

INSTRUCTION BOOK
FOR
PD-7560, PD-7660
&
PD-7540, PD-7640
DUPLEXERS

SERIAL NO. _____
TRANSMIT _____
RECEIVE _____

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DUPLEXER PD-7560 & 7660 (6 resonators)

7540 & 7640 (4 resonators)

DESCRIPTION

These duplexers are of the reject or notching type and use either 4 or 6 resonators in the 406-470 MHz frequency range. The four resonator version provides a minimum of 52 dB isolation and a maximum insertion loss of 1.0 dB at the standard 5 MHz spacing used in that frequency range. The 6 resonator version provides a minimum isolation of 75 dB and a maximum insertion loss of 1.3 dB at the 5 MHz spacing used in the 406-470 MHz band. Either version is supplied in two details covering 406-435 and 435-470 MHz. Temperature compensation is employed to keep rejection notch movement with temperature to a minimum over the temperature range of -30 to +60 C. Power rating for either unit is 40 watts continuous.

MOUNTING INSTRUCTIONS

Four holes are provided in the unit for mounting to the radio equipment or other nearby flat surface. Under no conditions should the unit be allowed to operate in a vehicle in an unsecured position. Unrestricted movement of the unit in a vehicular application could damage or detune the unit.

TUNING INSTRUCTIONS

The unit will normally be supplied factory-tuned to the frequencies specified on the order and no adjustments should be required. The tuning instructions are furnished only for the purpose of re-adjustment in the event of frequency changes in the associated equipment.

The equipment required for the tuning procedure to be described is:

1. A 50 ohm output impedance signal generator capable of covering the desired transmit and receive frequencies and having an output attenuator.
2. A 50 ohm input receiver tuned to the desired transmitting frequency.
3. A 50 ohm input receiver tuned to the desired receiving frequency.
4. Two six dB pads.

NOTE: Separate transmitter and receiver cables to duplexer to maintain desired isolation. A minimum separation of one foot is desirable.

The diagram of Fig. 1 shows the connections to be made to the duplexer for the nulling adjustments. Note that the higher frequency receiver is connected to the duplexer terminal which normally passes the lower frequency signal and the lower frequency receiver is connected to the duplexer terminal which normally passes the higher frequency signal. The receivers are being used as null indicators in this set-up and care should be taken to see that the receivers are not overloaded. First limiter current saturation is to be avoided throughout the measuring procedure.

Tune the signal generator to the higher frequency or until the receiver connected to the lower frequency channel shows a maximum signal. Now adjust the two tuning screws of the lower frequency channel for minimum signal in the receiver. The generator should now be tuned to the lower frequency or until the receiver connected to the higher frequency channel shows maximum signal. Now adjust the tuning screws of the higher frequency channel for minimum signal in the receiver. A hollow shaft nut driver in combination with a long screwdriver will make adjustment and locking of the tuning screws easier. These screws must be locked for proper operation.

The duplexer may now be placed into operation.

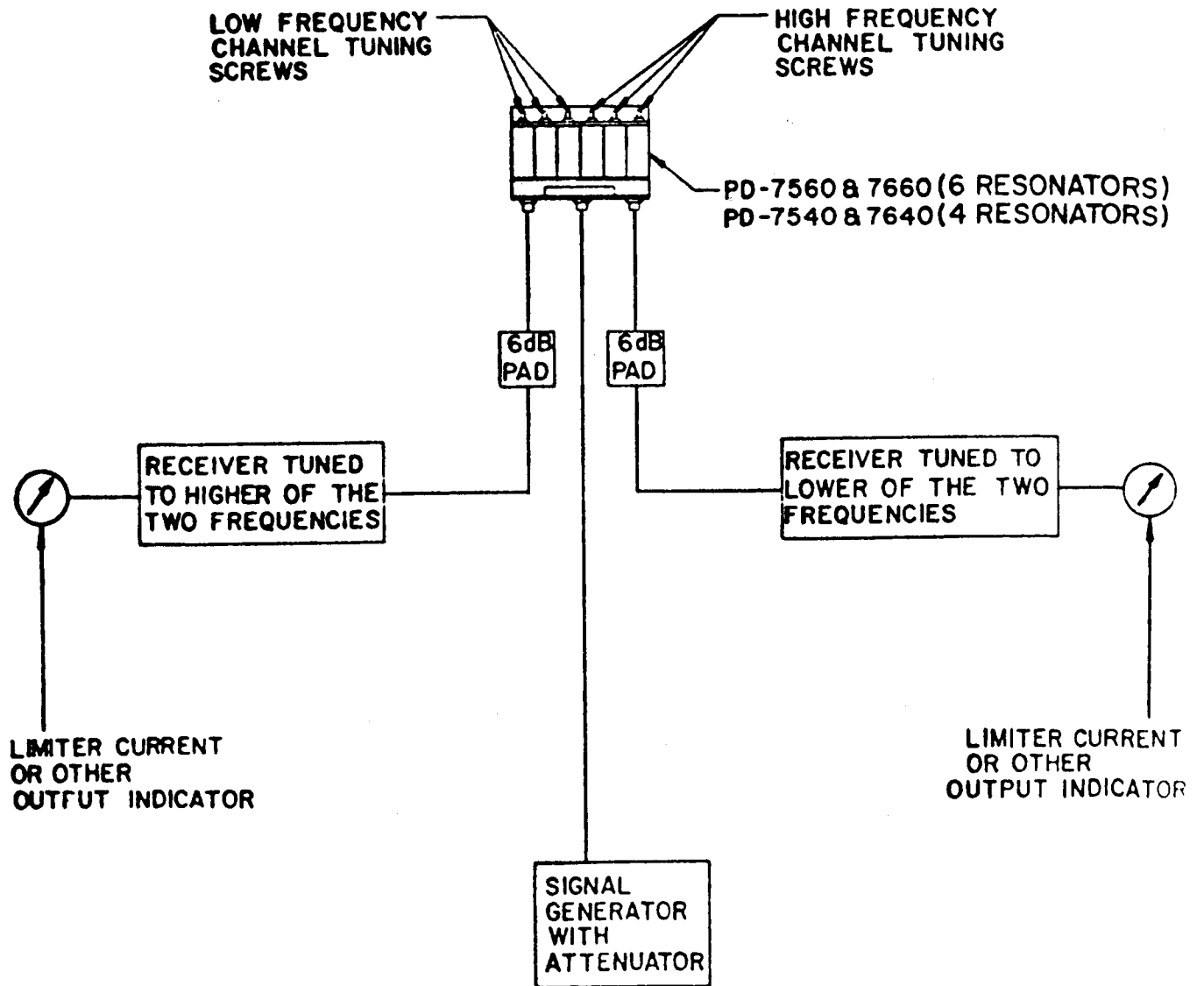


FIGURE 1