

**TECHNICAL MANUAL**  
**OPERATOR'S, ORGANIZATIONAL, DIRECT**  
**SUPPORT AND GENERAL SUPPORT**  
**MAINTENANCE MANUAL**  
**FOR**  
**ELECTRONIC MARKER GENERATOR**  
**AN/USM-108A**  
**(NSN 6625-00-628-6515)**

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**HEADQUARTERS, DEPARTMENT OF THE ARMY**  
**AUGUST 1976**



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AND GENERAL SUPPORT  
MAINTENANCE MANUAL**

FOR

**ELECTRONIC MARKER GENERATOR AN/ USM-108A**

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**REPORTING OF ERRORS**

**You can improve this manual by recommending improvements using DA Form 2028- 2 (Test) located in the back of the manual. Simply tear out the self addressed form, fill it out as shown on the sample, fold it where shown, and drop it in the mail.**

**If there are no blank DA Form 2028-2 (Test) forms in the back of your manual, use the standard DA Form 2028 (Recommended Changes to Publications and Blank Forms) and forward to the Commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, NJ 07703.**

**In either case a reply will be furnished direct to you. Paragraph Page**

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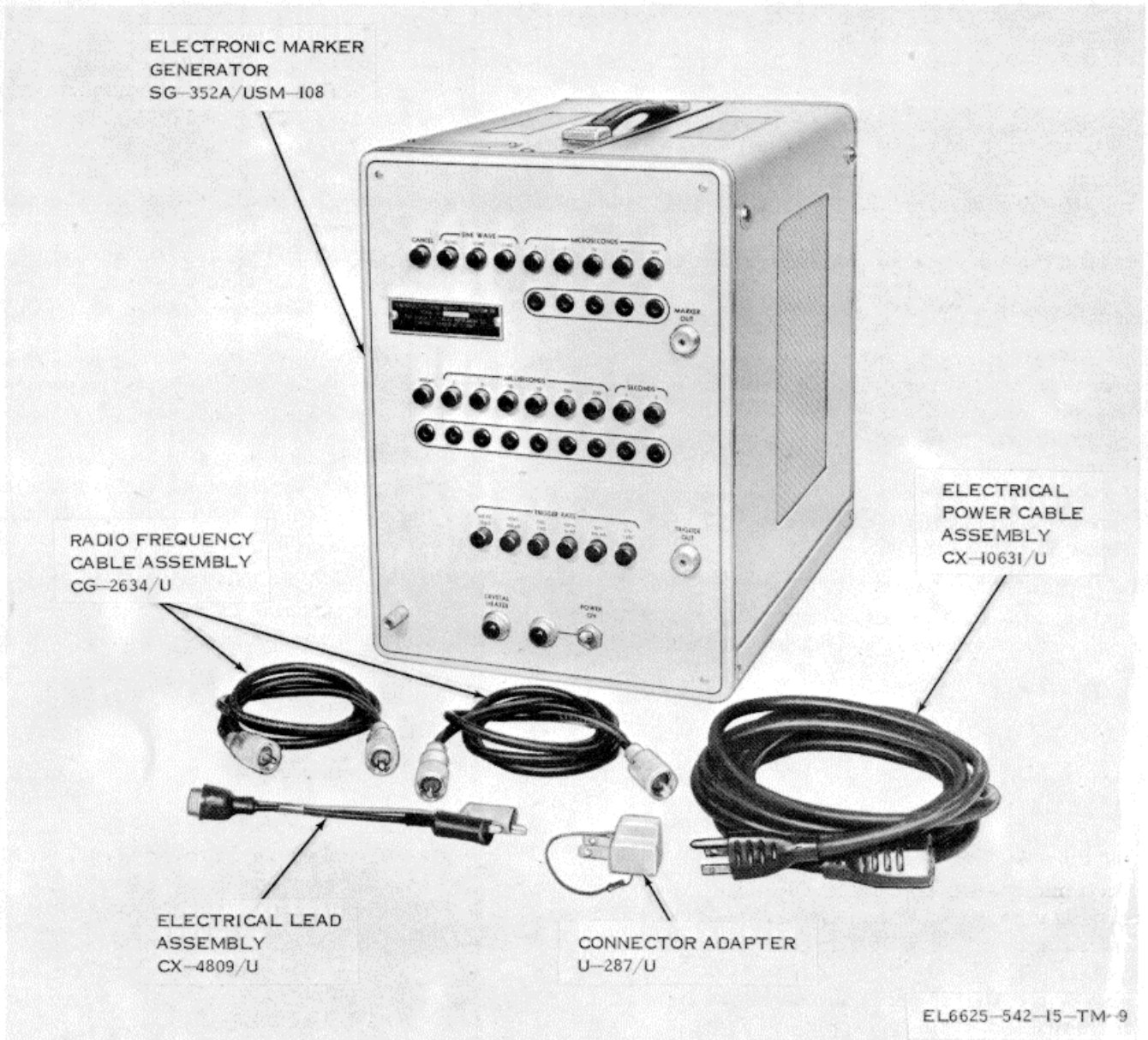


Figure 1-1. Electronic Marker Generator AN/USM-108A.

## CHAPTER 1

## INTRODUCTION

## Section I. GENERAL

**1-1. Scope**

This manual describes Electronic Marker Generator AN/USM-108A (fig. 1-1) and provides instructions for operation, cleaning, troubleshooting, testing, and repairing the equipment. It also lists tools, materials, and test equipment required for organizational and general support maintenance. No direct support maintenance is authorized for the equipment.

**1-2. Indexes of Publications**

a. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment.

**1-3. Forms and Records**

a. Reports of Maintenance and Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance pertaining to the personnel at all levels are listed in and prescribed by TM

38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Packaging Improvement Report) as prescribed in AR 700-58/NAVSUPINST 4030.29/AFR 71-13/MCO P4030.29A, and DSAR 4145.8.

c. Discrepancy in Shipment Report (DISREP) (SF 361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF 361) as prescribed in AR 55-38/NAVSUPINST 4610.33A/AFR 75-18/MCO P4610.19B, and DSAR 4500.15.

**1-4. Administrative Storage**

For procedures, forms, and records, and inspections required during administrative storage of this equipment, refer to TM 740-90-1.

**1-5. Destruction of Army Materiel**

Demolition and destruction of electronic equipment will be under the direction of the commander and in accordance with TM 750-244-2.

## Section II. DESCRIPTION AND DATA

**1-6. Purpose and Use**

Electronic Marker Generator AN/USM-108A is a portable instrument which provides an accurate and stable source of sine waves, trigger pulses and time markers. The wide choice of outputs available permits the use of the generator in a variety of laboratory and calibration applications. It provides a source of calibrating signals for oscilloscope sweep circuits, oscillators and counters. The AN/USM108A can also be used as a source of trigger-rate pulses and as a time measuring device. Markers can be used separately or in combination depending on the desired presentation or application.

**1-7. Tabulated Data**

a. Output Signals.

- (1) Sine waves of 5MHz, 10MHz, and 50MHz.

- (2) Microsecond markers at intervals of 1, 5, 10, 50, 100 and 500 microseconds.

- (3) Millisecond markers at intervals of 1, 5, 10, 50 and 500 milliseconds.

- (4) One-second and five-second intervals.

- (5) Trigger pulses at rates of 1Hz, 10Hz, 100Hz, 1KHz, 10KHz and 100KHz.

b. Crystal Oscillator.

- (1) Frequency: 1MHz-10Hz.

- (2) Accuracy: approx. 0.001%.

- (3) Stability: within three parts per million per 24 hours.

c. Power Requirements: 105 to 125 volts ac, or 210 to 250 volts ac, 50 to 60 Hz, 240 watts power consumption at 117 volts.