

# Dual Junction Tunable Isolators

## Field Tuning Instructions

### GENERAL INFORMATION

The *tuning range* of an isolator is the degree to which it can be tuned to a frequency segment of a band. The *bandwidth* of an isolator is the operating frequency range within which it can be operated while achieving its isolation specification after it is tuned.

The isolators are factory-tuned to the exact operating frequencies and shipped ready for immediate installation; no further tuning is needed. However, if it becomes necessary to change the operating frequencies, it may be returned to the factory or field-tuned using the following procedure.

### FIELD TUNING

Note: Initial tuning should be performed at reduced power (10-20 watts).

1. Place the isolator in the transmission line in the forward direction – with the arrow pointing toward the antenna or load – as shown in Figure 1.
2. Place a power meter in the transmission line as shown in Figure 1.
3. Adjust capacitors 1, 2, 3 and 4 for minimum loss (maximum power) at the power meter.
4. Reverse the isolator in the transmission line – with the arrow pointing toward the transmitter – as shown in Figure 2.
5. Adjust capacitor 5, then adjust capacitor 6, for minimum power (maximum isolation) at the power meter.
6. Use appropriate power meter scale (or slug) to provide low level meter sensitivity.

**Warning:** The transmitter power is absorbed by the load termination near capacitor 6. This load will get *hot* if the transmitter is keyed for a long period of time.

7. Connect the equipment as shown in Figure 3.
8. Slightly readjust capacitors 2 and 3 *only*, using the lowest power level wattmeter insert available (most sensitive), showing minimum forward power.
9. Set the transmitter power to its normal operating level, then repeat Step 8
10. Reconnect the equipment as shown in Figure 1.
11. Repeat Step 3, adjusting capacitors 1 and 4 *only*.
12. Repeat Step 11 with *full* transmitter power.
13. The isolator should now be ready for normal operation.

Note: While the isolator may get warm after several minutes of operation, undue heat in the dummy load closest to the antenna can be caused by reflected power from the antenna. Such a condition could be an indication of a faulty antenna or transmission line.

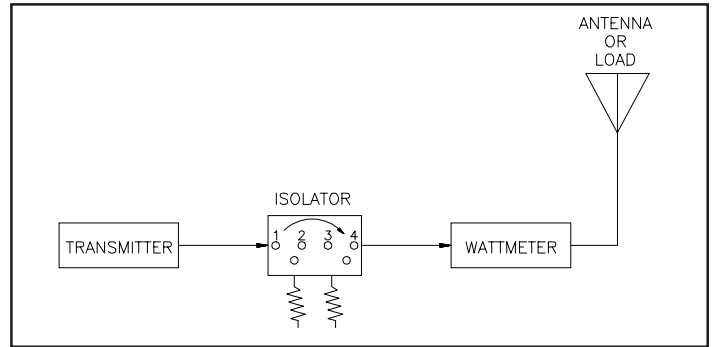


Figure 1

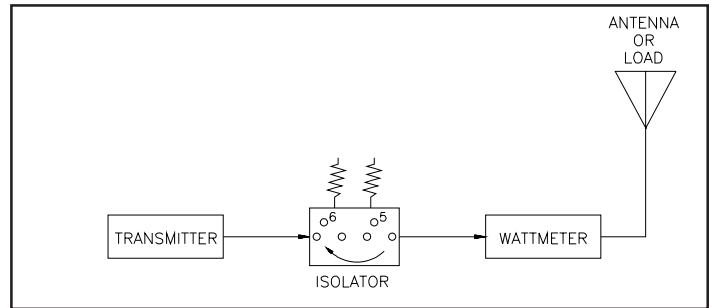


Figure 2

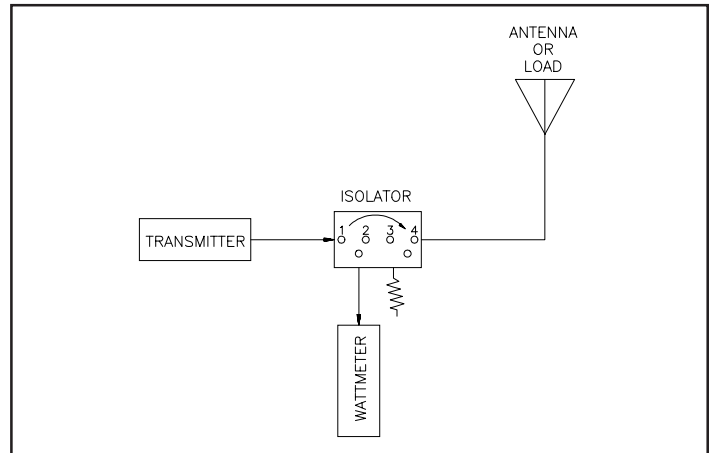


Figure 3

