

TECHNICAL MANUAL

OPERATOR'S, ORGANIZATIONAL,

DIRECT SUPPORT AND GENERAL SUPPORT

MAINTENANCE MANUAL

FOR

CONSOLE TRAINING

FACILITY ET-A TYPE

NUS 8423

HEADQUARTERS, DEPARTMENT OF THE ARMY

DECEMBER 1976

PREFACE

1. Introduction

The designation of the equipment covered by this maintenance manual **is** Console Training Facility, **ET-A** Type NUS 8423. This preface explains the organization and maintenance level of the manual, gives cross-references of manufacturers' designations or common names versus official nomenclature, and lists publications describing related equipments in the ET-A Console System. The Console Training Facility duplicates much of the equipment in other components of the ET-A communications **system**. For detailed information concerning the duplicated equipment, refer to the appropriate **manual in the list of related ET-A publications in PART ONE of this publication**.

2. Organization of the Manual

This publication contains Chapters 1 through 6 and Appendix I in two Parts. Chapter 1 covers Introduction and description, Chapter 2 covers Installation, **and** Chapter 3 covers Operation. Chapter 4, Functioning of Equipment, **is written at** discrete block diagram levels, emphasizing the functional interrelations of logic **and** audio circuitry rather than the circuit details of the modules themselves. Chapter 5, Maintenance, is concerned with localizing trouble to particular modules, rather than with repair of the modules themselves. Chapter 6, Diagrams, contains all **over-**size diagrams referred to in chapters 1 through 5, and a complete set of functional logic, schematic, and interconnection diagrams. Appendix I is **a** listing of mnemonics. **Chapters** 1 through 5 inclusive are contained in PART ONE; Chapter 6 and Appendix I are contained in **PART TWO**.

3. Maintenance Level

The Console Training Facility conforms to a modular concept and is maintained to the direct support (3rd echelon) level. Maintenance to this level of support is concerned with localizing trouble to a particular module. When the trouble is localized, replace the defective module. Refer to Instruction Manual for Test Facilities Kit **MK-884/FRC-81(V)**, **TM 11-6625-647-14 for maintenance information on the** modules.

Technical Manual

HEADQUARTERS

DEPARTMENT OF THE ARMY

No. 11-5820-576-14/1)

Washington,DC, 17 December 1976

OPERATOR'S, ORGANIZATIONAL, DIRECT SUPPORT

AND GENERAL SUPPORT MAINTENANCE MANUAL

FOR

CONSOLE TRAINING FACILITY

ET-A TYPE NUS 8423

REPORTING OF ERRORS

You can help improve this manual by calling attention to errors and by recommending improvements and stating your reasons for the recommendations. Your letter or DA Form 2028 (Recommended Changes to Publications and Blank Forms) should be mailed direct to the commander, US Army Electronics Command, ATTN: DRSEL-MA-Q, Fort Monmouth, New Jersey 07703.

TABLE OF CONTENTS

PART TWO

P a r a . P a g e

CHAPTER 6. DIAGRAMS

APPENDIX I. MNEMONICS

Description of mnemonics.....	A 1 . A 1 - 1
Mnemonics Glossary.....	. A 2 . A 1 - 1

LIST OF ILLUSTRATIONS

PART TWO

Fig. No.	Title
6-1.	Overall block diagram of training facility
6-2.	Comparison of console system and training facility
6-3.	ET-A console training facility interior mechanical installation(3 sheets)
6-4.	ET-A console training facility floor plan
6-5.	ET-A console training facility interior structural installation
6-6.	ET-A console training facility interior structural installation (2 sheets)
6-7.	Standby CLE logic, simplified block diagram
6-8.	Ready command receive, sequence diagram
6-9.	Character counter, sequence diagram (2 sheets)
6-10.	Supervisory command receive sequence diagram (2 sheets)
6-11.	Control switch command, sequence diagram
6-12.	Ready command transmit, sequence diagram
6-13.	Supervisory status transmit, sequence transmit.
6-14.	Supervisory command transmit. sequence diagram
6-15.	Tributary path selector, simplified schematic diagram (2 sheets)
6-16.	Training facility supervisory command troubleshooting diagram
6-17.	Training facility ready command troubleshooting diagram
6-18.	Training facility supervisory status troubleshooting diagram (2 sheets)
6-19.	Training facility ready status troubleshooting diagram (2 sheets)
6-20.	Training facility tributary terminal set symptoms troubleshooting diagram
6-21.	Power fault troubleshooting diagram (4 sheets)
6-22.	Counter fault troubleshooting diagram (3 sheets)
6-23.	No supervisory command tone troubleshooting diagram
6-24.	No supervisory command message troubleshooting diagram (4 sheets)
6-25.	No ready command tone troubleshooting diagram
6-26.	No ready command message troubleshooting diagram (3 sheets)
6-27.	No supervisory status message troubleshooting diagram
6-28.	Standby CLE to tributary terminal set audio troubleshooting diagram
6-29.	Standby CLE to console remote equipment audio troubleshooting diagram
6-30.	Standby CLE cabinet, power distribution schematic diagram (3 sheets)
6-31.	ET-A console training facility ac power distribution schematic diagram (5 s h e e t s)

T M 1 1 - 5 8 2 0 - 5 7 6 - 1 4 / 2
LIST OF ILLUSTRATIONS (cont)
PART TWO (cont)

F i g . N o .	T i t l e
6-32.	Standby CLE cabinet, electrical diagram (37 sheets)
6-33.	Card test points
6-34.	Training facility cabling and interconnection diagram (5 sheets)
6-35.	Remote equipment area signal cables interconnection diagram (3 sheets)
6-36.	Local equipment area signal cables interconnection diagram (5 sheets)

CHAPTER 6

DIAGRAMS

This chapter contains block diagrams, troubleshooting diagrams, functional logic diagrams, and schematic diagrams. Illustrations referenced in chapters 1 through 5 which are of oversize dimensions are sequenced in this volume in the order of text references.

This technical manual is an authentication of the **manufacturer's** commercial literature and does not conform with the format and content specified in AR 310-3, Military Publications. This technical manual does, however, contain available information that is essential to the operation and maintenance of the equipment.

APPENDIX I

MNEMONICS

A1. Description of Mnemonics

Each standby CLE mnemonic contains the logic circuit source, originating card, logic level and function data for particular signals. Each complete mnemonic contains a maximum of 17 characters, which are arranged as follows:

logic circuit source	originating card	logic level	signal function										signal modified			
S L E	1 1 1	1	-	R	Y	C	R	F	A	-	-	-				
1 2 3	4 5 6	7	8	9	10	11	12	13	14	15	16					17

- a. The first, second, and third characters identify the logic circuit source.

For example:

SLE = standby CLE

- b. The fourth, fifth, and sixth characters identify the originating card. For example:

111 = type 111 flip-flop card

- c. The seventh character defines the logic level (logic-1 or logic-0). (An asterisk is used in mnemonics where the logic level is not applicable.)

- d. The eighth character is always a dash, separating the signal nomenclature from the initial seven mnemonic characters.

- e. The ninth through 16th characters, designated signal nomenclature, define the signal function. For example:

RYCRFA = ready command receive flip-flop

- f. The 17th character is a signal nomenclature modifier. This character is represented by the letters A through Z. Where required, the letters are used to distinguish the source of identical signals obtained from various cards of the same type.

A2. Mnemonics Glossary

The mnemonics glossary which follows provides definitions for all standby CLE mnemonics. The mnemonics are listed in alphabetical order and include signal nomenclature (the ninth through 16th characters). The three-character prefixes (characters one through three) which identify the originating logic circuits are also included. Interfacing mnemonics are listed for each logic circuit. To avoid redundancy, a single mnemonic is used to represent each group of sequential