

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL
 MAINTENANCE MANUAL
 TEST SET, RADIO FREQUENCY POWER AN/USM-161

Headquarter's, Department of the Army, Washington 25, D. C.
 15 May 1962

WARNING

Be careful when working on the 115-volt ac line connections. Serious injury or death may result from contact with these terminals.

DON'T TAKE CHANCES!

		Paragraph	Page
CHAPTER 1.	INTRODUCTION		
Section I.	General		
	Scope	1	5
	Forms and records	2	5
II.	Description and data		
	Purpose and use	3	5
	Technical characteristics	4	5
	Table of components	5	6
	Nomenclature and common names.	6	6
	Description of test set	7	6
	Description of minor components	8	6
CHAPTER 2.	INSTALLATION AND OPERATING INSTRUCTIONS		
Section II.	Service upon receipt of equipment		
	Unpacking	9	7
	Checking unpacked equipment	10	7
	Installation	11	7
	Preparation for use	12	7
	Thermistor mount, rf cord, and attenuator installation	13	7
II.	Controls and indicator		
	Operator's controls and indicators	14	9
	Connection facilities	15	10
III.	Operation		
	Use of 7- and 10-db attenuators calibration plates	16	11
	Use of thermistor mount and attenuators	17	11
	Use of rf cord	18	11
	POWER control scales	19	12
	Preliminary starting procedure	20	14
	Starting procedure	21	14
	Calibrating power meter	22	14

This copy is a reprint which includes current pages from Changes 2, 3, and 4.

		Paragraph	Page
	Rf power measurement	23	14
C H A P T E R	3. MAINTENANCE INSTRUCTIONS		
Section	I. Operator's maintenance		
	Scope of operator's maintenance	24	18
	Preventive maintenance	25	18
	Operator's visual inspection.	26	18
	Operational checklist	27	18
	Repairs and adjustments	28	21
	II. Second echelon maintenance		
	Scope of second echelon maintenance	29	21
	Tools and materials required	30	21
	Second echelon preventive maintenance	31	22
	Second echelon visual inspection	32	22
	Equipment performance checklist	33	22
	Second echelon repairs and adjustments	34	22
C H A P T E R	4. SHIPMENT, LIMITED STORAGE, AND DEMOLITION TO PREVENT ENEMY USE		
Section	I. Shipment and limited storage		
	Disassembly of equipment	35	24
	Repackaging for shipment or limited storage	36	24
	II. Demolition of materiel to prevent enemy use		
	Authority for demolition	37	24
	Methods of destruction	38	24
A P P E N D I X	I. REFERENCES		26
	II. MAINTENANCE ALLOCATION		27
	III. BASIC ISSUE ITEMS LIST		32

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

This manual describes Test Set, Radio Frequency Power AN/USM-161 and covers its operation and the operator's and organizational maintenance. It includes replacement of parts available to first and second echelon and instructions for cleaning and inspection of the equipment.

2. Forms and Records

a. Unsatisfactory Equipment Report. Fill out and forward DA Form 468 (Unsatisfactory Equipment Report) as specified in AR 700-39.

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.

c. Preventive Maintenance Forms. Prepare DA Form 11-266 (fig. 7, 8, and 9) (Maintenance Check List for Signal Equip-

ment (Test Equipment)) in accordance with instructions on the form.

d. Parts List Form. Forward DA Form 2028 (Recommended Changes to DA Technical Manual Parts List or Supply Manual 7, 8, or 9), direct to the Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS-ML, Fort Monmouth, N. J. to recommend changes in, or to comment on, Basic Issue Items Lists or Repair Parts and Special Tools Lists .

e. Changes or Revisions. Refer to DA Pamphlet 31-4 to determine what Changes to, or revisions of, this manual are current.

f. Comments on Manual. Forward all other comments concerning this manual to the Commanding Officer, U. S. Army Signal Materiel Support Agency, ATTN: SIGMS-PA2d, Fort Monmouth, N. J.

Section II. DESCRIPTION AND DATA

3. Purpose and Use

a. Test Set, Radio Frequency Power AN/USM-161 (fig. 1), is an alternating-current (at) operated, temperature-compensated, portable test unit used to measure radio frequency (rf) power output ranging from 10 megacycles (mc) to 10,000 mc from either continuous-wave (cw), modulated, or pulsed sources. It is designed to measure rf power from 2 microwatts (uw) to 10 milliwatts (mw). With the use of the external attenuators supplied, the AN/USM-161 can be used to measure rf power up to 5 watts.

b. Measurements are accurate within ±2 per cent of full-scale indication in all ranges.

4. Technical Characteristics

Rf input power

range 2 uw to 5 watts.

Frequency range . . . 10 mc to 10,000 mc without external attenuators; 1,000 mc to 10,000 mc with external attenuators.

Accuracy 4 percent of full-scale indication.

Thermal drift Less than 10 uw/°C.

Scale resolution Approximately 0.2 percent of full-scale indication.