

AMERITRON TRP-150

**TRANSCEIVER
INPUT PROTECTOR**

INSTRUCTION MANUAL

PLEASE READ THIS MANUAL BEFORE OPERATING THIS EQUIPMENT!

The logo for Ameritron, featuring the word "AMERITRON" in a bold, stylized font. The letters "M", "R", and "T" have horizontal lines through them, and the "O" is a solid circle.

**116 Willow Road
Starkville, MS 39759 USA
662-323-8211**

Introduction

The TRP-150 is a device to help protect receiver front ends from high level signals when operating in the proximity to other transmitters which could damage the receiver. Situations such as multi op contesting, Field Day, emergency operations, separate spotting receiver, or the ham down the street, anywhere multiple transmitters may be operating at the same time and possibly on the same band.

The TRP-150 has a Gas Discharge Tube included to shunt any high voltage surges to ground. A lamp is in series to act as a protective load and pair of Schottky Diodes are used to clip incoming signals above 0.3V limiting the maximum signal to the receiver. A miniature relay that has good RF qualities is used to bypass the receive protection while transmitting.

Specifications

Receive Path Loss	1.2dB nominal
Receive VSWR	<1.5:1
Transmit VSWR	<1.2:1 1MHz to 54MHz <1.5:1 54MHz to 150MHz

Setup and Usage

The TRP-150 is placed in line with the receiver or transceiver. Connect the receiver or transceiver output to the RADIO connector on the TRP-150. Connect the ANTENNA connector to the antenna, amplifier input, antenna tuner, or other device you would normally be feeding from the transceiver. Connect the transceiver amplifier key output to the FROM RADIO KEY jack. If an amplifier was in use, connect the TO AMP KEY jack to the amplifier RELAY line.

The KEY signal can be either to ground or a positive signal. To select which mode open the TRP-150 and move the jumper on to LO for ground or HI for a positive signal. Do not exceed 15 volts when using the HI signal.

The TO AMP KEY line is always ground to transmit. It is designed to switch up to 24V and 400mA.

Some radios unkey before the transceiver quits putting out power. To slow the release time install a jumper on JP2.

Operation

The circuit starts its protection at around +3dBm and can introduce intermod to the receive signal from high level signals. For high level out of band signals filters are recommended to trap or block the unwanted

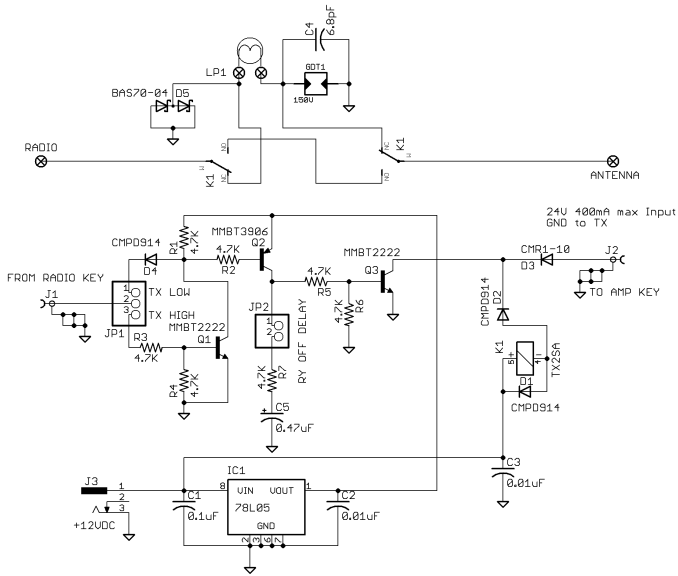
signal. In band signals may not be filterable. The circuit can protect up to several watts of unwanted RF coming in the Antenna connector.

In transmit the TX2SA relay bypasses the clipping circuit allowing the transmit RF to pass unhindered.

When in transmit mode do not exceed 100W. The relay although designed for good RF performance is not designed for power levels much over 100W. Do not place the TRP-150 on the output of an amplifier.

Do not transmit into the TRP-150 when the FROM RADIO KEY line is not connected.

Schematic



DISCLAIMER

Information in this manual is designed for **user purposes only** and is **not** intended to supersede information contained in customer regulations, technical manuals/documents, positional handbooks, or other official publications. The copy of this manual provided to the customer will **not** be updated to reflect current data.

Customers using this manual should report errors or omissions, recommendations for improvements, or other comments to Ameritron 116 Willow Road, Starkville, MS 39759. Phone: (662) 323-8211; FAX: (662) 323-6551. Business hours: M-F 8-4:30 CST.

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LIMITED WARRANTY

Ameritron warrants to the original purchaser that this product shall be free from defects in material or workmanship for one year from the date of original purchase. During the warranty period, Ameritron (or an authorized Ameritron service facility) will provide free of charge both parts and labor necessary to correct defects in material or workmanship.

To obtain such warranty service, the original purchaser must:

- (1) Complete and send in the Warranty Registration Card.
- (2) Notify Ameritron or its nearest authorized service facility, as soon as possible after discovery of a possible defect, of:
 - (a) The model number and serial number, if any
 - (b) The identity of the seller and the approximate date of purchase
 - (c) A detailed description of the problem, including details on the equipment.
- (3) Deliver the product to the Ameritron or the nearest authorized service facility, or ship the same in its original container or equivalent, fully insured and with shipping charges prepaid.

Correct maintenance, repair, and use are important to obtain proper performance from this product. Therefore, carefully read the Instruction Manual. This warranty does not apply to any defect that Ameritron determines is due to:

- (1) Improper maintenance or repair, including the installation of parts or accessories that do not conform to the quality and specifications of the original parts.
- (2) Misuse, abuse, neglect or improper installation.
- (3) Accidental or intentional damage.

All implied warranties, if any, terminate one (1) year from the date of the original purchase.

The foregoing constitutes Ameritron's entire obligation with respect to this product, and the original purchaser and any user or owner shall have no remedy and no claim for incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts or do not allow the exclusion or limitation of incidental or consequential damage, so the above limitation and exclusion may not apply to you.

This warranty gives specific legal rights and you may also have other rights, which vary from state to state.