
TECHNICAL MANUAL

**OPERATOR'S ORGANIZATIONAL, DIRECT SUPPORT, AND
GENERAL SUPPORT MAINTENANCE MANUAL
FOR**

**TELEPHONE LINE EQUALIZER CN-1468/FTC
(NSN 5805-01-012-5966)**

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

TECHNICAL MANUAL
No. 11-5805-710-14
**HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC, 1 September 1976**

**OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT, AND
GENERAL SUPPORT MAINTENANCE MANUAL
FOR**

**TELEPHONE LINE EQUALIZER CN-1468/FTC
(NSN 5805-01-012-5966)**

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 direct to you.

	Paragraph	Page
CHAPTER 1. INTRODUCTION		
Section I. General		
Scope	1-1	1-1
Indexes of publication	1-2	1-1
Forms and records	1-3	1-1
Administrative storage	1-4	1-1
Destruction of Army electronics material	1-5	1-1
II. Description and data		
Purpose and use	1-6	1-1
Description	1-7	1-1
Tabulated data	1-8	1-1
Items comprising and operable equipment	1-9	1-2
Running spares	1-10	1-2
CHAPTER 2. SERVICE UPON RECEIPT AND INSTALLATION		
Section I. Systems planning		
Equalizer configurations	2-1	2-1
Site and shelter requirements	2-2	2-1
II. Service upon receipt of material		
Unpacking	2-3	2-1
Checking unpacked equipment	2-4	2-1
III. Installation instructions		
Test equipment required for installation	2-5	2-2
Installation	2-6	2-2
Interconnections and cabling	2-7	2-2
CHAPTER 3. OPERATING INSTRUCTIONS		
Controls and indicators	3-1	3-1
Types of operation	3-2	3-1
Preliminary starting procedure	3-3	3-3
Operation of supervisory signals	3-4	3-3
Operation on baseband signals	3-5	3-3
Operation on dipphase signals	3-6	3-4
Time equalization without data signal	3-7	3-4

CHAPTER 3. OPERATING INSTRUCTIONS - Continued		Paragraph	Page
	Normal automatic operation	3-8	3-5
	Supervisory signaling strapping option	3-9	3-5
	Stopping procedure	3-10	3-5
	Operation under unusual conditions	3-11	3-5
	4. OPERATOR/CREW AND ORGANIZATIONAL MAINTENANCE		
	Duties of operator	4-1	4-1
	Scope of organizational maintenance	4-2	4-1
	Tools and equipment	4 - 3	4-1
	Repainting and refinishing instructions	4-4	4-1
	Preventive maintenance checks and services	4-5	4-1
	Preventive maintenance checks and services periods	4-6	4-2
	troubleshooting	4-7	4-2
	5. FUNCTIONING OF EQUIPMENT		
	Functional description	5-1	5-1
	Block diagram analysis	5-2	5-1
	Detailed circuit analysis	5-3	5-3
	6. GENERAL SUPPORT MAINTENANCE INSTRUCTIONS		
Section	I. General		
	Maintenance procedures	6-1	6-1
	Tools and equipment	6-2	6-1
	Troubleshooting	6-3	6-1
	II. General support testing procedures		
	General	6-4	6-2
	Physical tests and inspection	6-5	6-2
	Power supply functional test	6-6	6-3
	Frequency response functional test	6-7	6-3
	Equalizational functional test	6-8	6-4
	Agc functional test	6-9	6-5
	Path-switching functional test	6-10	6-5
	General parts replacement techniques	6-11	6-5
APPENDIX A.	REFERENCES		A-1
	B. BASIC ISSUE ITEMS (BIIL) AND ITEMS TROOP INSTALLED OR AUTHORIZED LIST (ITIAL) (NOT APPLICABLE)		
	C. MAINTENANCE ALLOCATION		
Section	I. Introduction		C-1
	II. Maintenance Allocation Chart for Telephone Time Equalizer CN-1468/FTC		C-3

LIST OF ILLUSTRATIONS

Fig. No.	Title	Page
1-1	Equalizer, Telephone Line CN-1468/FTC	1 - 0
2-1	Equalizer, Telephone Line CN-1468/FTC	2 - 2
2-2	Shelf assembly-rear view, cover removed	2 - 3
2-3	Power supply assembly, side view	2 - 4
3-1	Equalizer, Telephone Line CN-1468/FTC, front panel view	3 - 1
3-2	Equalizer assembly, front panel controls	3 - 1
3-3	Power supply assembly, front panel controls	3 - 2
3-4	Baseband eye pattern	3 - 3
3-5	Diphase signal	3 - 4
5-1	Equalizer assembly, block diagram	5 - 2
5-2	Power supply assembly, schematic diagram	5 - 4
6-1	Test equipment setup and materials	6 - 4
FO-1	Equalizer assembly, schematic diagram	
FO-2	Equalizer assembly, components location	
FO-3	Color code markings for MIL-STD resistors, indicators, and capacitors	

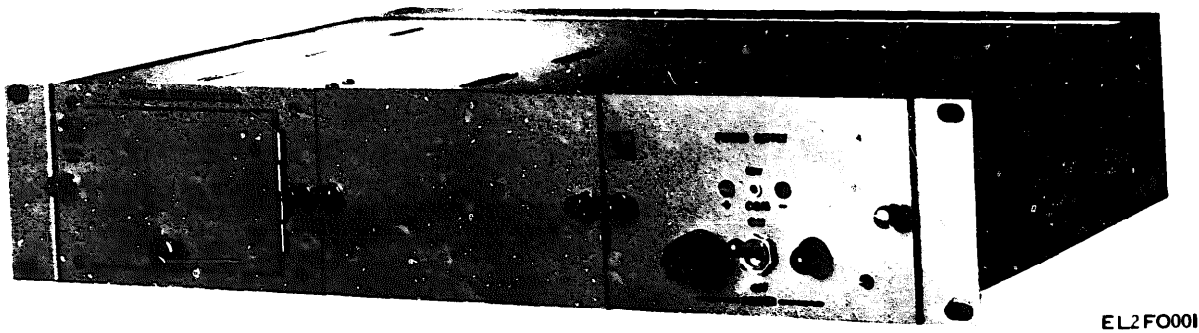


Figure 1-1. Equalizer, Telephone Line CN-1468/FTC.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual describes Equalizer, Telephone Line CN-1468/FTC. It contains instructions for operation, and for maintenance of the equipment. Appendix A contains a list of current references, forms, and other publications applicable to the Equalizer. Maintenance responsibilities are allocated to the operator, organizational, and general support in the maintenance allocation chart (app C). No direct support is authorized.

tion, and for maintenance of the equipment. Appendix A contains a list of current references, forms, and other publications applicable to the Equalizer. Maintenance responsibilities are allocated to the operator, organizational, and general support in the maintenance allocation chart (app C). No direct support is authorized.

1-2. Indexes of Publications

a. DA Pam 310-4. 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. 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 Performance

ports which are to be used by maintenance personnel at all maintenance 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 76-18/MCO P4610.19B and DSAR 4500.15.

1-4. Administrative Storage

Administrative storage of equipment issued to and used by Army activities shall be in accordance with TM 74040-1.

1-5. Destruction of Army Electronics Material

Destruction of Army electronic materiel to prevent enemy use shall be in accordance with TM 750-244-2.

Section II. DESCRIPTION AND DATA

1-6. Purpose and Use

Equalizer, Telephone Line CN-1468/FTC is a rack-mounted unit for use on standard transmission line and slope equalization 50 kilobit baseband and diphase data over the frequency range of 10 Hz to 70 kHz.

system over the frequency bandpass of 10 Hz to 70 kHz. The unit provides slope equalization on 19 AWG, 22 AWG, 24 AWG, and 26 AWG nonload, toll-quality cable pairs.

b. The unit (consists of a shelf assembly, a plug-in equalizer module, and a plug-in power supply module. Additional space is provided in the shelf assembly for another equalizer module. The power supply module provides sufficient power for one or two plug-in equalizer modules.

1-7. Description
(fig. 1-1)

a. Equalizer, Telephone Line CN-1468/FTC is a self-contained, solid state, rack-mounting unit. It contains a power supply and high frequency rolloff of

1-8. Tabulated Data

Frequency Response Flat, 10 Hz to 70 kHz +/- 3db
high frequency boost 25 db