



***AM Transmitter
Travelers'
Information Station
Model MTS10W***

***Multi-Technical Services
950 NC Hwy 42 West
Clayton NC 27520***

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Multi-Technical Services.

AM Transmitter

Model MTS10W



Equipment Manual: MTS10W Transmitter

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Multi-Technical Services.

950 Hwy 42 West

Clayton, NC 27520

(919)553-2995

Warranty and Limitation of Liability

Multi-Technical Services, Inc., hereinafter referred to as MTS, warrants for equipment sold hereunto that for a period of six (6) months from MTS' shipment date that equipment shall be free from defects in material and workmanship and conform to published specifications for the equipment.

If a defect occurs within the warranty period, buyer shall immediately notify MTS and MTS shall repair or replace the defective equipment without extra charge.

This warranty does not apply to defects not caused by MTS (for example: lightning damage, accidents or abuse, work or installation done improperly or contrary to MTS standards) or to equipment on which the model or serial numbers, manufacture or shipment dates are changed or removed, or warranty seals broken.

No other warranty, expressed, or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose, shall apply.

Whether or not caused by MTS' negligence, MTS shall not be liable for any indirect, special, consequential or other damages, however caused (including late delivery). MTS' obligation to repair or replace equipment in accordance with the above warranty shall be buyer's exclusive remedy for breach of any warranty or from negligence. If MTS fails to repair or replace as aforesaid, MTS' entire liability to buyer shall not exceed the repair or replacement value, whichever is lower, of the defective item.

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Section One

Introduction to the MTS10W

The MTS10W is an AM Broadcast Band Transmitter designed specifically for application as a transmitter for a Travelers' Information Station as defined by the Federal Communications Commission Rules and Regulations 47 CFR 90.242. Operation of such a station requires a station license.

The MTS10W is a synthesized, solid-state, high efficiency AM transmitter. The design incorporates a high efficiency Class D RF Final amplifier and a Class S high efficiency modulator. The MTS10W is suitable for battery and solar power installations. The power output for the MTS10W is continuously variable from 0.1 watts to 10 watts and does not require any complex power and modulation adjustments. The power adjustment is under software control. The MTS10 is equipped with both a bi-directional power meter and a high performance audio processor with over 30 dB dynamic range to ensure that your transmission is always loud and clear.

The MTS10W configuration and control software through the USB interface to your pc allows you to adjust frequency from 530 to 1700 kHz from the drop down menu. Adjustments to RF power output from 0.1 to 10 watts on an easy slide scale, monitor modulation, DC input voltage and forward and reflected power.

The MTS10W is covers the US AM broadcast band from 530 to 1700 kHz.

The MTS10 is FCC TYPE ACCEPTED, for application in the Travelers' Information Station service. The FCC Identifier, HTG3BPMTS10W, is located on the rear panel.

The MTS10W comes equipped with the following:

- (1) CD containing software and PDF Manual
- (2) Power Cable
- (3) USB cable

Make sure all these items are present when unpacking the unit.

Section Two

Equipment Specifications

Physical

Height: 2.5 inches Length: 6.5 inches Width: 5.5 inches

Weight: 3 pounds Shipping: 5 pounds

Environmental

Operating: Temperature: -30 to +65 degrees C Humidity: 0 to 95% non-condensing

Storage: Temperature: -45 to +80 degrees C Humidity: 0 to 95% non-condensing

Input Power:

13.2 Vdc +/- 10% at 2.5 amperes maximum

Audio Input

monaural 3.5mm

Impedance: 600 ohms balanced

Level: -30 to +10 dBm 600 ohms, self correcting

Transmitter Performance

Output Power: 0.1 watts to 10 watts RMS Carrier, continuously variable

Output Impedance: 50 ohms

Maximum Mismatch VSWR: 3:1

Harmonic and Spurious Emissions: -55 dBc

Modulation: A3

Frequency Stability: 100 ppm

Hum and Noise: -50 dBc minimum

3 dB Bandwidth: 2.5 kHz, complies with FCC 47CFR 90.242

LCD Display: 2X8 character display

Section Three

Installation and Operation

Safety Notice

Installation should be performed by experienced electricians in accordance with national, state and any other electrical codes having jurisdictions. All work should be performed under the direction of the installation or service crew safety foreman.

Installation

The MTS10W is designed to be installed on a 13.2 Vdc Power supply

The power connector, 2 Audio Connectors

The audio input connectors are 3.5mm monaural. The audio inputs are 600ohm transformer coupled inputs, so polarity need not be observed. The audio level (-30 to +10 dBm) is not critical and need not be adjusted for changes in carrier power level.

Antenna Connector

The antenna connector, J3, is the BNC type connector located at the top of the unit. Use 50 ohm coaxial cable, RG-58a/u or equivalent. We recommend that all installations use a coaxial lightning protection device such as the Polyphaser IS-50UX-CO. The antenna system should be a 50 ohm system and should be installed in such a manner as to comply with FCC Rules (47 CFR 90.242). Not intended for use with leaky cable transmission systems.

Tune the antenna system for the minimum reflected power indicated on the software display. Do not operate the transmitter for long periods of time with an indicated reflected power of greater than 2 watts.

Power Adjustment

If it is necessary to adjust the power output of the transmitter in order to comply with FCC rules regarding field strength:

(1) MTS10W Software configuration allows for software adjustment

Do not operate the MTS10W with an indicated forward power, (unmodulated) of greater than 10 watts.

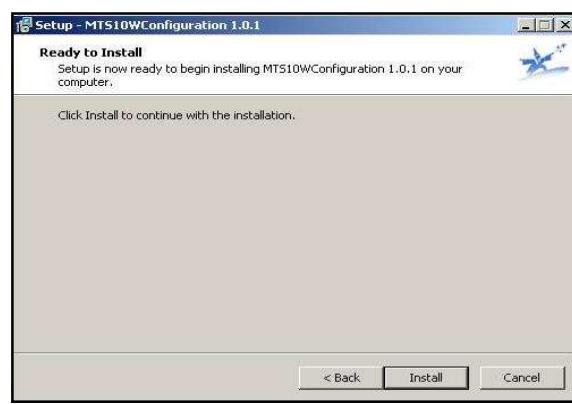
PC Connection

Connect the transmitter to a pc via Usb cable, open and run the MTS10WConfigSetup.exe program, power up the MTS10W, open the MTS10WConfiguration and adjust settings. **At no time should the PC/USB cable be connected after configuration is complete.**

Section Four

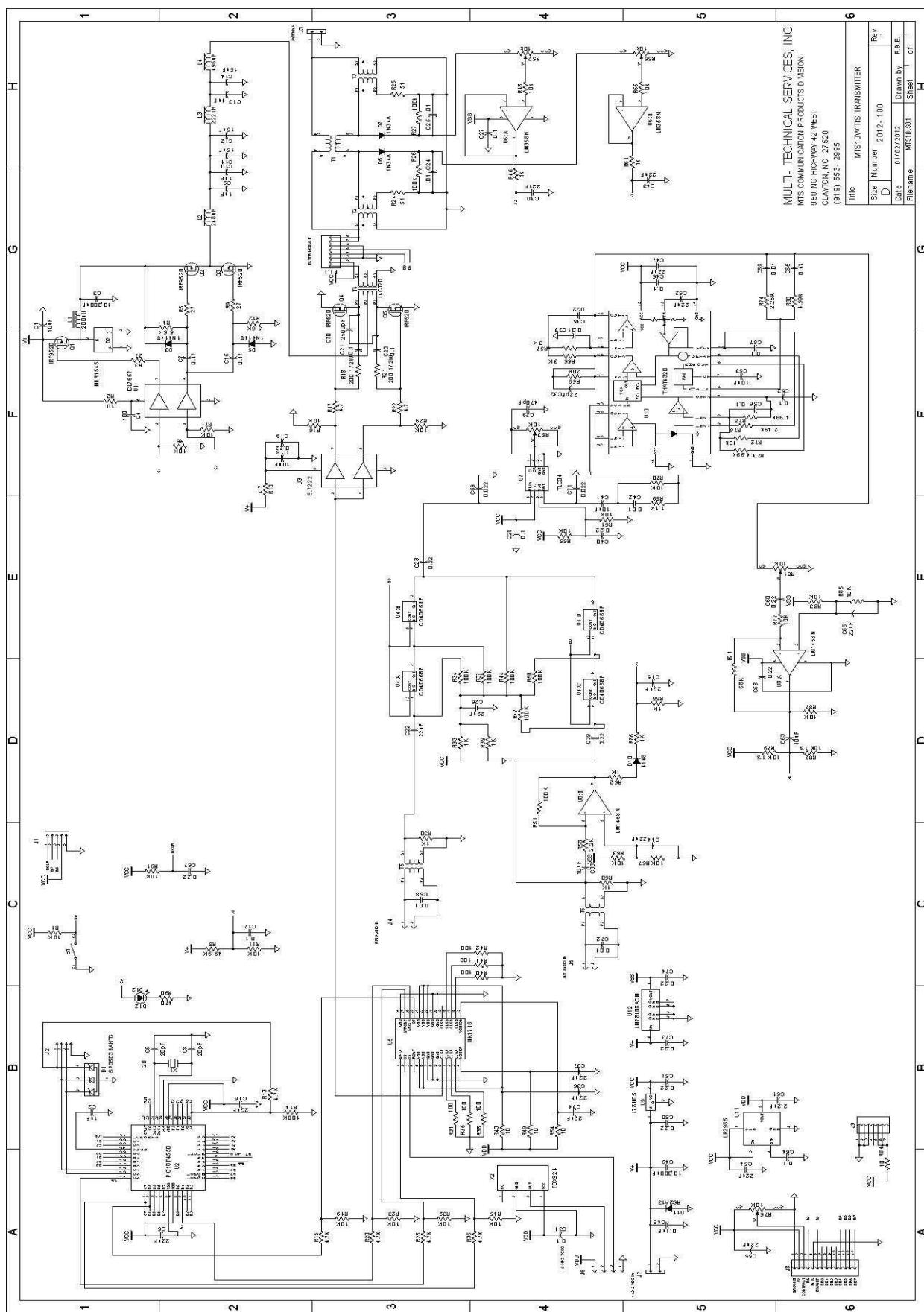
Software Installation

1. Install software by executing the MTS10WConfigSetup.exe file
2. Welcome to MTS10WConfig 1.0.0 will appear “Select Next”
3. Select destination location appears “select location or leave default” and next
4. Select additional tasks “select” and next
5. Ready to install “select install”
6. Completing the MTS10WConfig 1.0.0 Setup Wizard “remove check from launch MTS10WConfig “ select finish



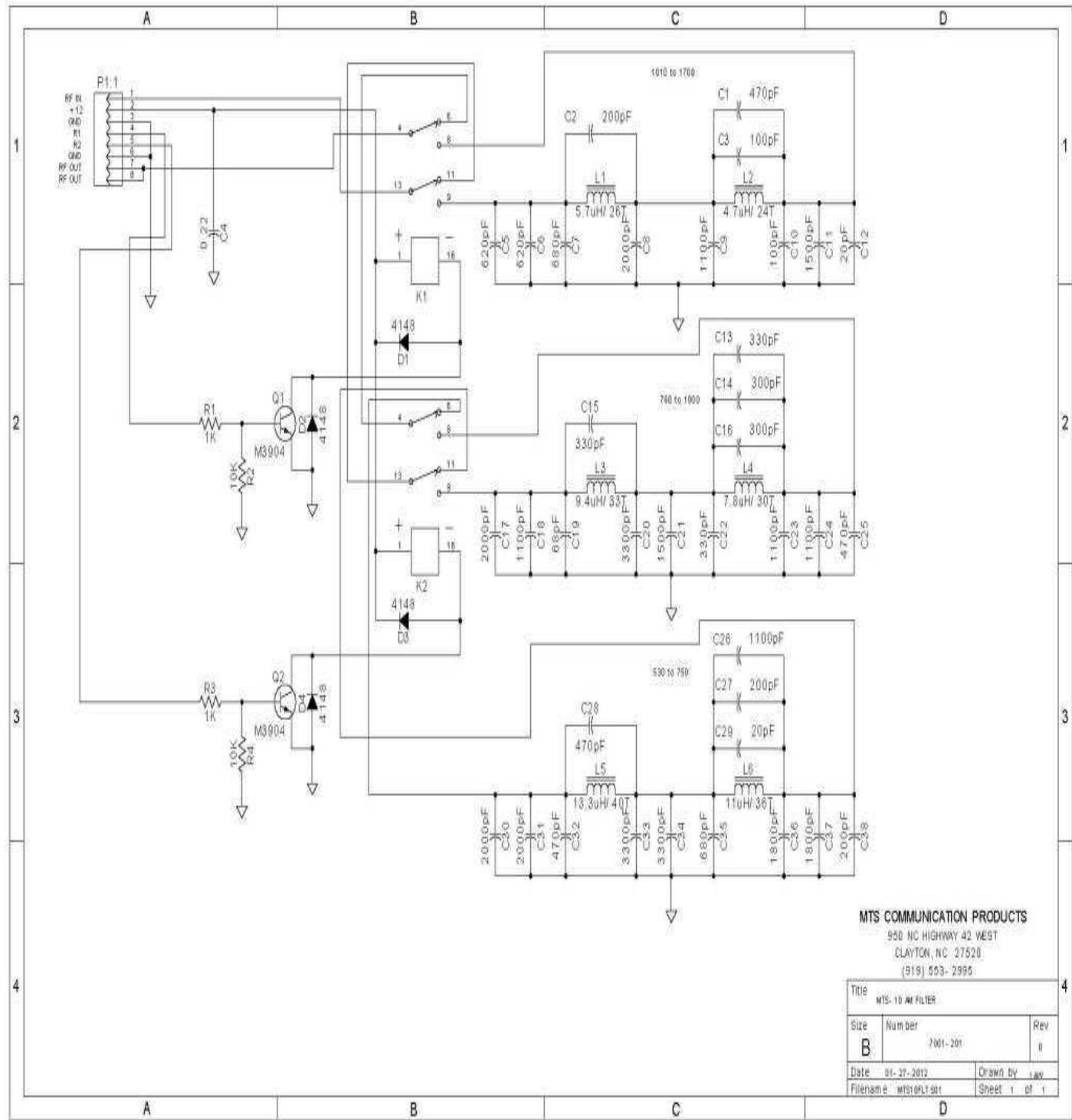
Section Five

MTS10W Schematic



Section Six

MTS10W Filter Schematic



Section Eight

Factory Service Procedure

If factory service is required for your MTS10W transmitter, contact customer service at (919) 553-2995 and obtain a Return Material Authorization (RMA) number. Pack the unit securely. Install the RMA number in **Large, Bold**, print on the outside of the shipping carton and ship the unit pre-paid and insured to:

Customer Service

RMA XXXX

Multi-Technical Services.

950 Hwy 42 West

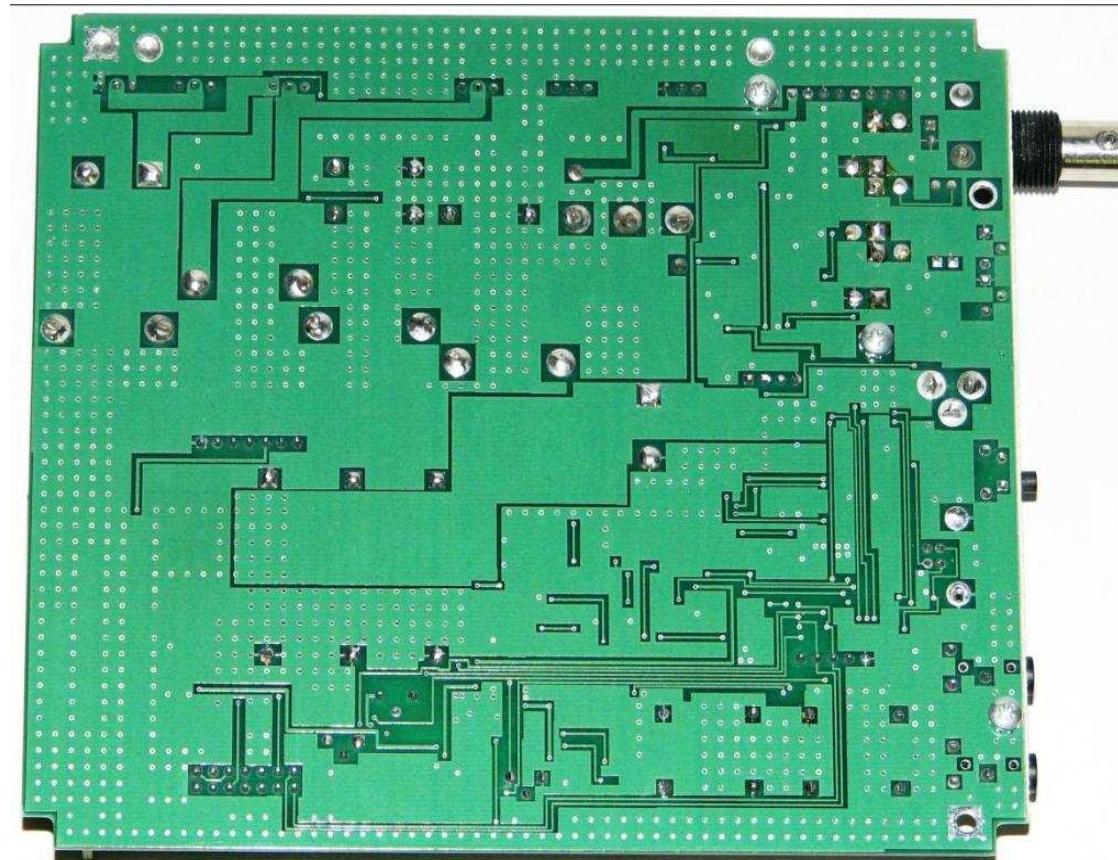
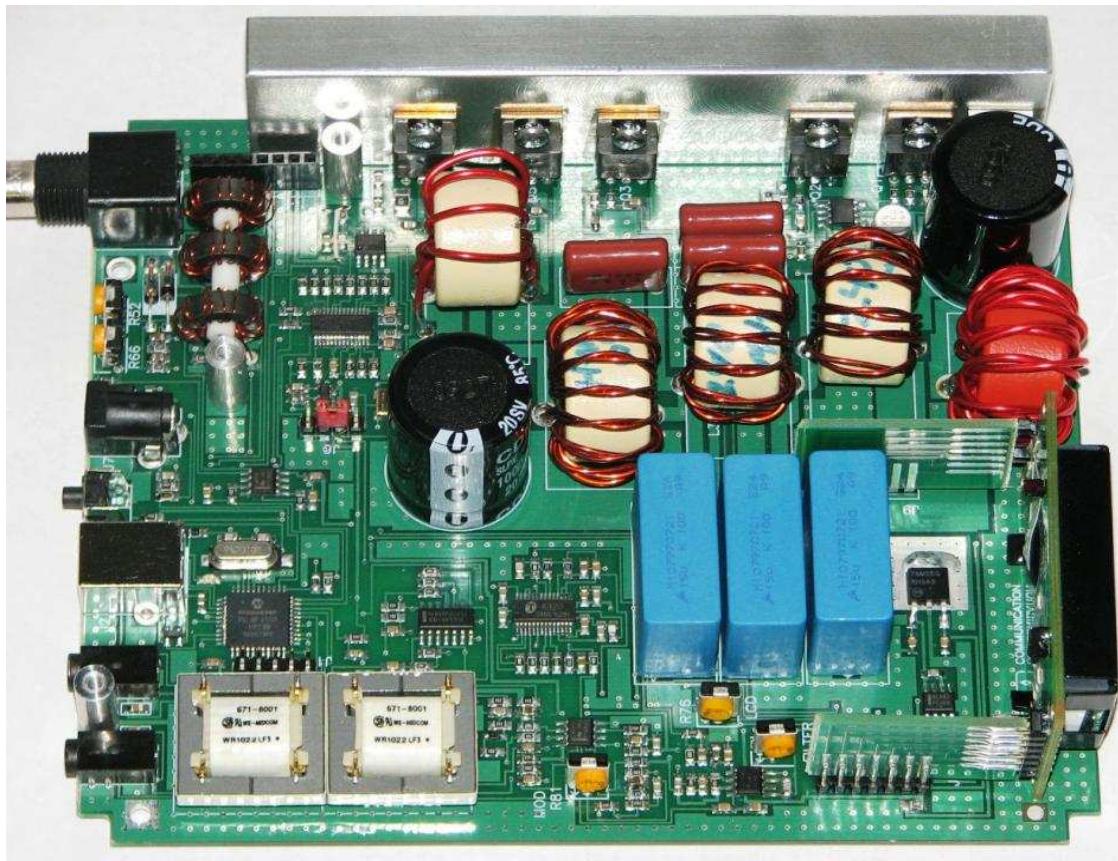
Clayton, NC 27520

Include with the unit a complete description of the difficulty and your complete return shipping address and telephone number.

Notice: Multi-Technical Services. is not liable for any damage or loss of equipment in transit to MTS. MTS is not liable for any unit that is returned without a duly issued and properly displayed RMA number.

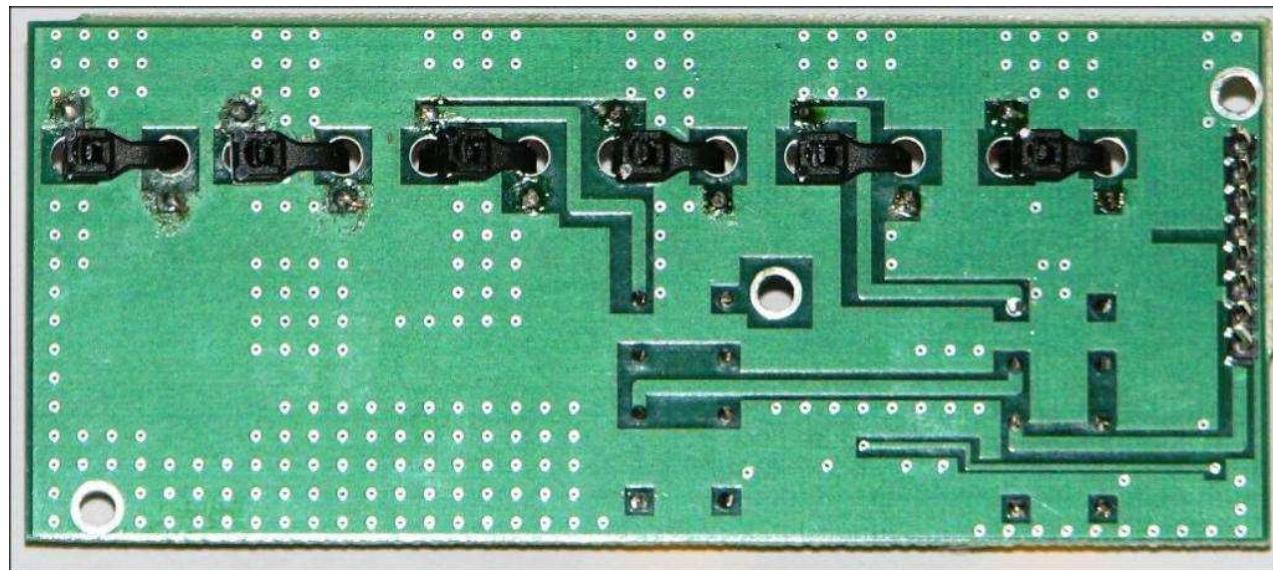
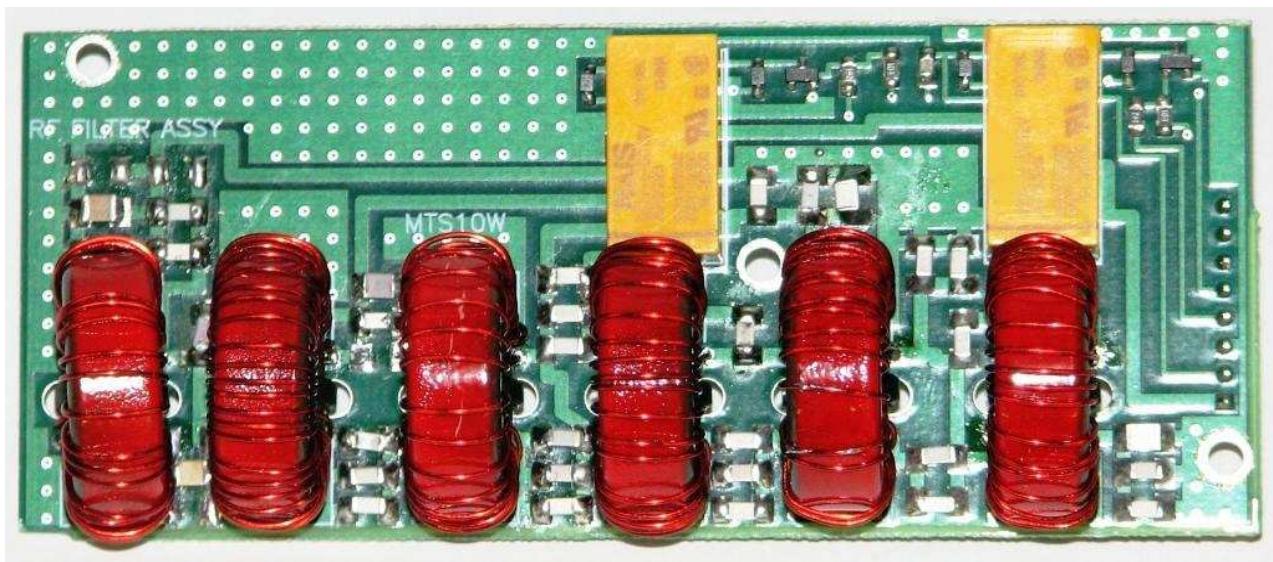
Section Nine

View of the MTS10W top and bottom



Section Ten

View of the MTS10W Filter top and bottom



Section Eleven

View of the MTS10W with Filter

