

# VEC-624 MHZ UHF ANTENNA TUNER

## **INTRODUCTION**

Thank you for purchasing the VEC-624 440 MHz UHF Antenna Tuner. It will handle up to 300 watts PEP of output power. It is designed to match a wide range of impedances for coax fed antennas. SWR/WATT meter is built-in.

## **INSTALLATION**

1. Connect your coax line fed antenna to the coax connector on the VEC-624 marked ANTENNA.
2. Connect a short coax line from the coax connector on the VEC-624 marked TRANSMITTER to the antenna connector of your transceiver.
3. Connect a ground wire from the GROUND wing nut of the VEC-624 to the transceiver ground or earth ground of your station.

## **OPERATION**

### **SWR/WATT Meter**

1. SWR Measurement:
  - a. Set the push button switch to SET position (IN).
  - b. Transmit a continuous carrier and set the SWR/POWER control for a full scale meter deflection.
  - c. Set the push button switch to SWR position (OUT) and read the SWR on the SWR scale of the meter.
2. Power Measurement:
  - a. Set the push bottom switch to SET position (IN).
  - b. For 30 watts range -- rotate the SWR/POWER control to the 30 mark and read the power level on the 30 watt scale.
  - c. For 300 watts range -- rotate the SWR/POWER control to the 300 mark and read the power level on the 300 scale.

**Note:** The SWR/POWER control on the VEC-624 is factory calibrated for the 30 watts range. Do not reset the knob on this control. However, due to component tolerance when precision reading is desired, the 300 watt range can be re-calibrated as follow:

- a. Set the push button switch to SET position (IN).
- b. Rotate the SWR/ POWER control to the 30 mark and read the power level on the 30 watt scale.
- c. Rotate the SWR/POWER control counter-clockwise until the power level reading on the 300 watts scale is the same as it is on the 30 watts scale as noted in Step b above.
- d. Mark the control setting for the re-calibrated 300 watt range.

### **Antenna Tuner Operation**

The ANTENNA and TRANSMITTER controls on the VEC-624 present a minimum capacitance at "0" and a maximum capacitance at "10".

After properly installing the VEC-624, use the tuner to tune for minimum SWR as describe below.

1. Set both the TRANSMITTER and ANTENNA controls to "0".
2. Apply enough transmitter power to have an adequate indication on your SWR meter. Do not apply full power while tuning for minimum SWR.
3. While transmitting, alternately adjust the TRANSMITTER control and the ANTENNA control for minimum SWR. Since the TRANSMITTER and the ANTENNA controls interact, the two controls can best be adjusted by turning the TRANSMITTER control at a small increment at a time and then rotating the ANTENNA control for the minimum SWR. Repeat this process until a minimum SWR is obtained.
4. After minimum SWR is obtained, full output power (up to 300 watts PEP) may be applied to the VEC-624.