

NB5 NOISE BLANKER MODEL 1558

NB5 NOISE BLANKER INSTALLATION

Installation of the NB5 Noise Blanker in the TR5 is accomplished via the following procedure:

- 1) Remove all interconnecting cables from the TR5.
- 2) Remove the cabinet wraparound by removing eight screws on the bottom and sliding the wraparound toward the rear of the TR5.
- 3) Refer to figure 1 and remove the IF Switching board as follows:
 - a) Remove two (2) screws and washers that secure board.
 - b) Unplug the three 2-pin coax connectors and one 4-pin wire connector.
 - c) Remove the IF Switching board.
- 4) Refer to figure 1 and install the NB5 board as follows:
 - a) Carefully slide board down into radio and secure with two (2) screws and washers.
 - b) Carefully plug coax connectors into board noting proper color code sequence and orientation of connector. Finally, plug wire connector into board noting proper orientation.
- 5) Reinstall the cabinet wraparound with eight screws along the bottom.
- 6) Reconnect the TR5 to other station equipment. The NB5 will now operate when the front panel button labeled NB is depressed.

WARNING

The NB5 is factory aligned. Should it be necessary to realign the NB5, refer to the following alignment procedure.

NB5 NOISE BLANKER ALIGNMENT

The NB5 is easily aligned via the following procedure:

Equipment Required: High Impedance VTVM
(11 Megohm)
Signal Generator on
14.250 MHz
Tuning Tools

- 1) Turn TR5 on and tune in signal at 14.250.
- 2) Reduce signal generator level for convenient S-meter reading.
- 3) Peak coils L904, L905 and L906 for maximum S-meter reading.
- 4) Refer to figure 1, and connect VTVM to test point pin. Depress NB switch to activate noise blanker.
- 5) Tune L901, L902 and L903 for maximum DC voltage.
- 6) Remove VTVM and turn off TR5.
- 7) This completes NB5 alignment procedure.

NB5 THEORY OF OPERATION

The 5.645 MHz receive signal, with noise pulses, is applied to the input of the noise blanker. Filter Y901 removes undesired responses that could affect blanker AGC, but has adequate bandwidth to prevent lengthening of noise pulses. Amplifier Q905 amplifies the signal and noise pulses. Tuned amplifiers Q902, Q903 and U901 amplify this low level signal up to a high level to drive the pulse detector CR912.

This detector responds only to the positive going portion of each noise pulse from the output of U901. Following the detector is an RC network which shapes the pulses for driving the level shifter Q907. On the output of Q907 is another RC network for waveshaping. The gate driver transistor Q906 responds to the negative going pulses from Q907 which allows the blanking gate to turn off, thus muting the receive path for the duration of the noise pulse and blanking it.

Since the noise amplifiers run such high gain, Q904 and associated circuitry comprise an AGC loop to maintain a near constant output level to the detector. This allows detector and processing of very weak as well as very strong noise pulses without degrading the blanking action.

NB5 NOISE-BLANKER MODEL 1588

NOISE-BLANKER INSTALLATION

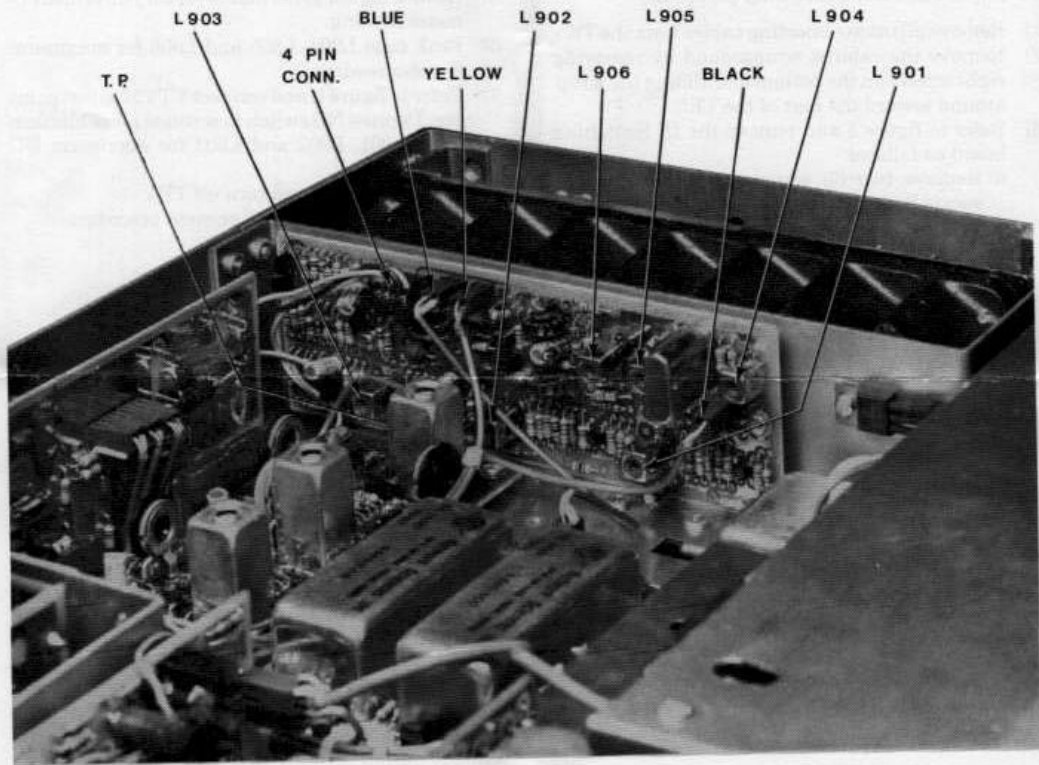
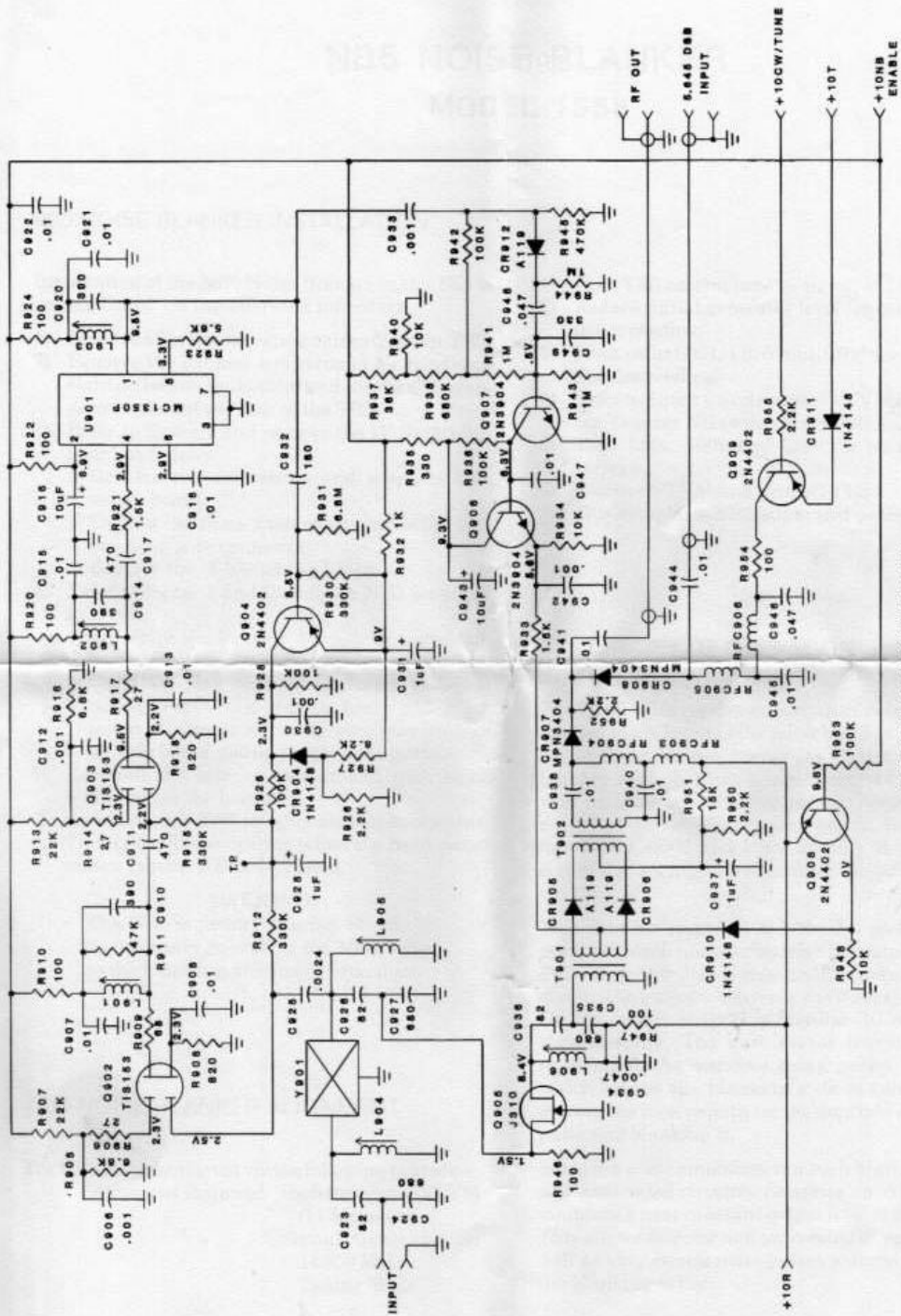


Figure 1 NB5 Location



VOLTAGES MEASURED IN RECEIVE,
NOISE BLANKER ENABLED

Figure 2 NBS Schematic