

## PASS CAVITY TUNING

### IMPORTANT:

All cavities and cavity-based devices are factory tuned to the exact frequencies indicated on the label. No further tuning or optimization is necessary. If frequency or insertion loss must be changed, Telewave recommends that the equipment be returned to the factory to ensure optimum performance. The instructions in this document are for use only if factory service is not practical.

### TEST EQUIPMENT MINIMUM REQUIREMENTS:

1. Calibrated RF signal generator with 0 dBm output.
  2. Calibrated frequency counter or meter.
  3. Calibrated RF indicator such as a network analyzer or spectrum analyzer, with sensitivity of at least 80 dB below the RF generator output.
- Tools required: 7/16" wrench and nut-driver, medium and small flat-blade screwdrivers.

*NOTE: When transmitter power is passing through a cavity, high RF voltages and currents exist on the internal surfaces. Cavity tuning should be performed using a signal generator only. If no other RF source is available, use the lowest output power available and make only minimal adjustments.*

### 1. TUNING THE PASS FREQUENCY

- A. Adjust the signal generator to the desired pass frequency at 0 dBm output.
- B. Connect the signal generator to one cavity connector, and the monitor or analyzer to the other side.
- C. Loosen the 7/16" locking nut on the center tuning shaft, and tune the shaft of the cavity for maximum response as indicated on the analyzer.

### 2. INSERTION LOSS ADJUSTMENT

- A. Adjust the signal generator to the desired pass frequency at 0 dBm output.
- B. Loosen the three retaining screws around the loop connector. Rotate the loop until the analyzer indicates the desired insertion loss, and balanced return loss. Tighten the retaining screws, and repeat Step 1.

