

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

DEPOT MAINTENANCE MANUAL
DISTRIBUTION BOXES J-1077/U AND J-1077A/U

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CHAPTER 1
INTRODUCTION

1-1. Scope

a. This manual contains the depot overhaul standards for Distribution Boxes J-1077/U and J-1077A/U (distribution boxes). The depot overhaul standards (tests) outlined in this manual are designed to measure the performance capability of a repaired equipment. Equipment that is to be returned to stock should meet the standards given in these tests.

b. Official nomenclature using (*) in the designation indicates all models of the equipment item. In this manner, Distribution Boxes J-1077(*)/U is used to designate both Distribution Boxes J-1077/U and J-1077A/U.

1-2. Indexes of Publications

a. DA Pam 310-4. Refer to 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 and Unsatisfactory Equipment.* Use equipment forms and records in accordance with instructions in TM 38-750.

b. *Report of Packaging and Handling Deficiencies.* Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army), NAVSUP Publ 378 (Navy), AFR 71-4 (Air Force), and MCO P4030.29 (Marine Corps).

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 (Army), NAVSUP Pub 459 (Navy), AFM 75-34 (Air Force), and MCO P4610.19 (Marine Corps).

1-4. Reporting of Equipment Publication Improvements.

The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to Publications) and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-EM, Fort Monmouth, N. J. 07703.

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CHAPTER 2 TESTING

2-1. Applicable References

a. *Repair Standards.* Applicable procedures of the depots performing these tests and the general standards for repaired electronic equipment given in TB

Title	Number	Date
Depot Inspection Standard for Repaired Signal Equipment	TB SIG 355-1	August 1962
Depot Inspection Standard for Refinishing Repaired Signal Equipment	TB SIG 355-2	September 1962
Depot Inspection Standard for Moisture and Fungus Resistant Treatment	TB SIG 355-3	September 1962
Operator, Organizational, Field and Depot Maintenance Repair Parts and Special Tool Lists: Connectors, Receptacle, Electrical U-187/G and U-187A/G.	TM 11-5935-205-15P	August 1962
Organizational, DS, GS, and Depot Maintenance Repair Parts and Special Tool Lists: Connectors, Plug, Electrical U-185/G, U-185A/G, and U-185B/G.	TM 11-5935-212-15P	February 1966
Operator, Organizational, DS, GS, and Depot Maintenance Repair Parts and Special Tool Lists: Distribution Boxes J-1077/U and J-1077A/U.	TM 11-6110-201-15P	April 1969
Instruction Manual, DIT-MCO Universal Automatic Circuit Analyzer, Model 200-B2.	None	
Standard Equipment Programming Guide, DIT-MCO Series M200, M450, M850, and M2000.	None	

c. *Drawings.* The following drawings are applicable to the equipment.

Title	Number
Matrix Charts, Distribution Box J-1077 (*)/U	LBAD TF 383
Performance Standard for Distribution Box J-1077(*)/U	LBAD TF 566
Wiring Schematic and Holes Template, DIT-MCO Adapter Box	LBAD-D-13555
Test Fixture Assembly, Distribution Box J-1077/U	LBAD-D-14076
Schematic Diagram, Output Test Cable for Distribution Box J-1077/U	LBAD-D-14081
Output Test Prod and Connector Assembly for Distribution Box J-1077A/U	LBAD-C-14082
Input Test Cable for Distribution Box J-1077(*)/U	LEAD-D-14083
Wiring Diagram, Distribution Box J-1077 (*)/U	SM-D-288059

2-2. Test Facilities Required

The following equipment, or suitable equivalent will be used in determining compliance with the requirements of this manual.

Item	Federal stock number	Quantity
DIT-MCO Universal Automatic Circuit Analyzer, Model 200-B2	6625-679-5471	1
DIT-MCO Adapter Box per drawing LBAD-D-13555	None	1
Test Fixture Assembly per drawing LBAD-D-14076	None	1

SIG 355-1, TB SIG 355-2, and TB SIG 355-3 form a part of the requirements for testing this equipment.

b. *Technical Publications.* The following technical publications are applicable to the equipment:

Item	Federal stock number	Quantity
Output Test Cable per drawing LBAD-D-14081	None	1
Output Test Prod and Connector Assembly per drawing LBAD-C-14082	None	1
Input Test Cable 1 per drawing LBAD-D-14083	None	1

1 Connector U-185(*)/G is part of input test cable. Connector U-185(*)/G represents Connector U-185/G, U-185A/G, or U-185B/G.

2-3. General Test Requirements

a. *General.* Perform the following tests to determine the acceptability of repaired distribution boxes for return to stock

- (1) Physical test and inspection.
- (2) Continuity and insulation resistance tests.

b. *Test Conditions.* Perform all tests at room temperature.

2-4. Physical Test and Inspection

Repaired distribution boxes must meet the mechanical and visual requirements specified in TB SIG 355-1, TB SIG 355-2 and TB SIG 355-3.

2-5. Continuity and Insulation Resistance Tests

Perform continuity and insulation resistance tests with the DIT-MCO Universal Automatic Circuit Analyzer, Model 200-B2, or suitable equivalent. Distribution box wiring must pass a continuity test

of 1 ohm, or less, at 0.5 ampere and an insulation resistance test of 50 megohms, or greater, at 500 volts dc, as specified in the Performance Standard (LBAD TF 566).

WARNING

Receptacle A of the DIT-MCO Analyzer carries 500 volts. Be careful!

a. Preparation for Test (J-1077(*)/U).

(1) Insert the 100-pin connectors of rows 1 and 2 of the DIT-MCO adapter box in receptacle 1 and 2 of the analyzer.

(2) Insert Connector U-185(*)/G of the input test cable (LBAD-D-14083) in either one of the two 26-pair cable receptacles on the distribution box.

(3) Insert plugs P1 through P5 and P11 of the input test cable in correspondingly numbered sockets of the adapter box. Fasten the clip on the end of the single wire to a bare metal surface on the distribution box.

(4) Place the proper matrix chart in position on the analyzer. (Two different charts are used: one for the J-10077/U, another for the J-1077A/U.)

b. Test Procedure (J-1077/U Only).

(1) Connect the output test cable (LBAD-D-14081) as follows:

(a) Install the output test cable binding post test fixture on the distribution box binding posts. Press the fixture down firmly until the clips slide completely over the binding posts.

(b) Insert plugs P6 through P10 and P16 of the output test cable in correspondingly numbered sockets of the adapter box.

(2) Position the analyzer AC POWER switch to ON and allow a 10-minute warmup period.

(3) Perform LO- and HI-VOLTAGE tests. For each test, the analyzer should step through all test positions and stop on the Chassis Gnd position shown on the matrix chart.

(4) At the completion of the tests, position the TEST SELECTION switch to OFF.

(5) Remove Connector U-185(*)/G of the input test cable and insert it in the other 26-pair cable receptacle of the distribution box.

(6) Repeat the procedures of preceding (2), (3), and (4).

(7) Remove the binding post test fixture from the distribution box.

(8) Position the TEST SELECTION switch to MEG TEST ONLY. The analyzer should step through all test positions. It will continue beyond the end of the test until the TEST SELECTION switch is operated to OFF.

(9) Disconnect the output test cable from the distribution box.

c. *Test Procedure (J-1077A/U Only).* When testing the J-1077A/U, a test probe connected to pin 48 of a 50-pin connector (LBAD-C-14082) is used in place of the output test cable and fixture.

(1) Insert the 50-pin connector in receptacle A of the analyzer.

(2) Position the analyzer AC POWER switch to ON and allow a 10-minute warmup period.

(3) Position the analyzer TEST SELECTION switch to LO-VOLTAGE.

CAUTION

Pin 48 of receptacle A is connected directly into the positive side of the test voltage. On the LO-VOLTAGE test position, 28 volts is applied to the pin and on the HI-VOLTAGE test position, 500 volts is applied to the pin and, consequently, to the test probe; therefore, do not turn the TEST SELECTION switch to HI-VOLTAGE during this test.

(4) Insert the test probe through the insulated opening in the top of A post of pair 1 binding posts on the distribution box. (A posts are the left side row of posts of each of the two rows, and B posts are the right side row of each of the two rows.)

(5) Hold the probe on this post until the analyzer recycles to the number 1 test position, steps to the second position, and stops.

(6) Move the probe to the B post of pair 1. The analyzer should then step from the second to the third position and again stop. Continue this procedure, alternating the probe from the A to the B post of each succeeding binding post pair, 1 through 26, until the test is complete.

(7) Position the TEST SELECTION switch to OFF. Remove Connector U-185(*)/G of the input test cable and insert it in the other 26-pair cable receptacle of the distribution box.

(8) Position the TEST SELECTION switch to LO-VOLTAGE and repeat the probe test of preceding (4), (5), and (6).

(9) Position the TEST SELECTION switch to OFF. Remove the 50-pin connector from receptacle A of the analyzer.

(10) Position the TEST SELECTION switch to MEG TEST ONLY. The analyzer should step through all test positions. It will continue beyond the end of the test until the TEST SELECTION switch is turned to OFF.

d. *Test Conclusion.* Disconnect all test and power cables.

APPENDIX A REFERENCES

Following is a list of publications available to depot maintenance personnel of Distribution Box J-1077(*)/U.

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7,8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	U.S. Army Equipment Index of Modification Work Orders.
TB SIG 355-1	Depot Inspection Standard for Repaired Signal Equipment.
TB SIG 355-2	Depot Inspection Standard for Refinishing Repaired Signal Equipment.
TB SIG 355-3	Depot Inspection Standard for Moisture and Fungus Resistant Treatment.
TM 11-5935-205-15P	Operator, Organizational, Field and Depot Maintenance Repair Parts and Special Tool Lists: Connectors, Receptacle, Electrical U-187/G and U-187A/G.
TM 11-5935-212-15P	Organizational, DS, GS, and Depot Maintenance Repair Parts and Special Tool Lists: Connectors, Plug, Electrical U-185/G, U-185A/G, and U-185B/G.
TM 11-6110-201-15P	Operator, Organizational, DS, GS, and Depot Maintenance Repair Parts and Special Tool Lists: Distribution Boxes J-1077/U and J-1077A/U.
TM 38-750	Army Equipment Record Procedures.

By Order of the Secretary of the Army:

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USACDCCEA, Ft Huachuca (1)

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Sig Sec Gen Dep (4)

Sig Dep (6)

Army Deps (1) except

 LBAD (14)

 SAAD (30)

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 NAAD (3)

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WSMR (2)

Fort Carson (7)

USAERDAA (2)

USAERDAW (2)

Units org under fol TOE:

 11-158 (1)

 29-134 (1)

NG: States AG (3).

USAR: None.

For explanation of abbreviations used, see AR 310-50.

