

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S AND ORGANIZATIONAL
MAINTENANCE MANUAL
AMPLIFIER,
RADIO FREQUENCY AM-1881/U

This copy is a reprint which includes current pages from
Changes 1 through 3.

HEADQUARTERS, DEPARTMENT OF THE ARMY

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AMPLIFIER, RADIO FREQUENCY AM-1881/U

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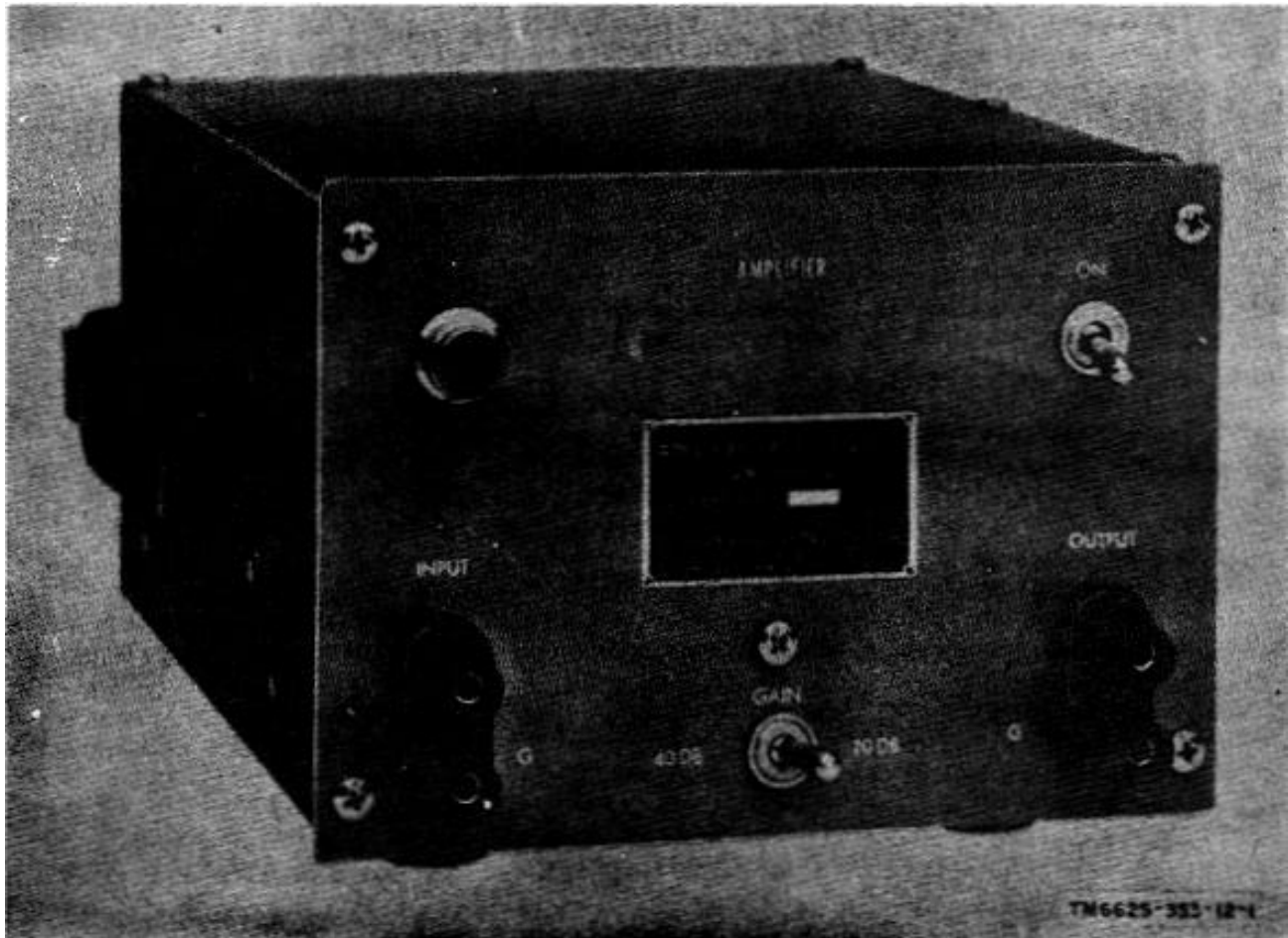


Figure 1. Amplifier, Radio Frequency AM-1881/U, less running spares.

CHAPTER 1 INTRODUCTION

Section I. GENERAL

1. Scope

This manual describes Amplifier, Radio Frequency AM-1881/U and covers its installation, operation, and operator's and organizational maintenance. It includes operation under usual conditions and replacement of parts available to first and second echelon. Throughout this manual, Amplifier, Radio Frequency AM-1881/U will be referred to as rf amplifier.

2. Forms and Records

a. Unsatisfactory Equipment Reports. Fill out and forward DA Form 468 (Unsatisfactory Equipment Report) to the Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS-MLM, Fort Monmouth, N. J., as prescribed in AR 700-38.

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).

c. Preventive Maintenance Forms. Prepare DA Form 11-266 (fig. 6-8) (Maintenance Checklist for Signal Equipment (Test Equipment)) in accordance with instructions on the form.

d. Parts List Form. Forward DA Form 2028 (Recommended Changes to DA Technical Manual Parts Lists or Supply Manuals 7, 8, and 9) directly to the Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS-MLM, Fort Monmouth, N. J. with comments on parts listings in appendixes II and III.

e. Comments on Manual. Forward any additional comments on this publication directly to the Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: Pub Engrg Dept, Fort Monmouth, N. J.

Section II. DESCRIPTION AND DATA

3. Purpose and Use

Amplifier, Radio Frequency AM-1881/U is a wide frequency range, stable voltage gain amplifier for general-purpose use. The rf amplifier has a high input impedance and may be connected to audiofrequency (af) or radiofrequency (rf) circuits without affecting circuit operation. The rf amplifier may be operated into any external load with a resistance of at least 3,000 ohms. Low inherent noise level permits amplifying very small input voltages to give a relatively high output voltage.

4. Technical Characteristics

Frequency range	5 cps to 2 mc.
Frequency response:	
GAIN at 40 DB ...	± 0.5 decibel (db) from 10 cps to 1 mc.
	±1 db from 5 cps to 2 mc.
GAIN at 20 DB ...	± 0.5 db from 5 cps to 1 mc.
	±1 db from 2 cps to 1.2 mc.
Gain at 1,000 cps:	
GAIN at 20 DB ...	20 ±0.13 db.
GAIN at 40 DB ...	40 ±0.13 db.

Input impedance	1 megohm shunted by approximately 15 micromicrofarads (uuf).
Input voltage	600 v dc maximum.
Output	10 volts root mean square (rms) maximum into 3,000 ohms or higher resistive load.
Output impedance	Less than 150 ohms over entire frequency range.
Equivalent input noise level:	
GAIN at 40 DB ...	Approximately 40 microvolts (uv)
GAIN at 20 DB ...	Approximately 250 microvolts.
Distortion	Less than 1% from 2 cps to 100 kc; approximately 2% above 100 kc.
Line-voltage input	115 or 230 volts ±10%, 50 to 1,000 cycles.
Power consumption ..	50 watts.
Voltage regulation	+210 vdc ±2%.
Weight	10 pounds.

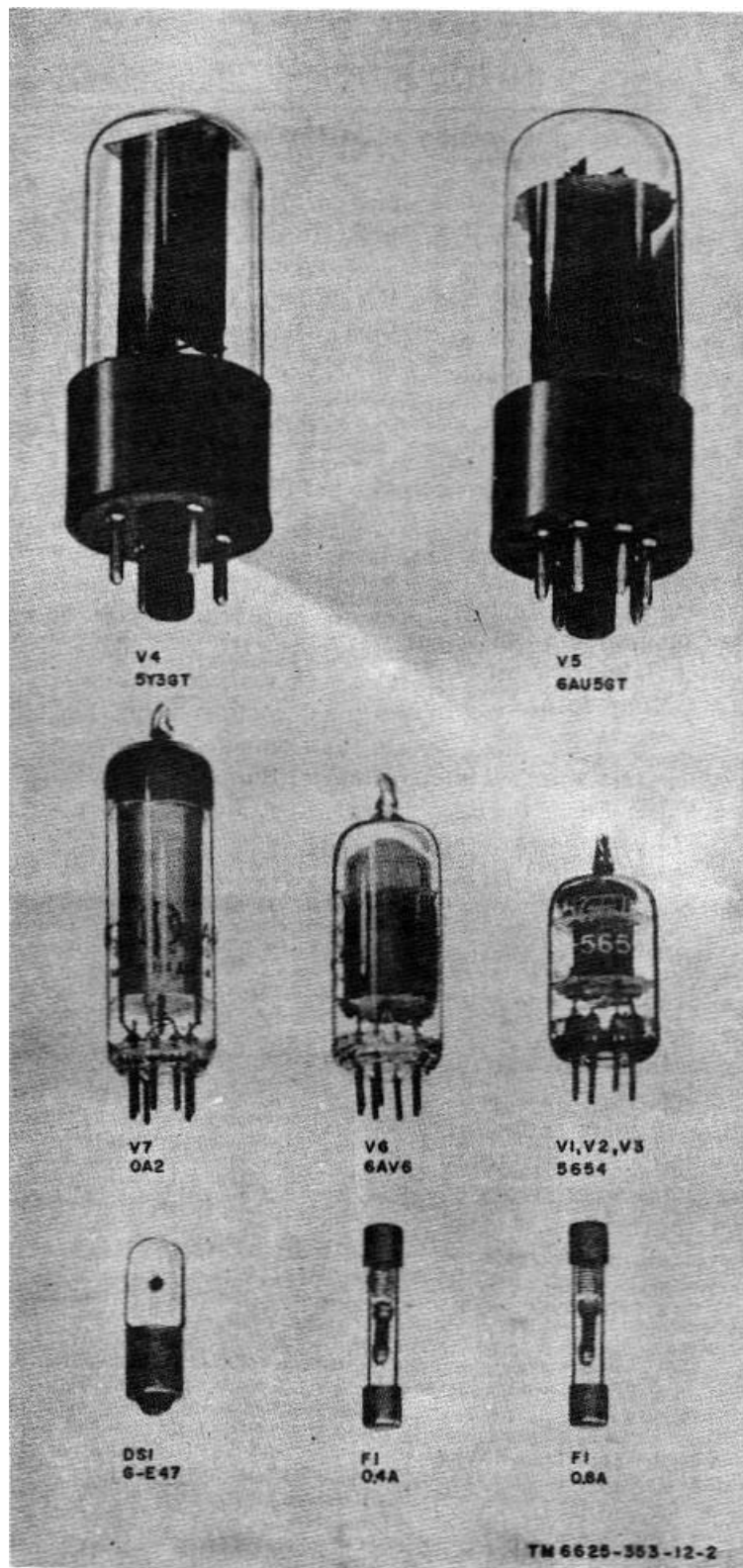


Figure 2. Running spares.