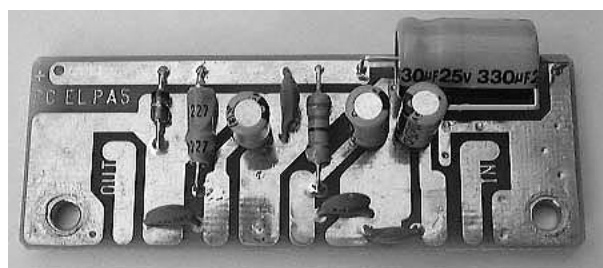


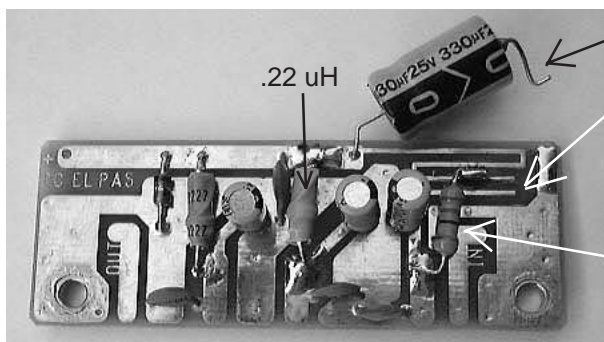
TC70-10 Upgrade to 20+ Watts

This applications note changes the RF power module to give more than 20 Watts pep output when driven by a TXA5-70 rev b, c or d exciter/modulator found in the TC70-10 ATV Transceiver. The TXA5-70 board actually over drives the Mitsubishi M57716 power module a little and needs to have the drive turned down with the output RF power pot on the TXA5-70b or c board. In addition, the pedestal pot range may have to be increased by placing a 4.7K resistor in parallel with the 2.2K resistor that is in series with the pedestal pot, or replacing with a 1.5K. The M57716, 5A fuse and .22uH inductor used in this upgrade are available from RF Parts - to order call 760-744-0700 and ask for TC70-10 kit, \$65. If you do not want to do the upgrade yourself, we can do it for \$150 plus any additional parts if other repairs are necessary - Call us first.

1. Remove the SAU4 power module by un-screwing the two mounting screws with a short flat blade screwdriver. Unsolder the solder lugs that were held by these two screws. There is no need to remove the PA5 board to do this upgrade. Solder suck and then lift up the wires from the SAU4 being careful not to burn the other parts on the PA5 board.



2. Cut the leads on the M57716 to 1/4 inch. Check the chassis power module mounting surface for any bumps or foreign particles. Spread the heat sink compound around evenly and also put a thin layer on the new power module. Mount the power module using the original screws and solder lugs by snugging one side then the other, check alignment, then the final tightening. Solder the lugs to the ground plane of the PA5 board, and then the power module leads to the respective board pads.



3. Unsolder and lift the ground end of the 330 mF cap. Form and bend the end at a right angle.

4. Cut or grind the end of the trace as shown to open it.

5. Un-solder and remove the 33 Ohm 1/2 Watt resistor. Bend one end back 180 degrees and then down on both ends so that the leads lie flat on the board traces. Solder one end to the + power side of the cut trace and the other to the power module pad on the other side of the cut trace. Then solder the - side of the 330 uH cap back to the ground plane.

6. Cut the leads on the new .22 uH inductor to 3/8". Bend the ends up 90 degrees 1/8" from each end and then bend the leads 90 degrees down at the inductor body. Solder the leads to the + power and center power module lead traces. Check your work for shorts with an Ohm meter. Change the fuse to 5 Amp.

Set Up: Refer to your manual, with no video connected, set the TXA5 pedestal pot full CCW and RF out pot full CW. Put a RF power meter in the coax line to a load with less than 10% reflected power. Turn on the transmitter and quickly peak the trimmer cap on the DMTR T/R relay board for maximum output. Reduce the RF out pot by 2 watts, then turn the pedestal pot down to 60% of that power (ie: 22 watts times .6 = 13 watts. Keep a 4 to 6" clearance around the sides and top of the chassis for convection cooling or blow some air on the heat sink.

