

MODELS: (n)MC-***S

where n = No of cavities
* = Frequency
S = (when included) symmetrical arrangement

DESCRIPTION

This unit is used for combining a transmitter and receiver to a common antenna.

The diplexer comprises four or six notch filters arranged in two complementary arms, to permit simultaneous operation of a transmitter and receiver when connected to a common antenna. The diplexer is designed to be mounted to a flat panel. (Refer to *Figure 1*.)

This unit comprises of a high band filter and a low band filter both combining to make up the notch diplexer.

INSPECTION

Immediately on receipt of the equipment, inspect for any obvious damage and discrepancies. (Refer to Items List.) Advise both the carrier and RFS of any damage / discrepancy which may have occurred.

ITEMS LIST

This product is supplied as a complete assembly.

INSTALLATION

Bolt diplexer to the panel, and connect into the system. The unit is supplied factory tuned to customer requirements, and should require no adjustment on installation.

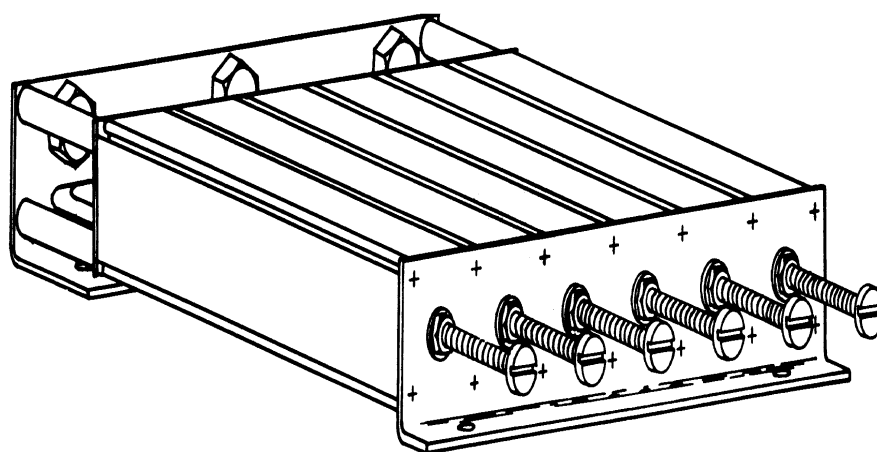


Figure 1 Notch Diplexer Assembly

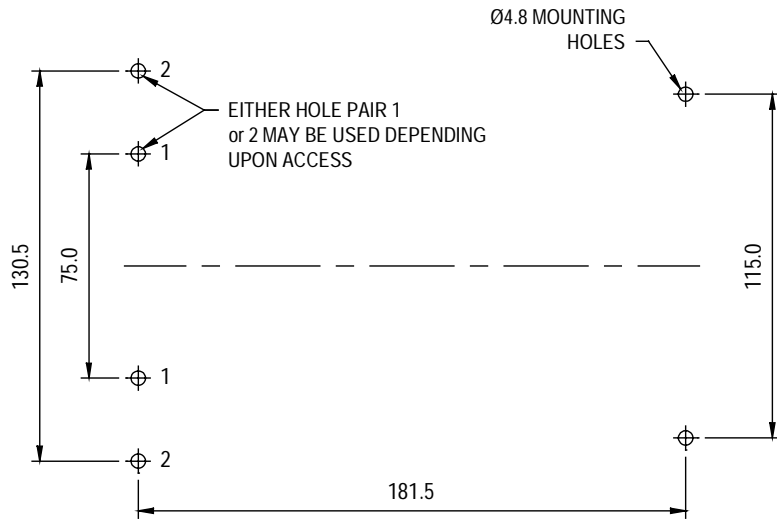


Figure 2 Mounting Hole Access

RE-TUNING

Any re-tuning required should only be conducted with test equipment which allows the response of return and insertion loss to be monitored in swept fashion over the operating band. This equipment should be set up generally in accordance with *Figure 3*.

No provision is made for insertion loss adjustment. (The cable harness design ensures that minimum insertion loss occurs when the diplexer is tuned for maximum isolation.)

IMPORTANT

Under no circumstances must any cable be shortened.

Re-tuning of the high band and low band circuits is accomplished by varying the position of the control rods as follows:

- (a) Loosen the tuning rod nuts and adjust the control rods on the high band side to obtain minimum signal (ie maximum attenuation) at the low band frequency.
- (b) When the resonators are on tune, tighten the grub screws. Ensure that the resonators do not drift off tune while locking the screws down.
- (c) Repeat Steps (a) and (b), except this time adjust the resonators in the low band circuit, for minimum signal at the high band frequency.
- (d) Check the insertion loss and return loss at the high band circuit. Connect the transmission port to the high band port, the reflection port to the antenna port (A_e) and terminate the low band port with 50 ohms for this measurement.
- (e) Repeat Step (d) for the low band circuit.
- (f) The insertion loss and return loss should be in accordance with the published specification. If they do not comply please consult RFS.

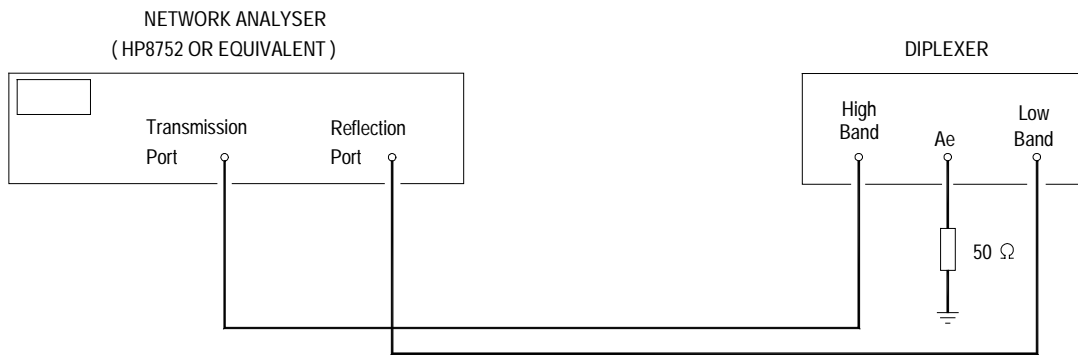


Figure 3 Tuning Circuit