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SPECIFICATION

1 of 1

1. COMPONENT/PART NAME PER GENERIC CODE PROCESSING, WIRING & CABLING	2. PROGRAM OR WEAPON SYSTEM MULTIPLE	D0997			
	5. ORIGINATOR'S SPEC. NO. NAVWEPS OD 24568	3. DATE OF:	DAY	MO.	YR.
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	6. SPECIFICATION IS: ☐ DRAFT ☐ PRELIMINARY ☒ FINAL				

7. THIS SPECIFICATION COMPLEMENTS REPORT NO:

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- ☐ (A) GENERAL PRODUCT REQUIREMENTS FOR A FAMILY OF PARTS – PROCUREMENT DOCUMENT
- ☐ (B) INDIVIDUAL DETAIL PARTS DOCUMENT; STDS BOOK PAGES – FOR PROCUREMENT
- ☒ (C) DETAIL INSPECTION, PROCESS CONTROL, AND/OR TEST PROCEDURES FOR SPECIFIC PARTS
- ☐ (D) PROCESS (PAINTING, WELDING, FINISHING, HEAT TREATING ETC.) APPLICABLE TO MANY PARTS
- ☐ (E) SPEC. FOR PERFORMANCE, RELIABILITY, AND/OR ENVIRONMENT FOR ASSEMBLIES, EQUIPMENTS, SUBSYSTEMS AND SYSTEMS
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NAVWEPS OD 24568
CODE IDENT NO. 10001

NAVWEPS ORDNANCE DATA
CONTINUITY AND INSULATION RESISTANCE TESTING
OF
CABLE ASSEMBLY MARK 10 MOD 0

This Ordnance Data consists of
sheets 1 through 10 inclusive.

A BUREAU OF NAVAL WEAPONS PUBLICATION

3

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U.S. NAVAL ORDNANCE TEST STATION
China Lake - Pasadena, California

NAVWEPS ORDNANCE DATA 24568

20 February 1964

CONTINUITY AND INSULATION RESISTANCE TESTING OF CABLE ASSEMBLY MARK 10 MOD 0

1. The purpose of this publication is to provide instructions necessary to complete the insulation resistance and continuity testing of the Cable Assembly ~~Mk 10 Mod 0~~ through the use of a circuit analyzer test set.

2. The instructions contained herein, when used with the circuit analyzer, provide a rapid method for checking individual circuits of the Cable for insulation resistance and continuity without difficult hand testing.

3. This Ordnance Data does not supersede any existing publication.

By direction of the Chief
Bureau of Naval Weapons

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1. INTRODUCTION

1.1 Purpose. The purpose of the ordnance data is to provide the information and instructions necessary to test the Cable Assembly Mk 10 Mod 0, BuWeps LD 497959, using a Circuit Analyzer Test Set BuWeps LD 615556, Figure 1. This test is conducted to determine whether the circuits between the contacts of the connectors are continuous and have a specific insulation resistance between contacts not electrically connected and between these contacts and the connector shells.

2. APPLICABLE DRAWINGS

2.1 The following documents are referenced within this Ordnance Data:

DRAWINGS

Bureau of Naval Weapons

LD 615556	Test Set Circuit Analyzer, Cable Assembly Mk 10 Mod 0, and all documents listed thereon
LD 497959	Cable Assembly Mk 10 Mod 0, and all documents listed thereon

3. EQUIPMENT REQUIRED

3.1 The following items of equipment are necessary to accomplish the continuity and insulation testing:

Circuit Analyzer, Model 4050	DIT-MCO Electronics Division 505 W. 9th Street Kansas City, Mo.
Power Source	110 volts, 60 cps

4. TESTING

4.1 Preparation for Operation

4.1.1 Connect the Cable Test Set Assembly, BuWeps Dwg. 1984224, to the number 1 receptacle in the circuit analyzer.

4.1.2 Set the circuit analyzer panel switches, Figure 2, as follows:

a. AC POWER switch to OFF
b. METER SELECTOR switch to AUTO TEST

c. TEST SELECTION switch to OFF (between LO VOLTAGE and HI VOLTAGE)
d. MULTIPLE CIRCUIT SELECTOR switch to NORMAL
e. VOLTAGE SELECTION switch to 1000 (V).

4.1.3 Plug the circuit analyzer power cable into a 115-volt, 60-cycle power source.

4.2 Calibration.

4.2.1 Remove the back panel of the circuit analyzer exposing the electronic detector unit, Figure 3. Set the short sensitivity switch to line up with number 7 (200 megohms) on the dial, and the continuity current switch to line up with number 7 (2 amps) on the dial.

4.2.2 Remove the connector from receptacle number 1 and connect a one-half ohm plus or minus five percent resistor across contacts 1 and 51 of receptacle number 1.

4.2.3 Rotate circuit resistance sensitivity adjustment, shown in Figure 3, clockwise to the full stop position.

4.2.4 Switch the AC POWER switch to ON.

4.2.5 Position the TEST SELECTION switch to LO VOLTAGE.

4.2.6 Slowly rotate the circuit resistance sensitivity adjustment, counterclockwise until the analyzer just steps to the next position.

4.2.7 Switch the AC POWER switch to OFF and turn the TEST SELECTION switch to OFF (between LO VOLTAGE and HI VOLTAGE).

4.2.8 Remove the one-half ohm resistor, replace the connector in the receptacle on the analyzer, and reinstall the back panel on the analyzer.

4.3 Cable Assembly Mk 10 Testing

4.3.1 Once the tester has been set up and the circuit analyzer has been calibrated, any number of cable assemblies may be tested in succession without repeating Section 4.2 of this ordnance data.

4.3.2 Place the Chart Assembly, BuWeps Dwg. 1984228 onto the circuit analyzer panel, Figure 2.

4.3.3 Plug the Cable Assembly Mk 10 into the test fixture so that the cable plugs correspond to the fixture receptacles, Figure 1.

4.3.4 Flip the AC POWER switch to ON and wait until the amber lamp marked SHORT goes out and the lamp marked OPEN lights.

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4.3.5 Position the TEST SELECTION switch to LO VOLTAGE for a low voltage continuity test.

4.3.6 The circuit analyzer position lights will automatically step to a position above and opposite the square on the matrix chart marked OPEN, and stop. When this is accomplished, the amber lamp on the panel marked OPEN will light and the lamp marked SHORT will be out.

4.3.7 Press the RESET button on the panel to step the analyzer position lights to the next test position. The circuit analyzer indicator lights will stop at each position on the matrix chart that indicates an open circuit, and the amber light marked OPEN will light. This will continue until the analyzer position lights stop at the END OF TEST position on the matrix chart.

4.3.8 If the circuit being tested is defective, the analyzer position lights will stop stepping. The defective circuit will be indicated in the square on the matrix chart indexed by the lighted position lights. The nature of the defect will be indicated by the two amber lamps on the circuit analyzer panel marked SHORT and OPEN. The applicable lamp will be lighted.

4.3.9 After the continuity test, position the TEST SELECTION switch to OFF (between LO VOLTAGE and HI VOLTAGE).

4.3.10 Position the TEST SELECTION switch to HI VOLTAGE.

4.3.11 Repeat steps 4.3.6 through 4.3.8 for a high-voltage continuity and insulation resistance test.

4.3.12 After completing the high-voltage test, position the TEST SELECTION switch to OFF (between LO VOLTAGE and HI VOLTAGE), and flip the AC POWER switch to OFF.

4.3.13 Remove the Cable Assembly Mk 10 from the test fixture. This concludes the continuity and insulation resistance test.

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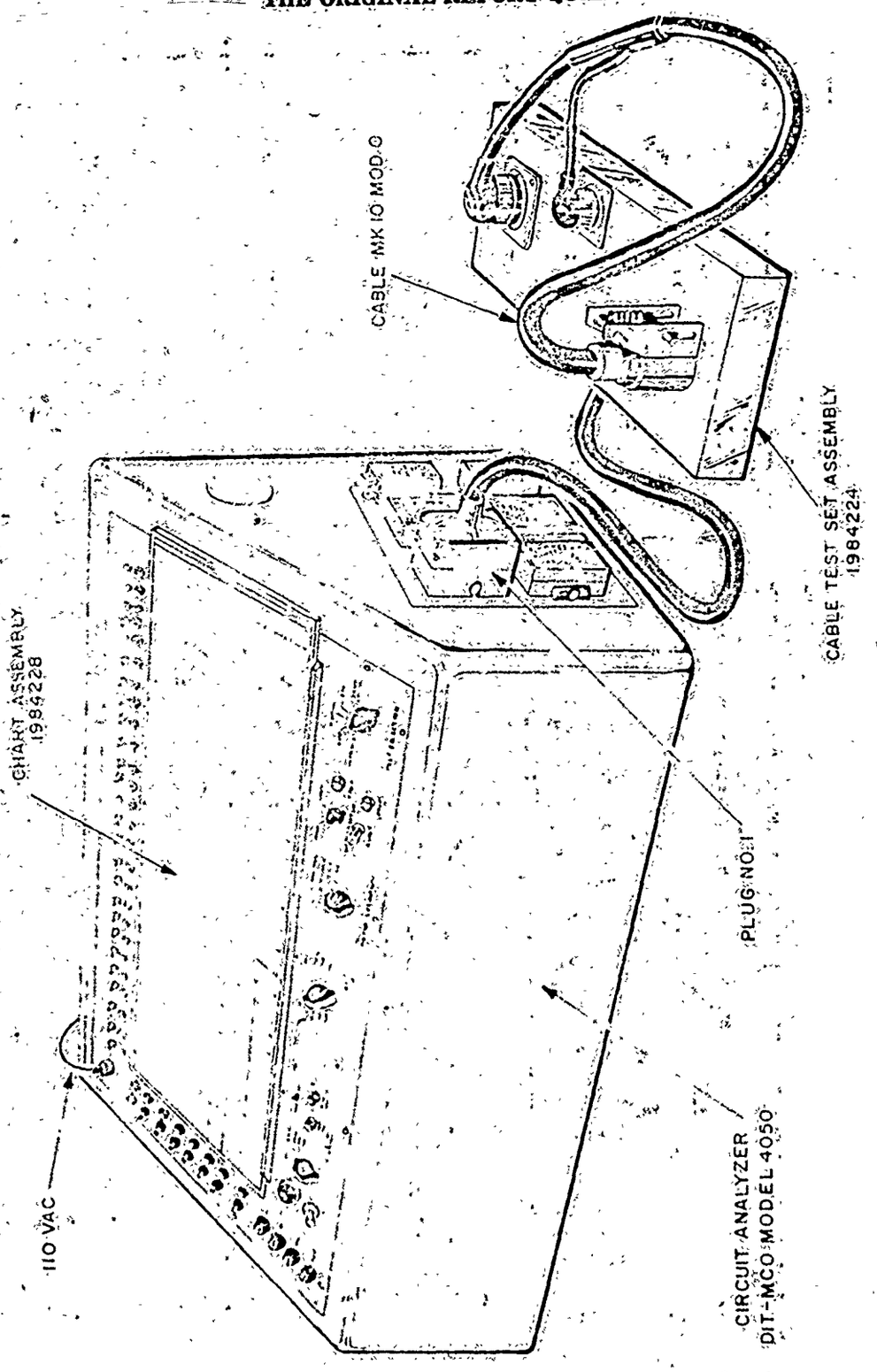

Figure 1. CIRCUIT ANALYZER TEST SETUP

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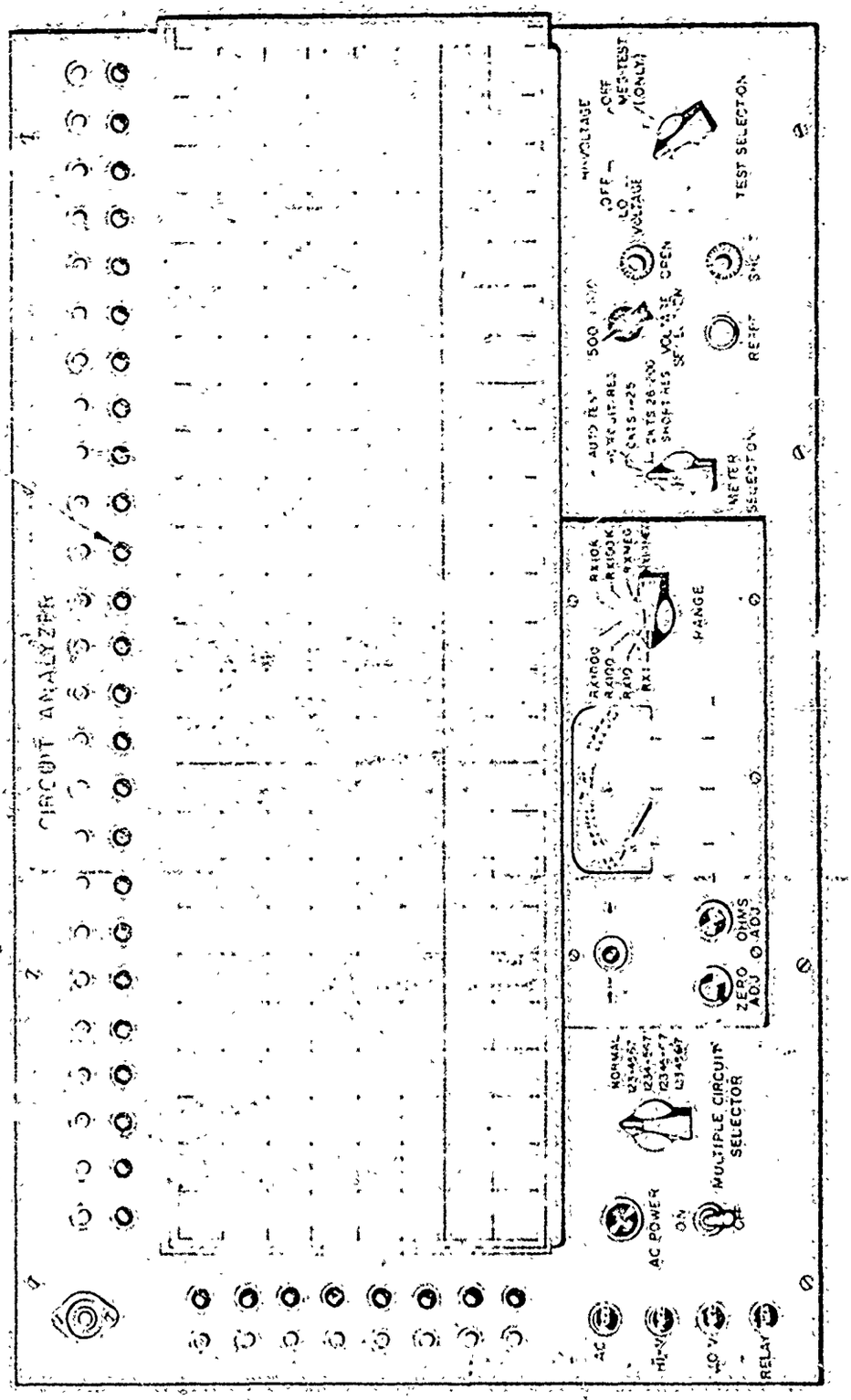

Figure 2. CIRCUIT ANALYZER PANEL

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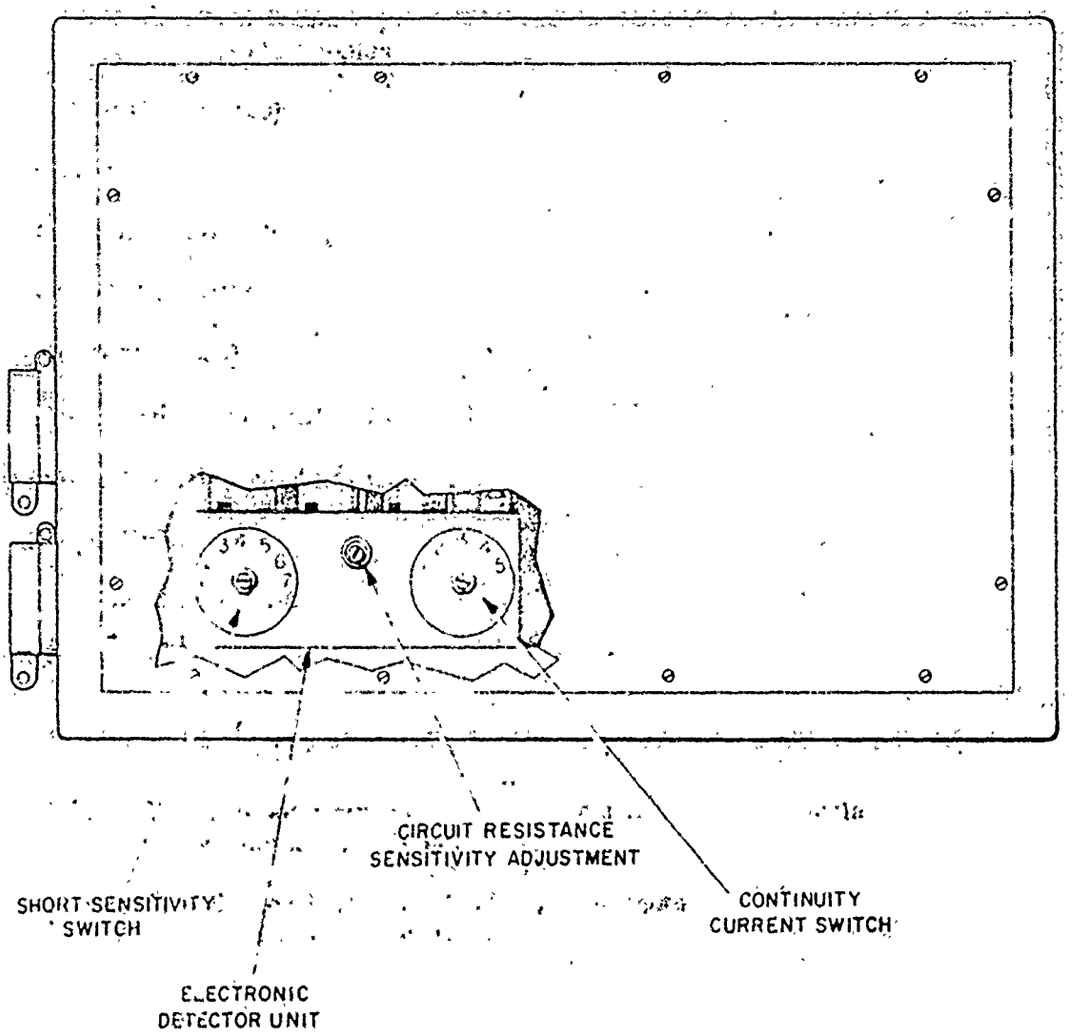

Figure 3. CIRCUIT ANALYZER, REAR VIEW