulator, twenty volt regulator, twelve volt regulator and the five volt regulator.
13. Install jumpers J8, J10, and J11 for "standard oscillator" and "no I/O."
14. Measure the oscillator frequency at U11 pin 13.
15. Adjust C57 for an oscillator frequency of 10 MHz.
16. Turn off the power and install U12.
17. Connect an RF load to the RF output.
18. Power up the unit and check Test Point A for the carrier frequency (riding on a 5 volt DC level).
19. Adjust VR8 for a 45% duty cycle square wave at Test Point D.
20. Adjust VR9 for a 45% duty cycle square wave at Test Point B.
21. Adjust VR1 for 10 volts on the drain of Q6.
22. Adjust VR7 for 5 volts on the center tap of T3. (Should be 1/2 of Q6 VDD. A lower reading improves unit distortion; a higher reading increases power output for a given Q6 VDD.)
23. Adjust C123 for maximum power output.
24. Increase VR10 and VR11 until the bottom half the gate signals of Q8 and Q9 are just below 0 volts (Test Points C & E).
25. Increase VR1 to its maximum position and adjust VR2 for the desired maximum power (not to exceed 30 watts).
26. Install a power jumper on J14 and calibrate the RF power meter with VR13.
27. Apply a -50 dBm, 1 KHz audio signal to J4 +/-.
28. Adjust VR3 fully clockwise.
29. Adjust VR4 for maximum modulation.
30. Turn VR3 counter clockwise to reduce modulation percentage and readjust VR4 for maximum modulation.

31. Increase the audio generator level to 0 dBm and adjust VR3 to the point just below clipping of the RF envelope.
32. Adjust VR6 for 90% to 95% modulation.
33. Decrease the audio generator level in 10 dB steps and check for at least approximately 80% modulation down to a -35% dBm level.
34. Calibrate the VU meter to 0 with VR5.
35. Check the monitor audio output and switched monitor audio output.
36. Check the power control relay.
37. Check the headphone jack.
38. Check the audio frequency response to 10 KHz.
39. Enable the TIS filter by moving the J5 jumper.
40. Re-adjust VR6 for 90 % modulation with 1 KHz, 0 dBm audio input.
41. Check the audio frequency to 10 KHz (< = 2% modulation at 10 KHz).
42. Check the carrier frequency and RF spectral purity of the unit.
43. Seal all potentiometers except VR1, VR3 and VR12.
44. Install the circuit board in the chassis and install the top cover.
45. Turn the unit on and re-adjust C123 for maximum power output.
46. Write the date, output frequency, TIS or Non TIS and output on a "TESTED" sticker and place it over the C123 adjustment hole on the bottom of the unit.

Frequency	LSB			Switch S1							Switch S2								Switch S3							MSB
(In Khz)	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
530	On	On	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	On	Off	Off	On	Off	Off	On	On	On	On
540	On	Off	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	On	On
550	Off	Off	On	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On	On	On	Off	Off	Off	On	On	On	On
560	On	On	Off	On	On	On	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	Off	Off	On	On	On	On
570	Off	On	Off	Off	On	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	Off	Off	On	On	On	On
580	Off	Off	Off	On	Off	On	On	On	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	On	On
590	On	On	On	On	On	Off	On	Off	On	Off	On	Off	Off	On	On	On	Off	Off	Off	Off	On	On	On	On
600	Off	On	On	Off	On	Off	On	On	On	On	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	On	On
610	On	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	On	On	On
620	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	On	On	On	On
630	Off	On	Off	On	On	On	Off	Off	On	On	On	On	On	Off	On	On	On	On	On	On	Off	On	On	On
640	On	Off	Off	Off	On	On	Off	On	On	Off	On	On	On	Off	Off	On	On	On	On	On	Off	On	On	On
650	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On	On	On	Off	On	On	On
660	On	On	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	Off	Off	On	On	On	On	Off	On	On	On
670	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	On	Off	On	On	On	Off	On	On	On
680	Off	Off	On	On	Off	Off	Off	On	On	On	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	On	On
690	On	On	Off	Off	Off	Off	Off	Off	Off	On	On	Off	On	Off	On	Off	Off	On	On	On	Off	On	On	On
700	Off	On	Off	On	On	On	On	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	On	Off	On	On	On
710	On	Off	Off	Off	On	On	On	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	On	Off	On	On	On
720	On	On	On	Off	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	On	Off	On	On	On
730	Off	On	On	On	On	Off	On	On	On	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	On	On	On
740	On	Off	On	Off	On	Off	On	Off	Off	On	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	On	On
750	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On	Off	On	On	On
760	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	On	On
770	On	Off	Off	On	On	On	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	On	On	On
780	Off	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	On	On	Off	On	On	On
790	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	Off	Off	On	On	On	On	Off	On	Off	On	On	On
800	Off	On	On	On	On	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On	On
810	On	Off	On	Off	On	Off	Off	On	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	On	On	On
820	On	On	Off	On	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	On	On	Off	On	Off	On	On	On
830	Off	On	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	On	On	Off	On	Off	On	Off	On	On	On
840	On	Off	Off	On	On	On	On	On	Off	On	On	On	On	On	On	Off	Off	On	Off	On	Off	On	On	On
850	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On	On	On	Off	Off	Off	On	Off	On	Off	On	On	On
860	Off	On	On	Off	Off	On	On	On	On	On	Off	On	On	On	On	On	On	Off	Off	On	Off	On	On	On
870	On	Off	On	On	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	On	Off	Off	On	Off	On	On	On
880	Off	Off	On	Off	On	Off	On	On	Off	Off	Off	On	On	On	On	Off	On	Off	Off	On	Off	On	On	On
890	On	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	On	Off	Off	On	Off	Off	On	Off	On	On	On

Frequency	LSB		Switch S1								Switch S2								Switch S3							MSB
(In Khz)	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
900	Off	On	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On	On	On	Off	Off	Off	On	Off	On	On	On
910	Off	Off	Off	On	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	Off	Off	On	Off	On	On	On
920	On	On	On	On	Off	On	Off	On	Off	On	Off	Off	On	On	On	Off	Off	Off	Off	On	Off	On	On	On
930	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	Off	On	On	On
940	On	Off	On	On	On	Off	Off	On	On	On	On	On	Off	On	On	On	On	On	On	Off	Off	On	On	On
950	On	On	Off	Off	On	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On	On	On	Off	Off	On	On	On
960	Off	On	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	On	Off	On	On	On	Off	Off	On	On	On
970	On	Off	Off	Off	Off	Off	Off	Off	On	On	Off	On	Off	On	Off	Off	On	On	On	Off	Off	On	On	On
980	Off	Off	Off	On	On	On	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	On	Off	Off	On	On	On
990	On	On	On	On	Off	On	On	On	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	Off	On	On	On
1000	On	Off	On	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On	On
1010	Off	Off	On	On	On	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	Off	On	On	On
1020	On	On	Off	Off	On	Off	On	Off	On	On	Off	Off	Off	On	On	On	On	Off	On	Off	Off	On	On	On
1030	Off	On	Off	On	Off	Off	On	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	Off	On	On	On
1040	On	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	On	On	Off	On	Off	On	Off	Off	On	On	On
1050	On	On	On	Off	On	On	Off	On	Off	On	On	On	On	Off	Off	Off	On	Off	On	Off	Off	On	On	On
1060	Off	On	On	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	On	Off	Off	On	Off	Off	On	On	On
1070	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	On	On	On
1080	Off	Off	On	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	On
1090	Off	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	Off	Off	On	On	On
1100	On	Off	Off	On	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On	On	On	Off	Off	Off	On	On	On
1110	Off	Off	Off	Off	Off	Off	Off	On	On	Off	On	Off	On	Off	Off	On	On	On	Off	Off	Off	On	On	On
1120	On	On	On	Off	On	On	On	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	Off	Off	On	On	On
1130	Off	On	On	On	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	On	On	On
1140	Off	Off	On	Off	Off	On	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	Off	Off	On	On	On
1150	On	On	Off	On	On	Off	On	Off	On	On	On	On	Off	Off	Off	On	Off	On	Off	Off	Off	On	On	On
1160	Off	On	Off	Off	On	Off	On	On	On	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	On
1170	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	Off	Off	Off	On	On	On
1180	Off	Off	Off	Off	Off	Off	On	On	Off	On	Off	On	Off	Off	On	On	On	Off	Off	Off	Off	On	On	On
1190	Off	On	On	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	Off	On	On	On
1200	On	Off	On	On	Off	On	Off	On	On	On	On	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	On
1210	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	On	On	On
1220	On	On	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	On	On
1230	On	Off	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	Off	On	On	On
1240	Off	Off	Off	On	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	On	On	On
1250	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	On	Off	On	On
1260	Off	On	On	Off	On	On	On	Off	Off	On	On	On	On	On	Off	On	On	On	On	On	On	Off	On	On

Frequency	LSB		Switch S1								Switch S2								Switch S3							MSB
(In Khz)	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8	SW1	SW2	SW3	SW4	SW5	SW6	SW7	SW8
1270	On	Off	On	On	Off	On	On	On	Off	Off	On	On	On	On	On	Off	On	On	On	On	On	Off	On	On
1280	On	On	Off	Off	Off	On	On	Off	On	On	Off	On	On	On	Off	Off	On	On	On	On	On	Off	On	On
1290	Off	On	Off	On	On	Off	On	On	On	Off	Off	On	On	On	On	On	Off	On	On	On	On	Off	On	On
1300	On	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On	On	On	Off	On	On
1310	Off	Off	Off	On	Off	Off	On	On	Off	On	On	Off	On	On	On	Off	Off	On	On	On	On	Off	On	On
1320	Off	On	On	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	Off	Off	On	On	On	On	Off	On	On
1330	On	Off	On	Off	On	On	Off	On	On	On	Off	Off	On	On	On	On	On	Off	On	On	On	Off	On	On
1340	Off	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	On	Off	On	On	On	Off	On	On
1350	On	On	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On	On	Off	On	On
1360	Off	On	Off	On	On	Off	Off	Off	On	On	On	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	On
1370	Off	Off	Off	Off	On	Off	Off	On	On	Off	On	On	Off	On	On	On	Off	Off	On	On	On	Off	On	On
1380	On	On	On	Off	Off	Off	Off	Off	Off	Off	On	On	Off	On	Off	On	Off	Off	On	On	On	Off	On	On
1390	Off	On	On	On	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	Off	Off	On	On	On	Off	On	On
1400	On	Off	On	Off	On	On	On	On	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	On	Off	On	On
1410	Off	Off	On	On	Off	On	On	Off	On	On	On	Off	Off	On	On	On	On	On	Off	On	On	Off	On	On
1420	Off	On	Off	Off	Off	On	On	On	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	On	Off	On	On
1430	On	Off	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	On	Off	On	On	Off	On	On
1440	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	On	Off	On	On
1450	On	On	On	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On	Off	On	On
1460	On	Off	On	On	On	On	Off	On	On	On	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	On	On
1470	Off	Off	On	Off	On	On	Off	Off	Off	On	On	On	On	Off	On	Off	Off	On	Off	On	On	Off	On	On
1480	On	On	Off	On	Off	On	Off	On	Off	Off	On	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	On
1490	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	On	Off	On	On	On	Off	Off	On	On	Off	On	On
1500	On	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On	Off	Off	On	On	Off	On	On
1510	On	On	On	On	Off	Off	Off	Off	Off	Off	Off	On	On	Off	On	Off	On	Off	Off	On	On	Off	On	On
1520	Off	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	On
1530	On	Off	On	On	On	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	Off	Off	On	On	Off	On	On
1540	Off	Off	On	Off	On	On	On	Off	On	On	Off	Off	On	Off	Off	On	Off	Off	Off	On	On	Off	On	On
1550	On	On	Off	On	Off	On	On	On	On	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	Off	On	On
1560	On	Off	Off	Off	Off	On	On	Off	Off	Off	Off	Off	On	Off	Off	Off	Off	Off	Off	On	On	Off	On	On
1570	Off	Off	Off	On	On	Off	On	On	Off	On	On	On	Off	Off	On	On	On	On	On	Off	On	Off	On	On
1580	On	On	On	On	Off	Off	On	Off	On	Off	On	On	Off	Off	Off	On	On	On	On	Off	On	Off	On	On
1590	Off	On	On	Off	Off	Off	On	On	On	On	Off	On	Off	Off	On	Off	On	On	On	Off	On	Off	On	On
1600	Off	Off	On	On	On	On	Off	Off	Off	On	Off	On	Off	Off	Off	Off	On	On	On	Off	On	Off	On	On
1610	On	On	Off	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	On	Off	On	Off	On	On
1620	Off	On	Off	On	Off	On	Off	Off	On	On	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	On	On
1630	On	Off	Off	Off	Off	On	Off	On	On	Off	On	Off	Off	Off	On	Off	Off	On	On	Off	On	Off	On	On

Frequency	LSB			Switch S1						MSB				Switch S2										Switch S3							
(In Khz)	Sw1	Sw2	Sw3	Sw4	Sw5	Sw6	Sw7	Sw8		Sw1	Sw2	Sw3	Sw4	Sw5	Sw6	Sw7	Sw8		Sw1	Sw2	Sw3	Sw4	Sw5	Sw6	Sw7	Sw8
1640	Off	Off	Off	On	On	Off	Off	Off		Off	Off	On	Off	Off	Off	Off	Off		Off	On	On	Off	On	Off	On	On
1650	Off	On	On	On	Off	Off	Off	On		Off	On	Off	Off	Off	Off	On	On		On	Off	On	Off	On	Off	On	On
1660	On	Off	On	Off	Off	Off	Off	Off		On	Off	Off	Off	Off	Off	Off	On		On	Off	On	Off	On	Off	On	On
1670	Off	Off	On	On	On	On	On	Off		On	On	On	On	On	On	Off	Off		On	Off	On	Off	On	Off	On	On
1680	On	On	Off	Off	On	On	On	On		On	Off	On	On	On	On	On	On		Off	Off	On	Off	On	Off	On	On
1690	On	Off	Off	On	Off	On	On	Off		Off	Off	On	On	On	On	Off	On		Off	Off	On	Off	On	Off	On	On
1700	Off	Off	Off	Off	Off	On	On	On		Off	On	Off	On	On	On	On	Off		Off	Off	On	Off	On	Off	On	On

Bill of Materials

Level	Seq.	Component - Item	Component Description	UOM	Qty.
1	10	11719	TR-6000 BD ASSY VERSION 2V	EA	1.0
2	10	11194	TRIMMER CAP 250-800PF	EA	1.0
2	20	11199	IC TC4423CPA	EA	1.0
2	30	11200	IC TC4424CPA	EA	1.0
2	40	11201	IC SA577	EA	1.0
2	50	11213	COIL 24 TURN	EA	4.0
2	60	11214	COIL 17 TURN	EA	1.0
2	70	11215	COIL 23 TURN	EA	1.0
2	80	11216	COIL 29/31 TURN CT	EA	1.0
2	90	11217	COIL 6/4 TURN CT	EA	1.0
2	100	11712	COIL 35T MULTI-TAP	EA	2.0
2	110	11713	COIL 36T MULTI-TAP	EA	1.0
2	120	11790	TR-6000 BOARD SUB ASSY	EA	1.0
2	130	2840	CHOKE 8 TURN	EA	1.0
2	140	3931	POT 10K VERTICAL SINGLE	EA	2.0
2	150	13011	HEAT SINK 8 PIN DIP	EA	2.0
1	20	11230	TR-6000 CHASSIS	EA	1.0
1	30	11231	TR-6000 COVER	EA	1.0
1	40	11232	CONNECTOR BNC PANEL MOUNT	EA	1.0
1	50	11233	CONNECTOR UHF PANEL MOUNT	EA	1.0
1	60	11258	ROCKER SWITCH ASSEMBLY	EA	2.0
1	70	11720	BOX TR-6000 REV A	EA	1.0
1	80	2936	WASHER #6 FLAT	EA	7.0
1	90	1093	WASHER LOCK #6	EA	7.0
1	100	8047	SCREW 6-32 X 5/8 PH PHIL	EA	7.0
1	110	11049	SCREW 6-32 X 1/4 BH BLACK	EA	16.0
1	120	11293	REF: USED TO SECURE LID	EA	1.0
1	130	1155	BNC SOLDER LUG	EA	2.0
1	140	11276	KNOB TR-6000 ADJUST .25 SHAFT	EA	2.0
1	150	11235	TR-6000 24V POWER SUPPLY	EA	1.0
1	160	11337	TR-6000 MANUAL	EA	1.0
1	170	3126	FEET BUMP-ON	EA	1.0
1	180	9399	BUMPON TAPERED SQUARE	EA	1.0

Schematics

Warranty

Radio Systems, Inc. warrants this equipment to be free from defects in materials and workmanship for a period of one (1) year.

This warranty extends to first users of the product and future owners who purchase this product within the warranty period.

The terms of this warranty are null and void if this product is stored or operated in an enviroment not conducive to electronic equipment, or shows signs of misuse or modifications, which affect the proper functioning of the product. This warranty does not apply to damage caused by fire, smoke, flood, lightning, or acts of nature and physical abuse.

Radio Systems, Inc., and its associated companies, authorized distributors, and personnel are not liable for loss of revenues or other damages, or effects to the broadcast signal quality or coverage which may result from the improper functioning of this product.

Repair Policy

Technical assistance is available at any time, at no charge, by phone or correspondence.

During the warranty period, there will be no charge for parts or service made to units which show no sign of misuse by customer or lightning caused damage. The customer is responsible for the cost of shipping their unit back to Radio Systems for repair.

During the warranty period, shipment of small parts and assemblies may also be made at a charge to the user. Emergency shipments of replacement parts and circuits will be made at the user's request for an extra shipping and service charge. Chargeable services will be made COD or on Net-30 day terms to users with established accounts.

During the warranty period, full credit or return of COD charges (less any service and expedited shipping charges) will be made to users who return the defective parts or circuits within 30 days, if the damage is covered under the terms of the warranty.

Return Instructions

Contact Radio Systems (856-467-8000) for a return authorization number.

Pack all items carefully and ship prepaid, via UPS insured, to:

Radio Systems, Inc.
Attn: R.A. # _____
601 Heron Drive
Bridgeport, NJ 08014-0458

Enclose a note that includes your name, company, phone number, the serial number, return address (no box numbers), and a complete description of the problem.