

**OPERATION AND
ORGANIZATIONAL MAINTENANCE
RADIO TEST SETS
TS-97/G AND TS-974/U**

This copy is a reprint which includes
current
pages from Changes 1 and 2.

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**RADIO TEST SETS TS-971/G AND TS-974/U
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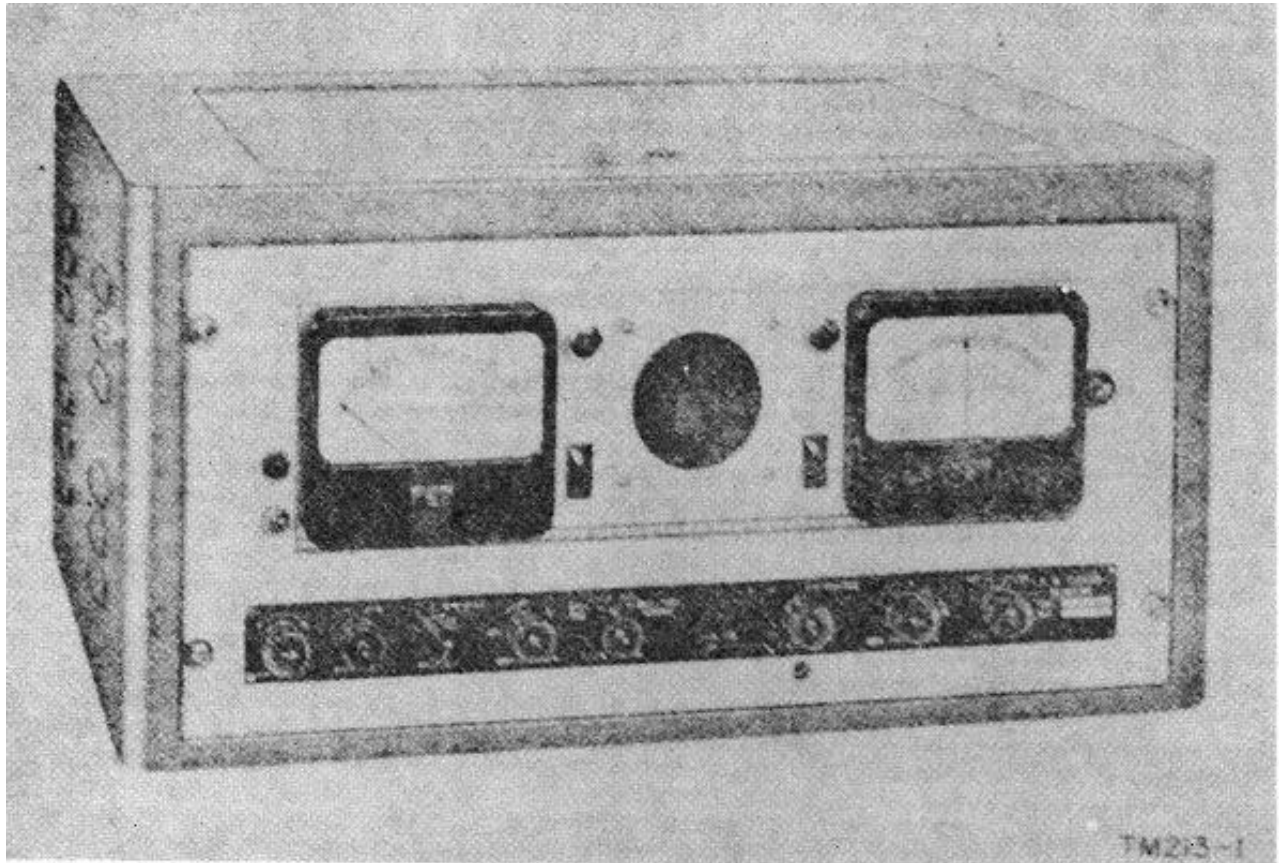


Figure 1. Radio Test Set TS-971/G or TS-974/U, less minor components.

AGO 1856A

CHAPTER 1 INTRODUCTION

Section I. General

1. Scope

This manual describes Radio Test Sets TS971/G and TS-974/U (fig. 1) and covers their installation, operation, and operator's and organizational maintenance. It includes instructions for the installation of antennas for use with the equipment.

2. Forms and Records

a. Unsatisfactory Equipment Reports.

- (1) Fill out and forward DA Form 468 (Unsatisfactory Equipment Report) to the Commanding Officer, U. S. Army Signal Equipment Support Agency, Fort Monmouth, N. J., as prescribed in AR-700-38.
- (2) Fill out and forward AF TO Form 29 (Unsatisfactory Report) to the Commander, Air

Materiel Command, Wright-Patterson Air Force Base, Ohio, as prescribed in AF TO 0035D-54.

b. Report of Damaged or Improper Shipment. Fill out and forward DD Form 6 (Report of Damaged or Improper Shipment) as prescribed in AR-700-58 (Army), Navy Shipping Guide, Article 1850-4 (Navy), and AFR 71-4 (Air Force).

c. Preventive Maintenance Form. Prepare DA Form 11-266 (Maintenance Check List for Signal Equipment (Test Equipment) (figs. 20, 21, and 22)), in accordance with instructions on the form.

d. Comments on Manual. Forward all other comments on this publication directly to the Commanding Officer, U. S. Army Signal Publications Agency, Fort Monmouth, N. J.

Section II. DESCRIPTION AND DATA

3. Purpose and Use

a. Radio Test Sets TS-971/G and TS-974/U (fig. 1) are portable frequency-modulated (FM) station monitors. They have facilities for measuring frequency deviation of a carrier from its assigned frequency, frequency modulation of a carrier signal, and relative signal strength of a monitored transmitter.

b. The radio test sets consist essentially of a WWV receiver, a control receiver, a squelch relay, and a power supply, all assembled to a panel and enclosed in a metal cabinet. Cable assemblies provide interconnection between all units. Controls are conveniently positioned on the front panel.

c. The radio test sets operate on the heterodyne principle. A station frequency is monitored by heterodyning its carrier with the output frequency of a crystal oscillator and then feeding the resulting beat

frequency of the two signals into the calibrated control receiver. If the beat frequency between the crystal oscillator signal and the monitored carrier is exactly equal to the frequency to which the receiver is aligned, the CARRIER FREQUENCY meter will indicate zero or no reading. If the beat frequency is lower or higher than the aligned frequency, a direct indication of carrier frequency error (deviation) of the monitored transmitter will be given on the CARRIER FREQUENCY meter.

d. The TS-974/U has a frequency range of 30 to 50 megacycles (mc). The TS-971/G has a frequency range of 152 to 174 mc.

e. The TS-974/U can be used for testing Radio Set AN/VRC-19. The TS-971/G can be used for testing Radio Set AN/VRC-6.