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TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

FOR

COUNTER, ELECTRONIC,

DIGITAL READOUT

AN/USM-257A

(NSN 6625-00-935-14571

HEADQUARTERS, DEPARTMENT OF THE ARMY

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OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL FOR COUNTER, ELECTRONIC, DIGITAL READOUT AN/USM-257A (NSN 6625-00-935-1457)

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 Forms 2028-2 (Test) 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, New Jersey 07703.

In either case a reply will be furnished directly to you.

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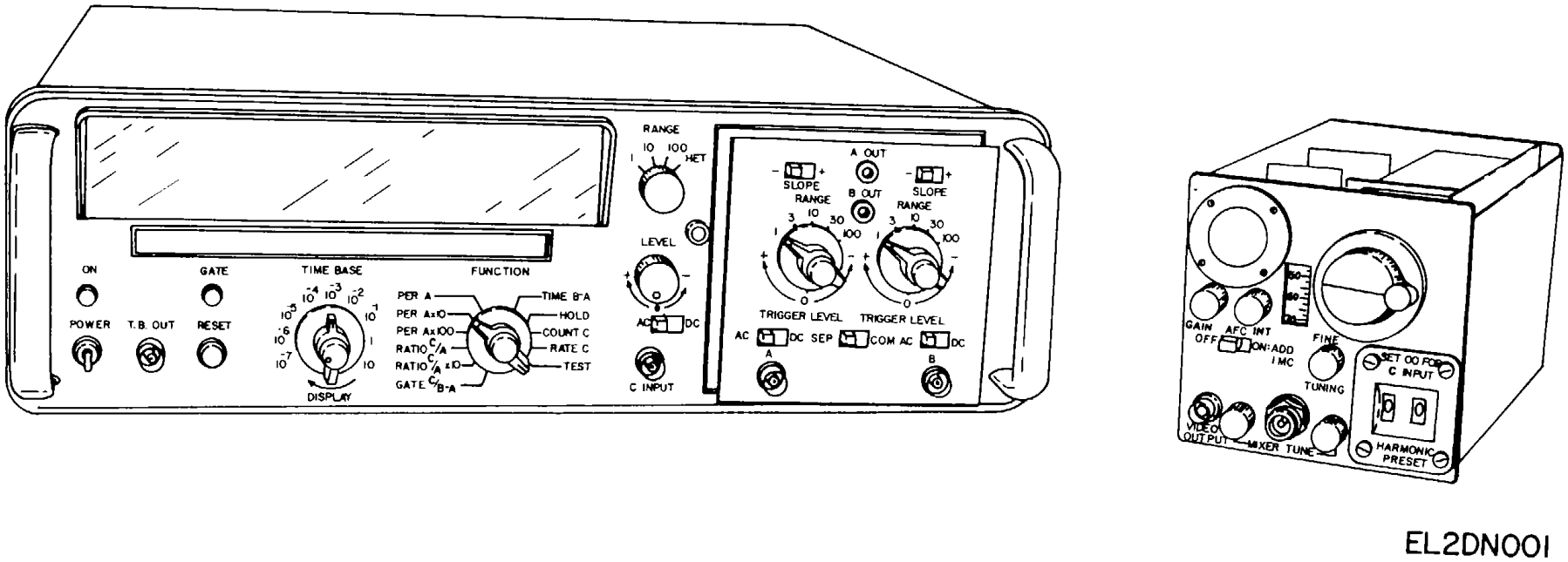

Figure 1-1. Counter, Electronic, Digital Readout AN/USM-257A.

CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope
This manual describes Counter, Electronic, Digital Readout AN/USM-257A (fig. 1-1) and provides instructions for operation, applications, and organizational maintenance. Throughout this manual Counter, Electronic, Digital Readout AN/USM-257A will be referred to as the AN/USM-257A. References to components of the AN/USM-257A, will be as follows: Counter, Electronic, Digital Readout TD-875A(P)/U will be referred to as the TD-875A(P)/U; Converter, Frequency, Electronic CV-2349/U will be referred to as the CV-23491U; and Converter, Frequency, Electronic CV-2350/U will be referred to as the CV-23501U.

1-2. Indexes of publications
a. DA Pam 310-4. Refer to latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310- 7. 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 of Unsatisfactory Equipment. Maintenance forms, records, and reports which are to be used by maintenance personnel at all levels are listed in and prescribed by TM 38-750.

b. Report of Packaging and Handling Deficiencies. ment Report) as prescribed in AR 700-581 NAVSUPINST 4030.29/AFR 71-13/MCO P4030.29A, and DSAR 4145.8.

c. Discrepancy in Shipment Report (DISREP) (SF361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF361) 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, records, and inspections required during administrative storage of this equipment, refer to TM 740-90-1.

1-5. Destruction of Army Electronics Materiel
Demolition and destruction of Army electronics materiel to prevent enemy use shall be in accordance with TM 750-244-2.

1-6. Reporting Equipment Improvement Recommendations (EIF)
EIR's will be prepared using DA Form 2407, Maintenance Request. Instructions for preparing EIR's are provided in TM 38-750, The Army Maintenance Management System. EIR's should be mailed directly to Commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, New Jersey 07703. A reply will be furnished directly to you.

Section II. DESCRIPTION AND DATA

1-7. Purpose and Use
a. The AN/USM-257A is an all-solid state instrument capable of direct frequency measurements (with the CV-2350/U) up to 15 GHz, and period measurements (utilizing the CV-2349/U) with 0.1 microsecond resolution. The basic modes of measurement with either converter installed include: Rate (frequency), count (totalizing), and ratio. Eight digit in-line indicators display the measured quantity with annunciation of unit and autopositioned decimal point.

b. Accuracy of measurement is ±1 count ± time base stability. The interval oscillator signal frequency is also available as an output, either as the fundamental (1 MHz) or scaled (1 MHz/10^4). Increased stability may be obtained by using an external standard (which may be connected to the instrument by a jack on the rear panel).

c. The AN/USM-257A can be employed for measurement, analysis, and counting of both periodic and random signal pulses of arbitrary waveshape within the rated frequency characteristics of the instrument. It is commonly used for calibration of transmitting and receiving equipment, oscillators, tuned circuits, crystals, etc. Because of its accuracy and stability, it can also be