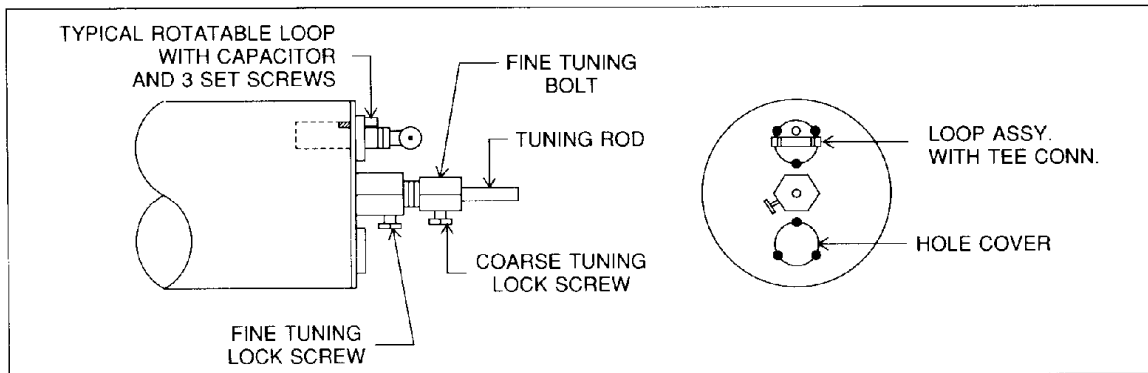


“Q” Series Duplexers

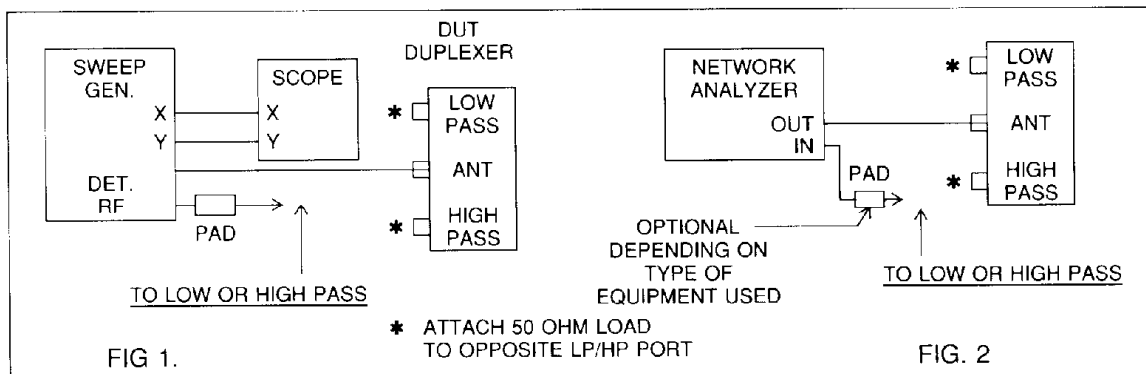
Retuning Instructions

Before attempting field retuning, refer to CI-1066 for some precautions which should be adhered to.

The duplexer is pre-tuned to the exact frequencies as ordered. No further tuning or adjustment is required. Retuning instructions are furnished for the purpose of readjustment in the event of frequency changes in the associated equipment in the field.



The duplexer is tuned using either test setup as shown in Figures 1 or 2. It is recommended to use a 6-10 dB, 50 OHM pad in the input lines in order to reduce VSWR reflections which may be introduced in the test equipment being use. (refer to CI-1070)



The cavities are equipped with an adjustable coupling loop to facilitate insertion loss setting. The loop also has a variable capacitor attached which is externally adjusted to tune to the reject frequency either high or low. The size and position of the loop determines the insertion loss of the filter. The loop is preset at the factory as determined at time of order. To change to a new insertion loss, unlock the three holding set screws on the loop and rotate it to the new insertion loss required.

Tuning of the pass frequency is accomplished by adjusting the tuning rod. Pushing the tuning rod or the fine tuning bolt in, lowers the pass frequency of the filter. The capacitor is adjusted to obtain either the low or high pass reject frequency.

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"Q" Series Duplexers

Tuning Procedure

The cavity has a coarse tuning adjustment for large changes in frequency and a fine tuning adjustment for small changes in frequency at the passband required. Coarse tuning is accomplished by unlocking the coarse tuning lock screw and sliding the tuning rod in or out. Fine tuning adjustments are made by locking the coarse tuning lock screw securely and loosening the fine tuning lock screw, then rotating the fine tuning bolt, for maximum signal.

To tune to the reject frequency, remove the cover from the capacitor located on the loop and adjust the capacitor for minimum signal at the reject frequency.

Procedure

To retune the duplexer, loosen the tuning rod lock screws reference CI-1069A.

1. Set the frequency to be passed into the high pass terminal and detect it at the antenna terminal with the low pass terminal terminated with 50 OHMS. Adjust the high pass tuning rods for maximum signal.
2. Set the frequency to be passed into the low pass terminal and detect it out the antenna terminal with the high pass terminal terminated with 50 OHMS. Adjust the low pass tuning rods for maximum signal.
3. Set the frequency to be rejected into the high pass terminal and detect at the low pass terminal - adjust the capacitors at the high pass cavities for minimum signal.
4. Set the frequency to be rejected into the low pass terminal and detect at the high pass terminal - adjust the capacitors at the low pass cavities for minimum signal.

Repeat steps 1-4 then tighten all tuning rod lock screws securely into position. Finally check that both high and low are tuned to the new frequencies and VSWR (return loss) is 1.5:1 or greater at both frequencies.

After final tuning, both fine and coarse tuning set screws must be tightened down securely and the capacitor cover is to be replaced.

