MOBILE RADIO

MAINTENANCE MANUAL

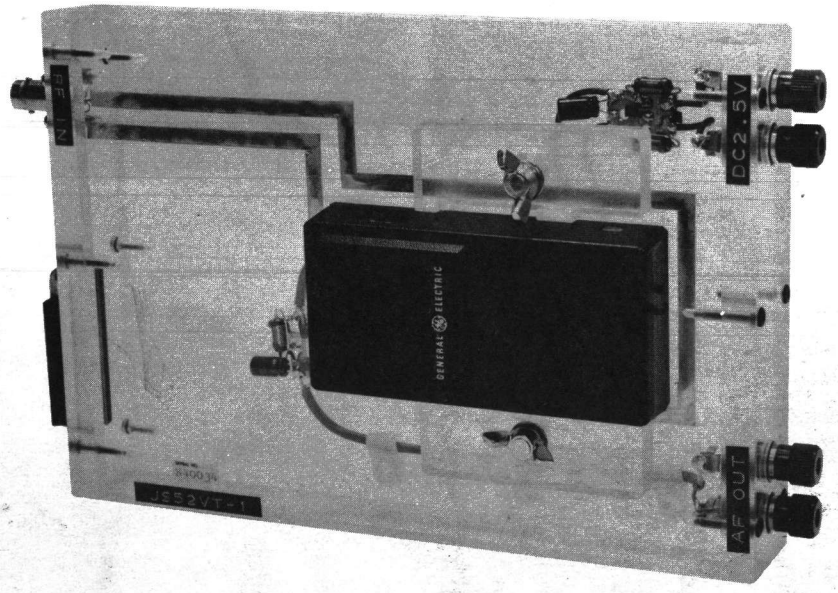
FOR

GENERAL ELECTRIC

Executive II PAGER

TEST FIXTURE SW/JS52VT-1

LBI31388



GENERAL ELECTRIC

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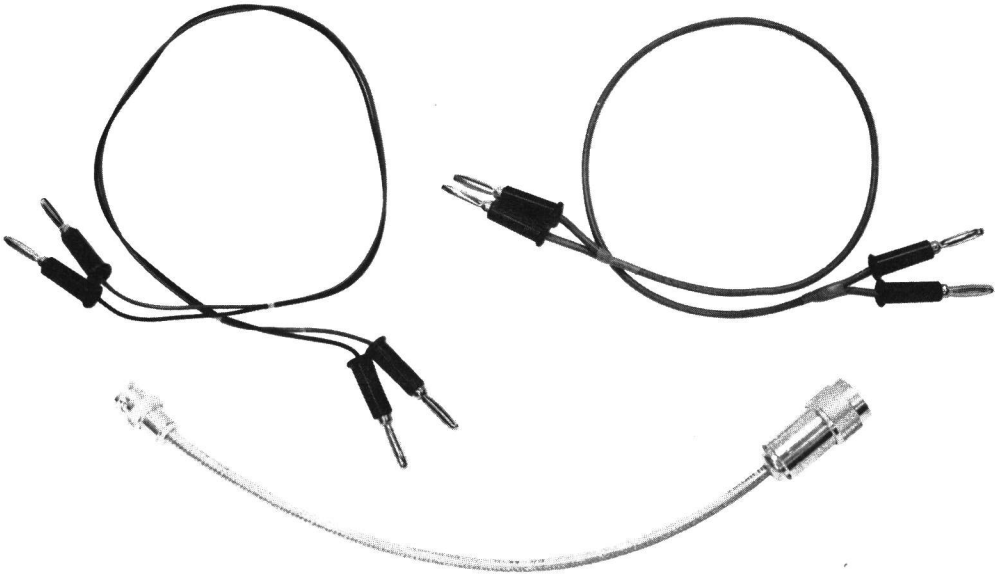
ACCESSORY CABLES

DC CABLE

AUDIO CABLE



RF CABLE

DESCRIPTION

Test fixture SW/JS52VT-1 is used for troubleshooting, alignment and performance measurements of GE Executive II tone and voice pagers. The test fixture can be used in all available pager frequency bands.

The test fixture consists of an RF input circuit, a DC input circuit, an audio output circuit, and three external connectors (see Figure 1). The connectors are:

- A BNC connector for the RF input signal.
- a pair of banana jacks-binding posts for the audio output signal, and
- a pair of banana jacks-binding posts for the DC power input.

The test fixture has an insert for mounting the pager for servicing (Figure 1). Retainers are provided for securing the pager in the test fixture.

When testing UHF pagers (which do not have an integral antenna) use the test antenna supplied with the fixture.

NOTE

Some early model pagers cannot be powered through the test fixture due to a different printed circuit layout. In such cases, use fully-charged batteries to power the pager.

SERVICING

The following service aids are included in this manual to assist in servicing the pager. The service aids are:

- A functional type schematic diagram of the test fixture.
- A general alignment procedure covering all frequency ranges.
- Paging sensitivity curves for each frequency range.

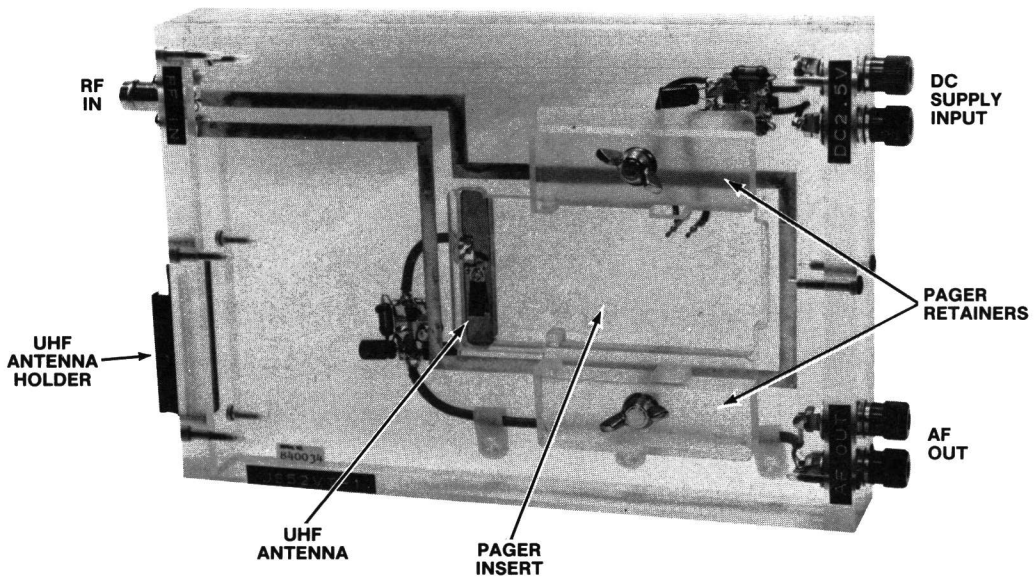
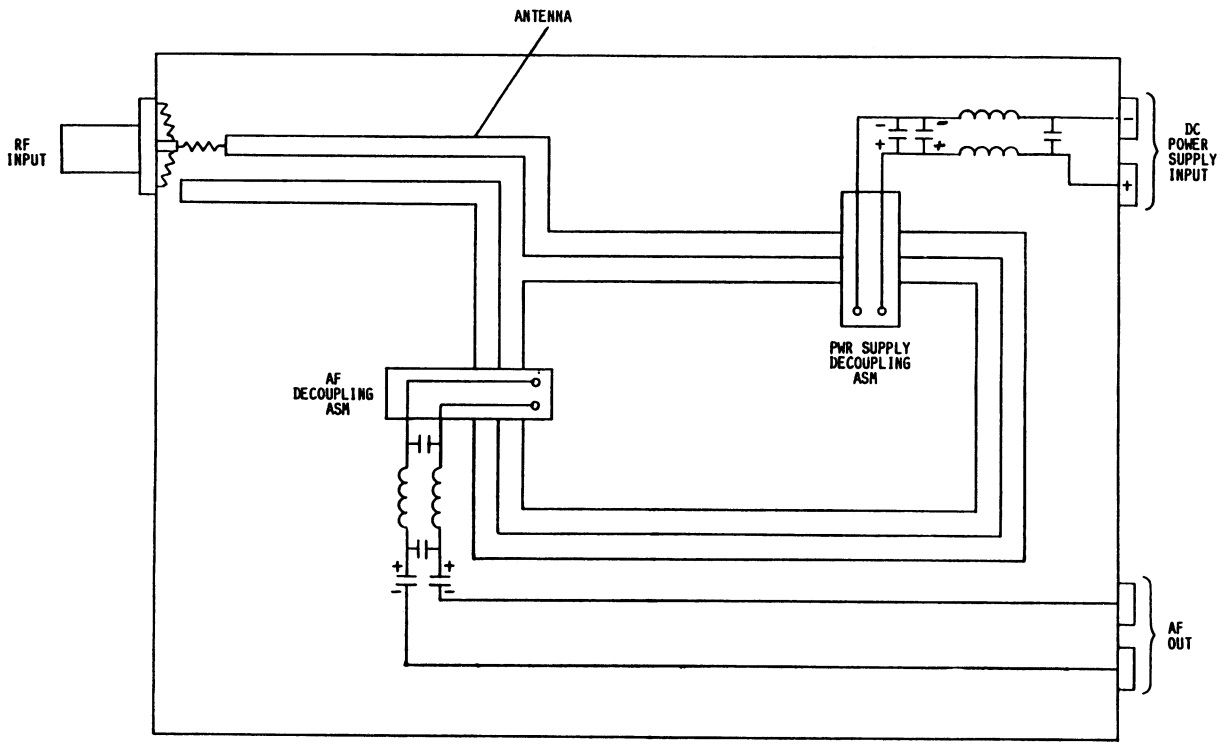


Figure 1 - Text Fixture SW/JS52VT-1



FUNCTIONAL SCHEMATIC DIAGRAM

GENERAL ALIGNMENT PROCEDURE

EQUIPMENT REQUIRED

1. RF Voltmeter
2. 2.5 Volt DC Power Supply
3. Frequency Counter
4. Oscilloscope
5. Distortion Analyzer (with floating instrument circuit ground)
6. Test Fixture SW/J52VT-1
7. RF Signal Generator
8. 2-Tone Generator

PRELIMINARY CHECKS & ADJUSTMENTS

1. Remove Printed Board assembly from case and batteries from their compartment
2. Mount Printed Board assembly on alignment test fixture
3. Set RF on signal generator
4. Set signalling tone frequencies on two-tone generator
5. Turn on power (+2.5 VDC) and set Power/Volume switch to LO. (An alert tone will be heard.)
6. Set the pager to the receive mode by momentarily grounding TP3 (cathode of D51/D52). Audio noise or signal will be heard.
7. When adjusting UHF pagers, use the test antenna supplied with the test fixture.

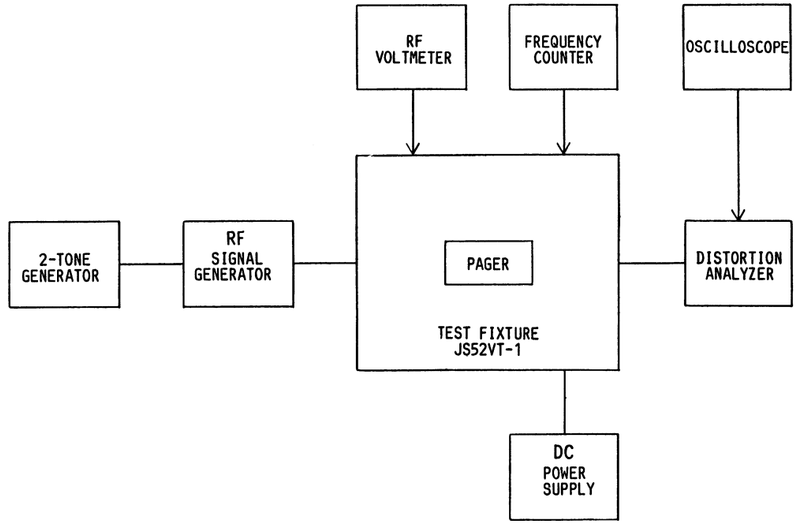
NOTE

Refer to the appropriate Maintenance Manual for tuning control and Test Point identification and location.

STEP	PROCEDURE
1	INJECTION LEVEL
	Connect the RF Voltmeter to TP1. Starting with the oscillator coil, adjust all coils in the injection circuit for maximum injection level.
2	OSCILLATOR
	Connect the frequency counter to TP1 and adjust the oscillator coil for the proper injection frequency.
3	DISCRIMINATOR
	Apply a strong, unmodulated RF signal (approximately 1 millivolt carrier with 1 kHz modulation at 3 kHz deviation), and adjust the discriminator coil for maximum audio output level. Service Note: If there are two output peaks, set the coil to the higher peak.
4	RF & IF
	Apply an unmodulated RF signal and adjust all RF, IF and injection circuits for best quieting.
5	OSCILLATOR
	Repeat the oscillator adjustment (See Step 2).
6	AUDIO OUTPUT LEVEL
	Apply a strong, unmodulated RF signal (approximately 1 millivolt carrier with 1 kHz modulation at 2 kHz deviation). Set the Power/Volume switch to HI, and adjust the audio gain potentiometer (RV51) for rated audio output (150 milliwatts or 0.775 Volts RMS across the 4-ohm speaker). Set the Power/Volume switch to LO. The audio output level should drop 10 dB ±2 dB.
7	FINAL CHECK
	Verify the alignment and performance by measuring the pager sensitivity.

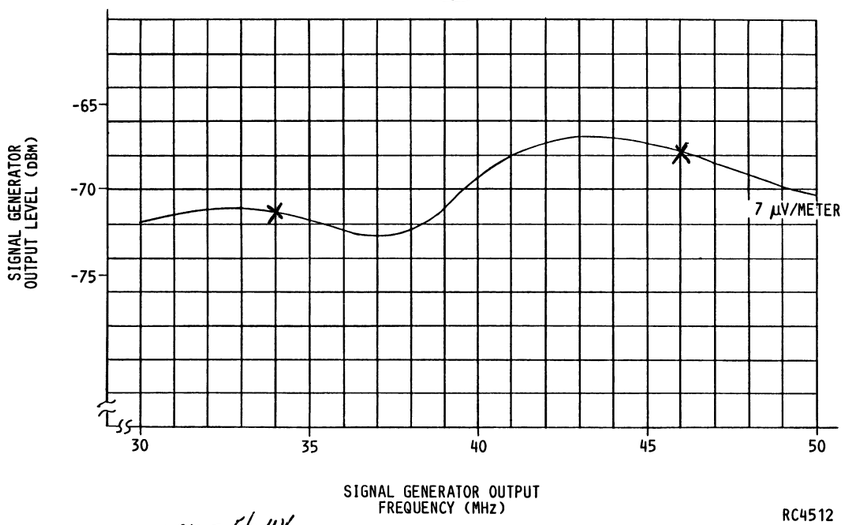
NOTE

Use good engineering practices when servicing UHF pagers: use short, direct cabling and wiring to keep RF interference to a minimum.



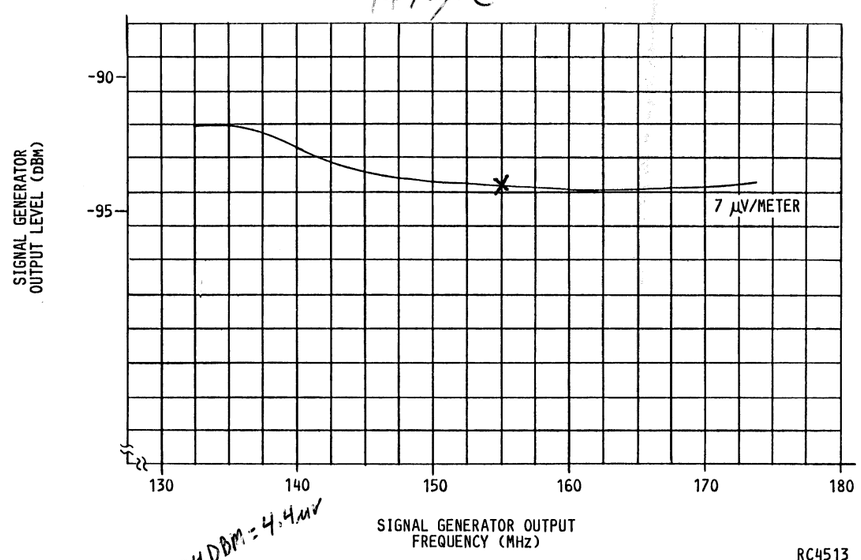
RC4515

Low



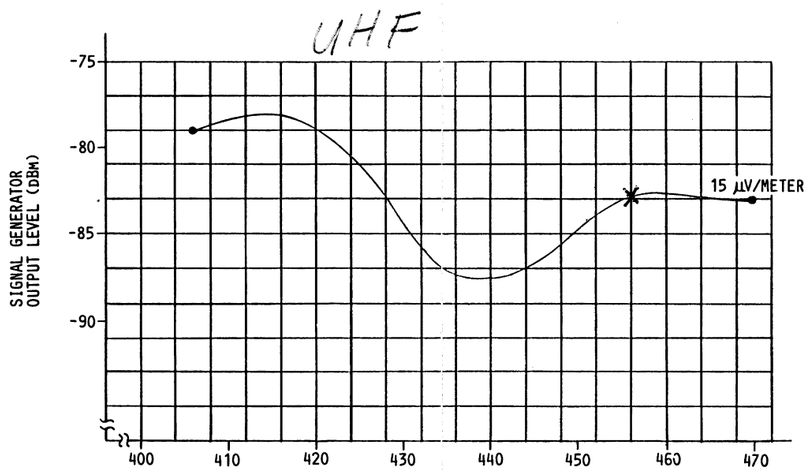
-72 DBm = 56 µv
-68 DBm = 90 µv

High



-94 DBm = 4.4 µv

UHF



-82 DBm = 17 µv

PAGING SENSITIVITY CURVES