

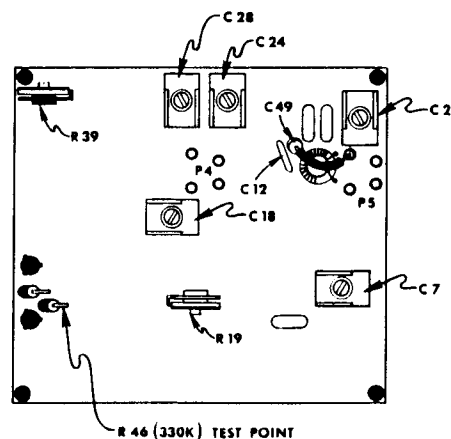
5-NB NOISE BLANKER

The 5-NB is a solid-state noise blanker for use with the SPR-4 Receiver. Unlike noise clippers or limiters commonly found in communications equipment, the 5-NB is an advanced noise blanker which actually mutes the receiver for the duration of the noise pulse. Between noise pulses, full receiver gain is restored. Receiver AGC is affected only by the desired signal and not by noise. The 5-NB is most effective on strong, periodic impulse noise such as ignition noise. It is least effective on random noise. This type of noise is continuous in time and the information it masks cannot be recovered by either blanking or limiting techniques.

To install the 5-NB, remove the top row of three screws on each side of the SPR-4 Receiver. Disconnect the power cord and the internal speaker cable. Remove the cabinet top. Remove the jumper cable from the two sockets which are located near the rear of the chassis between the power transformer and the preselector frame. Retain the jumper cable so that it may be used if the 5-NB should ever require service. Install the 5-NB by plugging it into the two sockets on top of the SPR-4 chassis. Be sure that the 5-NB is seated in the sockets. Do not disturb any components on the 5-NB circuit board. Replace the cabinet, the power cord and the speaker cable.

The 5-NB is controlled with the SPR-4 Accessory switch. The switch may be left in the NB position except when receiving extremely strong signals which may cause some distortion in the 5-NB.

The 5-NB requires no alignment at the time of installation. However, should alignment ever become necessary, the following procedure should be used: Connect a VTVM, which will measure positive 15 volts full scale, between the chassis and R-46. Tune the SPR-4 to 21.9 MHz while using a signal generator as a signal source. With the 5-NB turned off, adjust C-21, C-24 and C-28 for maximum S-meter reading. It may be necessary to touch up the adjustment of C-21 for the best AM pass-band as indicated by the S-meter. With the accessory switch in the NB position and the signal source turned off, adjust R-19 for maximum positive voltage on R-46. Now, with the signal source turned on, adjust C-7 and C-18 for minimum voltage on R-46. Tune the SPR-4 to 21.5 MHz while using the 21.5 crystal. With the signal generator turned off, adjust the spacing between C-12 and C-49 for maximum voltage on R-46. With the signal generator turned on, adjust R-39 so that the S-meter has the same reading with the 5-NB installed as it does with the jumper cable installed.



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