

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR'S MANUAL:

OPERATIONAL DATA AND INDEX

**GUIDED MISSILE AIR DEFENSE
SYSTEM AN/TSQ-73**

**This copy is a reprint which includes current
pages from Changes 1 through 13.**

HEADQUARTERS, DEPARTMENT OF THE ARMY

1 AUGUST 1978

OPERATOR'S MANUAL: OPERATIONAL DATA AND INDEX

GUIDED MISSILE AIR DEFENSE SYSTEM AN/TSQ-73

Current to Tape Version 34.1

TABLE OF CONTENTS

| Chapter | Page |
|-----------------------------|------|
| LIST OF ILLUSTRATIONS | ii |
| LIST OF TABLES | ii |

VOLUME 12

| | | |
|-------------|---|---------|
| 12 | OPERATIONAL DATA | 12-1 |
| | Section I. INTRODUCTION | 12-1 |
| | 12-1. Scope | 12-1 |
| | 12-2. Reporting Equipment Publications Improvements | 12-1 |
| | Section II. CONTROL COMMAND LISTINGS | 12-2 |
| | 12-3. Control Commands | 12-2 |
| | Section III. VALID CONSOLE MODES | 12-34 |
| | 12-4. General | 12-34 |
| | Section IV. LOGICAL DEVICE AND ADDRESSES | 12-48 |
| | 12-5. General | 12-48 |
| | Section V. MESSAGE DEFINITIONS | 12-54 |
| | 12-6. RIE Switch Message | 12-54 |
| | 12-7. Messages | 12-54 |
| | Section VI. LEGAL ENTRIES..... | 12-60 |
| | 12-8. Legal Entries..... | 12-60 |
| | Section VII. TERMS AND ABBREVIATIONS | 12-71 |
| | 12-9. Terms and Abbreviations..... | 12-71 |
| INDEX | | Index 1 |

LIST OF ILLUSTRATIONS

VOLUME 12

| Figure | Title | Page |
|----------|---|----------|
| 12-1. | Error Message Definitions | 12-3 |
| 12-1.1. | CC 11 Cylindrical Transmission Zone | 12-21 |
| 12-2. | CC 11 Rectangular Transmission Zone | 12-23 |
| 12-2.1. | CC146 Defense Priority and Missile Count Thresholds | 12-30.16 |
| 12-2.2. | CC147 Subordinate Unit Priority and Missile Count Thresholds..... | 12-30.19 |
| 12-3. | Abbreviated CC Definitions | 12-32 |
| 12-4. | Valid Monitor Mode Controls | 12-35 |
| 12-5. | Valid Tracking Mode Controls | 12-37 |
| 12-6. | Valid Tactical Mode Controls..... | 12-39 |
| 12-7. | Valid Tracking/Tactical Mode Controls..... | 12-41 |
| 12-8. | Deleted | |
| 12-9. | Valid Test Mode Controls | 12-45 |
| 12-10. | Test Pattern Display (Test Mode)..... | 12-47 |
| 12-11. | RIE Switch Message Conversion | 12-55 |
| 12-12. | System Status Messages - Format and Field Definition | 12-58 |
| 12-13. | Deleted | |
| 12-14. | Deleted | |
| 12-15. | Activate TADIL B Link | 12-67 |
| 12-15.1. | Activate Master Battalion Data Link | 12-68.1 |
| 12-16. | Activate ATDL-1 Link..... | 12-69 |

LIST OF TABLES

VOLUME 12

| Table | Title | Page |
|---------|--|---------|
| 12-1. | Command Code Entries | 12-6 |
| 12-1.1. | Auxiliary Functions Available in Configurations..... | 12-31 |
| 12-2. | System TMON and Logical Device Numbers..... | 12-48 |
| 12-3. | Hexadecimal, Binary, Octal and Decimal Conversion..... | 12-50.1 |
| 12-4. | Operational Configuration Definitions..... | 12-51 |
| 12-5. | Data Link Switch Settings - Battalion | 12-52 |
| 12-5.1. | Data Link Switch Settings - Master Battalion | 12-52 |
| 12-6. | Data Link Switch Settings - Brigade | 12-52 |
| 12-7. | Modem/Device/Connector Assignments | 12-53 |
| 12-8. | AN/TSQ-73 Legal Entries | 12-61 |
| 12-9. | List of Terms and Abbreviations..... | 12-71 |

CHAPTER 12

OPERATIONAL DATA

Section I. INTRODUCTION

12-1. Scope. This volume provides operational reference data that is used by the AN/TSQ-73 operator throughout this series of operator volumes. All listings, illustrations, and abbreviated guides are provided for the experienced operator as a quick reference data source. Also included is the index for all seven operator manuals.

12-2. Reporting Equipment Publications 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 to: Commander, U.S. Army Missile Command, ATTN: AMSMI-MMC-LS-LP, Redstone Arsenal, AL 35898-5238. You may also send in your comments electronically to our e-mail address: ls-lp@redstone-emh2.army.mil or by fax 205-842-6546/DSN 788-6546.

Change 15 12-1

Section II. CONTROL COMMAND LISTINGS

12-3. Control Commands. Control Commands (CC) are used to establish AN/TSQ-73 operational program variables. These commands are the primary man-machine interface for system initialization. Control commands are also used to load, activate, and terminate computer program configurations or functions; specify site adaptation data; control various logical and physical devices; and perform miscellaneous functions. Control commands contain both fixed and variable data. Fixed data include, as a minimum, the letters CC, followed by a command code of either two or three octal digits. The command code must be within the octal range 00 thru 163. Variable data consist of one or more items following the command code. Typical variable data are position, altitude, time, etc. The value of these items is variable within predetermined limits. If a command contains variable data items, the items must be separated from the command code and from each other by either a blank space or a comma. Unless otherwise noted, all data items defined in these procedures are required entries and must be entered in the indicated sequence. Leading zeros are not mandatory entries.

a. *Response Messages.* Messages are printed out on the KPU or ARO to provide operator feedback and to provide a CC entry record (KPU only). These responses are categorized as follows:

(1) *Acknowledge.* This response is generated to acknowledge a valid, legal entry. The output is 77 NN(N) 40 ACK, where NN(N) is the two or three digit command code.

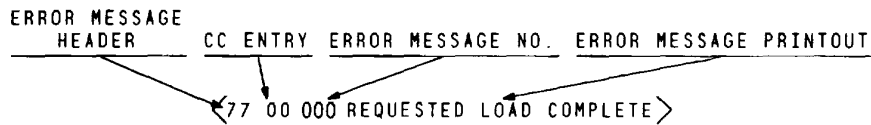
(2) *Error.* This response is generated to indicate rejection of a command entry that is caused by entry of an invalid code (Nonfunctional), format error, or data content error. An example of an error response is 77 NN(N) 35 INPUT MESSAGE IN ERROR. If a CC that is illegal for a brigade-configured system is input, the ADP outputs the message BDE CNFG. Other error messages are shown in figure 12-1.

(3) *Special Responses.* Special responses (prompts/alerts) are generated to provide feedback unique to individual commands. When a control command is entered while the MTU is searching, the KPU will print: "KPU CC BUSY." In addition, default values are included in this category.

(4) *Keywords.* In those instances where keywords are used, data may be changed by keyword address without reentering the entire command code sequence.

b. *Control Command Entry Procedures.* CCs can be entered into the system using the Display Console alphanumeric (AN) keyboard, the Keyboard Printer Unit (KPU), or the ADP Status and Control Panel PROGRAM TEST SELECT thumbwheels (only two-digit CCs with no variable data can be entered). The Display Console ARO and AN Keyboard are capable of serving as a backup to the KPU for the entry of system CCs and display of associated computer generated responses. The mode is entered by operator actuation of the Display Console CONTRL CMD ENTRY control. Actuation of this control causes the blanking-out of all the ARO displays. CC entries are then entered via the AN Keyboard and displayed in Row 1 of the ARO. Entries are posted as entered, left to right with a marker to indicate the position of the next character to be entered. Computer responses generated by CC entry are displayed in Rows 3 thru 8 as required. CC entry and computer response formats are identical to those used with the KPU. Return to the normal ARO displays is achieved by operator actuation of the CONTRL CMD ENTRY control. The CC entry mode can be in effect at only one Display Console at a time.

c. *Control Command Entries.* Refer to table 12-1 and table 12-1.1 for detailed CC definitions, figure 12-2 for CC111 entry definitions, and figure 12-3 for abbreviated CC definitions.



| MESSAGE NO. | PRINTOUT | DEFINITION |
|-------------|----------------------------|---|
| 00 | REQUESTED LOAD COMPLETE> | SYSTEM HAS LOADED REQUESTED CONFIGURATION OR MAP |
| 01 | INSUFFICIENT CORE> | AMOUNT OF MEMORY IS NOT SUFFICIENT TO ALLOW LOADING OF CONFIGURATION REQUESTED |
| 02 | RESTART REQD> | PRINTED DURING CC PROCESSING, WHEN CODES CC05 (PURGE) CC06 (FLUSH), CC07 (SHUTDOWN), CC20 THRU CC22 OR CC24 THRU CC26 (CONFIGURATION), OR CC107 (OTHR SERV) ARE ENTERED, THE OPERATOR IS ALLOWED 30 SECONDS TO PRESS RESTART SWITCH. IF SWITCH IS NOT PRESSED, CC IS IGNORED AND <77 NN 02 RESTART REQD> IS PRINTED WHEN CODES CC01 (OWN SITE LOC), CC02 (DLRP), OR CC04 ARE ENTERED, SYSTEM PARAMETERS ARE CHANGED WHETHER RESTART SWITCHCAP IS PRESSED OR NOT |
| 03 | SYSTEM TAPE FORMAT ERROR> | SYSTEM TAPE IS BAD |
| 04 | SYSTEM TAPE I/O ERROR> | PROBLEM IN SYSTEM TAPE INPUT/OUTPUT HANDLING |
| 05 | SYSTEM TAPE IS DISMOUNTED> | SYSTEM TAPE IS NOT INSTALLED ON MTU OR ASSIGNED (CC104) OR ACTIVATED (CC100) |
| 06 | MUST LOAD OCP> | OPERATIONAL CONFIGURATION (CC20 THRU CC22 OR CC24 THRU CC26) MUST BE LOADED INTO SYSTEM |
| 07 | AUX FUNCTION ACTIVE> | AUXILIARY FUNCTION PROGRAMS ARE IN OPERATION |
| 10 | CONFIGURATION NOT ON TAPE> | REQUESTED CONFIGURATION IS NOT ON TAPE |
| 11 | SYSTEM RESTART> | SYSTEM RESTART HAS BEEN ACCOMPLISHED |
| 12 | BANK XX PURGED> | MEMORY BANK NO. ___ HAS BEEN PURGED (CC40) |
| 13 | BANK XX NOT PURGED> | MEMORY BANK NO. ___ HAS NOT BEEN SUCCESSFULLY PURGED |
| 14 | ALL ON LINE BANKS IN USE> | ALL MEMORY BANKS ARE CURRENTLY IN USE |
| 15 | INVALID LIST OPTION> | ATTEMPT TO ENTER OTHER THAN N, L OR EX IN LIST FIELD OF CC156 |
| 16 | SYSTEM PURGED> | SYSTEM HAS BEEN PURGED (CC05) |
| 17 | SYSTEM NOT PURGED> | SYSTEM HAS NOT BEEN SUCCESSFULLY PURGED |
| 20 | RESET TIME OF DAY> | TIME OF DAY SHOULD BE ENTERED (CC130) |
| 21 | LINK NOT COMM ESTAB> | COMMUNICATION WITH REQUESTED DATA LINK IS NOT ESTABLISHED |
| 22 | NO SITE AVAILABLE> | SITE LIMIT REACHED. CANNOT HONOR REQUEST FOR ANOTHER SITE SLOT |
| 23 | SPECIFIED LINK IN USE> | COMMUNICATION IS ALREADY TAKING PLACE OVER DATA LINK REQUESTED |
| 24 | DUP NAME ENTERED> | DEFENDED POINT (CC121), ATDL-1 STATION ADDRESS (CC03, CC114 AND CC120) ENTRY NAME PREVIOUSLY USED |
| 25 | CORRIDOR ACTIVE> | SAFE CORRIDOR (CC123) ENTRY ATTEMPTS TO ADD A POINT TO AN ACTIVE CORRIDOR |

MS195924E

Figure 12-1. Error Message Definitions (Sheet 1 of 4)