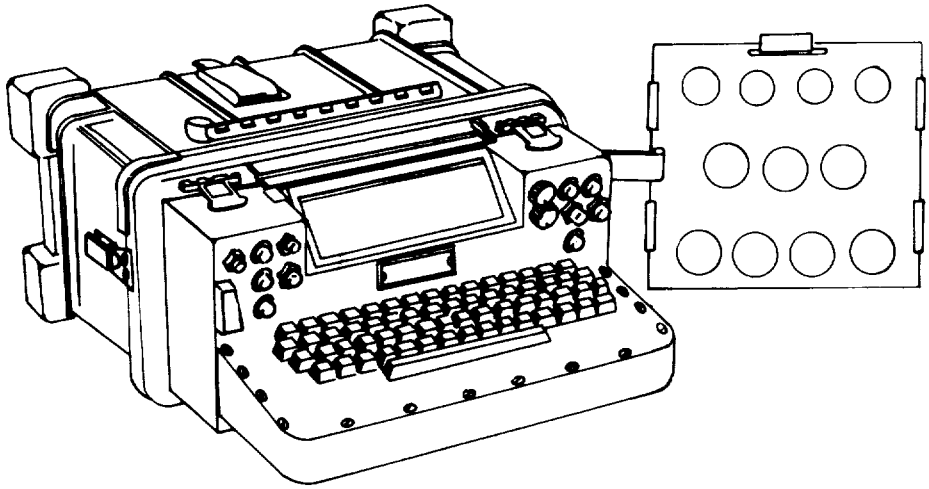
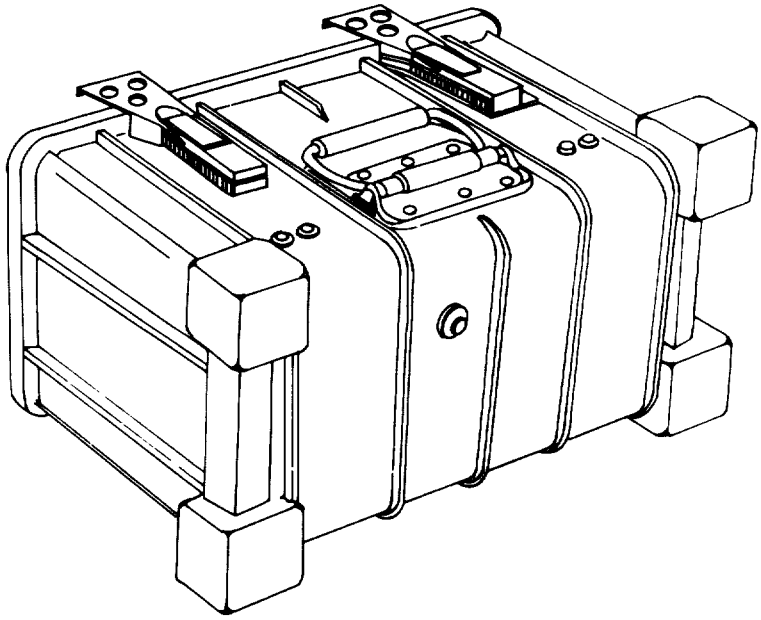
ARMY
NAVY

AIR FORCE
MARINE CORPS

TM 11-5815-602-10-1
EE 161-DT-OMI-010/
E100-UGC-74B&C(V)3
TO 31W4-2UGC74-11
TM 08008C–10/1

OPERATOR'S MANUAL





TERMINAL, COMMUNICATIONS AN/UGC-74B(V)3
(NSN 5815-01-214-6237)
TERMINAL, COMMUNICATIONS AN/UGC-74C(V)3
(NSN 5815-01-211-4122)

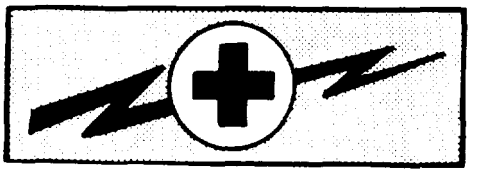
DEPARTMENTS OF THE ARMY, THE NAVY, THE AIR FORCE, AND HEADQUARTERS MARINE CORPS

1 MARCH 1987

5 SAFETY STEPS TO FOLLOW IF SOMEONE IS THE VICTIM OF ELECTRICAL SHOCK

1. DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL
2. IF POSSIBLE , TURN OFF THE ELECTRICAL POWER
3. IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH, OR LIFT THE PERSON TO SAFETY USING A WOODEN POLE OR A ROPE OR SOME OTHER INSULATING MATERIAL
4. SEND FOR HELP AS SOON AS POSSIBLE
5. AFTER THE INJURED PERSON IS FREE OF CONTACT WITH THE SOURCE OF ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START ARTIFICIAL RESUSCITATION

WARNINGS



HIGH VOLTAGE
IS USED IN THE OPERATION OF THIS EQUIPMENT
DEATH ON CONTACT
MAY RESULT IF PERSONNELF AIL TO OBSERVE SAFEN PRECAUTIONS

Never work on electronic equipment unless there is another person nearby who is familiar with the operation and hazards of the equipment and who is competent in administering first aid. When technicians are aided by operators, they must be warned about dangerous areas.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after power has been turned off, always ground every part before touching it.

Be careful not to contact high voltage input connections of 115/230 volts ac when installing or operating this equipment.

Whenever the nature of the operation permits, keep one hand away from the equipment to reduce the hazard of current flowing through vital organs of the body.

WARNING

Do not be misled by the term “low voltage”. Potentials as low as 50 volts may cause death under adverse conditions.

For Artificial Respiration, Refer to FM 21-1.

WARNING

Adequate ventilation should be provided while using TRICHLOROTRIFLUOROETHANE. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since TRICHLOROTRIFLUOROETHAN E dissolves natural oils, prolonged contact with the skin should be avoided. When necessary use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

WARNING

Lithium organic batteries or cells are used in this equipment. They are potentially hazardous if misused or tampered with before, during, or after discharge. The following precautions must be strictly observed to prevent possible injury to personnel or equipment damage.

DO NOT heat, incinerate, crush, puncture, disassemble, or otherwise mutilate the batteries.

DO NOT short circuit, recharge, or bypass internal fuse.

DO NOT store equipment during long periods of nonuse in excess of 30 days.

TURN OFF the equipment immediately if you detect battery compartment becoming unduly hot, hear battery cells venting (hissing sound), or smell irritating sulphur dioxide gas. Remove and dispose of battery only after it is cool (30 -60 minutes).

HOW TO USE THIS MANUAL

This manual tells you how to operate and perform operator maintenance on the Communications Terminal AN/UGC-74B & C(V)3. Information not identified to a particular model applies to the Model B. Information that applies only to the Model C is identified as Model C information, and the **MODEL C ONLY** headings are capitalized and underlined as shown.

Location of Subjects in Manual

In this manual, paragraphs and pages are numbered in succession by chapter. For example: Paragraph 2-14 is paragraph 14 in chapter 2. Page 3-5 is page 5 in chapter 3.

If you are looking for specific information, use subject INDEX the back of this manual to locate page number where topic is described.

For rapid location of a required subject, contents of chapter are listed alphabetically on the first page of each chapter.

Refer to Appendix A, REFERENCES, for the complete title of all forms, technical manuals and military specifications referenced in this manual.

Refer to LIST OF ABBREVIATIONS and GLOSSARY in Chapter 1 for a definition of the abbreviations and unusual terms used in this manual.

Use of manual for Task Performance

You must become thoroughly familiar with all the operating controls, switches, lamps, and keys before you can properly use and maintain the terminal. Chapter 2 describes the use of operator controls, while Chapter 3 tells you how to maintain the equipment.

As a further aid to knowing operation procedures, appendices E through J, located in the back of this manual, provide information and detailed examples of operator and terminal responses in the operational states.

Use this manual in conjunction with station's Standard Operating Procedures (SOP) when formatting messages. Appendix H provides an example of a JANAP 128(H) PLAINDRESS header and message.

You must familiarize yourself with all the maintenance procedures before beginning the maintenance task.

Do not perform maintenance tasks that are assigned to a maintenance level higher than you are authorized to perform. Call your supervisor or next higher level of maintenance if you have a problem not described in this manual.

Technical Manual
No. 11-5815-602-10-1
Technical Manual
EE 161-DT-OMI-010/E110-UGC-74B&C(V)3
Technical Order
No. 31W4-2UGC74-11
Technical Manual
08008C-10/1

DEPARTMENTS OF THE ARMY,
THE NAVY, AND THE AIR FORCE,
HEADQUARTERS MARINE CORPS
Washington, DC, 1 March 1987

OPERATOR'S MANUAL
TERMINAL, COMMUNICATIONS AN/UGC-74B(V)3
(NSN 5815-01-214-6237)
TERMINAL, COMMUNICATIONS AN/UGC-74C(V)3
(NSN 5815-01-211-4122)

REPORTING OF ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-ME-MP, Fort Monmouth, New Jersey 07703-5000.

For Air Force, submit AFTO Form 22 (Technical Order System Publi–cation Improvement Report and Reply) in accordance with paragraph 6-5, Section VI, T.O. 00-5-1. Forward direct to prime ALC/MST activity.

For Navy, mail comments to the Commander, Space and Naval Warfare Systems Command, ATTN: SPAWAR 8122, Washington, DC 20363-5100.

For Marine Corps Units, submit NAVMC 10772 to Commanding General, Marine Corps Logistics Base (Code 850), Albany, GA 31704-5000.

In either case, a reply will be furnished direct to you.

TABLE OF CONTENTS

TABLE OF CONTENTS - Continued

NOTE

Refer to the latest issue of DA Pam 310-1 to determine whether there are new editions, changes or additianal publications pertaining to the equipment. Marine Corps personnel refer to the latest issue of SL-1-2 to determine whether there are any new editions.

CHAPTER 1

INTRODUCTION

PAGE

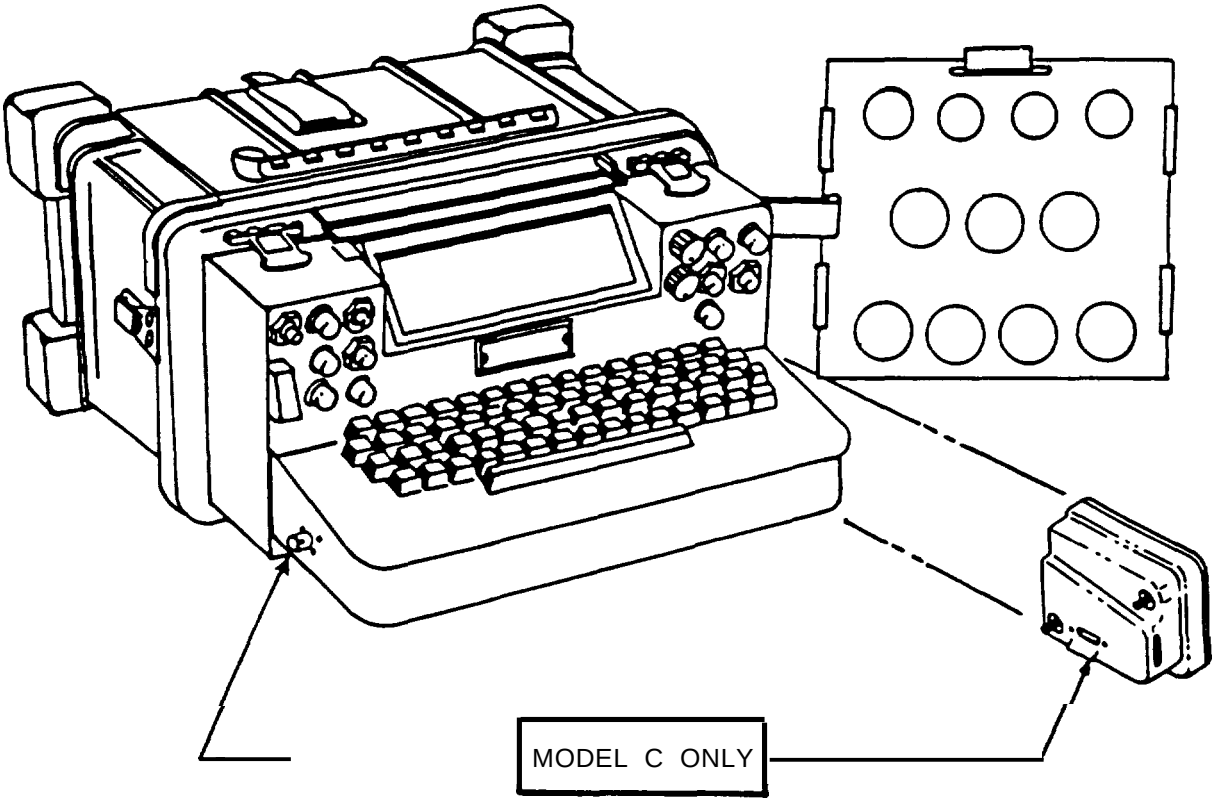


Figure 1-1. TERMINAL, COMMUNICATIONS AN/UGC-74B OR C(V)3 WITH COPYHOLDER

Section I. GENERAL

1-1. SCOPE

This manual is a guide for the installation and operation of Terminal, Communications AN/UGC–74B(V)3 and AN/UGC-74C(V)3 (fig. 1-1).

1-2. MAINTENANCE FORMS, RECORDS, AND REPORTS

a. Reports of Maintenance and Unsatisfactory Equipment. Department of the Army forms and procedures used for equipment maintenance will be those prescribed by DA PAM 738-750, The Army Maintenance Management System (TAMMS), Air Force personnel will use AFR 66-1 **for maintenance reporting and TO-00-35D54** for unsatisfactory equipment reporting. Navy personnel will report maintenance performed utilizing the Maintenance Data Collection Subsystem (MDCS) IAW OPNAVINST 4790.2, Vol 3 and unsatisfactory material/conditions (UR submissions) IAW OPNAVINST 4790.2, Vol 2, chapter 17. Marine Corps personnel will use TM-4700-15/1 Equipment Record Procedures.

b. *Packaging Improvement Report.* Fill **out and forward SF 364 (Packaging Improvement Report) as** prescribed in AR 735-11-2/DLAR 4140.55/NAVSUPINST **4355.73B/AFR 400-54/MCO 4430.3H.**

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 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

1-3. HAND RECEIPT (-HR) MANUAL

This manual has a companion document with a TM number followed by "-HR" (Hand Receipt). TM 11-5815-602-10-1-HR consists of preprinted hand receipts (DA Form 2062) that list end item related equipment (i.e., COEI, Bll, and AAL) you must account for. As an aid to property accountability, additional -HR manuals may be requisitioned from The US Army Adjutant General Publications Center, Baltimore, MD, in accordance with the procedures in Chapter 3, AR 310-2, and DA PAM 310-10-2.

1-4. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

a. Army. If your Terminal, Communications AN/UGC-74B or C(V)3 needs improvements, let us know. Send us an EIR. You, the **user, are the only one who can tell us what you don't like about your equipment. Let us know why you don't like the design. Put it on an MCO 4855.10 (Quality Deficiency Report). Mail** it to **Commander, US Army Communication-Electronics Command and Fort Monmouth, ATTN: AMSEL-PA-MA-D, Fort Monmouth, New Jersey 07703-5000. We'll send you a reply.**

b. Air Force. **Air Force personnel are encouraged to submit EIRs in** accordance with AFR 900-4.

c. *Navy.* Navy personnel are encouraged to submit **EIRs through** their local Beneficial Suggestion Program.

d. Marine Corps. QDR shall be reported on SF 368 in accordance with MCO **P4855.10 Quality Deficiency Report Manual. Submit to Commanding General, Marine Corps Logistics Base (Code 856) Albany, Georgia.**

1-5. DESTRUCTION OF MATERIEL TO PREVENT ENEMY USE

Refer to TM 750-244-2 **for procedures covering destruction of Army or Marine Corps materiel to prevent enemy use.**

1-6. NOMENCLATURE CROSS-REFERENCE LIST

Common names will be used when the major components of the terminal are mentioned in this manual.

Common Name	Nomenclature
Terminal	Terminal, Communications AN/UGC-74B and C(V)3
Printer Assembly	Teleprinter Assembly (K3A1)
Universal CPU Circuit Card	Circuit Card Assembly, Universal CPU (3A1A1)
Communications Circuit Card	Circuit Card Assembly, Communications (3A1A3)
Print Control Circuit Card	Circuit Card Assembly, Printer Control (3A1A4)
Chassis	Chassis Assembly (3A1A6)
Filter	Filter Assembly (3A1A6FL1)
Interface	Interface Assembly (3A1A7)
Power Supply	Circuit Card Assembly, Power Supply (3A1PS1)
Keyboard	Assembly, Keyboard
Battery Backup Cable	Assembly, Cable, Battery Backup SM-D-915890
Power Cable	Assembly, Cable, Power, dc, SM-D-764480
Power Cable	Assembly, Cable, Power, 115 V ac, SM-D-764481
Power Cable	Assembly, Cable, Power, 230 V ac, SM-D-764482
Hi-Level Cable	Assembly, Cable, Hi-Level, XMIT/RCV, SM-D-915889
Low-Level Cable	Assembly, Cable, Low-Level, XMIT/RCV, SM-D-915896
Low-Level Clock Cable	Assembly, Cable, Low-Level, Clock, XMIT/RCV, SM-D-915897
MODEL C ADDITIONAL COMPONENTS	
Aux Interface Card	Circuit Card Assembly, Auxiliary Interface (3A1A2)
Auxiliary Memory Module (AMM)	Memory Unit, Auxiliary MU-856 /UGC-74 (3A3)
AM/RC Card	Circuit Card Assembly, Auxiliary Memory/ Relay Controller (AM/RC) (3A2A3)

NOTE

Official nomenclature must be used when filling out report forms or when referring to technical manuals.

1-7. LIST OF ABBREVIATIONS

Abbreviations **are spelled out the first time they appear in this manual.** A complete list of abbreviations used in this manual is given below.

AMM	Auxiliary Memory Module
AM/RC	Auxiliary Memory/Relay Controller
AM/RF	Auxiliary Memory/Relay Function
ASCII	American Standard Code for Information Interchange
BAT	Battery
BEL	Bell Code
BRT	Bright
BS	Backspace
CPU	Central Processing Unit
CR	Carriage Return
CTL	Control

DEL	Delete
DLC	Delete Last Character
DLL	Delete Last Line
EMI	Electro Magnetic Induction
ETM	Elapsed Time Meters
HLT	Halt
ICT	Intelligent Communications Terminal
INT/EXT	Internal/External
KSR	Keyboard Send/Receive
LF	Line-Feed
LOC	Lock
MAX	Maximum
MSG RCVD	Message Received
MWO	Modification Work Orders
NRZ	Non-Return to Zero
REC	Record
REV	Review
RFI	Radio Frequency Interference
RO	Receive Only
SOP	Standard Operating Procedure
XMIT	Transmit

1-8. GLOSSARY

Access — The reading of a stored set of data but allowing the data to remain stored unchanged.

ASCII — An abbreviation for American Standard Code for Information Interchange. A seven-bit plus parity code developed by the American Standards Association. (Refer to Appendix E for complete description of ASCII.)

Baud Code FIG-LTRS — A 5-level code used for telegraph keyboard printers, punches and readers. Five bits can accept only 32 special codes, of which two are figures (FIGS) and letters (LTRS). Placing the FIGS or LTRS code before other bit combinations permits dual definition of the remaining codes. So when a Baudot terminal is interfaced to a computer, the software must maintain proper FIGS-LTRS status in order to interpret the necessary data properly.

Baud Rate — In data communications, a fixed amount of time is devoted to sending a pulse, known as a binary digit or "bit". A bit can be either a positive pulse, as a telegraph dot, or a blank, as a telegraph pause. The number of bits that can be transmitted in 1 second is the baud rate.

Buffer — A storage device used to compensate for difference in the rate of flow of information or the time of occurrence of events.

Default — Normally set conditions or parameters that are automatically preset at equipment power up.

Delimiter — Any ASCII character used as a space or separator. It cannot appear in the same string for which it is a delimiter.

GLOSSARY - Continued

Envelope	A group of binary digits including data and call control signals, which is transmitted or received as a complete unit. The data, all control signals, and possibly error control information, are arranged in a specific format.
Field	A single character or group of characters treated as one unit or part of a system command or subcommand.
Font	One set of printable characters of the same style, size and orientation.
Interface	A method used to interconnect two equipments or systems. The method includes the type, quality and function of the interconnecting circuits and the type and form of signals to be interchanged through these circuits.
Justify	To space a typewritten line so that it is exactly the intended length.
Line Pointer	Position within the message file which always points to the first character of the current line.
Mnemonic (Ni-mon'-ik)	To remember, helping, or meant to help the memory.
Non-Return Zero (NRZ)	A mode of recording in which each state of the medium corresponds to one binary state. In this mode, the state of the recording medium changes when the information changes from 1 to 0 or from 0 to 1.

NOTE

"NRZ modified" is also often called "NRZ".

Parity Bit	A binary digit attached to an array of bits to make the sum of all the bits either always odd or always even.
Parity Check	Addition of non-information bits to data, making the number of ones in a grouping of bits either always even or always odd. This permits detection of bit groupings which contain single errors. It may be applied to characters, blocks, or any convenient bit grouping.
Port	An input/output connection used for exchange of information with other equipments.
Prompt	A message from the equipment giving information to or requesting information from the operator.
Renvelope	Allows the operator to set the envelope which is put around a message for reception by the system. This sequence never appears in the message storage and is used for communications purposes only.
Tenvelope	Allows the operator to set the envelope which is put around a message for transmission by the system. This sequence never appears in the message storage and is used for communications purposes only.

Section II. EQUIPMENT DESCRIPTION

1-9. CHARACTERISTICS, CAPABILITIES AND FEATURES OF THE TERMINAL

CHARACTERISTICS

- Composes, edits, transmits, receives, prints, and stores messages.
- Operates in half- or full-duplex communication modes.
- Utilizes both ASCII and Baudot character codes.
- Uses signaling speeds of 45.5, 50, 75, 150, 300, 600, and 1200 bauds using an internal clock.
- Other rates are available provided an external clock is used.
- Operates as an intelligent communications terminal, a keyboard send/receive terminal, or a receive-only terminal.
- Provides message header types JANAP-128, ACP-127 U.S. Supplement 1, and ACP-127 NATO Supplement 3.

MODEL C ADDITIONAL CHARACTERISTICS

- Relays messages to other Model C terminals in a local area network [LAN).
- Stores messages during power down.

CAPABILITIES AND FEATURES

Housed in a ruggedized combination case, Some of the uses in tactical field equipment are as follows:

- Moving vehicles.
- Aircraft.
- Field shelters.
- Secure (crypto) locations where protection against electromagnetic interference is required.

LOCATION OF MAJOR COMPONENTS

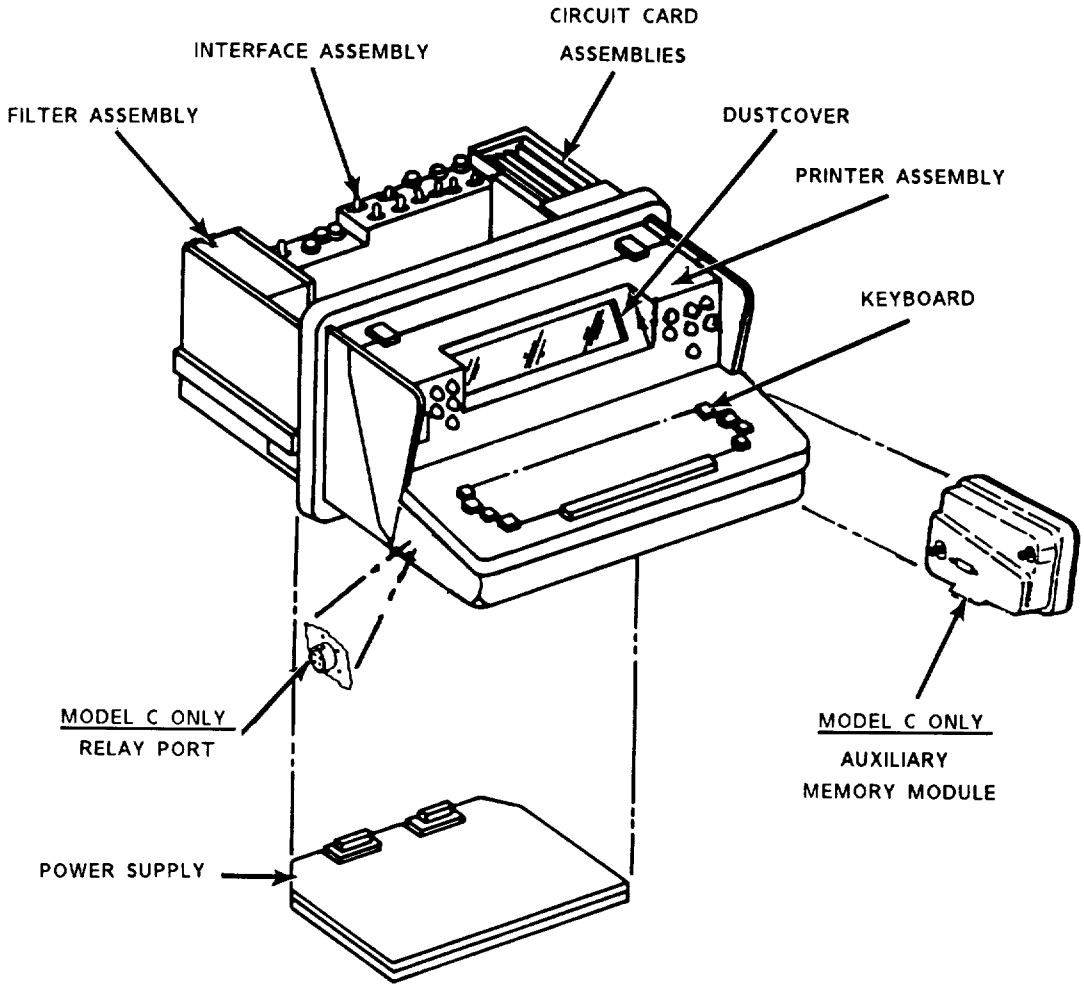


Figure 1-2, MAJOR COMPONENTS OF TERMINAL

1-10. DIFFERENCES BETWEEN MODELS B AND C

CHARACTERISTICS

Ž When not in battery backup, Models B and C lose messages from message memory when powered down or during self-test. Model C maintains message storage integrity in the Auxiliary Memory Module during the same conditions.

CAPABILITIES AND FEATURES

- Model B can transmit messages to one other terminal at a time. Model C can additionally relay messages to up to 15 other AMM-equipped terminals.
- Models B and C store 35 pages of messages before becoming full. Model C maintains message memory availability through an automatic save and print process.

    1. AUTOSAVE message to AMM.
    2. AUTOPRINT message after saved.
    3. Delete message from message memory after completing printout.

- Model C AMM may be removed, transported to a different Model C terminal anywhere and installed and fully utilized. The message(s) stored in the AMM is intact and accessible.

Ž Model B can store 56,000 characters in the message memory. Model C can store an additional 120,000 characters in the AMM.

EQUIPMENT HARDWARE

Ž Model C has a relay port connector mounted on the keyboard assembly

Ž Model C keyboard assembly contains an Auxiliary Memory/Relay Controller (AM/RC) circuit card assembly (3 A2A3).

- Model C Auxiliary Memory Module mounts on the right-hand side of the keyboard assembly (fig. 1-2).
- Model C has a fourth circuit card assembly (3 A1A2) mounted in the chassis.

1-11. EQUIPMENT DATA

The technical characteristics and equipment data are as follows:

Operating Speeds

Baud Rate [	ASCII Code
75	10 unit (1 stop bit) 11 unit (2 stop bits)
150	10 unit (1 stop bit) 11 unit (2 stop bits)
300	10 unit (1 stop bit) 11 unit (2 stop bits)
600	10 unit (1 stop bit) 11 unit (2 stop bits)
1200	10 unit (1 stop bit) 11 unit (2 stop bits)

Baud Rate	Baudot Code
45.5	7 unit (1 stop bit) 8 unit (2 stop bits)
50	7 unit (1 stop bit) 8 unit (2 stop bits)
75	7 unit (1 stop bit) 8 unit (2 stop bits)
150	7 unit (1 stop bit) 8 unit (2 stop bits)
300	7 unit (1 stop bit) 8 unit (2 stop bits)
600	7 unit (1 stop bit) 8 unit (2 stop bits)
1200	7 unit (1 stop bit) 8 unit (2 stop bits)

System Application

a. Full-Duplex,
   - Send and receive at the same time.

b, Half-Duplex,
   - Receive-only. Uses only the terminal's receive capabilities.
   - When operating in this state, the terminal does not use the keyboard, Message reception and printing are performed automatically,

System Interface

a. Operates with the following COMSEC devices:
   - VINSON (TSEC/KY-57)
   - KG-30 (TSEC/KY-30)
     DLED (TSEC/KG-84)
   - KW-7 (TSEC/KW-7)

b. Also operates with the following equipment:
   - TH-22/TG
     MD-522/GRC

Keyboard

Ž Standord key board arrangetnent plus four editing keys

Printer

a. Type and Print Rate:

Ž Dot Matrix (6 x 9 dot pattern)

• 120 characters per second throughput rate

b . P r

• Operator selectable from 40 to 132 characters inclusive

Ž Line length is set at 80 characters in the POWER ON condition

Paper Type and Capacity

Single or multiply (3-ply maximum) roll paper (5 x 8½ inches

• Fanfold paper capability is optional

Other Printer Features

• Single or double line-feed

• Paper-low lamp

Automatic shutdown of printing when paper runs out and condition indicator transmitted to sending terminal

Power Requirement

Ž Model B: 100 watts, maximum – steady state

Ž Model C: 135 watts, maximum – steady state

Ž Model B and Model C: battery backup – 2 amps maximum

Operating Voltages

• 26 (±4) volts dc

Ž 115 volts ac (±15%), 50, 60, or 400 Hz (±5%)

• 230 volts ac (±15%), 50, 60, or 400 Hz (±5%)

Environmental Conditions

a. Operating Temperature:

Model B: -25°F to +155°F (-32°C to +68°C)

• Model C: +32°F to +131°F (0°C to +55°C) with AMM attached

b. Non-Operating Temperature:

Ž Model B: -65°F to +155°F (-54°C to +68ºC)

• Model C: -40°F to +131°F (-40°C to +55°C)

c. Case Closed:

• Water and dust proof

M O D E L

Ž AMM in shipping cover is water and dust proof

d. Case Cover Removed:

Ž Spray proof

Physical Characteristics

a. Total Weight:

- Ž Model B: 103 lbs. equipment with cover and copyholder
- • Model C: 107 lbs. equipment, cover, copyholder, and AMM

b. Dimensions:

- • 21.75 inches long
- Ž 17.5 inches wide
- • 9.5 inches high

MODEL C ONLY

Ž AMM

Weight:	4 lbs. with shipping cover
Width:	5.2 inches
Height:	4.1 inches
Depth:	1.7 inches

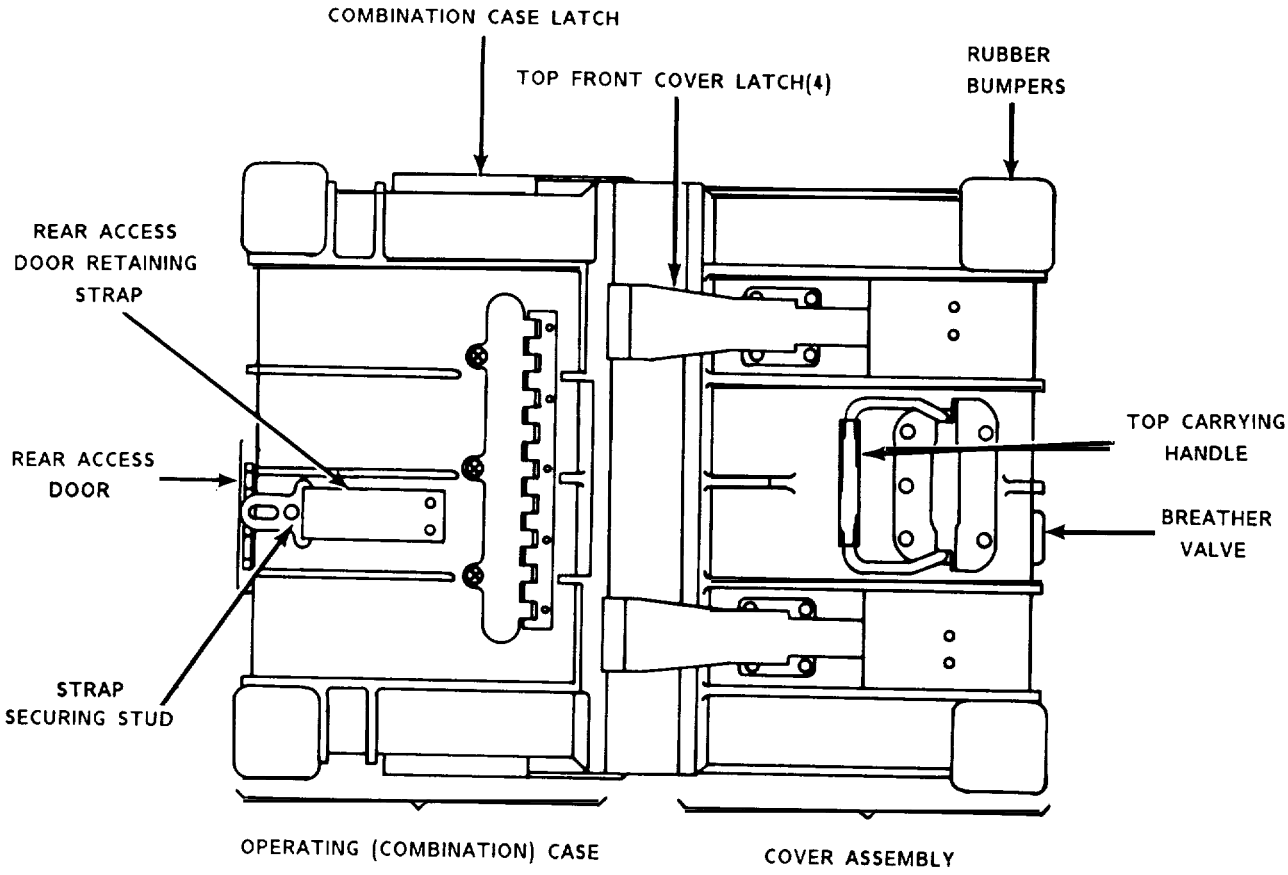


Figure 1-3. TOP VIEW OF TERMINAL

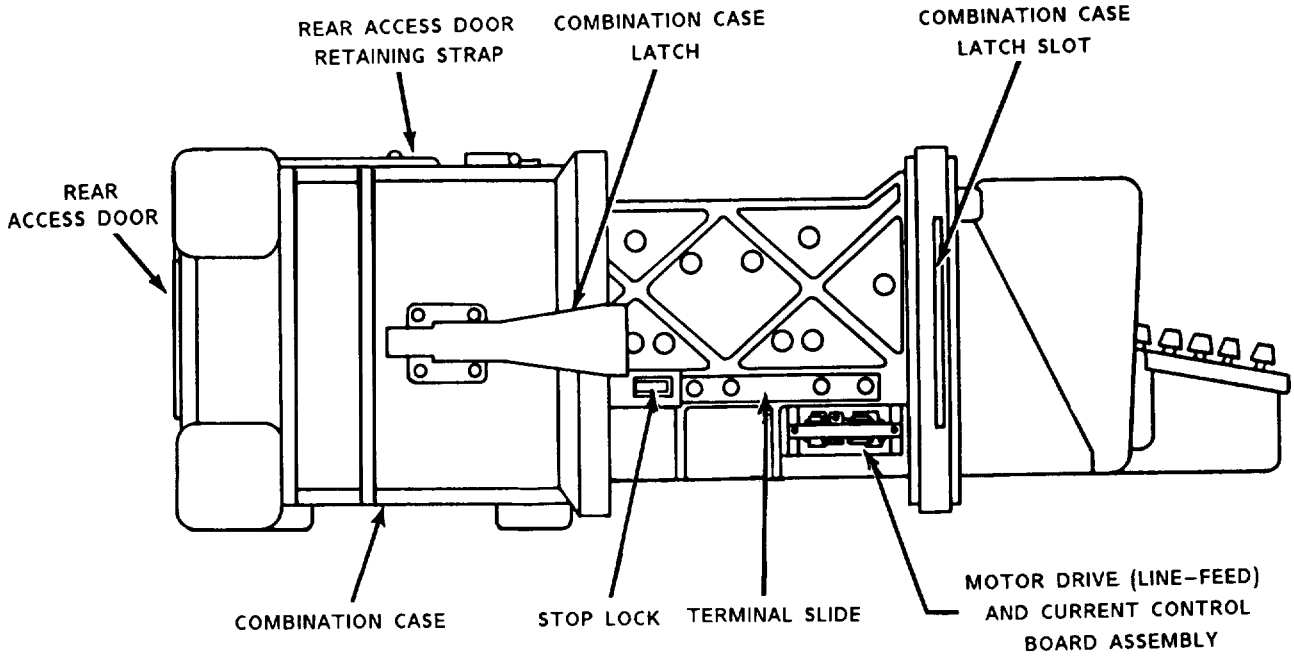


Figure 1-4. SIDE VIEW OF TERMINAL, FULLY EXTENDED

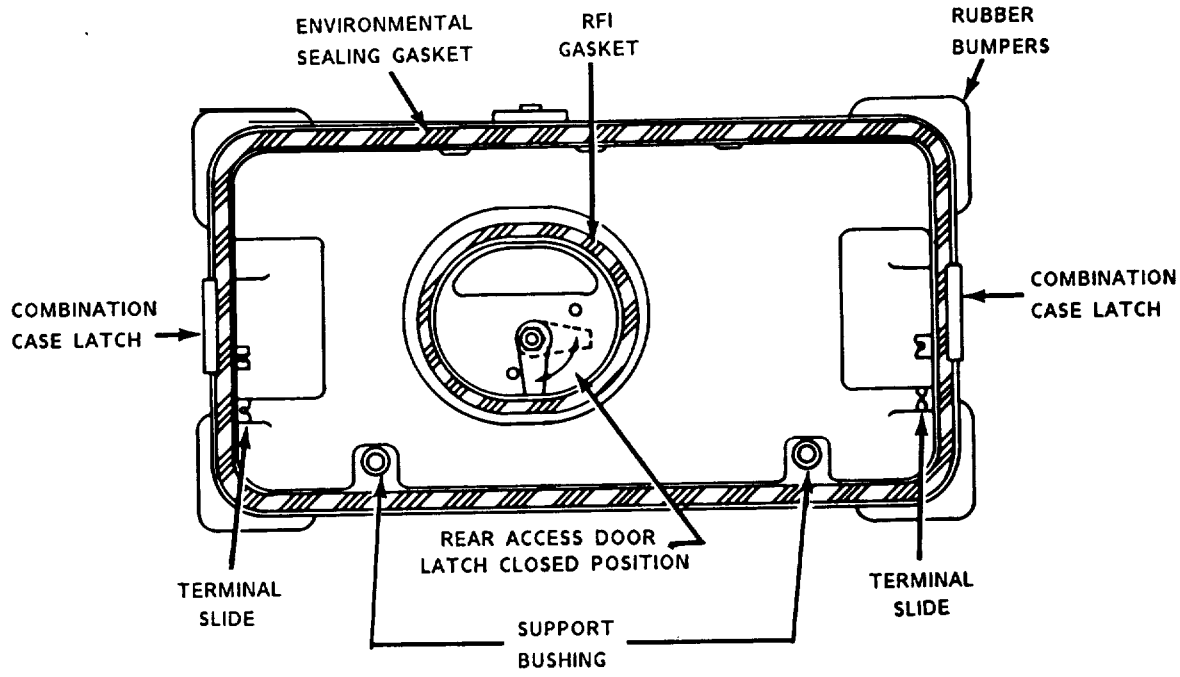


Figure 1-5. REAR VIEW OF TERMINAL

CHAPTER 2

OPERATING INSTRUCTIONS

PAGE

Section 1. DESCRIPTION AND USE OF OPERATOR CONTROLS AND INDICATORS AN/UGC-74B(V)3 and C(V)3

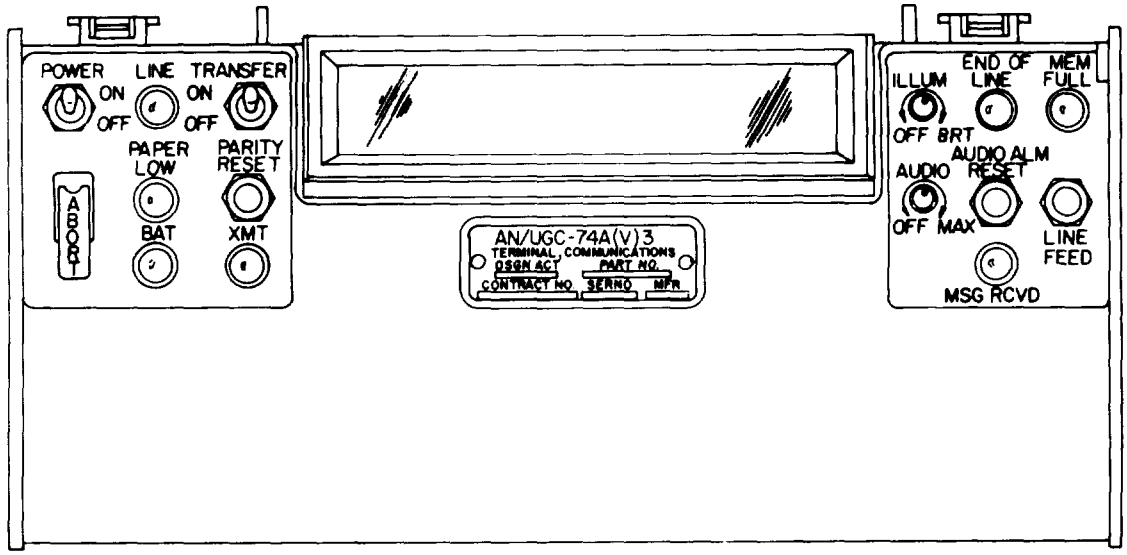
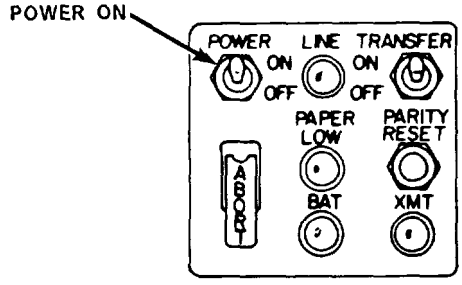


Figure 2-1. DUST COVER CONTROLS AND INDICATORS

NOTE
See Appendix I for initial equipment operating instructions and examples of operator inputted commands.

2-1. DUST COVER CONTROLS AND INDICATORS

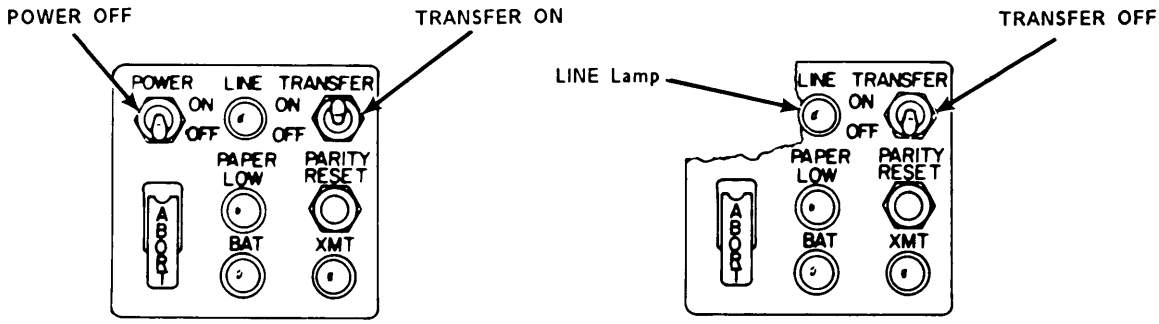
a. These controls and indicators are used in all operating states.
b. Available to operator in Receive Only (RO) state.



POWER Switch - ON

- Inputs primary power into terminal.
- Sounds audible alarm momentarily.
- Performs carriage-return/line-feed.
- Prints out message SYSTEM INITIALIZED.

Ž Performs carriage-return/line-feed.
Ž Prints out operation validation/state determination message.



POWER Switch - OFF

- Shuts off flow of primary and battery backup power into terminal.
- Turns off copy illumination and indicator lamps.
- Erases all data stored in message memory in Models B and C.

MODEL C ONLY

- All data stored in Auxiliary Memory remains stored and is available upon power-up.

LINE Lamp

- On when data is being received.
- Remains on for duration of message reception.
- Lights to indicate an interface problem has occurred.
- Off when line is in steady marking condition.

TRANSFER Switch - ON

NOTE

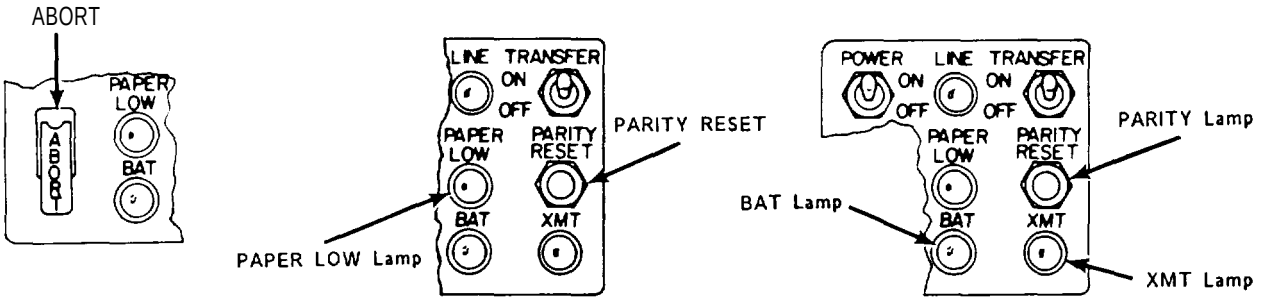
Terminal must be connected to an auxiliary transmitter for TRANSFER switch to operate.

Closes circuit which performs following functions:

- Provides method for keying a radio transmitter by pushing TALK switch of transmitter.
- Causes communications security device (COMSEC) to enter data mode.

TRANSFER Switch - OFF

- Opens circuit to auxiliary transmitter.



ABORT Switch

- Spring-loaded.
  Guarded by metal shield to prevent accidental activation.
- Halts operation currently in progress (transmitting, receiving, or printing).
- Returns control to operator.

NOTE
Abort switch will not halt self-test condition

PAPER LOW Lamp

- Indicated roll paper supply is nearly depleted.
- Printer stops when paper supply is completely depleted.

PARITY RESET Switch

Momentarily held in:

- Resets parity alarm and turns off PARITY lamp (inside switch).
- Performs lamp test on all dust cover indicator lamps

PARITY Lamp

- Operates only in ASCII mode. (See Appendix E for detailed explanation of ASCII mode.)
- Lights when a character with parity error is received and parity is not inhibited.
- Diamond symbol (0) will be printed in place of character containing parity error.

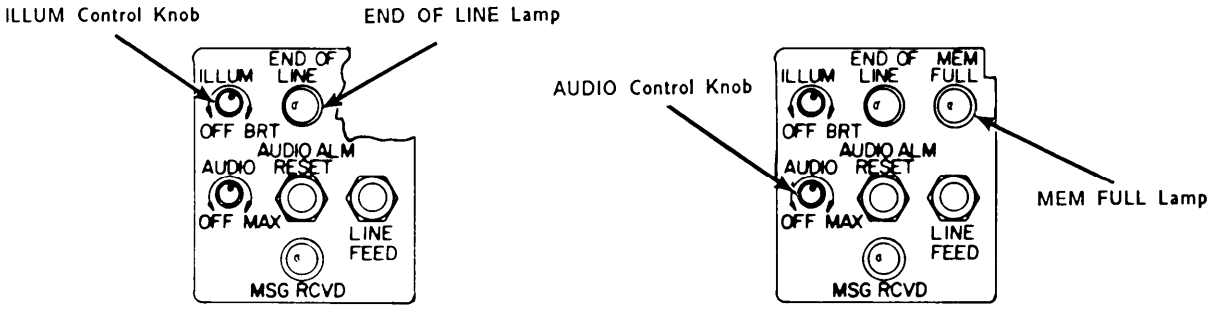
NOTE
Lamp will remain on until operator momentarily presses PARITY RESET switch.

BAT Lamp

- Lights when primary power source fails and system changes to battery backup condition.
- Lamp remains on until primary power is restored.

XMT (Transmit) Lamp

- Lights and remains on during transmission.
- Automatically turns off at completion of transmission.



ILLUM (Illumination) Control Knob

- Adjusts brightness of all lamps (except BAT lamp).
- Illumination is adjusted by clockwise rotation, from OFF to BRT (bright)

END-OF-LINE Lamp

- Lamp lights on sixth print position from the end of line.
- Lamp remains on until carriage return or 81st character is entered from keyboard.
- Print position moves to left margin.
- Carriage return turns lamp off.

MEM FULL (Memory Full) Lamp

- Lights when 15% of message storage space remains available for incoming messages.
- Remains on until enough messages are removed to produce 15% memory availability.

MODEL C ONLY

- Lights when only 5% of message storage space remains available in Auxiliary Memory Module.
- Flashes when less than 1% message storage space remains available in Auxiliary Memory Module.

AUDIO Control Knob

- Adjusts volume of audible alarm tone.
- Volume is adjusted by clockwise rotation, from OFF to MAX (maximum volume).

AUDIO ALM (Alarm)

- Audible indication for operator attention.
- Emits either of following signals:
  - Momentary tone.
  - Steady tone.
- Sounds momentary alarm when one of following occurs:
  - Figure S/J codes being received while in Baudot mode.

NOTE

FIGURES S/J switch is internal control switch located on the interface assembly (paragraph 2-2).

FIGURES S/J SWITCH POSITION

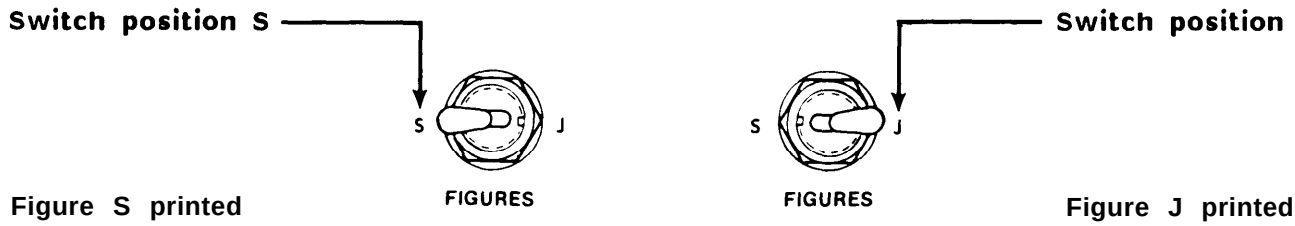
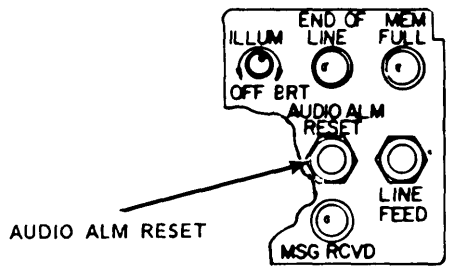


Figure S printed **Figure J printed**

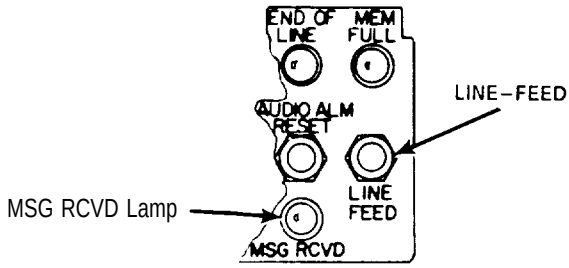
  - When BEL code is received in ASCII mode.

- Sounds steady alarm when one of following occurs:
  - Message with precedence of IMMEDIATE or higher has been received. When message is printed, alarm automatically turns off.
  - ASCII character with parity error is received (PARITY RESET lamp lights).
  - Momentarily pressing PARITY RESET switch turns off alarm and light.



AUDIO ALM RESET Switch

- Resets audio alarm.



LINE-FEED Switch

Ž Continuously advances paper line-by-line until switch is released

MSG RCVD (Message Received) Lamp

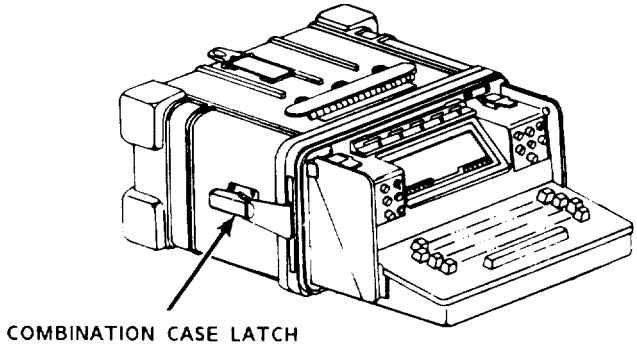
Ž Lights whenever message has been received and stored in message memory, but has not been printed.
• Flashes if message of IMMEDIATE priority or higher is received.
.• Remains flashing until message has been printed,

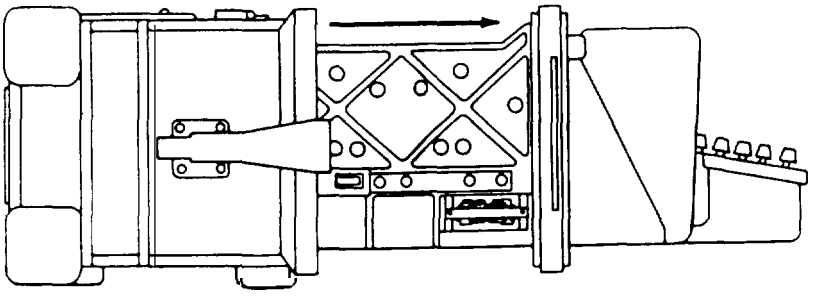
2-2. INTERNAL CONTROLS AND SWITCHES

a. Combined settings of these controls and switches, in conjunction with terminal configuration, determine operating state of system.

b, Access to internal controls is gained by performing the following:

. Release combination case latches located on both sides of dust cover,





EXTENDED POSITION

CAUTION

Be careful when extending terminal from case. Be sure that cables pass through terminal rear access port with minimum of strain.

- **Extend terminal out from case. If terminal does not slide out easily, place ends of latches in slots on dust cover housing and push forward on latch handles.**

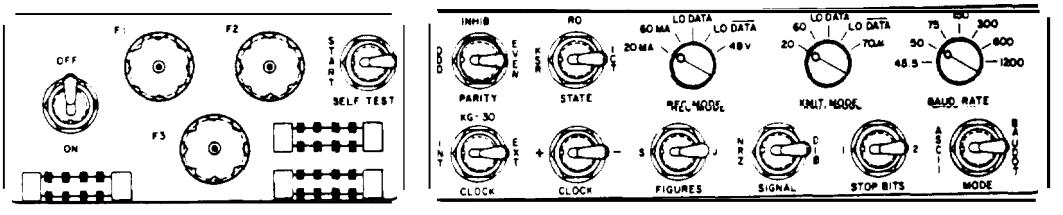
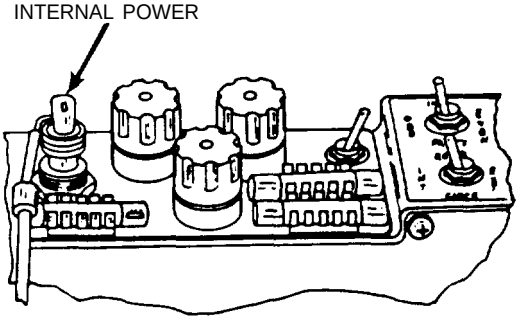
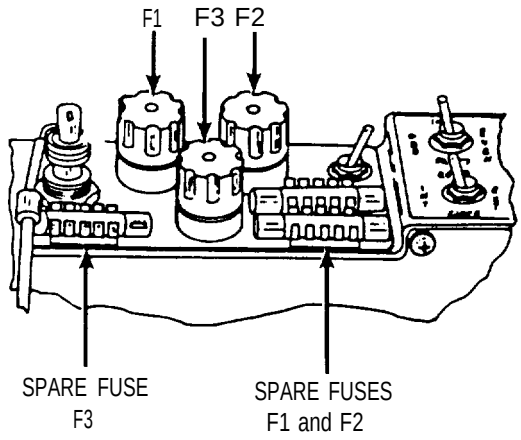


Figure 2-2. TOP VIEW OF INTERFACE ASSEMBLY



INTERNAL POWER ON/OFF Switch

. Primary power source for terminal.
- Mechanically linked to dust cover power switch.
- Carries out same functions as dust cover POWER switch



FUSES F1 and F2

- Protect electronic circuits from electrical overload when operating on primary power.
- Source of primary power determines which fuses are used in fuse holders F1 and F2 as shown below,

PRIMARY POWER SOURCE	FUSES USED
26 Vdc power	10 amp
115/230 Vac power	2 amp

SPARE FUSES F1 and F2

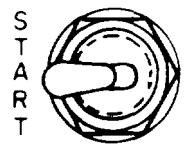
- Stored in two fuse storage clips located below SELF-TEST switch,

FUSE F3

- Protects electronic circuits from electrical overload when operating in Battery Backup condition.
- Fuse F3 is a 2-amp fuse.

SPARE FUSE F3

- Stored in fuse storage clip located below INTERNAL POWER ON/OFF switch.

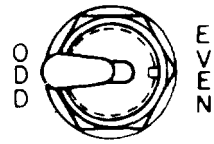


SELF TEST

SELF-TEST Switch

Causes terminal to initiate self-test of logic circuitry.

INtilB



PARITY

PARITY Switch

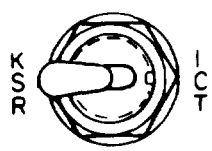
Three-position switch which allows ASCII code to be checked for odd/even parity and parity inhibit.

ODD parity setting causes ASCII characters with odd parity to be transmitted.
- Received characters will be checked for odd parity.

EVEN parity setting causes ASCII characters with even parity to be transmitted.
- Received characters will be checked for even parity.

INHIB switch position causes ASCII characters to be transmitted with odd parity.
- Received characters are not checked for parity.

RO



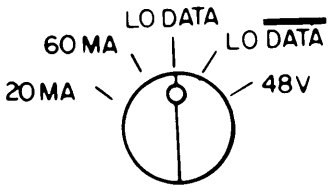
STATE

STATE Switch

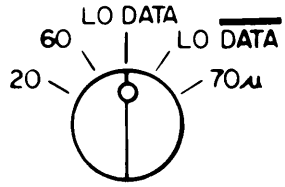
- This switch is used to select RO (Receive Only) state, KSR (Keyboard Send/Receive) state, or ICT (Intelligent Communications Terminal) state

NOTE

See Terminal Operational States (table 2-1) for detailed explanation of each state.



REC MODE



XMIT MODE

REC (Receive) MODE Switch

A five-position rotary switch used to select receiver interface.

- 20 MA - used for standard interface (high level), 130-volt, 20-milliampere neutral operation.
- 60 MA - used for standard interface **(high** level), 130-volt, 60-milliampere neutral **operation.**
- LO DATA - used for noninverted standard low-level operation and KG-30 interface.
- LO DATA - used for inverted standard low-level operation and KG-30 interface.
- 48 V - used for 48-volt, 20-milliampere, neutral interface.

NOTE

AUDIO alarm and LINE lamp are activated when in LO DATA mode.

XMIT **(Transmit) MODE Switch**

A five-position rotary switch used to select transmitter drivers.

- 20 - used for standard interface (high level), 130-volt, 20-milliampere, neutral operation.
- 60 - used for standard interface (high level), 130-volt, 60-milliampere, neutral operation.

CAUTION

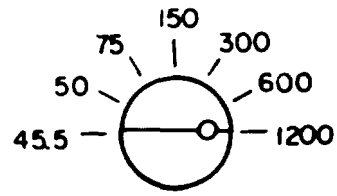
Use of high-level modes at baud rates greater than 150 will increase distortion and may result in loss of data.

- LO DATA - used for noninverted standard low-level operation and KG-30 interface.
- LO DATA - used for inverted standard low-level operation and KG-30 interface.

NOTE

AUDIO alarm and LINE lamp are activated when in LO DATA mode.

- 70 (microampere) - used for COMSEC loop application.

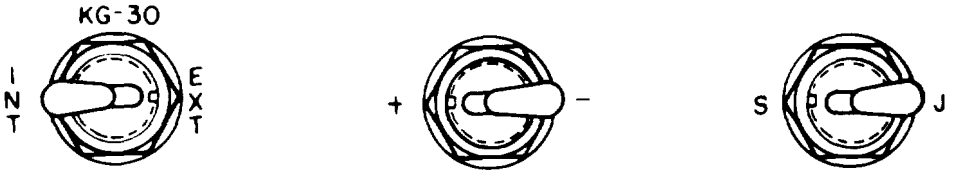


BAUD RATE

BAUD RATE Switch

- Determines terminal transmitting speed in bits-per-second (BPS)
- ASCII and Baudot code signal speeds are as follows:

ASCII CODE SIGNAL SPEEDS		BAUDOT CODE SIGNAL SPEEDS	
Baud Rate	**ASCII Code**	**Baud Rate**	**Baudot Code**
75 (Hi Level)	10 unit (1 stop bit) 11 unit (2 stop bits)	45.5	7 unit (1 stop bit) 8 unit (2 stop bits)
150 **(Hi** Level)	10 unit (1 stop bit) **11 unit (2 stop bits)**	50	7 **unit (1 stop bit)** **8 unit (2 stop bits)**
300	10 unit (1 stop bit) 11 unit (2 stop bits)	75	7 unit (1 stop bit) 8 unit (2 stop bits)
600	10 unit (1 stop bit) 11 **unit (2 stop bits)**	**150**	**7 unit (1 stop bit)** **8 unit (2 stop bits)**
1200	10 unit (1 stop bit) 11 unit (2 stop bits)	**300**	**7** unit (1 stop bit) 8 unit (2 stop bits)
		600	7 **unit (1 stop bit)** **8 unit (2 stop bits)**
		1200	**7 unit (1 stop bit)** **8 unit (2 stop bits)**



CLOCK CLOCK FIGURES

INT/EXT (Internal/External) KG-30 Switch

Determines source of clock,

- In INT position, terminal operates at signal speed as selected by BAUD RATE switch.
- In EXT position, terminal operates at bit-rate equal to external clock frequency being received.
- In KG-30 position, separate external clocks (gated clocks) are used for transmit and receive functions,

+/– (Positive/Negative) CLOCK Switch

Ž Used to determine whether to transmit data on positive (+) or negative (–) transition of transmitting clock.

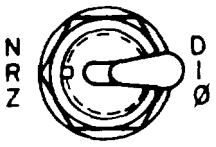
Used in conjunction with INT/EXT/KG-30 CLOCK switch.

ı Terminal ignores this switch setting when INT/EXT/KG-30 CLOCK switch is in KG-30 position.

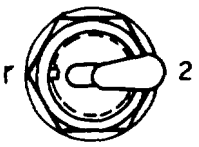
FIGURES S/J Switch

- Used to select whether a figure S or figure J code will activate AUDIO alarm.
- Applicable only in BAUDOT mode.

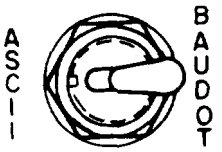
SWITCH POSITION	CODE TO BE PRINTED	ACTION
s	Figure S Code	Alarm (No printing)
	Figure J Code	Apostrophe prints
J	Figure J Code	Alarm (No printing)
	Figure S Code	Apostrophe prints



SIGNAL



STOP BITS



MODE

SIGNAL NRZ/DIØ Switch

Selects whether interface transmits and received NRZ (nonreturn to zero), or conditioned Diphase data signals.

STOP-BITS 1 and 2 Switch

- Indicates whether 1 or 2 stop-bits will be transmitted,

MODE ASC1l/BAUDOT Switch

•Determines whether terminal transmits and receives in ASCII or BAUDOT code.

2-3. KEYBOARD KEYS

Terminal has a 62-key ASCII keyboard with space bar.

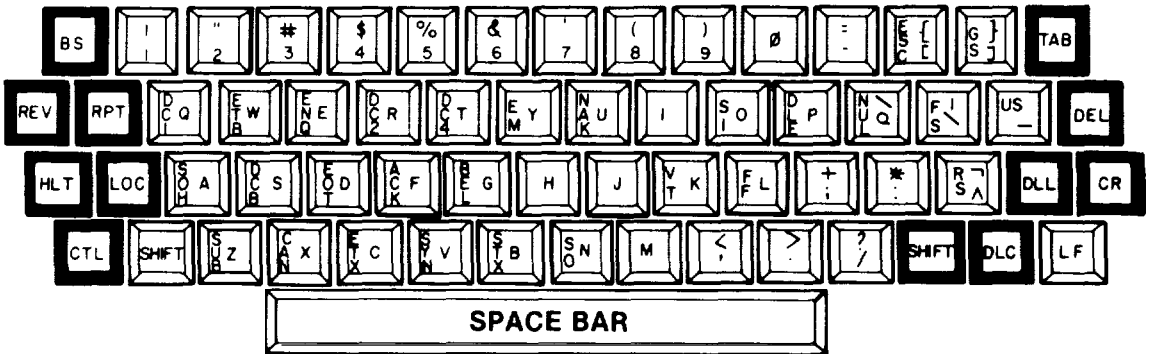


Figure 2-3. TERMINAL KEYBOARD KEYS

Contains:

- All letters of English alphabet arranged in same manner as on standard typewriter.
- Numeric keys "1" through "0".
- Four basic editing keys DLC, DLL, REV, HLT.
- 28 keys operated along with CTL (Control) key.

NOTE

Appendix E explains ASCII and contains tables listing keyboard printed characters in ASCII and Baudot modes of operation, including lower case letters and control key codes,

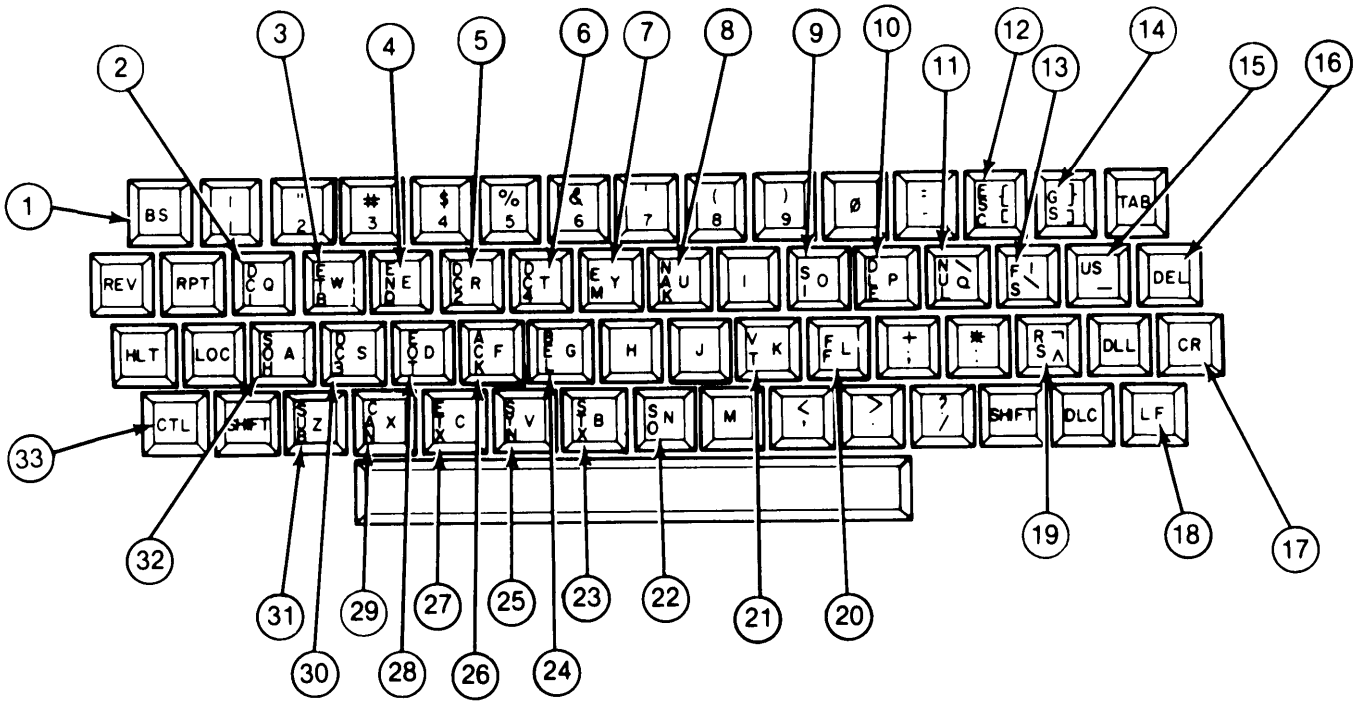


Figure 2-4. CONTROL KEYS

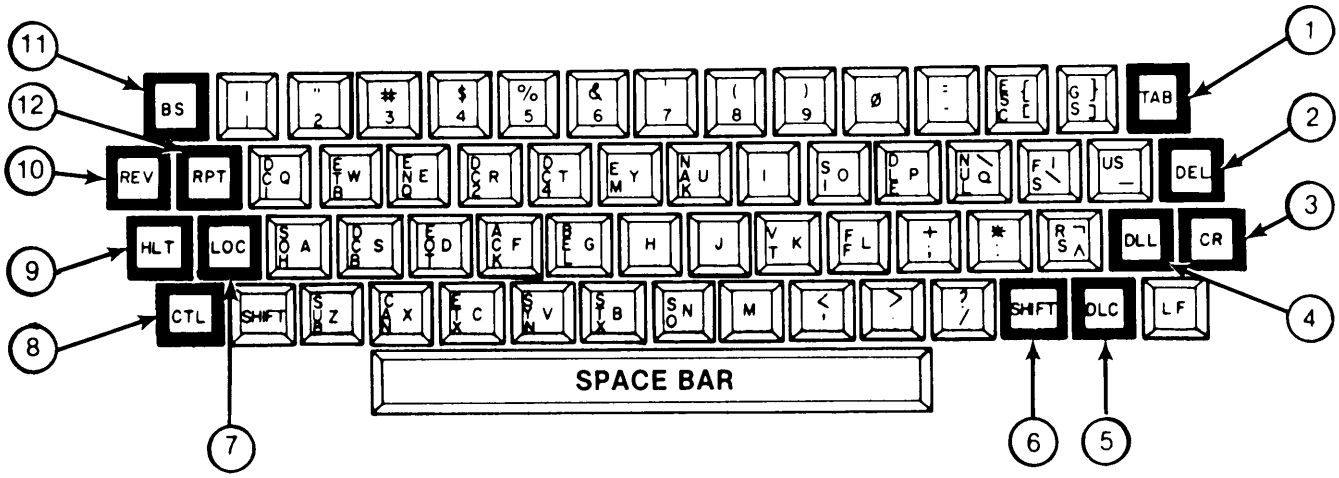
1. BS Backspace (FE)
2. DC1 Device Control 2
3. ETB End of Transmission Block (CC)
4. ENQ Enquiry (CC)
5. DC2 Device Control 2
6. DC4 Device Control 4 (Stop)
7. EM End of Medium
8. NAK Negative Acknowledge (CC)
9. SI Shift In
10. DLE Data Link Escape (CC)
11. NUL Null
12. ESC Escape
13. FS File Separator (IS)
14. GS Group Separator (IS)
15. US Unit Separator (IS)
16. DEL Delete
17. CR Carriage Return (FE)
18. LF Line-Feed (FE)
19. RS Record Separator (IS)
20. FF Form Feed (FE)
21. VT Vertical Tabulation (FE)
22. SO Shift Out
23. STX Start of Text (CC)
24. BEL Bell (Audible or attention signal)
25. SYN Synchronous Idle (CC)
26. ACK Acknowledge (CC)
27. ETX End of Text (CC)
28. EOT End of Transmission (CC)
29. CAN Cancel
30. SUB Device Control 3
31. DC3 Substitute
32. SOH Start of Heading (CC)
33. CTL Control Key

NOTE

See Appendix E, paragraph E-2 for detailed explanation of abbreviations (CC), (FE) and (IS), and use of control and graphic characters.

Meaning of Abbreviations

(CC)	Communication Control
(FE)	Format Effecter
(IS)	Information Separator
(1)	In strict sense, DEL is not a control character



1. Tab Key
2. Delete Key
3. Carriage Return Key
4. Delete Last Line Key
5. Delete Last Character Key
6. Shift Key
7. Lock Key
8. Control Key
9. Halt Key
10. Review Key
11. Backspace Key
12. Repeat Key

BS (Backspace) Key (11)

- In ASCII mode, performs normal backspace function.
- In Baudot mode, causes figure code to be entered into message memory.

RPT (Repeat) Key (12)

- Causes last printed character to be repeatedly entered into logic system.
- Printed at a rate of five characters-per-second until key is released.

DEL (Delete) Key (2)

- In ASCII mode, generates normal delete code causing space to be locally printed.
- In Baudot mode, causes letter code to be individually entered into message memory.

SHIFT Key (6)

- Causes upper case key symbols to be printed in shifted mode.

LOC (Lock) Key (7)

- Locks keyboard in shifted mode.
- Lock is released when key is pressed a second time.

TAB Key (1)

NOTE
Tabs can only be set in ICT state.

- Moves print position to first tab set.
- Next character will be printed in tab set position.
- If printer has passed last tab set position, pressing TAB key causes CR and LF.

CR (Carriage Return) Key (3)

.• Causes print position to move to left-hand margin.

NOTE

After reaching end of line, entering additional character automatically causes CR and LF.

• In KSR state, causes current print line to be transmitted.

NOTE

The following four keys are used by the operator in performing basic message editing.

DLC (Delete Last Character) Key (5)

Ž Erases incorrect or unwanted characters from memory.
Ž Prints backward slash (\) over unwanted character to indicate character has been erased from message memory.
Key is only valid on current print line.
Ž In ICT state, CR and LF occurs when print position is moved back to left-hand margin by pressing key.
ŽWhen line length plus one character is entered on current line, CR and LF occurs and remainder of line is printed.

DLL (Delete Last Line) Key (4)

• Erases current input line from storage.
• Terminal responds with CR and LF to indicating current line has been erased.
• If no printing occurs on current input line, terminal responds with CR and LF.

REV (Review) Key (10)

• Causes terminal to automatically reprint current input line (before CR is entered) for operator review.
Additional characters may be added to line following last character.
Ž If no printing occurs on current input line, terminal responds with CR and LF.

HLT (Halt) Key (9)

Ž Allows operator to restrict local printing of message being transmitted. However, other messages can be printed from message memory.
.• Operates in ICT state.
• Stops any operator-initiated printing.
Terminal responds by printing error message No. 17, PRINTING TERMINATED.
Transmits message while in KSR state.

CTL (Control) Key (8)

Ž Activates keys having control character groups.
Ž Used only when terminal is main part of computerized communication system.
Ž See Appendix E for detailed instructions on use of Control key and control-activated keys.

2-4. OPERATIONAL STATES AND NONOPERATIONAL CONDITIONS

The AN/UGC-74B(V)3 or C(V)3 system is composed of three operational states and five nonoperational conditions

a. Operational states are operator selectable using STATE switch. (See figure 2-5.) These operational states are the only states in which terminal is capable of operating as a communications terminal.

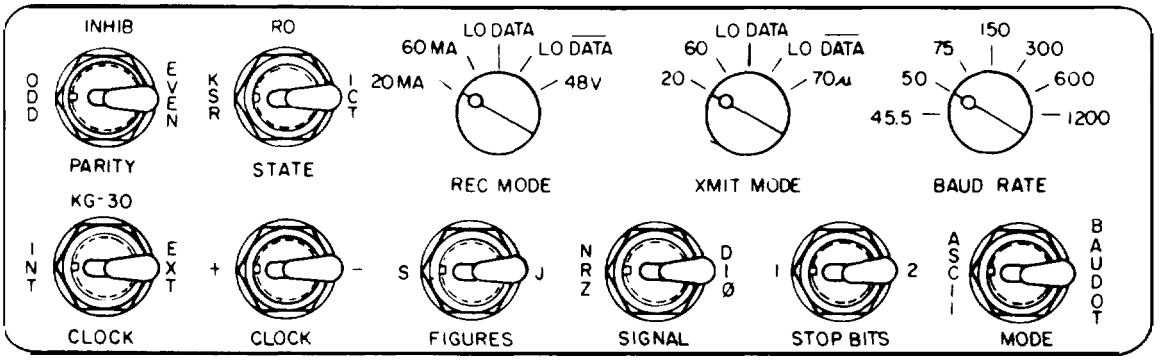


Figure 2-5. INTERFACE ASSEMBLY

Operational states are:

- Receive Only (RO) state.
- Keyboard Send/Receive (KSR) state.
- Intelligent Communication Terminal (ICT) state,

MODEL C ONLY

- Auxiliary Memory/Relay Functions apply only in ICT state.

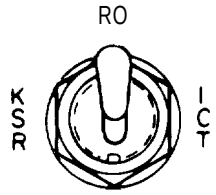
In each of operational states, terminal is capable of receiving messages. In KSR and ICT operational states, terminal is also capable of transmitting messages.

b, Nonoperational conditions of terminal are:

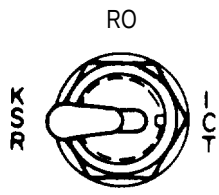
OFF Condition (POWER switch in OFF position),
- Cold Start (power applied to terminal).
- Operation Validation/State Determination (system initialized).
- Battery Backup (prime power removed),
- Self-Test (system readiness check).

c. An explanation of operational states (table 2-1) and nonoperational conditions (table 2-2) which comprise AN/UGC-74B(V)3 and C(V)3 systems follows.

Table 2-1. OPERATIONAL STATES



STATE



STATE

[1) RECEIVE ONLY (RO) State

- Receives messages only
  Operates as buffer for message printing.
  Stores messages before printing so if data reception speed exceeds printer speed capability, no message parts are lost.
- Transmits message BREAK to sending terminal at 85% message memory full condition. Removes BREAK at 75% message memory full condition

NOTE

Received messages may be lost without any indication of loss if transmitted BREAK is not recognized by transmitting terminal.

[2) KEYBOARD SEND/RECEIVE (KSR) State

Transmits and receives messages.

Ž. Operates in CHARACTER or LINE mode, operator selected.

LINE MODE

- Sends one line of text (up to 132 characters) after carriage return (CR) key or halt (HLT) key is activated on keyboard.
  Prints received line of text after any one of the following:
  A carriage return is found in received text.
  The line length plus one character is received.
  A 0.5 to 1,5 second time lapse between received characters is detected.
- Basic editing functions keys are available (DLC, DLL, REV).
  line mode, system prints AUTOMATIC LINE FEED WITH CARRIAGE RETURN ? (Y/N). A Y response inserts a line feed with each CR.

CHARACTER MODE

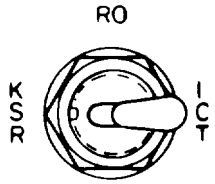
- Basic editing functions keys are not available.
- Transmits each character as it is typed.
- Prints LOCAL ENTRY PRINT? (Y/N) as operator prompt to select printing of characters locally as typed, or not echo printed.
- Prints received characters as individually received.

NOTES

No automatic LF with CR in either LINE or CHARACTER mode

Does not transmit or interpret communications envelopes in KSR state.

Table 2-1. OPERATIONAL STATES - Continued



STATE

(3) INTELLIGENT COMMUNICATIONS TERMINAL (ICT) State

Ž Basic editing function keys are available (DLL, DLC, REV) ,
• Recognizes closed communication envelope messages. This recognition causes Ž MESSAGE RECEIVED lamp to light, which informs opertor that message has been stored in message memory.
• Prints out messages at operator convenience,
Ž Composes, edits and transmits complete messages,
• Transmits and interprets communications envelopes, end-of-line sequences and redundant carriage returns,
.• Uses system command functions to compose, edit, and transmit messages,

MODEL C ONLY

•Transfers message memory messages to Auxiliary Memory Module.
•Relays messages from AMM to other AMM-equipped terminals.
.ŽPerforms additional system commands (paragraph 2-13).

Table 2-2. NONOPERATIONAL CONDITIONS

(1) OFF Condition

- Automatically entered whenever the following occurs:
  - Dust cover POWER switch is turned OFF.
  - Primary power fails and no battery backup is provided.

NOTE

If battery backup is provided, system automatically enters Battery Backup condition if primary power fails and POWER switch is ON.

- Primary power input causes this condition to end.

(2) **COLD START Condition**

- System "energizing" condition.
- Message memory is empty.
- Upon completion of energizing, system prints SYSTEM INITIALIZED.

(3) **OPERATION VALIDATION/STATE DETERMINATION Condition**

- System performs Operation Validation test by determining if keyboard and message memory are present, and then determining internal switch settings and their combined configuration. Based on this examination, operational state of terminal is determined and stored in memory.

NOTES

If any combination of switches produces an illegal configuration, terminal prints IMPROPER SWITCH SETTINGS and ignores all inputs. POWER switch must be turned OFF, switches reset, and system processed through this point again.

Illegal configurations are:

ASCII below 75 baud
ASCII Diphase below 300 baud
Baudot-Diphase

(4) BATTERY BACKUP Condition

- Protects message memory data if primary power fails.
- Automatically entered whenever primary power fails and backup battery is connected to terminal.
- If no backup battery is present OFF condition is entered.
- When Battery Backup condition is entered, BAT lamp lights
- No data processing is performed.
- Printer, keyboard, and interface assemblies are nonoperational.
- Requires external 14-volt battery.

After corrective action, Self-Test must be repeated for following reasons:

- To confirm that fault has been corrected.
- Ž To test any assemblies not tested previously because of failure.

System power supply is not tested as independent test, but rather by usage

Power supply capability is tested while performing other tests.

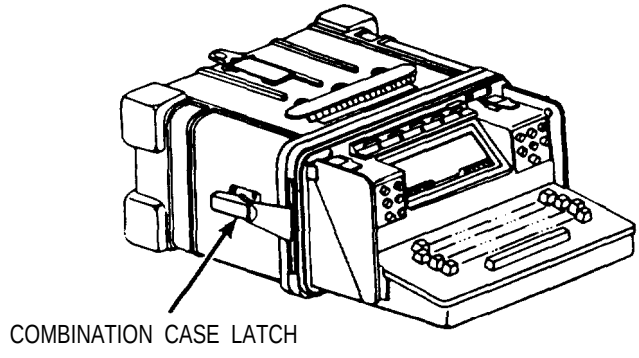
Power supply may fail completely when power is applied and Self-Test START switch is activated.

Power supply may partially fail when low voltage is supplied to assemblies.

- Ž These occurrences must be recognized by operator as system failures.

b. Perform following procedures before starting Self-Test. (See table 2-3.)

- Ž Release combination case latches.



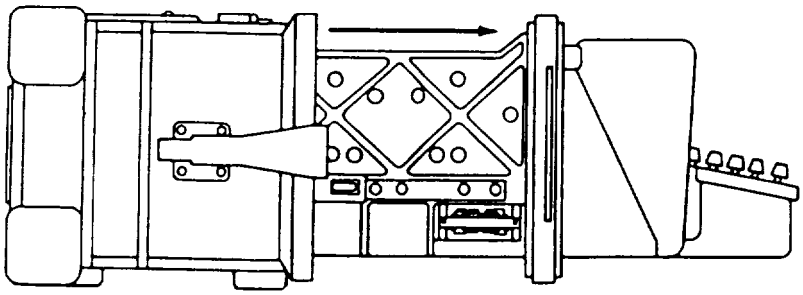
NOTE

To release latches, press safety latch located on bottom of right combination case latch, and top of left combination case latch.

CAUTION

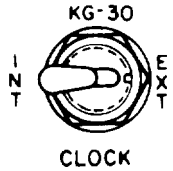
Use extreme care to ensure connector cables in rear of terminal are carefully pulled through rear opening to prevent damage to cables or connectors.

- Extend terminal forward until slides stop,

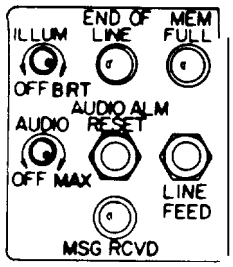


EXTENDED POSITION

- INT/EXT/KG-30 CLOCK switch must be in INT position.



- Rotate ILLUM control to BRT and AUDIO control to MAX.



- Set POWER switch in ON position

NOTE

Print head moves to far left position, dust cover lamps flash on momentarily, copy lamps light, audio alarm sounds momentarily.

- Terminal prints Operation Validation/State Determination message,

NOTE

Read Normal Test Indication before performing each test. Notify unit maintenance if there is a test failure indication.

Ž **To start test 1, momentarily toggle spring-loaded SELF-TEST switch on interface assembly to START position.**

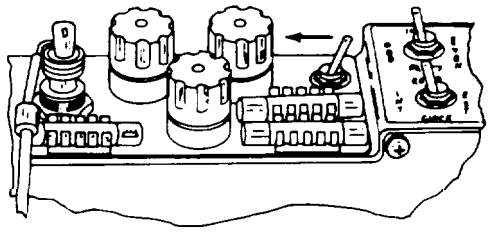


Table 2-3. SELF-TEST

TEST	ASSEMBLIES BEING CHECKED	NORMAL TEST INDICATION	TEST FAILURE INDICATION
1	Universal CPU Circuit Card Assembly.	a. All dust cover indicator lamps except PARITY lamp turn on immediately. Battery lamp is off. b. 2 to 4 seconds later PARITY lamp turns on.	NOTE Terminal will print (if possible) test failure indication. PARITY lamp does not turn on.
2	Printer Control Circuit Card Assembly.	a. When all indicator lamps except BAT are on press PARITY RESET switch to continue testing. b. All indicator lamps except END-OF-LINE lamp turn off. c, Printer prints letter E in all 80 print character columns.	PARITY lamp remains off or printed error message is seen. END-OF-LINE lamp remains on and test halts.

Table 2-3. SELF-TEST - Continued

TEST	ASSEMBLIES BEING CHECKED	NORMAL TEST INDICATION	TEST FAILURE INDICATION
2	Printer Control Circuit Card Assembly (continued)	d, After executing LF and CR, terminal prints all 64 individual print characters. PARITY lamp turns on.	
3	Universal CPU Circuit Card Assembly (message memory test)	a, Press PARITY RESET switch to continue testing. NOTE Test requires over 2 minutes. b. MEM FULL lamp is only indicator on.	Message Memory failure indicated.
MODEL C ONLY 3A		For MODEL C, see last entry of this table.	
4	Communication Circuit Card Assembly	a, Press PARITY RESET switch to continue testing, b. LINE lamp is only indicator on, c, Standard test pattern is transmitted and looped back through the receiver. Received message compared to transmitted message. If two are identical, terminal prints out message.	Communication circuit card failure indicated.

Table 2-3. SELF-TEST - Continued

TEST	ASSEMBLIES BEING CHECKED	NORMAL TEST INDICATION	TEST FAILURE INDICATION
4	Communication Circuit Card Assembly (continued)	d PARITY lamp turns on at the same time printing begins, e. Terminal will transmit, receive, and print 80-character message until PARITY RESET switch is pressed. Pressing switch also causes testing to continue. **NOTE** **If keyboard is not present, testing will end at this time,**	
5	Keyboard	a. PAPER LOW lamp is only indicator on. b, Terminal prints KEYBOARD TEST, executes one CR and two LF. c, PARITY lamp turns on.	

Table 2-3. SELF-TEST - Continued

TEST	ASSEMBLIES BEING CHECKED	NORMAL TEST INDICATION	TEST FAILURE INDICATION
5	Keyboard (continued)	d Operator can freely enter keyboard characters and verify that proper characters are being printed. Keyboard is functioning properly if printout agrees with what was typed on keyboard. e Operator ends SELF-TEST by pressing PARITY RESET switch. f. Terminal will print READY, then automatically prints out operational state message, NOTE If it becomes necessary to change INT/EXT/ KG-30 CLOCK set POWER switch in OFF position, and reset switch, Reapply power by setting POWER switch in ON position, g. After completing test, turn POWER OFF. Return terminal to case and secure combination case latches.	

MODEL C ONLY AM/RF SELF-TEST

Table 2-3. SELF-TEST - Continued

NOTE
In MODEL C test sequence, these tests are performed after test 3 (Universal CPU) and before test 4 (Communication).

TEST	ASSEMBLIES BEING CHECKED	NORMAL TEST INDICATION	TEST FAILURE INDICATION
3A	Auxiliary Interface Circuit Card Assembly AM/RC Circuit Card Assembly Auxiliary Memory Module **AM/RF subsystem** special test	a. MSG RCVD lamp turns on and all other lamps turn off. b. After 15 seconds, PARITY lamp turns on. c. Press PARITY RESET switch to continue testing. **NOTE** **Testing procedure continues as listed at test 4 of this table.** **NOTE** **See TST command in Appendix F, para - graph F-20.**	One of following messages will be printed according to failed tested item: AM/RF INTERFACE FAILURE MAINTENANCE NOTE: ROM TEST FAILED (A2A4) MAINTENANCE NOTE: RAM TEST FAILED (A2A4) MAINTENANCE NOTE: RTC TEST FAILED (A2A4) AUXILIARY MEMORY MODULE ERROR MAINTENANCE NOTE: SCC OR RELAY TEST FAILED (A2A4) When message is printed, system halts and only MSG RCVD lamp is on.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES (PMCS)

2-6. GENERAL

Operator preventive maintenance is the systematic care, servicing and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to keep equipment in good operating condition.

a. Systematic care procedures given in table 2-4 explain routine, systematic care and cleaning essential to proper upkeep and operation of the terminal.

b. Preventive Maintenance Checks and Services (PMCS) described in table 2-4 outline functions to be performed at specific times. These checks and services are to maintain telecommunications equipment in good, general (physical) condition and in good operating condition. To assist operators in maintaining combat serviceability, the table indicates what to check, how often, how to check, and what conditions will cause quipment not to be “ready” (for readiness reporting purposes).

- Records and reports of these checks and services must be made in accordance with requirements set forth in DA PAM 738-750.

NOTE

Always keep in mind all CAUTIONS and WARNINGS when performing PMCS.

Ž Before operating - perform before (B) PMCS.
Ž While operating - perform during (D) PMCS.
Ž After operating - perform after (A) PMCS.
Ž If equipment fails to operate, troubleshoot using table 3-1. Report any deficiencies to unit maintenance using proper forms as specified in DA PAM 738-750.

c. Periodic checks and services in table 2-4 specify checks and services that must be performed by operator as specified in Interval Column under the following special conditions:
ŽWhen equipment is initially installed,
Ž equipment is maintained in standby condition (ready for immediate operation, perform PMCS monthly,
Ž When equipment is reinstalled after removal for any reason.

If equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation.

Make complete checks and services when equipment can be shut down.

Within designated intervals, checks are to be performed in order listed:

B - Before operating
D - During operations
W - Weekly
M - Monthly

Deficiencies noted beyond operator capability to correct are to be reported to unit maintenance.

d. Special Instructions –

Perform monthly maintenance procedures as indicated in table 2-4 at least once a month. For purposes of this manual, a month is defined as approximately 30 calendar days of 8-hour-a-day operation. If equipment is operated more than 8 hours per day, monthly maintenance intervals should be adjusted as follows:

Hour-a-Day Operation	Monthly PMCS Required (calendar days)
8	30
16	15
24	10

Equipment in limited storage (maintenance service required before being operated) does not require PMCS.

Routine checks like equipment inventory, cleaning, dusting, washing, checking for frayed cables, stowing items not in use, covering unused receptacles, and checking for loose nuts and bolts are not listed as PMCS checks. These things should be done any time the need arises. Routine checks listed in PMCS are because other operators reported problems with this item.

When doing PMCS or routine checks, keep in mind WARNINGS and CAUTIONS.

2-7. **OPERATOR PREVENTIVE MAINTENANCE CHECKS** AND SERVICES TABLE **(table 2-4)**

NOTE

If operating terminal for first time, or terminal has not been operated since last weekly check, perform weekly as well as before operations PMCS.

Table 2-4. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES

B – Before Operating D – During Operating W - Weekly M – Monthly

tern No.	Interval B	D	W	M	Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment is not ready/available if:
						NOTE Refer to appropriate paragraphs for assistance.	
1				●	Mounting	Check mounting of terminal to ensure it is secure.	
2				●	Dust cover	a. Inspect dust cover alinement against chassis assembly. Check condition of four front cover latches. They should open with resistance, but smoothly. b. With dust cover lowered, inspect rubber seal on chassis assembly for wear, gouges, tears or missing sections.	
3				●	Primary power source cables and connectors	Inspect for undue strain caused by twisting or tangling which would cause damage to cables or connectors as terminal is being extended from or returned into the outer case.	Unserviceable cables or connectors preventing terminal from being operated.

Table 2-4. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

B - Before Operating D - During Operating **W - Weekly** M - Monthly

Item No.	Interval B	D	W	M	Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment is not ready/available if:
4				●	**Case interior**	**a. Release combination case latches and carefully extend terminal from outer case.** **(1) Terminal should slide smoothly out from outer case to stop locks.** (2) **If terminal hangs or fails to slide smoothly, check for dirt, burrs, or other obstructions.** **b. Clean case interior of oil, dust, grease, moisture, or fungus.** **c. Clean interior of terminal with a long handle sash or camel-hair brush.**	**Excessive dirt, dust, grease, moisture, or fungus would prevent terminal from operating properly, or, if operated, would cause possible damage or malfunctioning of terminal.**
5				●	**Printer printing quality**	**Check quality of printer printing by inspecting message copy for readability.**	**Message copy is unreadable.**
6	●				**Paper supply**	**Inspect for adequacy of paper supply. Replenish in accordance with instructions contained in paragraph 3-5.**	**Paper is not available**

Table 2-4. OPERATOR PREVENTIVE MAINTENANCE CHECKS AND SERVICES - Continued

B - Before Operating D - During Operating W – Weekly M - Monthly

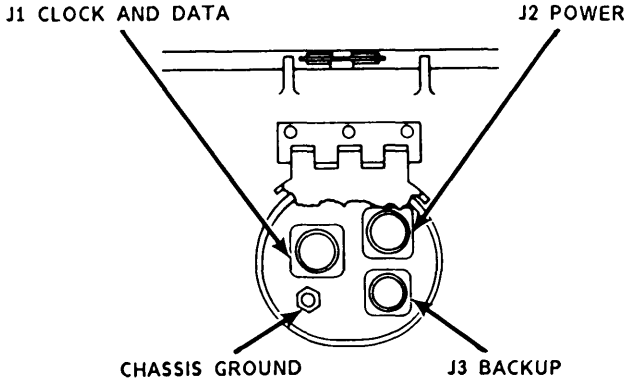
Item No.	Interval B	D	W	M	Item to be inspected	Procedures Check for and have repaired or adjusted as necessary	Equipment is not ready/available if:
7	Ž				Inking ribbon	Inspect inking ribbon for signs of fraying, wear, dryness or unserviceability. Replace, if necessary, in accordance with instructions contained in paragraph 3-7a. Check printer quality, PMCS Item No. 5.	Inking ribbon is not available.
8			Ž		Backup battery (if present)	Perform battery preconditioning as directed in paragraph 3-10. Turn POWER OFF, return terminal back into case, and secure latches.	
MODEL C ONLY							
1	Ž				Captive knurled screws	Inspect screw threads for signs of wear.	Captive knurled screws are stripped.
2	Ž				Connector P1	Inspect connector for bent or missing pins.	Unserviceable connector preventing Auxiliary Memory Module from being attached.
3	Ž				Connector J1	Inspect connector for plugged pin holes.	Unserviceable connector preventing Auxiliary Memory Module from being attached.

Section III. OPERATION UNDER USUAL CONDITIONS

2-8. PRELIMINARY STARTING PROCEDURES

a. Following procedures must be accomplished before applying power to terminal.

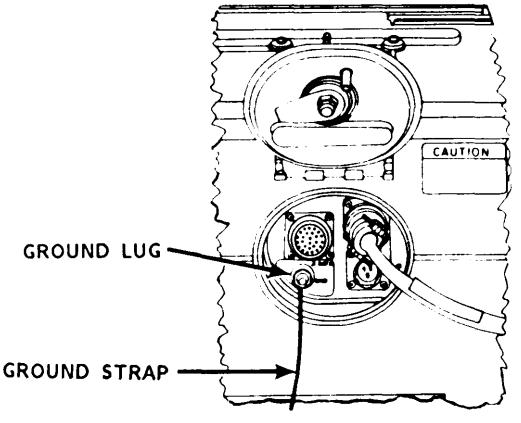
- **Check that POWER switch is in OFF position.**
- **Check that primary power cable is connected to primary power source, and to J2 power connector located on rear panel.**



- Check that J1 clock and Data connector is connected to suitable signal line, and **to J1 connector located on rear panel.**
- **Check that backup cable is connected to suitable 14-volt dc power source. Check that backup cable connector is connected to J3 connector located on rear panel.**
- **Check that ground strap is attached to nay low-resistance ground connector and to ground lug (E1) located on rear panel.**

NOTE

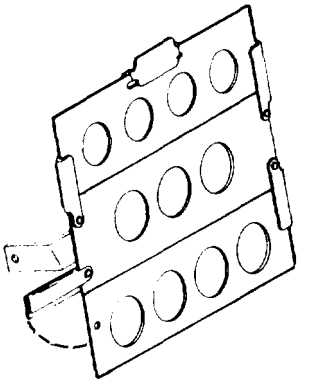
Ground strap should be at least 14 AWG size wire long enough to allow opening of terminal.



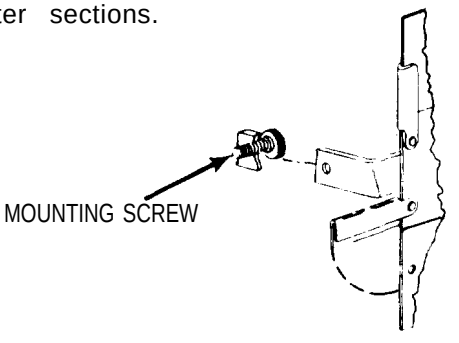
b. If copyholder is not mounted on terminal, install it using following procedures:

Ž Remove copyholder with mounting screw knob from front case cover storage compartment.

Ž Unfold two hinged sections to form one flat plane section.

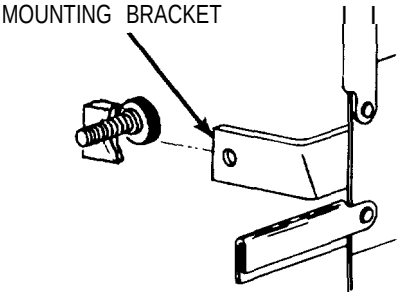


ŽSecure hinged sections to center section by closing four rotating clips located at each of center sections.



Ž Insert copyholder mounting bracket screw (center section, left side) into threaded hole (press fitted nut) located on upper right-hand side of dust cover.

1



ŽSecure copyholder in place by tightening mounting screw in clockwise direction.

CAUTION

During operation requiring lowering of dust cover, remove copyholder to prevent damage.

c. Check paper supply, [f low, replenish it (paragraph 3-4).

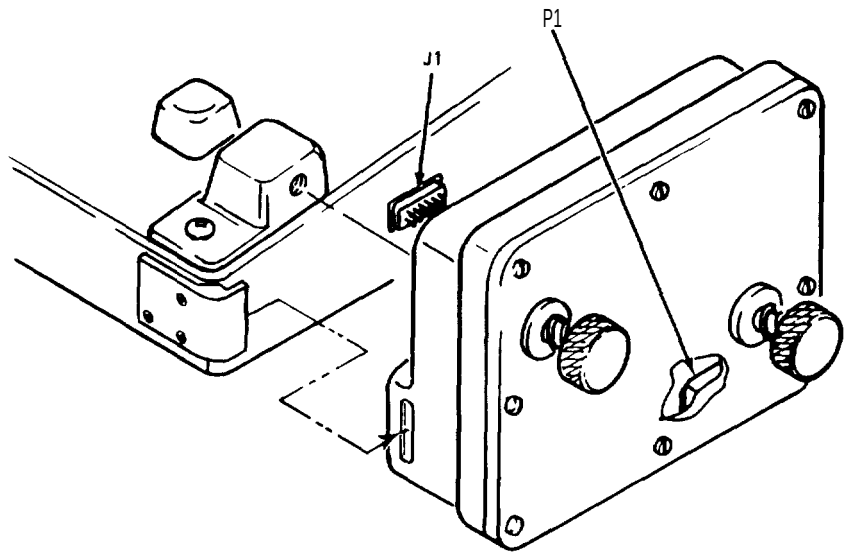
d. Check ribbon, [f frayed, dry or torn, replace it (paragraph 3-7).

NOTE
No lubrication is required by the operator.

MODEL C ONLY

e. Install Auxiliary Memory Module using following procedures:

.Ž Position AMM as shown below,



Ž Insert locking bracket into hole on front of AMM and aline captive knurled-head screws with screw holes.
Ž Insert plug P1 into connector J1 on right side of keyboard housing assembly.
Ž Alternately screw captive knurled-head screws into keyboard housing assembly until both screws are finger tight.

f. Connect relay port cable to left-hand keyboard assembly connector if terminal is to be part of a local relay network.

2-9. OPERATING PROCEDURES

a, Operational States

- Because of capabilities and limitations of each state, procedures and system controls available to operator vary. internal control switches for each of these states are shown in figure 2-6,
- Combined settings of these controls and switches, in conjunction with terminal configuration, determine operating state of system.

b. After system has been prepared for starting, operator must set terminal switches and controls. Terminal may be operated in each of following operating states:

- Receive Only (RO) state.
- Keyboard Send/Receive (KSR) state.
- Intelligent Communications Terminal (ICT) state,

Each state is explained in table 2-1.

NOTE

Example shown in following paragraphs c and d is for typical terminal installation. Operator normally receives preset instructions from unit Standard Operating Procedure (SOP) or Communications-Electronics Operation Instructions (CEOI).

c. In following example, terminal is installed in link having requirements listed below:

- PARITY: Odd
- STATE: RO, KSR, or ICT, depending on requirement.
- COMMUNICATIONS INTERFACE: LO DATA
- DATA FORMAT: NRZ
- TRANSMISSION SPEED: 1200 Baud
- COMMUNICATION CLOCK SOURCE: Internal
- CLOCK EDGE: Positive (+)
- FIGURE S/J: Not applicable in ASCII
- DATA INPUT: Noninverted input
- NO. OF STOP BITS IN DATA FORMAT: Two
- DATA CHARACTER SET: ASCII

d. With terminal fully extended on slides, perform following initialization setup procedure for the above example,

CAUTION

Be sure that rear connecting cables feed through terminal rear access door with minimum of strain.

With power off, set internal switches as follows.

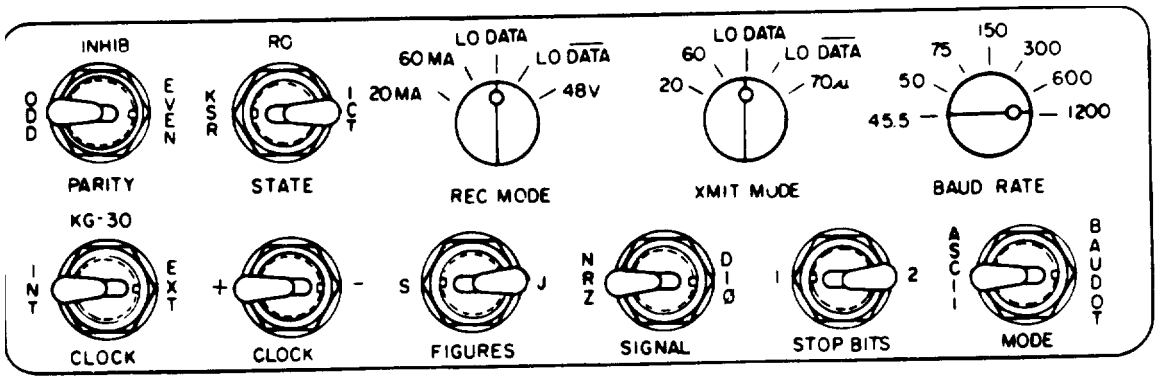


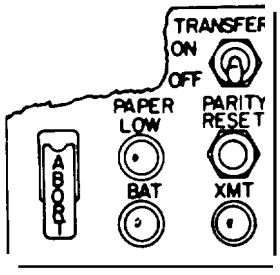
Figure 2-6. INTERNAL CONTROL SWITCHES/SETTINGS

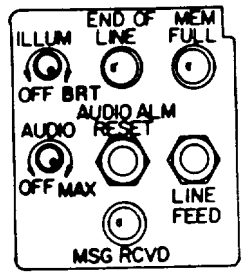
- PARITY to ODD
- STATE to RO, KSR, or ICT, depending on requirement
- REC MODE to LO DATA
- XMIT MODE to LO DATA
- BAUD RATE to 1200
- CLOCK INT/EXT/KG-30 to INT
- CLOCK +/- to (+)

NOTE
FIG S/J is not applicable to ASCII.

- SIGNAL NRZ/D1Ø to NRZ
- STOP BITS to 2
- ASC1I/BAUDOT MODE to ASCII

Set front panel switches as follows:





- TRANSFER to OFF
- ILLUM control to BRT
- AUDIO control to MAX

e. During Operation Validation/State Determination condition, system checks and records in memory switch settings that were set before power was applied,

CAUTION

Settings changed without turning POWER OFF may affect operation of terminal,

- To change operation of terminal with switch settings, POWER must be turned OFF, switches set, and POWER turned ON.
- Changing setting of following switches with POWER ON will affect terminal operation.
  - BAUD RATE
  - REC MODE
  - XMIT MODE
  - SELF-TEST
  - SIGNAL NRZ/D1Ø
  - CLOCK INT/EXT/KG-30
  - CLOCK +/–

- Changing setting of following switches with POWER ON will not affect terminal operation,
  - PARITY
  - STOP BITS
  - ASCII/BAUDOT MODE
  -
  - IGURES S/J

- By Operation Validation/State Determination condition message, operator can verify that terminal will function in operational state designated.

- Following is an example of an actual Operation Validation/State Determination condition message printout when terminal is in Baudot mode of operation.

```
SYSTEM INITIALIZED


SOFTWARE SYSTEM CONFIGURATION = UGC-74B
WITCH STATE = KSR
OPERATIONAL STATE = KSR
MODE = BAUDOT
BAUD RATE = 1200
STOP BITS = 2
BELL OPTION = FIGURES J
DUPLEX MODE = FULL
SPACE OPTION = ON
LINE LENGTH = 080
LINE FEEDS = 1
FONT = 1 ENG 64 CHAR
LINES PER PAGE = 066
NJMBER OF PRINT COPIES = 1
CHARACTER OR LINE TRANSMISSION ? (C/L)
```

Ž **Following is an example of an actual Operation Validation/State Determination condition message printout when terminal is in ASCII mode of operation.**

```
SYSTEM INITIALIZED


SOFTWARE SYSTEM CONFIGURATION = UGC-748
SWITCH STATE = KSR
OPERATIONAL STATE = KSR
MODE = ASCII
BAUD RATE = 1200
STOP BITS = 1
PARITY OPTION = ODD
DUPLEX MODE = FULL
SPACE OPTION = OFF
CAPITAL LETTER OPTION = ON
LINE LENGTH = 080
LINE FEEDS = 1
FONT = 1 ENG 64 CHAR
LINES PER PAGE = 066
NUMBER OF PRINT COPIES = 1
CHARACTER OR LINE TRANSMISSION ? (C/L)
```

2-10. RECEIVE ONLY (RO) OPERATING PROCEDURES

Operation in RO state should be performed in following manner:

- Perform preliminary starting procedures described in paragraph 2-8.
- Set initial switch settings as described in paragraph 2-9d.

Ž Set STATE switch in RO state position.

- All received messages are passed through message memory before printing.
- Following is an example of an actual Operation Validation/State Determination condition message printout when terminal is in RO state, based on example given in paragraph 2-9d.

```
SYSTEM INITIALIZED


SOFTWARE SYSTEM CONFIGURATION = UGC-74B
SWOTCJ STATE = RO
OPERATIONAL STATE = RO
MODE = ASCII
BAUD RATE = 1200
STOP BITS = 2
PARITY OPTION = ODD
DUPLEX MODE = FULL
SPACE OPTION = OFF
CAPITAL LETTER OPTION = ON
LINE LENGTH = 080
LINE FEEDS = 1
END OF MESSAGE LINE FEEDS = 020
FONT = 1 ENG 64 CHAR
LINES PER PAGE = 066
NUMBER OF PRINT COPIES = 1
```

CAUTION

If self-test is to be performed, it should be initiated after Operation Determination/State Determination message has been printed out and before message data is stored in message memory.

- After completing operations, be sure all printing has stopped, then set POWER switch in OFF position.

2-11. KEYBOARD SEND/RECEIVE (KSR) OPERATING PROCEDURES

a. KSR state expands capability of terminal from Receive Only state by making keyboard available to operator.

- Messages are composed in conventional manner.
- Terminal provides capability of sending messages one print line at a time.
- Allows composing, editing and review of full 80-character line of message before transmission. (Line length may equal 132 characters.)
- Allows single character mode of transmission.
- Allows local printing of operator input, operator selectable.
- Allows operator selection of machine insertion of line feeds with CR's.

Data is transmitted by either of the three following procedures:

- Initiating a carriage-return.
- Moving print position to line length plus one character of current print line which automatically causes a carriage-return.
- Pressing HLT key.

b. In KSR state, three basic keys are available to operator:

- Delete Last Character (DLC) key.
- Delete Last Line (DLL) key.
- Review (REV) key.

See paragraph 2-3 for a detailed explanation of these keys.

c, Operation in KSR state

Ž Operation Validation/State Determination will show switch position.
Ž Keyboard may now be used to send messages.
ı Following is an example of an actual Operation Validation/State Determination condition message printout when terminal is in KSR state, based on example given in paragraph 2-9d.

SYSTEM INITIALIZED

SOFTWARE SYSTEM CONFIGURATION = UGC-74B
SWITCH STATE = KSR
OPERATIONAL STATE = KSR
MODE = ASCII
BAUD RATE = 1200
STOP BITS = 1
PARITY OPTION = ODD
DUPLEX MODE = FULL
SPACE OPTION = OFF
CAPITAL LETTER OPTION = ON
LINE LENGTH = 080
LINE FEEDS = 1
FONT = 1 ENG 64 CHAR
LINES PER PAGE = 066
NUMBER OF PRINT COPIES = 1
CHARACTER OR LINE TRANSMISSION ? (C/L)

After printout, terminal is in KSR state and ready for message reception or transmission.

After character or line (C/L) transmission is requested, and line (L) is selected, terminal requests line feed insertion choice (Y/N) by the operator.

CAUTION

If self-test is to be performed, it should be initiated after Operation Validation/State Determination message has been printed out and before message data is stored in message memory.

2-12. INTELLIGENT COMMUNICATIONS TERMINAL (ICT) OPERATING PROCEDURES

a. Intelligent Communications Terminal (ICT) state provides operator with composing, editing and formatting capabilities, These capabilities are gained by using System Commands Structure shown in figure 2-7, See paragraph 2-14 for command descriptions,

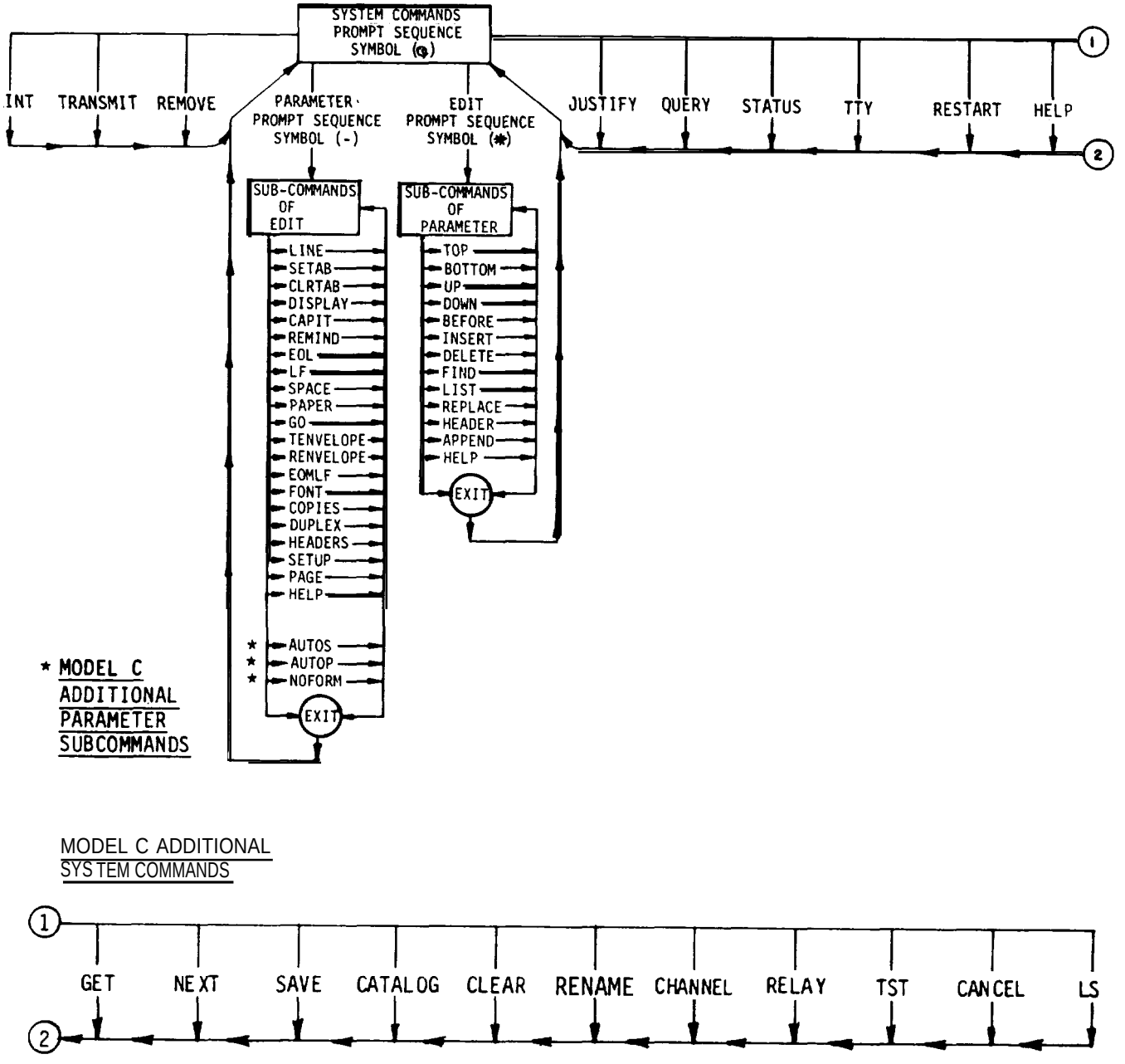


Figure 2-7. SYSTEM COMMANDS STRUCTURE

- Upon entering ICT state, terminal becomes a word processor as well as a message terminal,

- As a word processor, ICT state performs the following:
  - q Allows operator to enter text of message into term-inal message memory,
  - q Allows operator to add to, or subtract from (edit) text without preparing tape or written copy.
  - q Series of typed commands must be used in order for terminal to carry out word processing functions,

- **System Commands are series of command levels in ICT state used in following:**

  - Editing and sending single line messages without using message memory.
  - Entering PARAMETER and EDIT levels of subcommands for specifying system parameters and for editing.
  - Obtaining status of messages in message memory and terminal itself.

b. Operation in ICT state.

- Same setup procedures as RO and KSR state when system is powered down.
- STATE switch is set in ICT state and system is powered up.
- Operation Validation/State Determination message shows switch positions .
- Switch settings given in paragraph 2-9d used for this example.
- Message transmission is carried out after message has been composed, edited, and reviewed.
- Completed message is sent by using TRANSMIT system command.
- A "home copy" of each message transmitted is printed by terminal.

NOTE

In this state, operator also has option of sending a single line message (up to 80 characters) as in KSR state. Additionally, single line messages may be lengthened to 132 characters in ICT state. See LINE subcommand under PARAMETER command.

l• Following is an example of an actual Operation Validation/State Determination condition message printout when terminal is in ICT state, based on example given in paragraph 2-9d.

```
SYSTEMI INITIALIZED


SOFTWARE  SYSTEM CONFIGURATION = UGC-74B
SWITCH STATE = ICT
OPERATIONAL STATE = ICT
MODE = ASCII
BAUD RATE = 1200
STOP BITS = 2
PARITY OPTION = ODD
DUPLEX MODE = FULL
END OF LINE OPTION = CR CR LF
RECEIVE ENVELOPE  OPTION =
          v Z C Z C: N N N N
TRANSMIT ENVELOPE OPTION =
          V Z C Z C: N N N N DE DE DE DE DE DE DE DE DE DE DE DE
SPACE OPTION = OFF
CAPITA  LETTER  OPTION = ON
LINE  LENGTH = 080
LINE  FEEDS = 1
END OF MESSAGE LINE FEEDS = 020
FONT = 1 ENG 64 CHAR
LINES  PER  PAGE  = 066
NUMBER OF PRINT COPIES = 1
```

CAUTION

If self-test is to be performed, it should be initiated after Operation Validation/State Determination message has been printed out and before message data is stored in message memory.

MODEL C ONLY

Following is an example of an actual Operation Validation/State Determination condition message printout when terminal is in ICT state, based on example given in paragraph 2-9d.

SYSTEM INITIALIZED

SOFTWARE SYSTEM CONFIGURATION = UGC-74C
SWITCH STATE = ICT
OPERATIONAL STATE = ICT
MODE = ASCII
BAUD RATE = 1200
STOP BITS = 2
fPARITY OPTION = ODD
DUPLEX MODE = FLLL
END OF LINE OPTION = CR CR LF
RECEIVE ENVELOPE OPTION =
V Z C Z C: N N N N
TRANSMIT ENVELOPE OPT ION =
V Z C Z C: N N N N DE DE DE DE DE DE DE DE DE DE DE DE
SPACE OPTION = OFF
CAPITAL LETTER OPTION = ON
LINE LENGTH = 080
LINE FEEDS = 1
END OF MESSAGE LINE FEEDS = 020
FONT = 1 ENG 64 CHAR
LINES PER PAGE = 066
NUMBER OF PRINT COPIES = 1
AUTO SAVE OPTION = ON
AUTO PRINT OPTION = OFF
NOFORM OPTION = ON

HELP COMMAND AVAILABLE

99% AMM MEMORY AVAILABLE

CAUTION

If self-test is to be performed, it should be initiated after Operation Validation/State Determination message has been printed out and before message data is stored in message memory.

2-13. ICT STATE OPERATING INSTRUCTIONS

This paragraph describes all operating functions of terminal in ICT state which operator must know in order to understand why terminal responds to various operating instructions.

a. System abbreviations are used in this manual to quickly illustrate operator input or terminal output. Meaning of abbreviations are contained in table 2-5.

Table 2-5. SYSTEM ABBREVIATIONS

Abbreviation	Meaning
CR	Carriage-Return
LF	Line-Feed
C R / L F	Used in this manual to signify blank line and start of printing at left margin.
b0	Specifies that no spaces between characters are required, but as many as desired may be entered optionally.
bl	Specifies that only one space is required.
b2	Specifies that at least one space is required but more than one is allowed.
xxxx	A four-digit (decimal) message identification number that may or may not contain leading zeros, and may or may not contain leading blanks. The count starts with 1 and ends with 999.
xxx	A three-digit (decimal] number that may or may not contain leading zeros. The count starts with 1 and ends with 999.
xx	A two-digit (decimal) number that may or may not contain a leading zero or a leading blank (01 or 1 is acceptable). Count starts with 1 and ends with 99,
x	A one-digit (decimal) number. Count starts with 1 and ends with 9.
(?)	Indicates that specification contained within parentheses is optional.
(+)	Indicates that several options are available, one of which must be chosen,
(#)	Indicates that specification within parentheses may be invoked a number of times,
Line Pointer	Always points to first character of current line. Line pointer is a memory indicator and is not visually displayed on terminal.
A	ASCII character(s).
Delimiter	Any ASCII character used as space or separator. It cannot appear in same character string for which it is a delimiter.
**	Used in command to imply all options.
Operand	One or more ASCII characters used in command to amplify instructions.
NULL	Nothing is entered in a particular operand field (CR).

b. The AN/UGC-74B(V)3 and C(V)3 have the ability to indicate errors or exception conditions by printing error messages or prompting messages.

- List of error messages appears in table 2-6 and in Appendix J.
- Prompting messages are not printed with message number and are preceded by an asterisk (*) in Error Message List.

Sequence of printing error messages is for terminal to initiate following:

- Carriage-Return (CR) and Line-Feed (LF).
- Error message number and error message, followed by CR and LF.
- Terminal returns to System Command Level

NOTE

Error message does not necessarily mean that an error exists, but could indicate a function has been performed and the message is printed.

Table 2-6. ERROR MESSAGE LIST

NUMBER	MESSAGE
(1)	NOT REMOVED, COMM PORT “RECEIVE” MESSAGE NEVER PRINTED
(2)	MESSAGE NOT FOUND
(3)	INTERNAL MESSAGE MEMORY FILLED
(4)	PHRASE NOT FOUND
(5)	DELIMITER/PHRASE IN ERROR
(6)	COMMAND NOT ACCEPTED, CURRENT LINE TOO LONG, CHANGE LINE PARAMETER
(7)	MESSAGE EMPTY
(8)	MAXIMUM NUMBER OF HEADER LINES EXCEEDED
(9)	USE 12 TABS MAXIMUM
(10)	INVALID OR MISSING COMMAND VARIABLE
(11)	COMMAND NOT ACCEPTED, COMMUNICATIONS PORT BUSY
(12)	COMMAND INPUT NOT RECOGNIZED
(13)	COMMAND NOT ACCEPTED, IMPROPER IN PRESENT COMMAND MODE
*(14).	ARE YOU SURE? (Y/N)

Table 2-6. ERROR MESSAGE LIST - Continued

NUMBER	MESSAGE
(15).	Not Used
(16).	"COMPOSED" MESSAGE HAS NOT BEEN TRANSMITTED
(17).	PRINTING TERMINATED
(18).	MESSAGE XXXX REMOVED FROM INTERNAL MESSAGE MEMORY
(19).	COMMAND NOT ACCEPTED, MESSAGE IS CURRENTLY IN TRANSMISSION ON COMM PORT
(20).	NO TABS SET
(21).	IMPROPER MESSAGE HEADER FORMAT
(22).	INPUT IGNORED, LINE LENGTH UNACCEPTABLE
(23).	NO HEADER DEFINED
(24).	INCORRECT TIME-OF-DAY, MUST BE 4 DIGITS
(25).	COMMAND NOT ACCEPTED, INCORRECT HEADER SELECTION
*(26).	CHANGE SWITCH SETTINGS AND ENTER CR TO CONTINUE
*(27).	CHARACTER OR LINE TRANSMISSION? (C/L)
*(28).	LOCAL ENTRY PRINT? (Y/N)
(29).	FONT NOT AVAILABLE
(30).	ALIGN PAPER AND ENTER CR TO CONTINUE
	NOTE Message Numbers 31 through 99 are reserved for AN/UGC-74C(V)3 and are listed at the end of AN/UGC-74B(V)3 messages.
*(100).	ENTER CHANNEL IDENTIFIER
*(101).	ENTER ORIGINATOR ROUTING INDICATOR/PLAIN LANGUAGE ADDRESS (R1/PLA)
*(102).	ENTER MESSAGE PRECEDENCE
*(103).	ENTER ORIGINATOR AND DESTINATION LANGUAGE AND MEDIA FORMAT

Table 2-6. ERROR MESSAGE LIST - Continued

NUMBER	MESSAGE
*(104)	ENTER CLASSIFICATION
* (105),	ENTER CONTENT INDICATOR/COMMUNICATION ACTION IDENTIFIER
*(106)	ENTER STATION SERIAL NUMBER
*(107)	ENTER JULIAN DATE
*(108)	ENTER TIME FIELD
*(109)	ENTER ACTION ROUTING INDICATOR/PLAIN LANGUAGE ADDRESS (R1/PLA)
*(11O)	ENTER INFORMATION ROUTING INDICATOR/PLAIN LANGUAGE ADDRESS (R1/PLA)
* (111).	ENTER TIME OF DAY (ZULU TIME)
* (112).	ENTER DAY, MONTH, AND YEAR
* (113),	ENTER CHANNEL SEQUENCE NUMBER
*(114).	ENTER EXEMPT ROUTING INDICATOR/PLAIN LANGUAGE ADDRESS (R1/PLA)
*(115)	ENTER SECURITY PROSIGN
* (116).	ENTER SECOND PRECEDENCE
(117),	NO MORE ROOM FOR ORIGINATOR R1/PLA
(118).	NO MORE ROOM FOR ACTION R1/PLA
(119).	NO MORE ROOM FOR INFORMATION R1/PLA
(120).	NO MORE ROOM FOR EXEMPT R1/PLA
(121).	NOT ENOUGH ROOM IN NEW HEADER VARIABLE FOR ALL OF EXISTING R1/PLA
*(122)	JANAP 128
* (123).	ACP 127 USA SUPP 1
*(124)	ACP 127 NATO SUPP 3
(125).	COMMAND INVALID FOR BAUDOT

Table 2-6. ERROR MESSAGE LIST - Continued

NUMBER	MESSAGE
(126).	COMMAND NOT ACCEPTED, MESSAGE IN RECEIVE CATEGORY
(127)	IMPROPER SWITCH SETTING - ASCII AT LESS THAN 75 BAUD
(128).	Not Used
(129).	IMPROPER SWITCH SETTING - D1Ø AT LESS THAN 300 BAUD OR IN BAUDOT
(130)	IMPROPER SWITCH SETTING - D1Ø WITH EXTERNAL CLOCK
*(131)	MEMORY XX% FULL
(132).	WARM START ABORTS ALL COMM LINE ACTIVITY
(133).	BACKSPACE NOT ALLOWED
*(134)	HELP COMMAND AVAILABLE
*(135)	AUTOMATIC LINE FEED WITH CARRIAGE RETURN ? (Y/N)
MODEL C ONLY ADDITIONAL ERROR MESSAGES	
(31).	COMMAND NOT ACCEPTED, AUTOSAVE MUST BE ON
(32).	RELAY MESSAGE #XXXX IN PROGRESS
(33)	CANNOT RELAY, NO CHANNEL ASSIGNED
(34).	NOT ASSIGNED, CHANNEL MUST BE IN 1-16 RANGE
(35).	RELAY MESSAGE #XXXX CHANNEL #XX NOT SAVED
(36).	AUXILIARY MEMORY MODULE NOT ACCESSIBLE
(37).	AUXILIARY MEMORY MODULE ERROR
(38).	CONNOT DESIGNATE AS MASTER, CHANNEL ALREADY ASSIGNED
(39).	INSUFFICIENT AUXILIARY MEMORY TO SAVE MESSAGE
(40].	MESSAGE NOT FOUND; CHECK NAME
(41).	DUPLICATE NAME; SEQUENCE LETTER ADDED
(42).	ALL RELAYED MESSAGES HAVE BEEN ACCESSED
(43).	CATALOG EMPTY

Table 2-6. ERROR MESSAGE LIST - Continued

NUMBER	MESSAGE
MODEL C ONLY ADDITIONAL ERROR MESSAGES - Continued	
(44).	CANNOT XMIT TO CHANNEL #XX
(45).	RELAY MESSAGE #XXXX CANCELED
(46).	RELAY MESSAGE #XXXX CANCELED IN PROGRESS
(47).	OLD MESSAGE NAME NOT FOUND
(48).	NEW MESSAGE NAME ALREADY EXISTS
(49).	AUXILIARY MEMORY MODULE FULL
(50).	MESSAGE NOT SAVED, NO MORE SEQUENCE INDICATORS AVAILABLE FOR DUPLICATE NAME
(51).	COMPLETED RELAY MESSAGE #XXXX
(52).	NOT ASSIGNED, ANOTHER CHANNEL IS MASTER
(53).	RELAY CHANNEL ACTIVATED
(54).	RELAY CHANNEL NOT ACTIVE
(55).	RELAY CHANNEL #XX REQUEST IN PROGRESS
(56).	NOT ASSIGNED, CHANNEL #XX ALREADY USED
(57).	COMMAND NOT ACCEPTED, MESSAGE RELAY IN PROGRESS
(58).	RELAY MESSAGE #XXXX PREPARED
(59).	TEST NOT ALLOWED; RELAY CHANNEL ACTIVE
(60).	MAINTENANCE NOTE: AMRF RAM TEST FAILED (A2A4)
(61).	MAINTENANCE NOTE: AMRF ROM TEST FAILED (A2A4)
(62).	MAINTENANCE NOTE: AMRF RELAY TEST FAILED (A2A4)
(63).	MAINTENANCE NOTE: AMRF RTC TEST FAILED (A2A4)
(64).	COMMAND NOT ACCEPTED, AUX MEMORY RELAY BUSY
(65).	AUX MEMORY AND RELAY FUNCTION NOT OPERATING

Table 2-6. ERROR MESSAGE LIST - Continued

NUMBER	MESSAGE
MODEL C ONLY ADDITIONAL ERROR MESSAGES - Continued	
(66).	AM/RF INTERFACE FAILURE
(67).	AUTO SAVE ENABLED
(68).	AUTO SAVE SUSPENDED
(69).	A1A2 FAILURE
* (70).	MESSAGE NUMBER XXXX IS NAMED XXXXXX,X
*(71)	LOW PRECEDENCE NONPRINTED MESSAGES IN MESSAGE MEMORY
*(72)	HIGH PRECEDENCE NONPRINTED MESSAGES IN MESSAGE MEMORY
*(73)	LOW PRECEDENCE NONACCESSED MESSAGES ON AMM
* (74).	HIGH PRECEDENCE NONACCESSED MESSAGES ON AMM
(75).	NO RELAY MESSAGE TO CANCEL
(76).	AMM COMMAND ERROR
(77).	RELAY ADDRESS ERROR -- SCC OR RAM ERROR
(78).	Not Used
(79).	MASTER CHANNEL SELECT ENABLED
(80).	RELAY MESSAGE SIZE LIMIT EXCEEDED, RE-EDIT
(81).	CANNOT ACTIVATE MASTER CHANNEL, RAM ERROR
(82).	MASTER CHANNEL SELECT DISABLED
(83).	CANNOT SORT, TOO MANY ENTRIES IN CATALOG
(84).	AMRF IN PROCESS OF CLEARING ENTIRE AMM
(85).	AMRF SYSTEM ERROR, ILLEGAL OPERATION
(86).	NO CHANNEL ASSIGNED
(87).	INVALID ADDRESS, CHANNEL MUST BE IN 1-16 RANGE

Table 2-6. ERROR MESSAGE LIST - Continued

NUMBER	MESSAGE
MODEL C ONLY ADDITIONAL ERROR MESSAGES - Continued	
(88).	Maintenance NOTE: AMRF AMM TEST FAILED (A2A4)
(89).	INVALID ADDRESS, CANNOT BE SENDER
(90).	INVALID ADDRESS, TOO MANY CHANNELS IN LIST
(91).	RELAY MESSAGE #XXXX NOT SAVED BY CH#XX
(92).	UNFORMATTED MESSAGE, NOT SAVED ON AMM
(93).	SORT NOT ALLOWED, RELAY CHANNEL ACTIVE
(94).	AMRF RAM ERROR
(95).	CANNOT RELAY, CHANNEL NOT YET ACTIVE

* Message is printed without message number. Indicates message is informative or prompting rather than error statement.

c. Basic command errors apply to all system commands and affect command input format. If an error is found, the com-mand is not carried out; command level of terminal remains the same, an error message is printed out, and the command level prompt sequence (paragraph e) is issued.

Following error messages apply to System Commands:

- Error message No. 2 (MESSAGE NOT FOUND) is printed if requested message is not located in message memory.
- Error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is issued when incorrect or incomplete operand is entered,
- Error message No. 12 (COMMAND INPUT NOT RECOGNIZED) prints out when a nonexistent or totally invalid command is issued,
- Error message No, 13 (COMMAND NOT ACCEPTED, IMPROPER IN PRESENT COMMAND MODE) prints out when system is at wrong command level,

d. When inputting commands, system accepts either upper or lower case letters. System checks commands for validity when operator executes a CR, then looks at command and attempts to identify it. If system fails, error message No, 12 (COMMAND INPUT NOT RECOGNIZED) or 13 (COMMAND NOT ACCEPTED, IMPROPER IN PRESENT COMMAND MODE) is printed.

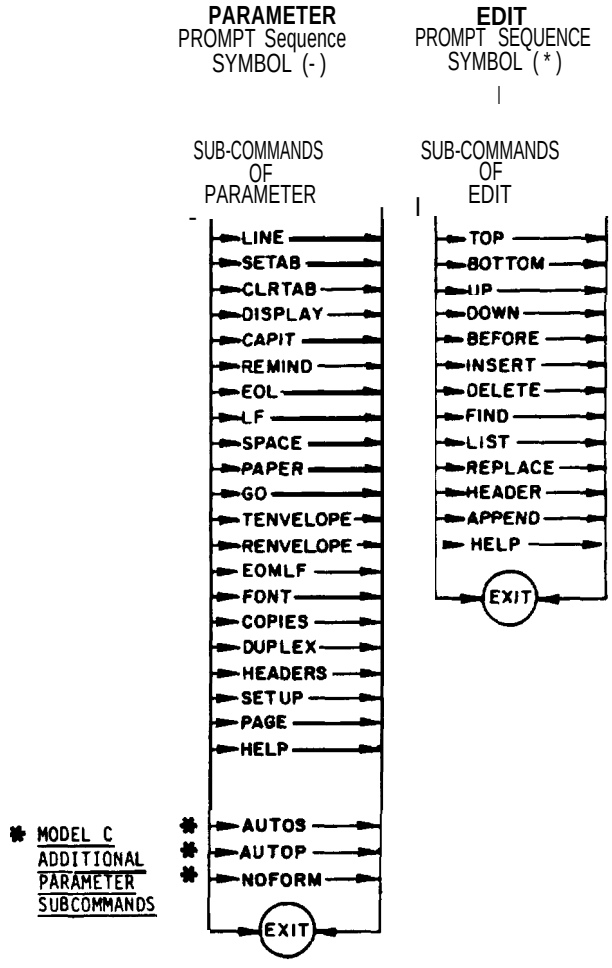
Example: Terminal is operating in EDIT command level and operator wishes to input the DOWN subcommand.

Ž If operator inputs a space, a “D” and a CR, system would recognize it as an invalid input because EDIT subcommands DELETE and DOWN both begin with the letter ''D”.

- Operator would refer to table 2-9 SUBCOMMANDS OF EDIT COMMAND to determine that shortest acceptable form for DOWN subcommand is DO. Operator then enters a space, DO and CR.
  • System recognizes subcommand being input as DOWN and prepares to carry out the subcomfiand. Thus, input required for command is only that portion of the command needed for system to determine which is being input. Examples: DE for DELETE and DO for DOWN.

See tables 2-7, 2-8, and 2-9 for shortest acceptable form for SYSTEM commands and subcommands of PARAMETER and EDIT commands.

e. Prompt sequence indicators - Of the 11 Model B System Commands, and of the 22 Model C System Commands, only PARAMETER and EDIT have subcommands

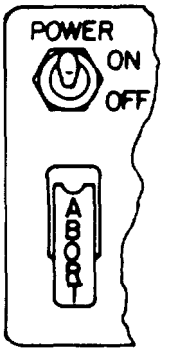


PARAMETER and EDIT each have a different prompt sequence symbol, allowing operator to determine at which command level terminal is operating.

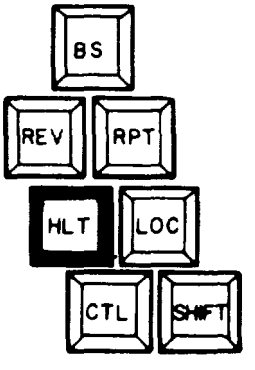
Symbols for various levels are as follows:
• System Command Symbol @.
•l EDIT Command Symbol *.
Žl PARAMETER Command Symbol -.

Prompt sequence of command levels are:
•. A carriage-return.
Ž. Line-feed (prompt sequence).
Ž. Another CR and LF.

A System Command prompt sequence (@) is issued if ABORT switch is operated,



When the HLT key is operated, the prompt sequence for current command level is issued. Upon entering EXIT subcommand of either PARAMETER or EDIT, system reverts back into System Command level, and System Command prompt sequence (@) is issued, If a message is in transmission it will complete, but normal print functions are terminated.



f. In order for operator and terminal to identify one message from another, all messages which enter message memory are assigned a message number. This applies to both send and receive messages.

(1) In ICT state:
• Message numbering done by system using EDIT command (paragraph 2-14c).
Ž Operator enters EDIT command.
Ž System checks numbers in message memory.
Ž System assigns next highest sequence number to message.

(2) System initialization at power up:

Ž Message memory is empty and message numbering is at zero.

NOTE

When powered down, messages in message memory are erased and message numbering is returned to zero.

- Message memory protected by battery backup if POWER switch remains ON.

Ž Available message numbers range from 0001 to 9999.

Ž Identical message numbers will never occur because system assigns sequential numbers to received messages when they are received, and to composed messages as they are being composed by operator.

Example: Operator begins operations and composes and transmits two messages:

Ž System assigns message number 0001 to first message and 0002 to second.

Ž Next received message is assigned message number 0003 and is stored in message memory.

- Each receiving station assigns its own message number to message, which often differs from sending station message number.
- Message tracing is impossible unless sending station places message number within text of the message.

NOTE

The DATE/TIME group of message header can be used for identification traceability.

(3) Message numbers are assigned and reserved after front envelope section of message is recognized by system.

(4) Each time message is received from a distant station, message is assigned. a number by terminal before receive message is placed in message memory.

(5) Messages entering message memory are assigned numbers on a first-come, first-served basis. There are no numbers set aside specifically for send messages or for receive messages.

g. Receive message process is active in all three operational states (ICT, KSR, RO). However, receive message process changes in ICT state.

- Terminal is able to interpret the two receive envelope sequences, beginning and closing, when these sequences are used in the received message.
- Receive envelope beginning and closing sequences can be used in any combination as described below.

Receive message process consists of the following sequence.

- When receive envelope beginning sequence is used (see RENVELOPE subcommand, Appendix G):
  - ❑ Incoming characters are compared and discarded until envelope sequence is recognized.
  - ❑ Next character is considered first of the message.

- Ž When receive envelope beginning sequence is not used:
  - ❑ First character received is considered first character in message.
  - ❑ When in ASCII mode, characters are saved in message memory.

h. In transmit message process, operator can command terminal to transmit a message stored in message memory.

- • Operator starts transmit message process by entering the System Command TRANSMIT.
- • Operator then enters number assigned to message, followed by CR.

NOTE

If message contains channel sequence number, refer back to paragraph f.

- Ž Terminal begins transmit message process by determining if message to be transmitted is actually in message memory. If no such message, terminal responds as follows: CR/LF (space) (ERROR MESSAGE NO.) CR/LF. Otherwise, terminal sends beginning sequence of transmit envelope (see TENVELOPE command, Appendix G) followed by test of the message.

- Ž Based upon position of the MODE switch, terminal will transmit message characters, and also transmits envelope sequence in Baudot or ASCII form.

- Ž When a CR is detected in the message, terminal will replace it with characters of the end-of-line sequence. (See EOL subcommand, Appendix G.)

- Ž Message being transmitted is automatically printed out ("home copy") on terminal. If "home copy" is not needed, press HLT key to stop printer, and terminal will continue to send message to distant station(s).

- • Message transmission can be stopped any time before a complete message has been sent by activating ABORT switch. Both transmission and printing stop and terminal returns to System Command level.

i. Message memory stores individual messages and repeats them back to the terminal and/or to a distant station. It also enables operator to add or delete anything from stored message before transmission.

- Ž Message memory contains space for 35 pages at 1600 characters per page.
- Ž Memory is broken into "blocks' of 256 characters each for purpose of monitoring how much memory is in use at one time.
  - ❑ "Blocks" are indicated when terminal is in STATUS command.
- • When memory is approximately 85% full, the MEM FULL lamp on front panel lights to warn operator to start emtying some of the stored messages.
- Ž Message memory is "temporary memory", which may be erased by operator or by terminal.

Receive message flow is as follows:

- Communications port (Jl) messages are first received and stored by message memory. MSG RCVD light turns on until message is accessed.
- Subcommand AUTOS automatically saves message to Auxiliary Memory Module. Message memory, as well as AMM, retains message.
- Subcommand AUTOP starts printing automatically if AUTOS is already in operation. AUTOS functions as before.
- Automatic deletion from message memory is performed at completion of AUTOP if AUTOS has been completed for a given message.
- Received relay port messages are stored in AMM directly, and MSG RCVD light turns on indicating that there is an unaccessed message.
- Messages may be transferred from AMM to message memory for editing and then sent to printer via keyboard control.
- Edited messages may be stored in AMM, printed, or transmitted through the communications port via keyboard control.

Transmit message flow is as follows:

- Stored AMM messages may be relayed directly to as many as 15 other terminals if they are on-line.
- Relay transmitting station will list the requested station(s) that did not receive sent message. (See RELAY command.)

NOTE

These functions are only available in ICT state with the Auxiliary Memory Module attached.

k. When message memory available becomes four blocks (1024 characters) or less due to an incoming message, the following occurs:

- Operator is preempted and printer is taken over by system (keyboard is locked out) .
- Current line (data or command) is lost.
- Error message No. 3 (INTERNAL MESSAGE MEMORY FILLED) is printed, followed by five line-feeds.

Two possible conditions may exist at this point:

- Condition one is when there are received messages in message memory. Under this condition the following occurs:
  - All received messages and their local numbers are printed out.
  - Received messages are then deleted from memory in the order of oldest-highest precedence first.
  - These messages are separated by five line-feeds.
  - As memory blocks (256 bytes) of data are printed, they are released for storage of incoming message.

- Condition two is when there are no received messages in message storage. Under this condition the following occurs:
  - Message being received starts printing from beginning of message.
  - As blocks of data are printed, they are released for storage of incoming message.

This process (either condition one or condition two) continues until all received messages are printed and deleted from message storage.

Terminal then returns control to operator at System Command level.

NOTE

This process is only applicable in ICT state.

2-14. SYSTEM COMMANDS

a. **Initially, when the system enters ICT state, terminal is at Systems Command level. There are 11 System Commands available to operator, as shown below. All System Commands may be entered from this level.**

MODEL C ONLY

NOTE

Model C terminal has an additional 11 commands available **for a total of 22 System Commands.**

NOTES

See table 2-5, SYSTEM ABBREVIATIONS, for explanation of abbreviations and symbols used in this System Commands paragraph.

See figure 2-8, SYSTEM COMMANDS STRUCTURE, for relationship of commands.

- **Terminal notifies operator that system is in System Command level and ready to receive commands by issuing System Command level prompt sequence of CR/2LF @ CR/2LF,**
- **System Command level is the normal state of terminal.**
- **Except for System Commands of PARAMETER and EDIT, System Command** level **automatically returns after a System Command is accepted and carried out.**
- **Once entered:**
  - ❑ **PARAMETER and EDIT commands require operator to use EXIT subcommand to return terminal to System Command level.**
  - ❑ **System must be in System Command level to enter PARAMETER or EDIT command level.**
  - ❑ **This is indicated by System Command prompt sequence CR/2LF @ CR/2LF being issued.**
- **Prompt sequence for PARAMETER command level is CR/2LF - CR/LF.**
- **Prompt sequence for EDIT command level is CR/2LF * CR/LF.**
- **The following commands in table 2-7 are the top level commands of system.**
  - ❑ **They specify the primary functions of the system.**

  Full descriptions of these commands are given in paragraphs b through w.

SYSTEM COMMANDS STRUCTURE presents the operating relationship between System Commands (@), PARAMETER (-) subcommands, and EDIT (*) subcommands. Additional Model C commands and subcommands are included.

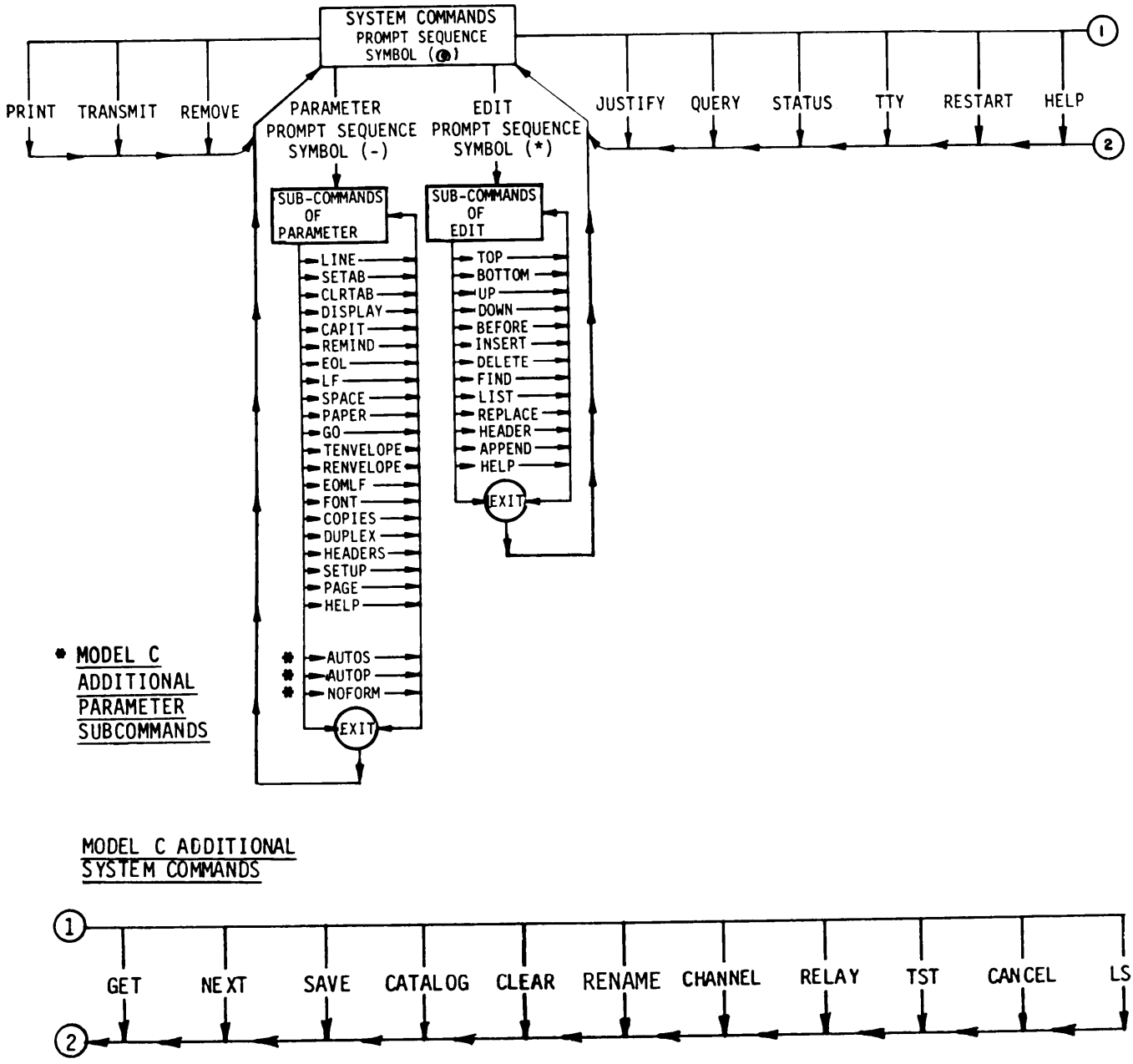


Figure 2-8. SYSTEM COMMANDS STRUCTURE

Table 2-7. THE SYSTEM COMMANDS AND THEIR FUNCTIONS

SYSTEM COMMAND	SHORTEST ACCEPTABLE FORM	FUNCTION
PARAMETER	PAR	Allows system parameters to be specified.
EDIT	ED	Allows editing functions to be specified.
PRINT	PR	Allows printing of specified message(s).
TRANSMIT	TR	Allows transmission of specified message(s).
REMOVE	REMO	Allows removal of specified message from message storage.
JUSTIFY	J	Changes format of specified message in message memory.
QUERY	Q	Allows operator to examine current system status without powering down.
STATUS	ST	Allows operator to examine current status of specified message(s).
TTY	TT	Allows immediate transmission of a single line of input.
RESTART	RES	Allows system reinitialization without powering down.
HELP	HEL	Prints complete list of System Commands, their format, and brief description of each.
MODEL C ONLY ADDITIONAL SYSTEM COMMANDS		
GET	GE	Transfers specific message from AMM to message memory.
NEXT	N	Transfers the oldest, highest precedence, nonaccessed message from AMM to message memory.
SAVE	SA	Transfers message memory message to AMM.
CATALOG	CAT	Requests status of AMM-stored messages.
CLEAR	CLE	Clears one or all AMM messages as specified.
RENAME	REN	Changes name of AMM-cataloged message entry.
RELAY	REL	Relays AMM-stored message through relay port to specified channel (terminal).
CHANNEL	CH	Designates terminal as Master or assigns channel number (1 to 16).
TST	TS	Initiates Auxiliary Memory/Relay Function self-test.
CANCEL	CAN	Aborts relay transmit process.
LS	LS	Prints out status of dual purpose lamps.

NOTE
See Appendix F for operator examples of command usage.

b. PARAMETER command allows operator to specify system parameters through use of 21 subcommands. (See table 2-8.)

- Once issued, system remains in PARAMETER level until EXIT subcommand is carried out.
- While at this level, only subcommands of PARAMETER will be carried out.

Operator Action:	Inputs boPARAMETERboCR
System Response:	CR/2LF - CR/2LF
Comment:	Terminal accepts and enters PARAMETER command level.

- Operator is now free to enter any of the 14 subcommands of PARAMETER command, briefly described in table 2-8.

MODEL C ONLY

- Three additional subcommands are shown in table 2-8.

Keystroke sequence of PARAMETER command is as follows:

- boPARAMETERboCR.
- Shortest acceptable form of command is PAR.

Table 2-8. SUBCOMMANDS OF THE PARAMETER COMMAND

NOTE
See Appendix G for complete description of these subcommands and use of the shortest acceptable form.

SUBCOMMAND	SHORTEST ACCEPTABLE FORM	FUNCTION
LINE	LIN	Sets line length.
SETAB	SETA	Sets tab position.
CLRTAB	CLR	Clears tab position.
DISPLAY	DI	Displays tab position settings.
CAPIT	CAP	Sets or resets capitalize option.
REMIND	REMI	Sets or resets transmission reminder message.
EOL	EOL	Sets end-of-line sequence for transmission.
LF	LF	Sets value for line-feed.
SPACE	SP	Sets or resets space option.
PAPER	PAP	Turns print drum and ribbon feed off,
GO	GO	Turns print drum and ribbon feed on.
TENVELOPE	TENV	Sets envelope for message transmission.
RENVELOPE	RENV	Sets envelope for message reception.
EXIT	EX	Returns system to System Command level.
EOMLF	EOM	Sets number of line-feeds at End of Message.
FONT	FO	Specifies printer character set.
COPIES	CO	Specifies number of copies in multi-part paper.
DUPLEX	DU	Selects full- or half-duplex communications.
HEADERS	HEADERS	Prints current header information.
SETUP	SETU	Provides prompting for header format.
PAGE	PAG	Sets number of printed lines on a 66-line page.
HELP	HEL	Prints list of parameter subcommands, their formats, and a brief description of each.
EXIT	EX	Returns to System Command level.
MODEL C ONLY ADDITIONAL PARAMETER SUBCOMMANDS		
AUTOS	AUTOS	Sets or resets automatic save to AMM.
AUTOP	AUTOP	Sets or resets automatic print message function.
NOFORM	NOFORM	Sets or resets no-format/no-save in AMM storage.

c. EDIT command is used to compose and edit messages through use of 13 subcommands shown in table 2-9. These subcommands are the only valid instructions until EXIT subcommand is executed,

Operator Action: Input boEDITb2123boCR
System Response: CR/LF prints MESSAGE NUMBER 123
Comment: First input causes terminal to respond and call up designated message 123, Line pointer points to the first line of message.

Operator Action: Inputs boEDITbo
System Response: CR/2LF * CR/2LF prints MESSAGE NUMBER 6 CR/2LF
Comment: * CR/2LF
Second input places terminal in EDIT mode. Terminal recognizes new message is being composed and assigns a message number (Message number 6 is used for reference only.)

- Messages are normally composed using INSERT subcommand of EDIT.
- See table 2-9 for brief explanation of subcommands of EDIT command.

Keystroke sequence for EDIT command is either of the following:

- boEDIT(plus message number)boCR when a specific locally composed message is to be edited.
- boEDITboCR when a new message is to be composed.
- Shortest acceptable form of command is ED.

Table 2-9. SUBCOMMANDS OF THE EDIT COMMAND

NOTE
See Appendix H for complete description of these subcommands and use of the shortest acceptable form.

SUBCOMMAND	SHORTEST ACCEPTABLE FORM	FUNCTION
TOP	TO	Moves line pointer to first line of message.
BOTTOM	BO	Moves line pointer to last line of message.
UP	u	Moves line pointer up requested number of lines, but not past first line of message.
DOWN	DO	Moves line pointer down requested number of lines, but not past last line of message.
BEFORE	BE	Inserts operator-entered block-of-text before line of text as defined by line pointer.
INSERT	I	Inserts operator entered block-of-text after line of text as defined by line pointer.
DELETE	DE	Deletes specified number of lines from line pointer position.
FIND	FI	Specifies a 20-character maximum phrase to be located.
LIST	LIS	Prints requested number of lines, beginning at line pointer position.
REPLACE	REP	Specifies that a given phrase (1 to 20 characters) is to be replaced by another phrase (0 to 40 characters).
HEADER	HEADER	Appends previously defined header and trailer around a message.
APPEND	AP	Adds copy of designated message to end of the currently edited message.
HELP	HEL	Prints a list of EDIT subcommands, their formats, and a brief description of each.
EXIT	EX	Returns system to System Command level.

d. PRINT command allows operator to print out messages by message number without erasing them from message memory.

• Operator may also print out all received messages in message memory and erase them.

NOTE

The term "found" refers to terminal ability to recognize and accept (or reject) an envelope.

Ž When message number is input and found:
- subject message is printed,
- System performs 20 line-feeds.
- At completion of printing, message is not deleted from message memory.

Ž If HLT or ABORT are used to stop printing:
- Error message No. 17 (PRINTING TERMINATED) is printed and system returns to System Command level.
- Stored messages are marked as printed only when completely printed.

Ž If operator enters (*) instead of a message number, all messages are printed out.
- Messages are printed in order received (first in, first out) by precedence, then erased.
- System finds number of the oldest, highest precedence message, performs 10 line-feeds, then prints and deletes message.
- This is repeated until all received messages are printed out. System performs 20 line-feeds to complete the command,
- If HLT or ABORT are activated, error message No. 17 (PRINTING TERMINATED) is printed and the PRINT command is terminated,

Keystroke sequence for PRINT command is as follows:

Ž b0PRINTb2(+XXXX, *) boCR.
Ž Shortest acceptable form of command is PR,

e. TRANSMIT command allows operator to specify message number to be transmitted

Ž When number specified is not in system:
- Error message No. 2 (MESSAGE NOT FOUND) is printed.
- System returns to System Command level.

Ž When message requested is not a composed message:
- Error message No. 126 (COMMAND NOT ACCEPTED, MESSAGE IN RECEIVE CATEGORY) is printed.
- System returns to System Command level,

• If previous transmission has not been completed:
- Error message No. 11 (COMMAND NOT ACCEPTED, COMMUNICATIONS PORT BUSY) is printed.
- Command is terminated,

- If HLT key stops printing of message:
  - Error message No. 17 (PRINTING TERMINATED) is printed.
  - Transmission continues until completion.

Ž ..If. ABORT switch stops transmission:
  - Message is marked “not transmitted”.

- If empty message is specified:
  - Error message No. 7 (MESSAGE EMPTY) is printed.
  - No transmission.

Keystroke sequence for TRANSMIT command is either of the following:

Ž boTRANSMITb2(XXXX) b0CR.

NOTE

The following keystroke sequence is used to change channel sequence number.

- boTRANSMITb2(XXXX) b2WlTHbzNNNNb0CR.

Ž Shortest acceptable form of command is TR

f. REMOVE command allows operator to specify number of a message to be removed from message memory.

Ž When number specified is not in system:
  - Error message No. 2 (MESSAGE NOT FOUND) is printed.
  - System returns to System Command level.

Ž If message is received and marked as printed, ARE YOU SURE? (Y/N) is printed. IINII response yields no action; "Y" response yields the following:
  - Message is deleted.
  - Error message No. 18 (MESSAGE XXXX REMOVED FROM INTERNAL MESSAGE MEMORY) is printed.
  - Command is complete.

Ž If message has not been printed:
  - Error message No. 1 (NOT REMOVED, COMM PORT 1IRECEIVE1IMESSAGE NEVER PRINTED) is printed.
  - Command is complete.

Ž If message is a composed, transmitted message:
  - Message is deleted.
  - Error message No. 18 (MESSAGE XXXX REMOVED FROM INTERNAL MESSAGE MEMORY) is printed.
  - Command is complete.

Ž If message is marked as being in transmission:
  - Error message No. 19 (COMMAND NOT ACCEPTED, MESSAGE IS CURRENTLY IN TRANSMISSION ON COMM PORT) is printed.
  - Command is complete.

Ž If message has not been transmitted:
- Error message No, 16 ("COMPOSED" MESSAGE HAS NOT BEEN TRANSMITTED) is printed.

• If next command is to remove this same message:
- Message is deleted.
- Error message No. 18 (MESSAGE XXXX REMOVED FROM INTERNAL MESSAGE MEMORY) is printed.

Keystroke sequence for REMOVE command is as follows:

• boREMOVEb2(XXXX) b0CR.
• Shortest acceptable form of command is REMO

g. JUSTIFY command allows operator to reformat a designated message in message memory to the specified line elngth. (See PARAMETER subcommands, Appendix G.)

NOTE

The term "Justify", as used in the printing industry, means to adjust lines to proper length by spacing.

• If designated message is not a message in system:
- Error message No. 2 (MESSAGE NOT FOUND) is printed.
- Command is terminated.

• Upon locating designated message, system line justifies message by performing the following:
- Removing all line-feeds.
- Replacing all carriage-returns with spaces.
- Reforming lines by adding carriage-returns in spaces so that line lengths are equal to, or less than, selected line lengths.
- Not dividing words.

NOTE

Terminal accepts a space as a character. Therefore, if spaces are randomly placed in message, JUSTIFY command will not eliminate these spaces. Terminal will, however, remove all TAB characters.

• Excess spaces must be edited out of message by operator.

Keystroke sequence for JUSTIFY command is as follows:

• b0JUSTlFYb2(XXXX) b0CR.
• Shortest acceptable form of command is J.

h. QUERY command allows operator to obtain a printout of terminal status.

Printout consists of the following:

- Software system configuration.
- STATE switch position.
- Actual operational state of terminal.
- MODE switch position.
- BAUD RATE switch position.
- STOP-BITS switch position.
- END-OF-LINE option.
- Space option.
- Line-length option.
- Line-feed option.
- Message reception envelope.
- Message transmission envelope.
- Parity option (ASCII mode, or Bell option (Baudot mode).
- Capital letter option.
- Duplex mode.
- End of message line-feeds.
- Font selected.
- Lines per page.
- Number of print copies.

MODEL C ONLY

- Auxiliary Memory Module storage capacity message is printed.

Keystroke sequence for QUERY command is as follows:

- boQUERYboCR.

ŽShortest acceptable form of command is Q.

i. STATUS command allows operator to request status of specified message(s).

ŽIf an invalid message number is requested:
- ❑ Error message No. 2 (MESSAGE NOT FOUND) is printed.
- ❑ Command is complete.

Ž If no message number is entered:
- ❑ Latest received message is assumed to be message specified.

Ž If operator wants status of all messages:
- ❑ (*) is entered in message number position of input command.
- ❑ Status of received messages are printed in order of first-in, first-out, by precedence.

Status of composed message is printed in order of message number.
Command is complete.

Ž Status of message(s) is printed and includes the following:
- ❑ Message number.
- ❑ **Type** of **message** (received or composed).
- ❑ Number of **memory** blocks used by message.
- ❑ Whether received message has been printed, or whether composed message has been transmitted.

Ž Precedence characters and codes are shown below:

CHARACTER	PRECEDENCE	CHARACTER PRINTED
Y	EMERGENCY COMMAND	Y
Z	FLASH	Z
0	IMMEDIATE	0
P	PRIORITY	P
R	ROUTINE	R
OTHER OR NOT DETERMINABLE		

Ž Precedence is identified in message by first character of second line.

- Command is completed when system prints CR/2LF MEMORY NNN% FULL CR/2LF @ CR/2LF. (NNN is a three-digit number representing percent of message memory in use.)

Keystroke sequence for STATUS command is as follows:

- boSTATUSb2(+XXXX,*,NULL)boCR.

Ž Shortest acceptable form of command is ST.

j. TTY command allows operator to transmit a one line message. Line length is set at 80 characters automatically for this command. Line length may be changed by using LINE subcommand. (See PARAMETER subcommands, Appendix G)

- When command is input, status of transmitter is checked. If a previously composed message is being transmitted:
  - ❑ Error **message No. 19** (COMMAND NOT ACCEPTED, MESSAGE IS CURRENTLY IN TRANSMISSION ON COMM PORT) is printed.
  - ❑ Command is terminated.

Ž If transmitter is not transmitting, a carriage-return and line-feed is issued, and operator may enter line of text.
- ❑ Text of line is **composed and may be edited using** DLC, DLL and REV keys. Line of text is transmitted with end-of-line sequence appended, and in an envelope, when carriage-return is entered.
- ❑ Line is not printed when transmitted.
- ❑ Command is terminated.

Keystroke sequence for TTY command is as follows:

- **boTTYboCR.**
- **Shortest acceptable form of command is TT.**

k, RESTART command allows operator to restart (initialize) system without turning power off.

Retains all messages in message memory, in ICT state only

Retains all PARAMETER options and values during execution.

- Upon entry of command, terminal prints ARE YOU SURE? (Y/N). “Y” response prints CHANGE SWITCH SETTINGS AND ENTER CR TO CONTINUE; “N” response aborts command.
  - Operator may change any or all system configuration switches.
  - Operator enters a CR when finished.
  - Machine prints new initialization report message.

Keystroke sequence for RESTART command is as follows:

- boRESTARTboCR.
- Shortest acceptable form of command is RES.

l. HELP command allows operator to print a list of system commands. List includes command, command format, and brief description of each. (See Appendix J.)

Explains Systems Commands, PARAMETER subcommands, and EDIT subcommands.

Keystroke sequence for HELP command is as follows:

- b0HELPb0CR.
- Shortest acceptable form of command is HEL.

MODEL C ONLY ADDITIONAL SYSTEM COMMANDS

m. GET command allows operator to copy message from AMM and store it in message memory.

- Message name is represented by date-time marking of file (DDTTTT,L). DD is two-digit date, TTTT is four-digit military time, and L represents a “space”, or sequence letter A to Z. Space must be used if no letter is required.

NOTE

After any error message is printed, system returns to System Command level.

- If AMM is not attached to terminal:
  - Error message No. 36 (AUXILIARY MEMORY MODULE NOT ACCESSIBLE) is printed.

- If message name given is not present in AMM catalog:
  - Error message No. 40 (MESSAGE NOT FOUND; CHECK NAME) is printed.

- If message name given is incomplete:
  Error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed,

- If error occurs while retrieving message from AMM:
  Error message No. 37 (AUXILIARY MEMORY MESSAGE ERROR) is printed.
  Partial message is deleted.

Ž If message memory becomes full while copying from AMM:
  Error message No. 3 (MESSAGE MEMORY FILLED) is printed,
  Partial message is deleted.

- If AM/RF subsystem is busy when accessed to GET message:
  Error message No, 64 (COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY BUSY) is printed.

- If system configuration is not AN/UGC-74C(V)3:
  Error message No, 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed.

Ž If AM/RF does not respond to GET command within 45 seconds:
  Error message No, 66 (AM/RF INTERFACE FAILURE) is printed. To reenable the AM/RF functions, the operator follows the instructions printed with message No. 66.

  AM/RF sybsystem is disabled.

Keystroke sequence for GET command is as follows:

- bOGETb2DDTTTT,LboCR.

NOTE

L is an optional message identifying sequence letter of a “space”, then A to Z alpha characters. Space must be used if no letter is required.

Ž Shortest acceptable form of command is GE,

n. NEXT command allows operator to copy oldest, highest precedence, nonaccessed message from AMM and store it in message memory.

- If there are no nonaccessed messages:
  Error message No, 42 (ALL RELAYED MESSAGES HAVE BEEN ACCESSED) is printed.
  System returns to System Command level.

Keystroke sequence for NEXT command is as follows:

Ž boNEXTboCR.
- Shortest acceptable form of command is N.

0. SAVE command allows operator tosave a message contained in message memory to the AMM,

NOTE

After any error message is printed, system returns to System Command level.

Ž If AMM is not attached:
Error message No. 36 (AUXILIARY MEMORY MODULE NOT ACCESSIBLE) is printed.

Ž If message number requested is not valid:
Error message No. 2 (MESSAGE NOT FOUND) is printed.

Ž If an error occurs while storing message:
Error message No. 37 (AUXILIARY MEMORY MODULE ERROR) is printed.

Ž If message with the same name is in AMM:
Error message No. 41 (DUPLICATE NAME; SEQUENCE LETTER ADDED) is printed.

Ž If all available sequence letters have been used:
Error message No. 50 (MESSAGE NOT SAVED, NO MORE SEQUENCE INDICATORS AVAILABLE FOR DUPLICATE NAME) is printed.

Ž If AMM is 99% full:
Error message No. 49 (AUXILIARY MEMORY MODULE FULL) is printed.

Ž If AMM becomes full during save operation:
Error message No. 39 (INSUFFICIENT AUXILIARY MEMORY TO SAVE MESSAGE) is printed.

Ž If AM/RF subsystem is busy when issuing this command:
Error message No. 64 (COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY FUNCTION BUSY) is printed.

Ž If system configuration is not AN/UGC-74C(V)3:
Error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed.

Ž If AM/RF does not respond to command within 45 seconds:
Error message No. 66 (AM/RF INTERFACE FAILURE) is printed. To reenable the AM/RF functions, the operator follows the instructions printed with message No. 66.

Keystroke sequence for SAVE command is as follows:

Ž boSAVEb2XXXXbocCR.
Ž Shortest acceptable form of command is SA.

P CATALOG command allows operator to request status of messages stored in the AMM as well as percent of AMM available.

Printed catalog contains:

- Message sequence indicator.
Ž Message precedence.
Ž Form of the date-time group.
Ž Type of message.
Ž Relay message accessed or not accessed indicator.
Ž Up to 32 characters of originating Plain Language Address (PLA).
Ž Message list in last-in first-out (LIFO) order.

NOTE

After any error message is printed, system returns to System Command level.

CATALOG FORMATS

Sb1PbldddttttZb1monblyrb1b1RECEIVEDb1ACCESSEDb1FMb1CR

Sb1Pb1ddtttttzb1monb1COMPOSEDbl1ACCESSEDb1b1lCR

Sb1Pb1ddttttZb1monb1yrb1b1RELAYb1NOTbl1ACCESSEDb1FMb1CR

Sb1Pb1ddttttb1b1b1b1b1b1b1b1b1b1b1b1RELAYb1ACCESSEDb1CR

Sb1Rb1778899Zb1b1b1b1b1b1b1b1b1b1b1b1ACCESSEDb1CR

where:

S = Sequence indicator for redundant names.
P = Precedence (for dual precedence messages, 1st precedence only.

Month is optional.
Year is optional,
Originator is optional

NOTE

RENAME command allows operator to change sequence, precedence, day/time, month, and year, and also is used to change dummy headers,

Ž If AMM is not attached when command is entered:
Error message No. 36 (AUXILIARY MEMORY MODULE NOT ACCESSIBLE) is printed.

Ž Entry of an '' S'' in command parameter field is a request for sorted catalog. If anything other than a ''S'' is entered in parameter field:
Error message No, 10 (INVALID OR MISSING COMMAND VARIABLE) is printed.

Ž If AMM is empty:
Error message No. 43 (CATALOG EMPTY) is printed.

Ž If error occurs while accessing AMM:
Error message No. 37 (AUXILIARY MEMORY MODULE ERROR) is printed.

• If AM/RF sybsystem is busy:
Error message No. 64 (COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY BUSY) is printed.

Ž If system is not configured as AN/UGC-74C(V)3:
Error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed.

• If AM/RF does not respond to this command within 45 seconds:
Error message No. 66 (AM/RF INTERFACE FAILURE) is printed. To reenable the AM/RF functions, the operator follows the instructions printed with message No. 66.

• First line printed in response to either form of CATALOG command is NNN% AMM MEMORY AVAILABLE CR/LF. (NNN is a three-digit number representing amount of AMM memory available for message storage).

Ž HLT key will stop printing of catalog

Keystroke sequence for CATALOG command is as follows:

Ž boCATALOGb2(?S) boCR.
Ž Shortest acceptable form of command is CAT

q. CLEAR command allows operator to clear one or all messages from AMM.

Ž Terminal prompts ARE YOU SURE? (Y/N), “Y)’ response will clear message(s) from memory and catalog; “N” will cancel command.

Ž (*) may be used to clear all messages from AMM memory.

Ž Clearing AMM takes approximately 45 seconds.

NOTE
After any error message is printed, system returns to System Command level.

Ž If error occurs while accessing AMM:
Error message No. 37 (AUXILIARY MEMORY MODULE ERROR) is printed

Ž If AM/RF subsystem is busy:
Error message No. 64 (COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY BUSY) is printed.

• if system is not configured as AN/UGC-74C(V)3:
Error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed.

Ž If AMM does not respond to this command within 45 seconds:
Error message No. 66 (AM/RF INTERFACE FAILURE) is printed. To reenable the AM/RF functions, the operator follows the instructions printed with message No. 66.

• If AMM is not attached when this command is entered:
Error message No. 36 (AUXILIARY MEMORY MODULE NOT ACCESSIBLE) is printed.

Ž If message name is not present in AMM catalog:
Error message No. 40 (MESSAGE NOT FOUND; CHECK NAME) is printed.

Ž If auto save process had been previously disabled due to AMM full condition:
Clear AMM.
Error message No. 67 (AUTO SAVE ENABLED) is printed.
Attempt is made to save any waiting messages.

Keystroke sequence for CLEAR command is as follows:

Ž boCLEARb2(+(DDTTTT, L),*) boCR.
Ž Shortest acceptable form of command is CLE.

r. RENAME command allows operator to change the name of entry in AMM catalog.

NOTE
After any error message is printed, system returns to System Command level.

Ž If AMM is not attached when this command is entered:
Error message No. 36 (AUXILIARY MEMORY MODULE NOT ATTACHED) is printed.

• If either name field is incomplete when entered in parameter field:
Error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed.

Ž If first name specified is not present:
Error message No. 47 (OLD MESSAGE NAME NOT FOUND) is printed

Ž If second name specified already exists:
Error message No. 48 (NEW MESSAGE NAME ALREADY EXISTS) is printed

Ž If an error occurs while accessing AMM:
Error message No. 37 (AUXILIARY MEMORY MODULE ERROR) is printed.

Ž If AM/RF subsystem is busy:
Error message No. 64 (COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY BUSY) is printed.

Ž If system is not configured as AN/UGC-74C(V)3:
Error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed.

Ž If AM/RF does not respond to this command within 45 seconds:
❑ Error message No. 66 (AM/RF INTERFACE FAILURE) is printed. To reenable the AM/RF functions, the operator follows the instructions printed with message No. 66.

Keystroke sequence for RENAME command is as follows:

• boRENAMEb2DDTTTT,L/DDTTTT,LboCR.
Ž Shortest acceptable form of command is REN.

S. RELAY command allows operator to retrieve message from AMM and relay it to other AMM-equipped terminals through relay port.

Receiving terminal(s) must be on and assigned proper channel numbers. See CHANNEL command.

NOTE
After any error message is printed, system returns to System Command level.

Ž If AMM is not attached when this command is entered:
❑ Error message No. 36 (AUXILIARY MEMORY MODULE NOT ATTACHED) is printed.

Ž If message name is not present in AMM catalog:
❑ Error message No. 40 (MESSAGE NOT FOUND; CHECK NAME) is printed.

Ž If name field is not complete, or channel numbers are not in range of 1 to 16: Error message No. 10 (INVALID OR MISSING COMMANDVARIABLE) is printed.

Ž If relay-sending-station own channel number is specified in channel number parameter list:
❑ Error message No. 89 (INVALID ADDRESS, CANNOT BE SENDER) is printed.

Ž If relay-sending-station has not assigned itself a channel using CHANNEL command:
❑ Error message No. 33 (CANNOT RELAY, NO CHANNEL ASSIGNED) is printed.

Ž If error occurs while accessing AMM:
❑ Error message No. 37 (AUXILIARY MEMORY MODULE ERROR) is printed.

Ž If valid name and channel number(s) given:
❑ Message is accessed from AMM.
❑ Message is formatted to be sent on relay network.
❑ Request to transmit is issued to relay network.
❑ Message No. 58 (RELAY MESSAGE #XXXX PREPARED) is printed.
❑ Message is relayed to designated channels.
❑ Message No. 32 (RELAY MESSAGE #XXXX IN PROGRESS) is printed.

• If attempt is made to relay another message before previous relay command is complete:

- Error message No. 57 (COMMAND NOT ACCEPTED, MESSAGE RELAY IN PROGRESS) is printed.

Ž If any receiving terminal is unable to complete message reception:
- Error message No. 35 (RELAY MESSAGE #XXXX CHANNEL #XX NOT SAVED) is printed at receiving station.

.• If AMM becomes full before completing message reception:
- Error message No. 39 (INSUFFICIENT AUXILIARY MESSAGE MEMORY TO SAVE MESSAGE) and error message No. 35 (RELAY MESSAGE #XXXX CHANNEL #XX NOT SAVED) are printed at receiving station.

• If AM/RF subsystem is busy:
- Error message No. 64 (COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY BUSY) is printed.

Ž If system is not configured as AN/UGC-74C(V)3:
- Error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed.

.• If AM/RF does not respond to this command within 45 seconds:
- Error message No. 66 (AM/RF INTERFACE FAILURE) is printed. To reenable the AM/RF functions, the operator follows the instructions printed with message No.66,

Keystroke sequence for RELAY command is as follows:

Ž boRELAYb2DDTTTT, Lbo/(#,XX)b2CR.
Ž Shortest acceptable form of command is REL.

t. CHANNEL command allows operator the following functions:
Ž Designate unit as master station,
• Cancel master station designation, or channel designation.
Ž Assign relay port channel number.
Ž Request current channel number assignment.

NOTE
After any error message is printed, system returns to System Command level.

Master station designation command sequence is CHANNEL M CR.

Ž If this command is entered with channel number already assigned:
- Error message No. 38 (CANNOT DESIGNATE AS MASTER, CHANNEL ALREADY ASSIGNED) is printed.

Ž If master already exists on relay network:
- Error message No. 52 (NOT ASSIGNED, ANOTHER CHANNEL IS MASTER) is printed.

Master station or channel assignment cancellation command sequence is CHANNEL O CR.

- If unit was not assigned as master, or no channel number had been assigned:
  - This command has no effect.
  - Error message No. 33 (CANNOT RELAY, NO CHANNEL ASSIGNED) is printed.

To assign or reassign channel number, command sequence is CHANNEL XX CR (where XX is 1 to 16).

Ž If requested channel number is not in range of 1 to 16:
- Error message No. 34 (NOT ASSIGNED, CHANNEL MUST BE IN 1-16 RANGE) is printed.

- If channel number requested is already assigned to any station on relay network:
  - Error message No. 56 (NOT ASSIGNED, CHANNEL #XX ALREADY USED) is printed.

- If relay is in progress:
  - Error message No, 57 (COMMAND NOT ACCEPTED, MESSAGE RELAY IN PROGRESS) is printed.

Ž If requested channel is valid:
- Message No. 55 (RELAY CHANNEL #XX IN PROGRESS), and then message No. 53 (RELAY CHANNEL ACTIVATED) is printed.

To request currently assigned channel number or master designation, command sequence is CHANNEL CR.

Ž Channel number response CHANNEL NN CR/LF is printed.

.Ž If unit had been assigned as relay network master:
- MASTER UNIT CR/LF is printed.

- If no channel number had been assigned:
  - Error message No. 33 (CANNOT RELAY, NO CHANNEL ASSIGNED) is printed.

- If channel number had been assigned but is not active:
  - Error message No. 54 (RELAY CHANNEL NOT ACTIVE) is printed

Ž If AM/RF subsystem is busy:
- Error message No. 64 (COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY BUSY) is printed.

- If system is not configured as AN/UGC-74C(V)3:
  - Error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed.

Ž If AM/RF does not respond to this command within 45 seconds:
- Error message No, 66 (AM/RF INTERFACE FAILURE) is printed. To reenable the AM/RF functions, the operator follows the instructions printed with message No. 66.

Keystroke sequence for CHANNEL command is as follows:

Ž boCHANNELb2(?(+M,XX,O)) boCR.
Ž Shortest acceptable form of command is CH.

u. TST command allows operator to initiate AM/RF self-test from keyboard.

NOTE
After any error message is printed, system returns to System Command level.

Ž If AM/RF operation is in progress:
- Error message No. 59 (TEST NOT ALLOWED, RELAY CHANNEL ACTIVE) is printed.

If the test command is accepted, one of the following messages is printed, according to AM/RF subsystem failure (if any):

.Ž AM/RF UART LOOPBACK TEST
- Error message No. 69 (A1A2 FAILURE)

• ROM TEST
- Error message No. 60 (MAINTENANCE NOTE: ROM TEST FAILED A2A4)

RAM TEST
- lError message No. 61 (MAINTENANCE NOTE: RAM TEST FAILED A2A4)

Ž RELAY INTERFACE TEST
- Error message No. 62 (MAINTENANCE NOTE: SCC/RELAY TEST FAILED A2A4)

• RTC TEST
- Error message No, 63 (MAINTENANCE NOTE: RTC TEST FAILED A2A4)

Ž AMM TEST
- Error message No. 37 (AUXILIARY MEMORY MODULE ERROR)

At completion of test, system prints XXX% AMM MEMORY AVAILABLE.

Ž If AM/RF subsystem is busy:
- Error message No. 64 (COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY BUSY) is printed,

Ž If system is not configured as AN/UGC-74C(V)3:
- Error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed.

Keystroke sequence for TST command is as follows:

Ž boTSTboCR.
Ž Shortest acceptable form of command is TS.

v. CANCEL command allows operator to abort relay transmit process. Two conditions may be aborted:

Message in system waiting for access to relay port.
Ž Message being transmitted over relay network.

NOTE
After any error message is printed, system returns to System Command level.

Ž If message waiting is aborted:
- Error message No. 45 (RELAY MESSAGE #XXXX CANCELED) is printed.
- Nothing is printed at receiving station.

Ž If message transmission has started and then is canceled:
- Message No. 46 (RELAY MESSAGE #XXXX CANCELED IN PROGRESS) is printed at transmitting station.
- Message No. 35 (RELAY MESSAGE #XXXX CHANNEL #XX NOT SAVED) is printed at receiving station.

Ž If AM/RF subsystem is busy:
- Error message No. 64 (COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY BUSY) is printed.

• If system is not configured as AN/UGC-74C(V)3:
- Error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed.

Ž If AM/RF does not respond to this command within 45 seconds:
- Error message No. 66 (AM/RF INTERFACE FAILURE) is printed. To reenable the AM/RF functions, the operator follows the instructions printed with message No. 66.

Keystroke sequence for CANCEL command is as follows:

Ž boCANCELboCR.
• Shortest acceptable form of command is CAN.

w. LS command provides operator with a printed report of any MSG RCVD or MEM FULL lamp indication.

The following printed messages relate to MEM FULL lamp on or flashing:

Ž Message memory status message -
- MEMORY NN% FULL

Aux memory status message -
- NNN% AMM MEMORY AVAILABLE

The following printed messages relate to MSG RCVD lamp on or flashing:

- ON -
  - XX LOW PRECEDENCE NONPRINTED MESSAGES IN MESSAGE MEMORY
  - XX LOW PRECEDENCE NONACCESSED MESSAGES ON THE AMM

Ž FLASHING -
  - XX HIGH PRECEDENCE NONPRINTED MESSAGES IN MESSAGE MEMORY
  - XX HIGH PRECEDENCE NONACCESSED MESSAGES ON THE AMM

NOTE

XX will be (NO) if there are no messages of indicated category waiting.

- If AMM is not attached when this command is entered:
  - Error message No. 36 (AUXILIARY MEMORY MODULE NOT ATTACHED) is printed.

- If AM/RF subsystem is busy:
  Error message No. 64 (COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY BUSY) is printed,

Ž If system is not configured as AN/UGC-74C(V)3:
  - Error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed.

- If AM/RF does not respond to this command within 45 seconds:
  - Error message No. 66 (AM/RF INTERFACE FAILURE) is printed. To reenable the AM/RF functions, the operator follows the instructions printed with message No. 66.

Keystroke sequence for LS command is as follows:

Ž boLSboCR.
- Shortest acceptable form of command is LS.

2-15. OPERATIONAL TESTS WITH THE DISTANT STATION

When required or authorized by station Standard Operating Procedure (SOP) or Communications-Electronic Operating Instructions (CEOI), operator will perform an operational test with distant station(s). If terminal is operating in KSR state, test No. 1 (paragraph a) will be performed, If terminal is in ICT state, test No. 2 (paragraph b) will be performed.

a. Test No. 1 - Terminal in KSR State:

- Check settings of internal controls on interface assembly to ensure conformance with station SOP or CEOI.
- See paragraph 2-11 for operating terminal in KSR state.
- Operator will set terminal POWER switch in ON position.
- After terminal has printed KSR Operation Validation/State Determination printout, machine is ready for message reception or transmission.
  - ❑ Terminal will transmit one line of text (up to 80 characters) after CR key or HLT key is pressed.
  - ❑ Terminal transmits only upper case letters in KSR state.
  - ❑ Editing of one line of text is provided using DLC, DLL and REV keys.
- Following station SOP or CEOI, operator will transmit a message to distant station(s), identifying operator station and requesting a reply that the message was properly received.

Example of operator message:

Ž TESTING STATION NO.XXX (enter station serial number) ACKNOWLEDGE RECEIPT OF THIS MESSAGE AND IF RECEIVED WITHOUT ERRORS.

Ž Operator will check all received messages to ensure that communication with distant station(s) has been established.

NOTE

In KSR state, terminal prints a received line of text after a carriage-return is found in received text, or the 81st character is received, or a 0.5- to 1.5-second time lapse between received characters is detected.

Ž When communication with distant station(s) has been satisfactorily established, operator will sign off and set terminal POWER switch in OFF position.

b. Test No. 2 - Terminal in ICT State:

Ž Check settings of internal controls on interface assembly to ensure conformance with station SOP or CEOI.

Ž See paragraph 2-12 for operating terminal in ICT state, TTY System Command.

NOTE

In TTY command, operator can transmit only a one line message at a time. Line length is set to 80 characters automatically for this command. Line length may be set to 40 to 132 with LINE subcommand,

Ž Operator will set terminal POWER switch to ON position,

Ž After terminal has printed ICT Operation Validation/State Determination printout, operator will place terminal in TTY command using keystroke sequence of **boTTYboCR.**

Ž Terminal will respond with carriage-return and line-feed; installer may now enter a line of text.

Ž Text of line is composed and may be edited using DLC, DLL and REV keys.

Ž Line of text is transmitted with an end-of-line sequence appended, and in an envelope, when carriage-return is entered.

NOTE

Line of text is not printed on terminal when it is transmitted to distant station(s).

Ž After line of text is transmitted, TTY command is terminated and terminal returns to System Command level (Q).

Ž Following station SOP or CEOI operator will transmit a one line message to distant station(s) (one station at a time), requesting reply that message was properly received.

Example of a one line message:

Ž TESTING STATION NO.XXX (enter station serial number) ACKNOWLEDGE RECEIPT OF THIS MESSAGE.

Ž Operator will check all received messages to ensure that communication with distant station(s) is satisfactory.

Ž When communication with distant station(s) is considered satisfactory, operator will sign off and set terminal POWER switch in OFF position.

Section IV. OPERATION UNDER UNUSUAL CONDITIONS

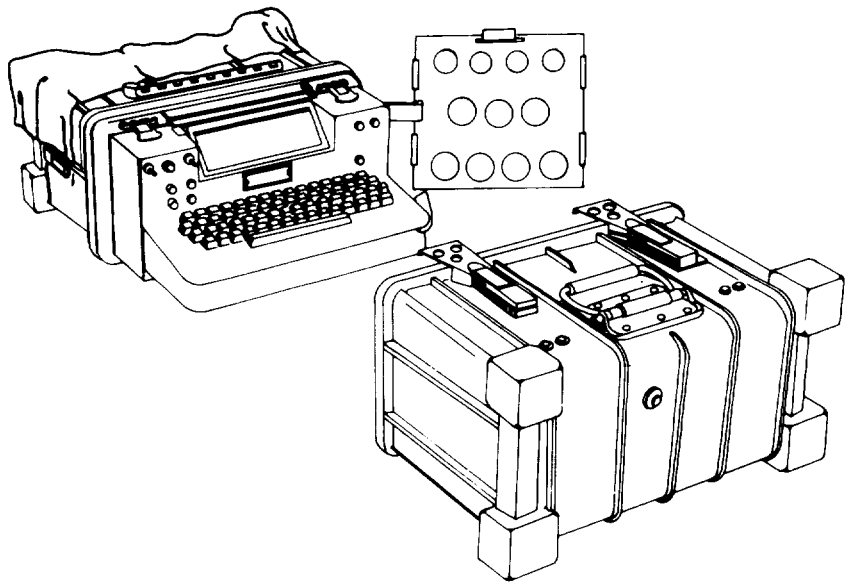
2-16. PROTECTIVE MEASURES

Terminal will withstand extremes of heat or cold as listed in paragraph 1-9. When operated within these limitations, moist air, dry heat or cold will not affect system performance. Operator will take following protective messures when these limitations are exceeded.

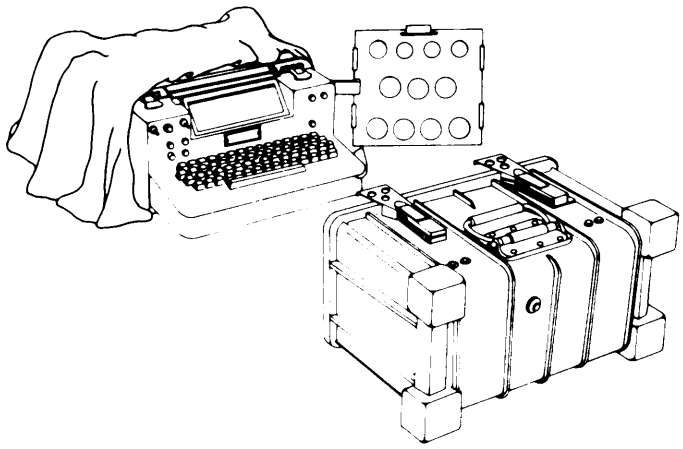
CAUTION

Ensure combination case is in place before damp cloth is applied.

a. During periods of intense heat, a lightly-dampened cloth laid over top and sides of terminal case will reduce effect of the heat.



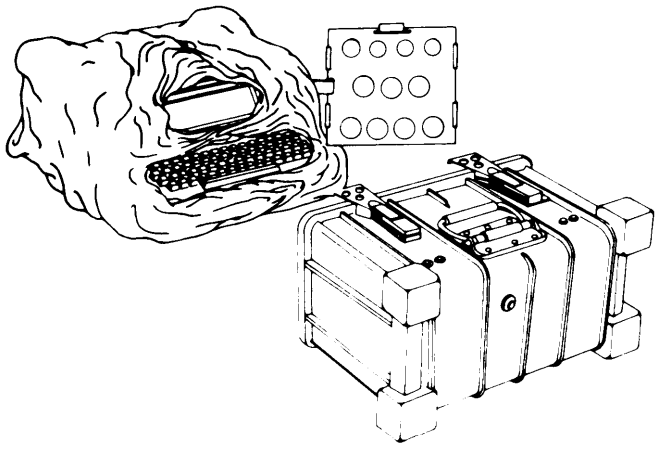
b. During periods of extreme cold, a blanket or other heat-retaining material can be placed on terminal cover to help retain heat generated by terminal



NOTE

When operating dust cover for any reason, be sure to protect terminal internal components from corrosive elements such as salt air, dust, sea spray, or sand.

c. Some type of covering, such as a blanket or poncho, should be used to prevent entry and cut down on effects of these corrosive elements.



2-17. OPERATION UNDER EMERGENCY CONDITIONS

a. Power Reduction:

Ž A power reduction of 15% (97,75 V) for 115 volts ac operation, Or (195.5 W for 230 volts ac operation will not hamper normal terminal operation.

b. Battery Backup Condition:

Ž Occurs when 14 volt dc battery backup power is applied to terminal.
Ž Occurs when prime power reduction causes internal +22 to +30 volts dc to drop to less than 14 volts dc, terminal automatically enters Battery Backup Condition.

c. Limited Operation:

Ž Occurs with either message memory or keyboard failure.

d. Message Memory Failure:

Eliminates terminal capability to store composed or received messages.

Ž If Self-Test shows memory failure:
- Operator will power down terminal and switch to KSR state.
- Terminal can be operated in KSR state until unit maintenance can replaCe Universal CPU Circuit Card Assembly containing message memory.

Ž If failure occurs during normal operation:
- Indication is not given until operator tries to retrieve previously stored message.
- Depending upon when and where it was stored, operator may or may not be able to retrieve message.
- Operator will attempt to print all messages stored in memory.
- Operator powers down terminal, then switches into and operates in KSR state until unit maintenance can correct problem.

e. Keyboard Failure:

Limits terminal capabilities to RO state only.

• If Self-Test shows keyboard failure, operator shall:
- Notify unit maintenance.
- Power down terminal or switch into and operate in RO state.

NOTE

If unprinted messages are in message memory and cannot afford to be lost by powering down, operator will have sending station transmit messages until message memory becomes full and terminal is forced into emergency printout.

• Keyboard failure may be indicated if keyboard is inoperative.

Ž Problem is not caused by power failure if copy lamps remain on.

2-18. PREPARATION FOR MOVEMENT

a. Shutdown procedures for terminal are as follows:

Ž Print out all messages. Any messages not printed out will be lost once terminal is powered down.
Ž Verify that all messages have been transmitted.
Ž Set POWER switch in OFF position.

M O D E L

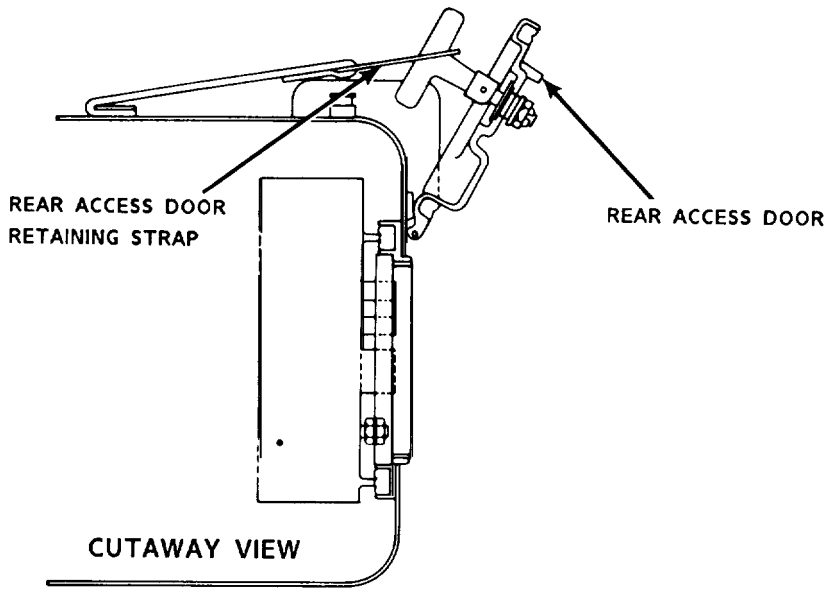
- Auxiliary Memory Module stored messages will not be lost.

b. Securing for movement procedures are as follows:

- Remove and fold up copyholder (reverse copyholder installation listed in 2-8 b).
- Store copyholder in front case cover storage compartment and install keyboard cover.

MODEL C ONLY

Ž Remove Auxiliary Memory Module from side of keyboard assembly and place in protective shipping cover while moving.



Ž Ensure rear access door is securely fastened in open position with canvas strap,

NOTE
If terminal cannot be moved with cables attached, disconnect cables and close rear panel door.

- Secure door with panel latch.

Ž Attach front case to terminal and secure with latches.

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CHAPTER 3

OPERATOR MAINTENANCE INSTRUCTIONS

NOTE

No lubrication is required by the operator.

Section I. TROUBLESHOOTING PROCEDURES

3-I. GENERAL

Troubleshooting procedures that operator is authorized to perform are listed in table 3-1. These are based on operator's preventive maintenance checks and services listed in table 2-4.

3-2. TROUBLESHOOTING PROCEDURES

a. Use of Troubleshooting Table (table 3-1).

(1) Table 3-1 lists common malfunctions which may be found during operation or maintenance of Terminal, Communications AN/UGC-74B(V)3 and C(V)3. Perform tests/inspections and corrective actions in order listed.

(2) With terminal in operation, take note of apparent system malfunction, then proceed with following:

Locate malfunction in Malfunction column of table.
Check for probable cause in Test or Inspection column.
Follow corrective action(s) provided in Corrective Action column.

b. This manual cannot list all malfunctions that may occur, nor all tests or inspections and corrective actions. If a malfunction is not listed or is not corrected by listed corrective actions, notify unit maintenance.

NOTE

Operator will refer to station Standard Operating Procedure (SOP) before performing troubleshooting procedures.

Table 3-1. TROUBLESHOOTING

MALFUNCTION

TEST OR INSPECTION

CORRECTIVE ACTION

1. Copy lamp(s) does not light.

Step 1. Check to see if illumination control is set in OFF position.

Rotate control knob to BRIGHT position.

Step 2. Check to see if lamp(s) is defective (paragraph 3-8).

Replace lamp(s). Notify unit maintenance if problem is beyond operator capability.

2. Indicator lamp(s) does not light.

Step 1. Check to see if ILLUM control is in OFF position.

Adjust ILLUM control as required.

Step 2. Check for defective lamp(s).

Perform lamp test by pressing and holding PARITY RESET switch, causing lamp test to be performed on all lamps. Replace lamp(s) (paragraph 3-9).

3. Audible alarm cannot be heard.

Check to see if audio control is in OFF position.

Rotate audio control to MAX position. Notify unit maintenance if alarm still cannot be heard,

4. Printer does not operate.

Step 1. Check to see if terminal is low on paper (PAPER LOW lamp is on).

Enter GO CR. If printer does not print, notify unit maintenance.

5. Ribbon does not feed.

Check to see if ribbon cassette is improperly installed.

Correct ribbon installation (paragraph 3-7). Notify unit maintenance if ribbon still does not feed.

6. Line-Feed does not advance paper.

Check to see if paper is properly installed.

Correct improperly installed paper (paragraph 3-5), Notify unit maintenance if Line-Feed still does not advance paper.

Table 3-1. TROUBLESHOOTING - Continued

MALFUNCTION TEST OR INSPECTION CORRECTIVE ACTION
7. Loss of all terminal functions, Check to see if fuse(s) is defective. Replace fuse(s) (paragraph 3-12) with spare fuse(s) located below SELF-TEST switch. Reapply power and allow terminal to operate 2 to 3 minutes to be sure malfunction does not reoccur. If terminal does not operate after changing fuses and applying power, remove fuse, replace with old one and notify unit maintenance.
8. Dust cover ON/OFF switch does not function, Check to see if toggle switch is connected to POWER switch linkage actuator arm. With POWER switch in OFF position, hold toggle switch in down position when closing Keyboard Dust Cover Assembly. With POWER switch ON, simply close Keyboard Dust Cover Assembly.

c. Following trouble symptoms cannot be corrected by operator, Notify unit maintenance for repair.

- Printer does not print; copy and indicator lamps do not light
- Messages transmitted and/or received are garbled.
- LINE lamp is on; audible alarm sounds.
- Keyboard keys are inoperable.
- Printed characters are not completely formed.
- Ribbon does not feed(after correct installation).
- PARITY lamp does not light.
- Missing or broken parts.
- Printer does not print.

MODEL C ONLY

- Message relay function does not operate.
- Cannot access any messages from AMM as listed by CATALOG command.
- AM/RF does not respond to any commands.

Section II. OPERATOR MAINTENANCE PROCEDURES

3-3. GENERAL

a. In addition to scheduled preventive maintenance checks and services (PMCS) contained in table 2-4, operator is responsible for performing maintenance functions in this section, Operator will see the need to perform these maintenance functions when performing PMCS, or as a result of terminal warning system.

Example: PAPER LOW lamp lights, or portion of system fails during operation.

b. Paragraphs 3-4 through 3-9 describe operator procedures for replacing following:

. Roll paper.
. Ribbon.
. Copy lamps.
. Indicator lamp.

NOTE
If fault is not corrected after performing maintenance tasks described in this chapter, operator must notify maintenance.

3-4. PAPER LOADING PROCEDURES (PRELIMINARY)

a. Low paper supply can be indicated by:

c PAPER LOW lamp lights.
. Red strip appears in center or side of paper.
. Both warnings are provided before paper runs out.
. Enough time is allowed for printing or received messages.

b. When roll paper supply is allowed to run out:

. PAPER OUT switch activates automatically.
. Switch operation automatically turns off printer and ribbon feed.

c, In ICT state:

. Terminal must be placed in PAPER command. (This places printer in idle so paper may be safely installed).
. Printer and ribbon feed turn on automatically by inputting GO CR after paper has been replaced.

d. In RO and KSR states:

. Terminal must be powered down.
. Paper replaced.
. Terminal powered up again.

e. To refill paper supply, operator must:

. Obtain new supply of paper.
. Follow paper loading procedures.

3-5. ROLL PAPER LOADING PROCEDURES

CAUTION

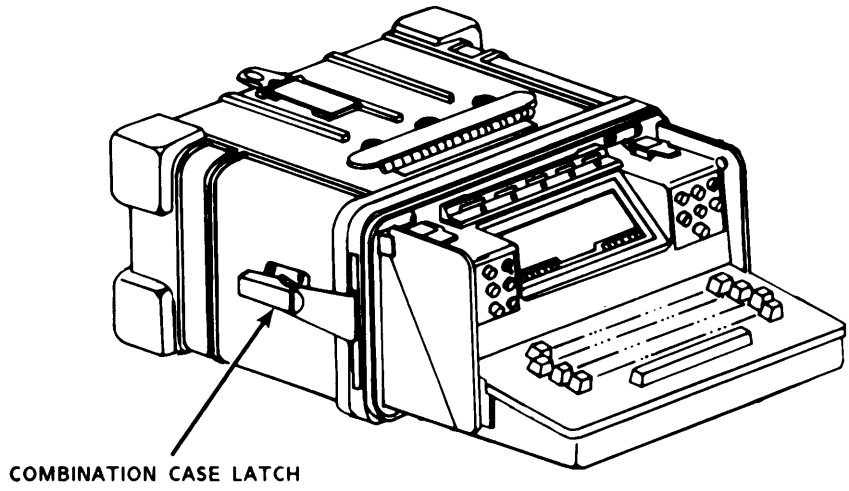
If terminal is operating in RO or KSR state with message memory in use, do not power down terminal or messages stored in memory will be lost. Refer to station SOP for proper changing procedure.

NOTE

If terminal is operating in ICT state, it musl first be placed in PARAMETER System Command by doing the following:

OPERATOR ACTION	SYSTEM RESPONSE	COMMENTS
(1) Enter boPARboCR	CR/LF	System enters Parameter Command level.
(2) Enter boPAPERboCR	CR/LF	Printer is disabled.

Ž Release combination case latches.



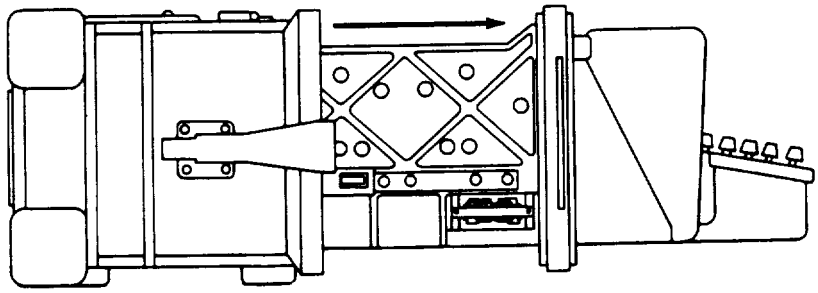
CAUTION

Be careful when extending terminal from case to ensure cables feed through terminal rear access port with minimum of strain.

CAUTION

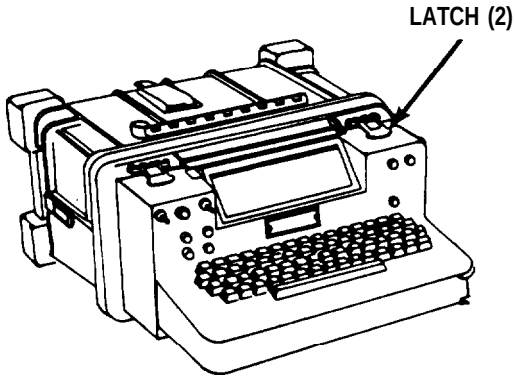
Remove copyholder, if attached, to prevent damage.

•Extend terminal forward until slides are stopped in extended position.

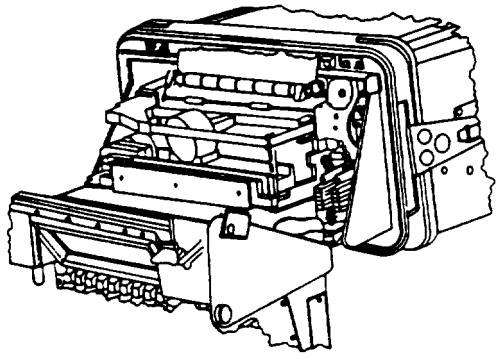


EXTENDED POSITION

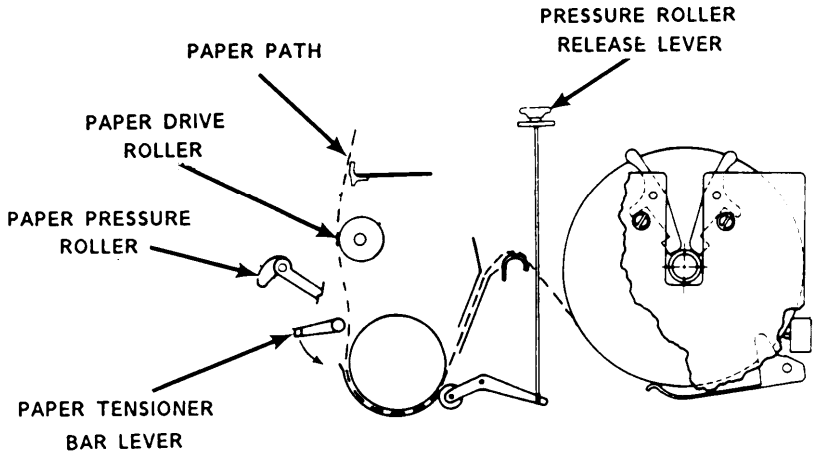
• Release dust cover latches.



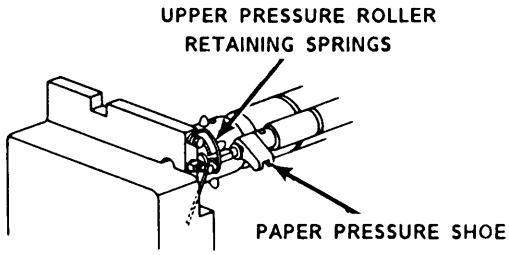
•Gently lower keyboard and dust cover.



Ž Release pressure roller tension by lifting pressure release lever.
Ž Move lever forward from rear hole to front hole.
• Lower the lever located at each end of paper tensioner to move bar away from paper.

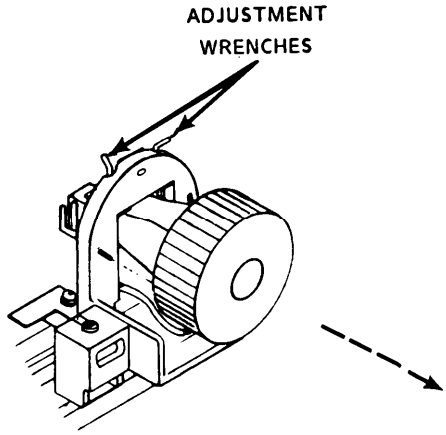


Ž Disengage shoes from retaining springs by pulling both shoes forward.



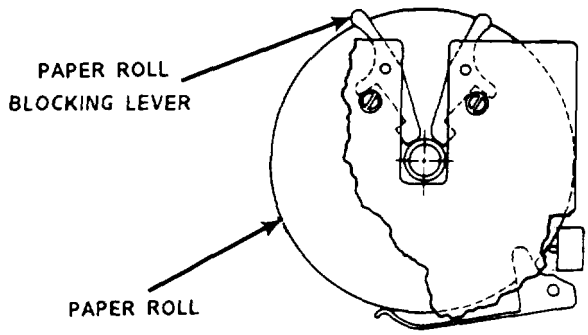
NOTE

If installing multi-ply roll paper, loosen two adjustment wrenches on print head carriage assembly and pull print head forward.



a. To release paper roll spindle from mounting bracket:

- Squeeze together the two sets of paper roll blocking levers located at each end of paper roll.
- Remove paper roll from printer assembly.



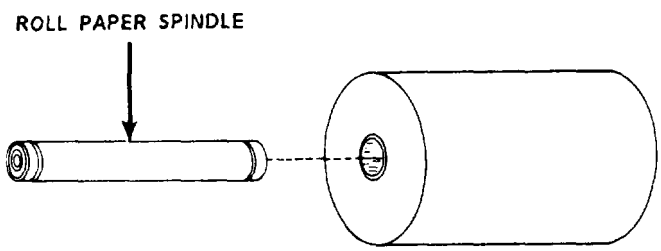
b, To remove paper from paper trough:

- Tear paper from roll

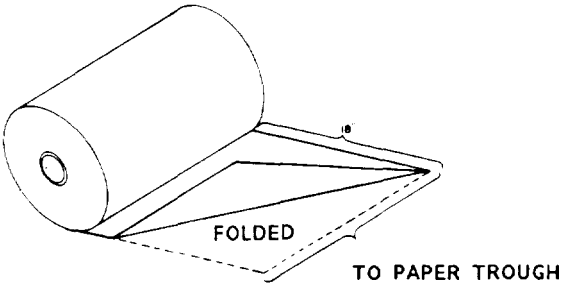
NOTE

LINE-FEED operates only if terminal was placed in PAPER subcommand at the start of paper loading procedures.

- Press LINE-FEED switch located on dust cover.
- Remove paper roll spindle tube from roll paper spindle.
- Discard old paper roll.
- Place new paper roll on paper roll spindle.
- Unroll approximately 18 inches of paper from roll.



- **Fold left corner to right side as shown below,**



- **Install roll in mounting brackets**

NOTE

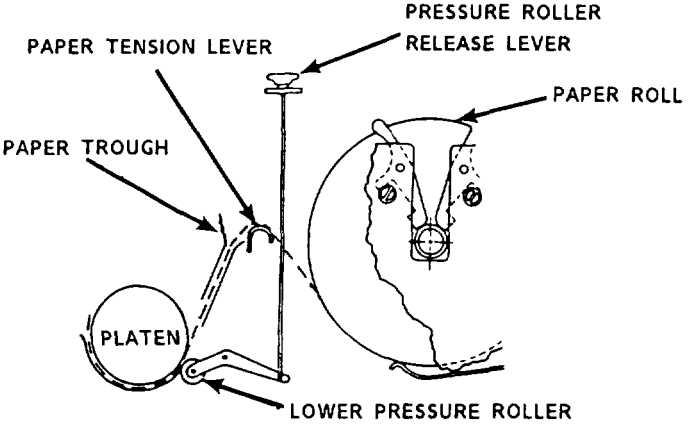
Paper must feed off bottom of roll. Apply enough downward pressure on paper roll to lock each end of paper spindle into mounting brackets,

After installing roll in mounting brackets:

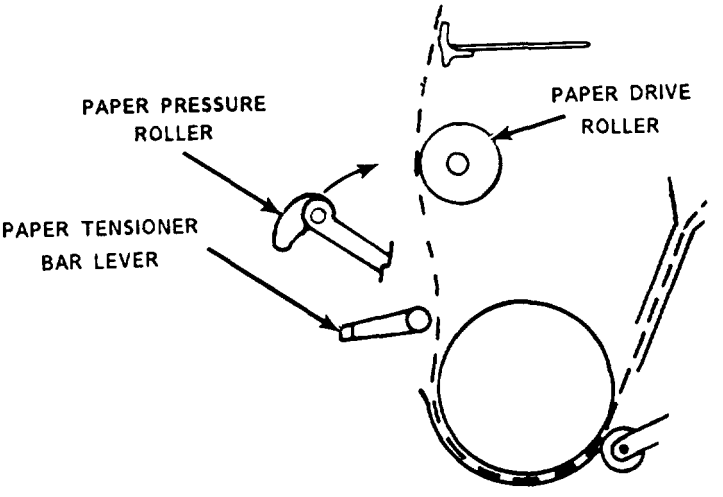
- **Guide paper over paper tension lever.**
- **Push paper into paper trough,**
- **Feed paper between lower pressure roller and platen**
- **Lift up pressure roller release lever.**
- **Move pressure roller release lever to rear hole position.**
- **Press LINE-FEED switch on front dust cover,**
- **Allow paper to feed around printer platen.**

NOTE

If paper is being loaded with printer power off, use thumbwheel on right-hand end of sprocket drive feed to advance paper.



- Feed paper behind paper tensioner bar.
- Guide paper between paper pressure roller and sprocket feed
- Extend paper approximately 12 inches outside case cover.



NOTE

If installing multi-ply paper, push print head firmly into position and tighten two adjustment wrenches.

- Raise paper pressure roller until it engages wire retaining springs.
- Press paper tensioner bar forward by raising lever at each end of bar.

CAUTION

When closing keyboard/dust cover assembly, ensure POWER switch is ON and toggle switch is held up on front of dust cover.

- Lift keyboard and dust cover assembly up to closed position
- Secure in place with latches.

CAUTION

Be careful when sliding chassis in case to ensure cables feed back through terminal rear access port with minimum of strain.

- Slide chassis back into case.
- Secure in place with latches.

NOTE

At this point, if paper was being changed in KSR state or RO state, roll paper loading procedures will be completed after performing the following:

- Apply power.
- Perform manual line-feed.
- Verify that paper is feeding properly.

NOTE

If loading paper procedures are being performed while system is in ICT state, the following must be done to complete roll paper loading procedures:

- Perform manual line-feed.
- Verify that paper is feeding properly
- Input GO CR subcommand,
- Printer and ribbon feed will turn on

3-6. FANFOLD PAPER LOADING PROCEDURES

NOTE

If changing from roll paper to fanfold paper, call Intermediate Direct Support to perform mechanical adjustments. These adjustments are required for terminal to accept fanfold paper.

- Install fanfold paper through top terminal case opening.
- Follow paper loading procedures (paragraph 3-5),

3-7. INSTALLATION OF INKING RIBBON CASSETTES

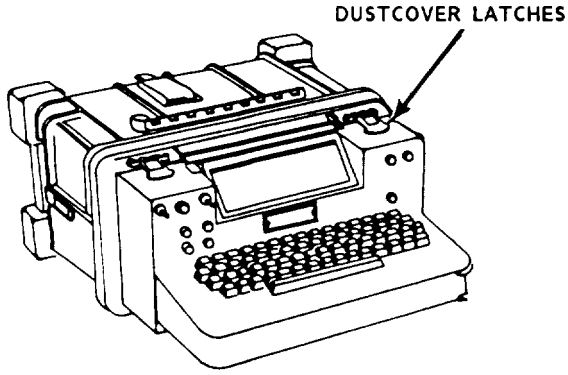
a. Preliminary Instruction

- Set POWER switch in OFF position if in RO or KSR.
- Exercise PAPER subcommand if in ICT (paragraph 3-5).

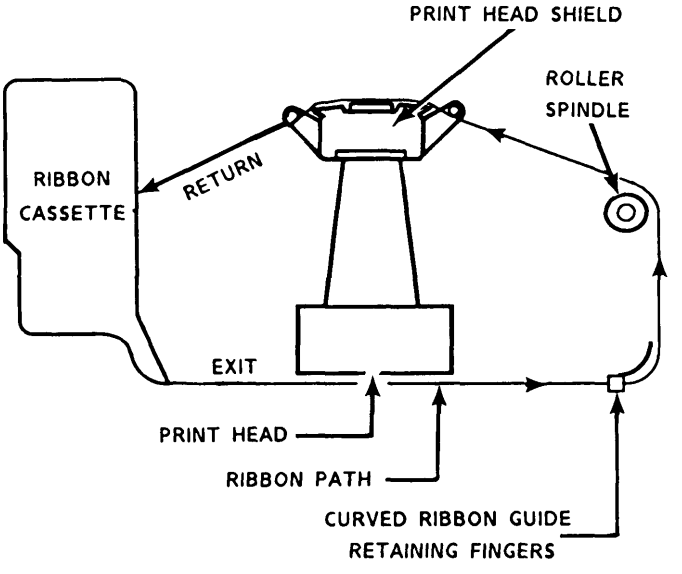
CAUTION

Remove copyholder (if attached) to prevent damage.

- Release dust cover latches and gently lower keyboard and dust cover.

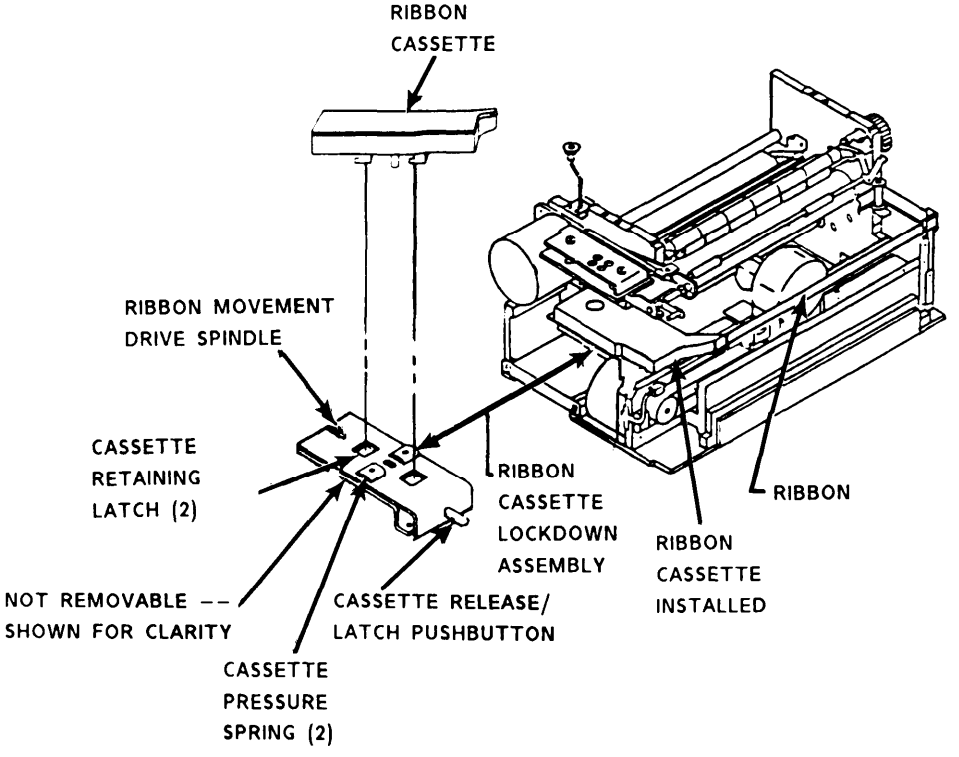


- Obtain proper replacement ribbon cassette as shown below.
- See Appendix D for part number.
- Refer to ribbon path figure while performing following installation/removal steps.
- Ribbon installation assumes that no ribbon cassette is present in printer assembly. If ribbon cassette is already installed, see paragraph 3-7c for removal instructions.



b. Ribbon Installation

Ž Locate ribbon cassette mounting area on left side of printer assembly,



- Ž Place ribbon cassette on ribbon cassette lockdown assembly with engagement fingers down and inserted into cassette retaining latch holes.
- Ž Press in cassette release/latch pushbutton so that ribbon cassette may be pressed gently downward.

  While pressing downward, ensure that ribbon drive properly engages with ribbon cassette take-up reel drive hole.

  Ensure that ribbon cassette is fully pressed in place before releasing cassette release/latch pushbutton.
- Ž Pull sufficient ribbon out of ribbon exit to a length approximately 2 inches beyond right side of printer.
- Ž Thread ribbon around roller spindle, ribbon guide, and print head shield as shown in ribbon path figure.

  Ribbon should be outside print head shield to prevent excessive ribbon and head wear.

  When threading ribbon around outside of curved ribbon guide, ensure that ribbon is inside retaining fingers on guide.
- Ž Move print head gently (by hand) back and forth to take up slack in ribbon. Check that ribbon is feeding properly by observing ribbon movement.

CAUTION

When closing keyboard/dust cover assembly, ensure POWER switch linkage actuator arm is connected. (See part 8 of table 3-1)

- Ž Close dust cover assembly and secure latches.

c. Ribbon Removal

- Ž Pull ribbon free of retaining fingers on right corner curved ribbon guide.
- Ž Unthread ribbon from roller spindle and from around print head shield and guides.
- Ž Press in ribbon cassette release/latch pushbutton.
- Ž Lift out ribbon cassette and properly dispose of it.
- Ž To install ribbon cassette, see paragraph 3-7b.

3-8. COPY LAMP REPLACEMENT

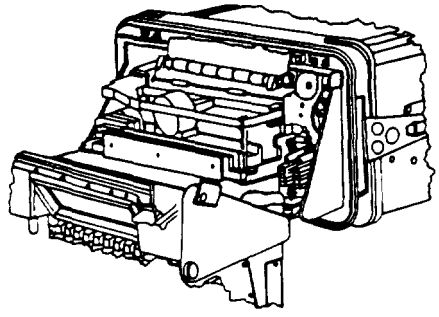
a. Preliminary Instructions

- Ž Turn POWER OFF.

CAUTION

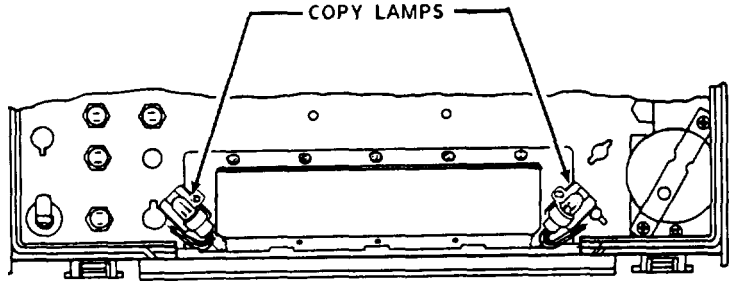
Remove copyholder (if attached) to prevent damage.

- **Release and lower dust cover.**

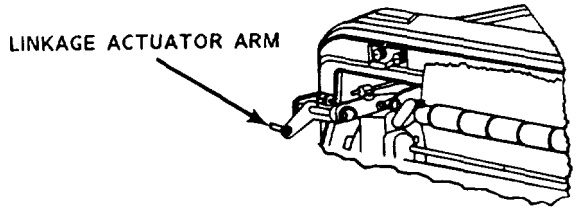


b. To remove lamp:

- Press lamp down into socket.
- Rotate lamp one-half turn counterclockwise
- Remove lamp from holder.



- Insert new lamp into holder.
- Press down on lamp and twist clockwise one-half turn.
- Apply power by pressing POWER switch linkage actuator arm down.



- Lamps should light.
- Set POWER switch in OFF position.
- Close dust cover and secure latches.

3-9. INDICATOR LAMP REPLACEMENT

NOTE

Unit maintenance must be called if PARITY RESET lamp must be replaced.

- **Set POWER switch in OFF position.**

CAUTION

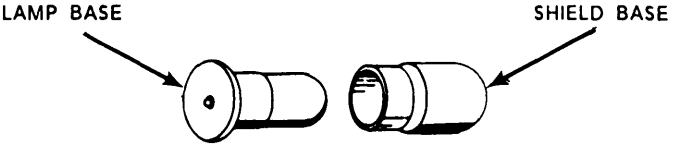
Do not use pliers or any similar tool to loosen lamp shield. Damage to lamp shield will result.

a. To remove lamp:

- **Twist lamp shield in counterclockwise direction.**
- **Using fingers, unscrew indicator lamp.**

NOTE

As shield is unscrewed, note two rubber O-rings between shield and dust cover. After unscrewing lamp shield, remove these O-rings and carefully set them aside.



INDICATOR LAMP REPLACEMENT

- **Separate lamp base from shield base using thumb nail.**
- **Pull lamp from shield using thumb and forefinger.**

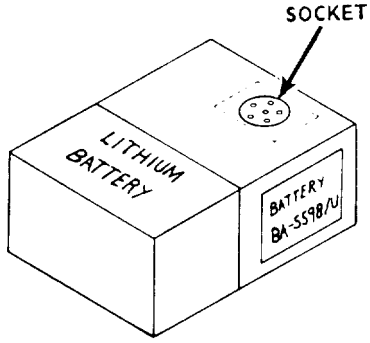
b. To install lamp:

- **Insert new lamp into shield.**
- **Push lamp base snug against shield base.**
- **Reinstall O-rings.**
- **Using clockwise motion, screw shield base into lamp socket.**
- **Screw until finger tight.**
- **Apply power.**
- **Press PARITY RESET switch to test installed lamp.**

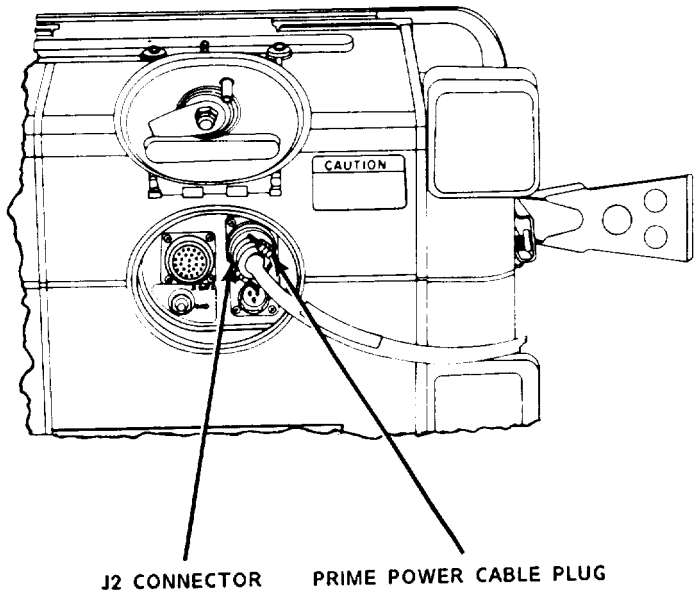
3-10. BATTERY BACKUP PERIODIC PRECONDITIONING

W A R N I N G

See WARNING, page B, in front of this manual. Read paragraph on LITHIUM ORGANIC BATTERIES for precautions on handling these batteries.



a. If backup battery is connected to terminal, operator must perform following battery preconditioning procedures once every week.



(1) With prime power supplying terminal, set POWER switch in ON position

(2) Trace and remove AC plug from wall outlet.

NOTE

If terminal is installed in shelter, see station SOP for disconnecting AC power from terminal.

(3) BATTERY lamp (on dust cover) will light.

NOTE

If BATTERY lamp does not light, backup battery is defective and must be replaced by unit maintenance.

(4) Wait 10 to 15 seconds.

(5) Replace AC power plug in wall outlet. (If installed in shelter, reconnect as directed.)

(6) Resume normal operation.

(7) Record time and date that battery was preconditioned on appropriate maintenance record form.

Ž Record amount of time backup battery was used due to prime power failure.

b. After battery has been in use for 5½ to 6 hours, notify unit maintenance to replace battery.

3-11. BACKUP BATTERY HANDLING AND PRECAUTIONS

WARNING

See WARNING, page B, in front of this manual. Read paragraph on LITHIUM ORGANIC BATTERIES for precautions on handling these batteries.

a. Handling of Battery.

(1) Battery BA-5598/U contains pressurized cells similar to aerosol cans. Battery should never be opened, crushed, punctured, disassembled, or otherwise mutilated.

(2) Battery should never be recharged. Such action could lead to venting, rupture, or rupture with fire.

b. Overheating of Battery.

(1) TURN OFF equipment immediately if following is detected: battery compartment becoming unduly hot; battery cells venting (hissing sound) is heard, or irritating sulphur dioxide gas is detected.

(2) Carefully remove battery from equipment and place away from area of operation.

Ž If battery cannot be removed immediately, leave area of operation.
Ž Battery will cool in 30 to 60 minutes.

(3) When cooled, remove battery from equipment and notify unit maintenance to replace battery and dispose of the defective one.

CAUTION

In the event of fire involving Battery BA-5598/U, extinguish battery fire with fine spray of water to flood burning materials.

3-12. INTERFACE ASSEMBLY FUSE REPLACEMENT

If interface assembly fuse is suspected of being defective, perform following procedure to replace fuse,

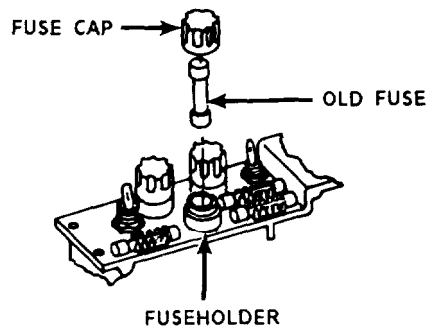
WARNING

Ensure power cable is disconnected before proceeding with following steps. Fuse will still be in contact with power source.

NOTE

See roll paper loading procedures (paragraph 3-5) for terminal extending procedures.

- Turn power off.
- Fully extend terminal outward on slides



- Push downward and rotate fuse cap counterclockwise until it is released.
- Pull cap and fuse from fuseholder.
- Remove old fuse.
- Insert new fuse(s) into fuseholder(s).

CAUTION

Be sure to install only fuses of correct current rating (paragraph 2-2) in fuseholders.

- Reinstall fuse cap by pressing downward and rotating one-half turn clockwise.

NOTE

If malfunction is not corrected after replacing old fuse(s), remove new fuse(s) and place back in fuse storage clip(s). Place old fuse(s) back in fuseholder(s) and notify higher maintenance. If malfunction is corrected, be sure to replace spare fuse(s) taken from fuse storage clip(s).

- Return terminal into combination case and secure with latches.
- Apply power.

APPENDIX A
REFERENCES

A-1. SCOPE

This appendix lists all forms, technical manuals and miscellaneous publications referenced in this manual.

A-2. FORMS

Maintenance Report . . . . . AFR 66-1
Quality Deficiency Report . . . . . MCO 4855.10
Recommended Changes to Equipment Technical Manuals . . . . . DA Form 2028-2
Reporting of Items and Packaging Discrepancies . . . . . MCO 4430.3
Standard Army Publications System (STARPUBS):
Resupply Guide . . . . . DA PAM 310-10-2
Transportation and Travel Report of
Transportation Difficulties . . . . . MCO P4610.19
Unsatisfactory Equipment TO-00-35354

A-3. TECHNICAL MANUALS

Hand Recepit Covering Contents of Components of End Item (COEI), Basic Issue Items (BII) and Additional Authorization (AAL) for Terminal, Communications AN/UGC-74B(V)3 (NSN 5815-01-214-6237) and AN/UGC-74C(V)3 (NSN 5815-01-214-4122). TM11 5815-602-10-1-HR
Unit, Intermediate Direct Support and Intermediate General Support Maintenance Repair Parts and Special Tool List (Including Depot Maintenance Repair Parts and Special Tools) for Terminal, Communications AN/UGC-74B(V)3 (NSN 5815-01-214-6237) and AN/UGC-74C(V)3 (NSN 5815-01-211-4122).....TM11-5815-602-24P
The Army Maintenance Management System (TAMMS).....DA PAM 738-750
Equipment Record Procedures (Maintenance Forms, Records, and Reports). TM4700-15/1

A-4. MISCELLANEOUS PUBLICATIONS

Automatic Digital Network (AUTODIN) Operating Procedures . . . . . JANAP 128(H)
Communication Instructions Tape Relay Procedures
(Allied Restricted) . . . . . ACP-127US Supp. 1
Communication Instructions Tape Relay Procedures . . . . . ACP-127 NATO SUPP. 2
Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items) . . . . . CTA 50-970
Federal Supply Code for Manufacturers; United States and Canada - Name to Code and Code to Name . . . . . SB 708-42
Consolidated Index of Army Publications and Blank Forms . . . . . DA PAM 310-1

APPENDIX B

COMPONENTS OF END ITEM LIST

Section 1. INTRODUCTION

B-1. SCOPE

This appendix lists components of end item and basic issue items for the AN/UGC-74B(V)3 or AN/UGC-74C(V)3 to help inventory items required for safe and efficient operation.

B-2. GENERAL

Components of End Item and Basic Issue Items Lists are divided into the following sections:

a. **Section II.** COMPONENTS OF END ITEM. This listing is for informational purposes only, and is not authority to requisition replacements. These items are Part of the end item; they must be with the end item whenever it is issued or transferred between property accounts.

b. **Section III. BASIC ISSUE ITEMS.** These are the minimum essential items required to place the AN/UGC-74BV)3 and C(V)3 in operation, to operate it, and to perform emergency repairs. Although shipped separately packaged, BII must be with the AN/UGC-74B(V)3 and C(V)3 during operation and whenever it is transferred between property accounts. This manual is authority to request/requisition replacement BII, based on TOE/MTOE authorization of end items.

B-3. EXPLANATION OF COLUMNS

The following provides an explanation of columns found in tabular listings:

a. **Column (1) - Illustration Number (Illus Number).** Indicates number of the illustration in which item is shown.

b. **Column (2) - National Stock Number.** Indicates national stock number assigned to item and will be used for requisitioning purposes.

c. **Column (3) - Description.** Indicates Federal item name and, if required, a minimum description to identify and locate item. Last line for each item indicates Federal Supply Code for Manufacturer (in parentheses) followed by part number.

d. **Column (4) - Unit of Measure (U/M).** Indicates measure used in performing actual operational/maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e.g., EA, IN, PR).

e. **Column (5) - Quantity required (Qty rqr).** Indicates quantity of item authorized to be used with/on equipment.

Section II. COMPONENTS OF END ITEM

(1) Illus Number	(2) National Stock Number	(3) Description FSCM and Part Number	Usable On Code	(4) U/M	(5) Qty Rqr
	5815-01-070-3802	COVER ASSY (80063) SM-E-915778		EA	1
	5815-01-087-2130	COPYHOLDER (80063) A3041745		EA	1

Section III. BASIC ISSUE ITEMS

(1) Illus Number	(2) National Stock Number	(3) Description FSCM and Part Number	Usable On Code	(4) U/M	(5) Qty Rqr
	5920-00-529-0618	FUSE, dc, 10 Amps (81349) F03B125V- 10 A	DFX	EA	4
	6240-00-155-7836	LAMP, Incandescent (96906) MS25237-327	DFX	EA	1
	6240-00-155-8714	LAMP, Incandescent (96906) MS25231-313	DFX	EA	1
	7530-00-223-7966	PAPER, TTY, Canary (96906) Type 1, CL1, GRB	DFX	EA	2
		CASSETTE, RIBBON (80063) A3041590	DFX	EA	2
		TECHNICAL MANUAL TM 11-5815 -602-10-1	DFX	EA	1
		TECHNICAL MANUAL TM 11-5815 -602 -1 0-1-HR	DFX	EA	1
MODEL C ONLY					
		AUXILIARY MEMORY UNIT (80063) A3042160	DFX	EA	1

APPENDIX C

ADDITIONAL AUTHORIZATION LIST

Section 1. INTRODUCTION

C-1. SCOPE

This appendix lists additional items authorized for support of the AN/UGC-74B(V)3 or AN/UGC-74C(V)3.

C-2. GENERAL

This list identifies items that do not have to accompany the AN/UGC-74B(V)3 or AN/UGC-74C(V)3, and that do not have to be turned in with it. These items are all authorized by CTA, MTOE, TDA, or JTA.

C-3. EXPLANATION OF LISTING

National stock numbers, descriptions, and quantities are provided to help identify and request additional items required to support this equipment, Items are listed alphabetically by item name under the type document (i.e., CTA, MTOE, TDA, or JTA) which authorizes the items.

C-4. SPECIAL INFORMATION

National stock numbers (NSNs) that are missing from Section II have been applied for and will be added to this TM by future change/revision when they are entered in the Army Master Data File (AMDF). Until the NSNS are established and published, submit exception requisitions to: Commander US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-MM, Fort Monmouth, New Jersey 07703-5007 for the part required to support equipment.

Section II. ADDITIONAL AUTHORIZATION LIST

(1) National Stock Number	(2) Description FSCM and Part Number	Usable On Code	(3) U/M	(4) Qty Auth
5995-00-271-9443	ASSEMBLY, Cable, Power, 26 Vdc SM-D-764480 (80063)	DFX	EA	1
5995-00-271-9444	ASSEMBLY, Cable, Power, 115 Vac SM-D-764481 (80063)	DFX	EA	1
5995-01-090-1423	ASSEMBLY, Cable, Power, 230 Vac SM-D-764482 (80063)	DFX	EA	1
5995-01-090-1424	ASSEMBLY, Cable, Hi-Level (TH-22) XMIT/RCV, SM-D-915889 (80063)	DFX	EA	1
5995-01-101-9247	ASSEMBLY, Cable, Low-Level XMIT/RCV, SM-D-915896 (80063)	DFX	EA	1
5995-01-096-8724	ASSEMBLY, Cable, Battery Backup, SM-D-915890 (80063)	DFX	EA	1
	ASSEMBLY, Cable, Hi-Level XMIT/RCV, SM-D-964513 Used w/TSEC-KW-7	DFX	EA	1
	ASSEMBLY, Cable, Low-Level XMIT/RCV, SM-D-964514 Used w/TSEC-KY-57	DFX	EA	1
5995-01-100-6249	ASSEMBLY, Cable, Low-Level Clock XMIT/RCV SM-D-915897 (80063)	DFX	EA	1
6125-01-034-2239	BATTERY, BA-5598/U (80058)		EA	1

APPENDIX D

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section 1. INTRODUCTION

D-1. SCOPE

This appendix lists expendable supplies and materials needed to operate and maintain the AN/UGC-74B(V)3 or AN/UGC-74C(V]3. These items are authorized by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts and Heraldic items).

D-2. EXPLANATION OF COLUMNS

a. Column (1) - Item Number (No.). This number is assigned to entry in the listing and is referenced in narrative instructions to identify the material (e. g., "Use cleaning compound, item 7, Appendix D. [11]).

b. Column (2) - Level. This column identifies lowest level of maintenance that requires listed item. (C = Operator/Crew.)

c. Column (3) - National Stock Number. This is the national stock number assigned to item; use it to request or requisition the item.

d. Column (4) - Description. Indicates Federal item name and, if required, description of the item. Last line for each item indicates Federal Supply Code for Manufacturer (FSCM) in parentheses, followed by part number.

e. Column (5) - Unit of Measure (U/M). Indicates measure used in performing the actual maintenance function. This measure is expressed by a two-character alphabetical abbreviation (e. g., EA, IN, PR). If unit of measure differs from unit of issue, requisition the lowest unit of issue that will satisfy requirements.

Section II, EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) Item Number	(2) Level	(3) National Stock Number	(4) Description	(5) U/M
1	c	7530-00-142-9037	Paper, Roll, Single Ply, White	RL
2	c	7530-00-223-7966	Paper, Roll, Single Ply, Canary	RL
3	c	7530-00-285-5030	Paper, Roll, 3-Piy	RL
4	c	7530-00-800-0996	Paper, Fanfold, Single Ply (55295)	BX
5	c		Cassette, Ribbon A3041590 (80063)	EA
6	c	7920-00-924-5700	Cloth, Cleaning	EA
7	c	6850-00-105-3084	Trichlorotrifluoroethane, 16-oz can	EA

APPENDIX E

AMERICAN NATIONAL STANDARD CODE FOR INFORMATION INTERCHANGE (ASCII) AND KEYBOARD TABLES

E-1. USE OF ASCII

ASCII is the standard code, using a coded character set consisting of 7-bit coded characters (8 bits including parity check), used for information interchange among data processing systems, data communication systems, and associated equipment. The ASCII set consists of control characters and graphic characters.

- CONTROL CHARACTER - Functional character, distinct from graphic character, which is intended to assist information exchange by controlling or modifying the function of machines or systems, Control characters are intended for translation by machines rather than human beings, and are normally non-printing characters

- GRAPHIC CHARACTER - Character intended to be printed or otherwise shown in a legible form.

E-2. LEGEND OF ASCII CONTROL AND GRAPHIC CHARACTERS

See paragraph E-5, ASCII Definitions, for detailed explanation of abbreviations CC, FE, and IS, use of control and graphic characters.

a, CONTROL CHARACTERS

NUL	Null	DLE	Data Link Escape (CC)
SOH	Start of Heading (CC)	DC1	Device Control 1
STX	Start of Text (CC)	DC2	Device Control 2
ETX	End of Text (CC)	DC3	Device Control 3
EOT	End of Transmission	DC4	Device Control 4 (Stop)
ENQ	Enquiry (CC)	NAK	Negative Acknowledge (CC)
ACK	Acknowledge (CC)	SYN	Synchronous Idle (CC)
BEL	Bell (Audible or attention signal)	ETB	End of Transmission Block (CC)
		CAN	Cancel
BS	Backspace (FE)	EM	End of Medium
HT	Horizontal Tabulation (punched card skip) (FE)	SUB	Substitute
		ESC	Escape
LF	Line-Feed (FE)	FS	File Separator (IS)
VT	Vertical Tabulation (FE)	GS	Group Separator (IS)
FF	Form Feed (FE)	RS	Record Separator (IS)
CR	Carriage-Return (FE)	us	Unit Separator (IS)
so	Shift Out		
Sl	Shift In	DEL	Delete[1]

Meaning of Control Character Abbreviations

(cc)	Communication Control
(FE)	Format Effecter
(Is)	Information Separator

([1]) In strict sense, DEL is not a control character.

b. GRAPHIC CHARACTERS

SYMBOL	NAME
SP	Space (normally non-printing)
!	Exclamation Point
"	Quotation Marks
#	Number Sign
$	Dollar Sign
%	Percent
&	Ampersand
'	Apostrophe (Closing Single Quotation Mark; Acute Accent[1])
(	Opening Parenthesis
)	Closing Parenthesis
*	Asterisk
+	Plus
,	Comma[1]
-	Hyphen (Minus)
.	Period (Decimal Point)
/	Slant
:	Colon
;	Semicolon
<	Less Than
=	Equals
>	Greater Than
?	Question Mark
@	Commercial At[2]
[	Opening Bracket[2]
\	Reverse Slant
]	closing bracket[2] circumflex[1,2]
^	
_	Underline
`	Grave Accent[1,2](opening single quotation mark)
{	Opening Brace
|	Vertical Line
}	Closing Brace[2]
~	Overline[2] (Tilde; General Accent[1])
◊	Diamond

[1] The symbols (II), (’), (,), (^), (’), and (~) may be used as distinguishing marks by preceding them with an alphabetic character and BS (Backspace) in that sequence.

[2] These characters should not be used in international interchange without determining that there is agreement between sender and receiver.

E-3. ASCII DEFINITIONS

a. GENERAL.

(CC) Communication Control - Functional character intended to control or facilitate transmission of information over communication networks.

(FE) Format Effecter - Functional character which controls layout or positioning of information in printing or display devices.

(IS) Information Separator - Character which is used to separate and qualify information in a logical sense. There is a group of four such characters, used in order of precedence.

b. CONTROL CHARACTERS

NOTE

On the AN/UGC-74B(V)3 and AN/UGC-74C(V)3, the CTL (Control) key has no effect on codes generated from keys with no control character groups on the keytops. The two or three character groups shown on left side of keytops are control codes entered when control key is operated, regardless of the position of the SHIFT key(s).

NUL (Null). Transmitted ASCII control character where all code bits are zero. One of the uses of NUL is to ensure acceptance and transmission of the first character of the message header. Header will be preceded by at least 6 NULS and 6 delete functions (with DEL key).

SOH (Start of Heading). Communication control character used at beginning of a sequence of characters which constitute a machine-sensible address or routing information. Such a sequence is referred to as the "heading". An STX character has the effect of terminating a heading.

STX (Start of Text). Communication control character which precedes a sequence of characters that is to be treated as a complete group and transmitted through to the final destination. Such a sequence is referred to as “text”. STX may be used to terminate a sequence of characters started by SOH.

ETX (End of Text). Communication control character used to terminate a sequence of characters started with STX and transmitted as a complete group.

EOT (End of Transmission). Communication control character, used to indicate the conclusion of a transmission, which may have contained one or more texts and any associated headings.

ENQ (Enquiry). Communication control character used in data communication systems as a request for response from remote station. It may be used as "Who Are You" (WRU) to obtain identification, or may be used to obtain station status, or both.
ACK (Acknowledge). Communication control character transmitted by receiver as affirmative response to sender.

BEL (Bell). Character for use when there is need to call for human attention. It may control alarm or attention devices.

BS (Backspace). Format effecter which controls movement of printing position one printing space backward on same printing line (applicable also to visual display devices).

LF (Line-Feed). Format effecter which controls movement of printing position to next printing line (applicable also to visual display devices). Where appropriate, this character may have the meaning "New Line" (NL), a format effecter which controls movement of printing point to first printing position on next printing line. Use of this convention requires agreement between sender and receiver of data. (So long as the current operating procedure of ending (or beginning) line with CR-CR-LF is observed, no operational problem arises from interconnecting "NL" and "Non-NL" machines.

VT (Vertical Tabulation). Format effecter which controls movement of printing position to next in a series of predetermined printing lines (applicable also to visual display devices).

FF (Form Feed). Format effecter which controls movement of printing position to first predetermined printing line on next form or page (applicable also to visual display devices).

CR (Carriage-Return). Format effecter which controls movement of printing position to first printing position on same printing line (applicable also to visual display devices).

SO (Shift Out). Control character indicating that code combinations which follow shall be interpreted as outside of the character set of standard code table until a Shift In character(s) is (are) reached.

S1 (Shift In). Control character indicating that code combinations which follow shall be interpreted according to standard code table.

DLE (Data Link Escape). Communication control character which will change meaning of a limited number of succession following characters. It is used exclusively to provide supplementary controls in data communication networks. DLE is usually terminated by Shift In character(s).

DC1, DC2, DC3, DC4 (Device Controls). Characters for control of ancillary devices associated with data processing or telecommunication systems; more especially switching devices "on" or "off". (If a single "stop" control is required to interrupt or turn off ancillary devices, DC4 is the preferred assignment.)

NAK (Negative Acknowledge). Communication control character transmitted by receiver as negative response to sender.

SYN (Synchronous Idle). Communication control character used by synchronous transmission system in absence of any other character to provide signal from which synchronism may be achieved or retained.

ETB (End of Transmission Block). Communication control character used to indicate end of block of data for communication purposes. ETB is used for blocking data where block structure is not necessarily related to processing format.

CAN (Cancel). Control character used to indicate that data with which it is sent is in error or is to be disregarded.

EM (End of Medium). Control character associated with sent data which may be used to identify physical end of medium, or end of the used or wanted, portion of information recorded on medium. (Position of character does not necessarily correspond to physical end of medium.)

SUB (Substitute). Character that may be substituted for character which is determined to be invalid or in error.

ESC (Escape). Control character intended to provide code extention (supplementary characters) in general information interchange. The Escape character itself is a prefix affecting the interpretation of a limited number of succession following characters. ESC is usually terminated by Shift In character(s).

FS (File Separator), GS (Group Separator), RS (Record Separator) and US (Unit Separator). These information separators may be used within data in optional fashion, except that their order of precedence relationship shall be: FS is most inclusive, then GS, then RS, and US is least inclusive. (Content and length of a File, Group, Record, or Unit are not specified.)

DEL (Delete). This character is used primarily to “erase” or “obliterate” erroneous or unwanted characters in perforated tape, (In strict sense DEL is not control character.

c. **GRAPHIC CHARACTERS**

SP (Space). Normally non-printing graphic character used to separate words. It is also a format effecter which controls movement of printing position, one printing position forward (applicable also to visual display devices).

◊ (Diamond). Noncoded graphic which will be printed by printing device to denote sensing of an error when such an indication is required. As an interim standard, an asterisk (*) may be used for this function.

E-4. KEYBOARD TABLES

The following three tables define received or keytop symbols and printed characters for Terminal Communications AN/UGC-74B(V)3 and AN/UGC-74C(V)3 in ASCII and BAUDOT modes.

- Table E-1 Keyboard - Upper Case Characters
- Table E-2 Keyboard - Lower Case Characters

NOTE

Even though terminal does not have lower case letters on keyboard, lower case letters are included in 96- and 128-symbol printing set.

- Table E-3 Keyboard - Control Characters

NOTE

If an ASCII character with a parity error is received, a symbol will be printed locally and the Space code will be transmitted. In Baudot local printout, when (◊) is printed, it is not put into memory, i.e., nothing is printed during transmission.

Table E-1. KEYBOARD - UPPER CASE CHARACTERS

Received or Keytop Symbol	Baudot Symbol	PRINTED CHARACTER			
		ASCII		BAUDOT	
		128/96 char. Print (1)	64 char. Print (1)	Local Print (2)	Transmission Print
!	Figs!	!	!	!	!
"	Figs"	"	"	"	"
#	Figs#	#	#	#	#
$	Figs$	$	$	$	$
%	None	%	%	◊	None
&	Figs&	&	&	&	&
'	Figs'	'	'	'	'
(	Figs(	(	(	(	(
)	Figs)	)	)	)	)
*	None	*	*	*	None
+	None	+	+	◊	None
<	None	<	<	◊	None
=	None	=	=	◊	None
>	None	>	>	◊	None
?	Figs?	?	?	?	?
A	LtrsA	A	A	A	A
B	LtrsB	B	B	B	B
C	LtrsC	C	C	C	C
D	LtrsD	D	D	D	D
E	LtrsE	E	E	E	E
F	LtrsF	F	F	F	F
G	LtrsG	G	G	G	G
H	LtrsH	H	H	H	H
I	LtrsI	I	I	I	I
J	LtrsJ	J	J	J	J
K	LtrsK	K	K	K	K
L	LtrsL	L	L	L	L
M	LtrsM	M	M	M	M
N	LtrsN	N	N	N	N
O	LtrsO	O	O	O	O
P	LtrsP	P	P	P	P
Q	LtrsQ	Q	Q	Q	Q
R	LtrsR	R	R	R	R

Table E-1. KEYBOARD - UPPER CASE CHARACTERS - Continued

Received or Keytop Symbol	Baudot Symbol	PRINTED CHARACTER			
		ASCII		BAUDOT	
		128/96 char. Print (1)	64 char. Print (1)	Local Print (2)	Transmission Print
S	LtrsS	S	S	S	S
T	LtrsT	T	T	T	T
U	LtrsU	U	U	U	U
V	LtrsV	V	V	V	V
W	LtrsW	W	W	W	W
X	LtrsX	X	X	X	X
Y	LtrsY	Y	Y	Y	Y
Z	LtrsZ	Z	Z	Z	Z
	None			•	None
-	None	{	[	•	None
	None		\	•	None
}	None	}	]	•	None
\	None	\	\	•	None
SP(3)	Ltrs/Figs SP	SP	SP	SP	SP

NOTES

(1) If an ASCII character with aparity error is received, the• symbol is printed locally.

(2) In Baudot local print, the Ž symbol is printed by keyboard entry only. It is not put into memory, and nothing is printed during transmission.

(3) SP indicates a spacing action.

Table E-2. KEYBOARD - LOWER CASE CHARACTERS

Received or Keytop Symbol	Baudot Symbol	PRINTED CHARACTER			
		ASCII		BAUDOT	
		128/96 char. Print (1)	64 char. Print (1)	Local Print (2)	Transmission Print
a	Ltrsa	a	A	A	A
b	Ltrsb	b	B	B	B
c	Ltrsc	c	C	C	C
d	Ltrsd	d	D	D	D
e	Ltrse	e	E	E	E
f	Ltrsf	f	F	F	F
g	Ltrsg	g	G	G	G
h	Ltrsh	h	H	H	H
i	Ltrsi	i	I	I	I
j	Ltrsj	j	J	J	J
k	Ltrsk	k	K	K	K
l	Ltrsl	l	L	L	L
m	Ltrsm	m	M	M	M
n	Ltrsn	n	N	N	N
o	Ltrso	o	O	O	O
p	Ltrsp	p	P	P	P
q	Ltrsq	q	Q	Q	Q
r	Ltrsr	r	R	R	R
s	Ltrss		S	S	S
t	Ltrst	t	T	T	T
u	Ltrsu	u	U	U	U
v	Ltrsv	v	V	V	V
w	Ltrsw	w	W	W	W
x	Ltrsx	x	X	X	X
y	Ltrsy	y	Y	Y	Y
	Ltrsz	z	Z	Z	Z
DEL/LTRS	Ltrs	None	None	—	—
0	FigsO	0	0	0	0
1	Figs1	1	1	1	1
2	Figs2	2	2	2	2
3	Figs3	3	3	3	3
4	Figs4	4	4	4	4
5	Figs5	5	5	5	5

Table E-2. KEYBOARD - LOWER CASE CHARACTERS - CONTINUED

Received or Keytop Symbol	Baudot Symbol	PRINTED CHARACTER			
		ASCII		BAUDOT	
		128/96 char. Print (1)	64 char. Print (1)	Local Print (2)	Transmission Print
6	Figs6	6	6	6	6
7	Figs7	7	7	7	7
8	Figs8	8	8	8	8
9	Figs9	9	9	9	9
[	None	[	[	◊	None
]	None	]	]	◊	None
^	None	^	^	◊	None
	None			◊	None
_	None	_	_	◊	None
\	Figs,	\	\	,	,
,	Figs-	,	,	-	-
-	Figs.	-	-	.	.
.	Figs/	.	.	/	/
/	Figs:	/	/	:	:
:	Figs;	:	:	;	;
;	None	;	;	◊	None
@		@	@		

NOTES

(1) If an ASCII character with a parity error is received, the • symbol is printed locally.

(2) In Baudot local print, the • symbol is printed by keyboard entry only. It is not put into memory, and nothing is printed during transmission.

Table E-3. KEYBOARD - CONTROL CHARACTERS

Received or Keytop Symbol	Meaning		ASCII		BAUDOT	
		Baudot Symbol	128 Char. Print(1)	96/64 Char. Print(1)	Local Print(2)	Transmission Print
NUL	Null/Idle		\	None	◊	None
SOH	Start of Header	None	⌜	SP	◊	None
STX	Start of Text	None	⊥	SP	◊	None
ETX	End of Text	None	⌟	SP	◊	None
EOT	End of Transmission	None	⊣	SP	◊	None
ENQ	Inquiry	None	✣	SP	◊	None
ACK	Acknowledge	None	⊢	SP	◊	None
BEL	Alarm	Fig S/J	🔔	SP/ ALARM/ Apost.	SP/ ALARM/ Apost.	SP/ ALARM/ Apost.
BS/FIGS	Backspace(in ASCII mode) Figures(in Baudot mode)	Ltrs/Figs SP	Back-space	Back-space	^	^
HT	Horizontal Tabulation	Ltrs/Figs LF	TAB	TAB	SP(s) (3)	SP(s) (3)
LF	Line-Feed	None	Line-Feed	Line-Feed	Line-Feed	Line-Feed
VT	Vertical Tabulation	None	▽	SP	◊	None
FF	Form Feed	Ltrs/Figs	▽	SP	◊	None
CR	Carriage-Return	CR	(4)	(4)	(4)	(4)
SO	Shift Out	None	⩓	SP	◊	None
SI	Shift In	None	⩔	SP	◊	None
DLE	Data Link Escape	None	⊖	SP	◊	None
CD1	Device Control 1	None	◷	SP	◊	None
DC2	Device Control 2	None	◴	SP	◊	None
DC3	Device Control 3	None	◵	SP	◊	None
DC4	Device Control 4	None	◶	SP	◊	None
NAK	Negative Acknowledge	None	⊗	SP	◊	None
SYN	Synchronous Idle	None	⊘	SP	◊	None
ETB	End of Trans. Block	None	⊕	SP	◊	None
CAN	Cancel	None	⊠	SP	◊	None
EM	End of Medium	None	⊞	SP	◊	None
SUB	Substitute	None	◫	SP	◊	None
ESC	Escape	None	⊟	SP	◊	None
FS	File Separator	None	◳	SP	◊	None
GS	Group Separator	None	◰	SP	◊	None
RS	Record Separator	None	◱	SP	◊	None
US	Unit Separator	None	◲	SP	◊	None

NOTES

(1) If ASCII character with parity error is received, • symbol is locally printed.

(2) In Baudot local print, • symbol is printed by keyboard entry only. It is not put into memory, and nothing is printed during transmission.

(3) Does not print or transmit horizontal tabulation code. Prints and transmits space codes to space to tab location.

(4) Returns to left margin.

(5) SP indicates a spacing action.

APPENDIX F

OPERATOR EXAMPLES - SYSTEM COMMANDS

NOTES

See table 2-5, SYSTEM ABBREVIATIONS in Chapter 2 for explanation of abbreviations and symbols, and table 2-6 ERROR MESSAGE LIST in Chapter 2 for explanation of error message by number.

Symbol for System Command is @.

See table J-3 for shortest acceptable form for commands and subcommands.

F-1. PRINT COMMAND - OPERATOR EXAMPLES

a. OPERATOR EXAMPLE NO. 1 - Single Message.

While composing message No. 8, operator sees that MESSAGE RECEIVED lamp has turned on. Message being received is stored as message No. 9. To print out received message No. 9, operator uses PRINT command.

OPERATOR ACTION
Inputs bOPRINTb29boCR

SYSTEM RESPONSE
10 line-feeds
Message No. 9 printed out
10 line-feeds
Prints: CR/2LF
@
CR/LF

COMMENT
System locates and prints out message No. 9. Upon completion of printing, system returns to System Command level (message is not erased from memory)

b. OPERATOR EXAMPLE NO. 2 - Emptying Message Memory.

Operator sees that MEMORY FULL lamp has turned on and decides to empty message memory.

OPERATOR ACTION
Inputs bOPRlNTb2*boCR
SYSTEM RESPONSE
10 line-feeds
Highest precedence and oldest received message printed out.
10 line-feeds
Continued printing of next oldest and highest precedence message until all are printed out.
Prints: CR/2LF
@
CR/LF

COMMENT
System prints out messages in order, beginning with highest precedence and oldest received message. Each message is erased as it is printed. After all messages are printed, system returns to System Command level.

F-2. TRANSMIT COMMAND - OPERATOR EXAMPLE

Message No. 11 has been composed and stored in message memory. Operator decides to transmit the message.

OPERATOR ACTION
Inputs boTRANSMlTb211boCR

SYSTEM RESPONSE
10 line-feeds
Prints message
10 line-feeds
Prints: CR/2LF
@
CR/LF

COMMENT
System finds and prints message No. 11, marks message as transmitted, and returns to System Command level.

F-3. REMOVE COMMAND - OPERATOR EXAMPLE

Operator decides to erase message No. 6 from message memory.

OPERATOR ACTION
Inputs boREMOVEb26boCR

SYSTEM RESPONSE
CR/LF
Prints: MESSAGE 6 REMOVED
CR/2LF
@
CR/LF

COMMENT
System deletes message No. 6 and returns to System Command level.

F-4. PARAMETER COMMANDS - OPERATOR EXAMPLE

See paragraph 2-14b.

F-5. EDIT COMMAND - OPERATOR EXAMPLE

See paragraph 2-14c.

F-6. JUSTIFY COMMAND - OPERATOR EXAMPLE

Operator has made corrections to message No. 10 and decides to justify message for new line length.

OPERATOR ACTION
lnputs boJUSTlFYb210boCR

SYSTEM RESPONSE
CR/2LF
@
CR/LF

COMMENT
System justifies designated message. System then returns to System Command level.

F-7. QUERY COMMAND - OPERATOR EXAMPLE

Operator wants to verify status of machine using the Query command.

OPERATOR ACTION
lnputs boQUERYboCR

SYSTEM RESPONSE

```
SOFTWARE   SYSTEM  CONFIGURATION = UGC-74B
SWITCH STATE = KSR
OPERATIONAL STATE = KSR
MODE = BAUDOT
BAUD RATE = 1200
STOP BITS = 2
BELL OPTION = FIGURES J
DUPLEX MODE = FULL
SPACE OPTION = ON
LINE LENGTH = 080
LINE FEEDS = 1
FONT = 1 ENG 64 CHAR
LINES PER PAGE = 066
NUMBER OF PRINT COPIES = 1
CHARACTER OR LINE TRANSMISSION ? (C/L)
```

COMMENT
System executes Query command, prints message, then returns to System Command level.

NOTES

In Baudot mode, following lines are printed:

BELL OPTION = (+ FIGURES S, FIGURES J)
CR/2LF
@
CR/LF

In ASCII mode, following lines are printed:

PARITY OPTION + ODD CAPITAL LETTER OPTION = (+ ON, OFF)
CR/2LF
@
CR/LF

F-8. STATUS COMMAND - OPERATOR EXAMPLE

Operator wants to make sure all received messages have been printed out, and all messages that have been composed and stored in message memory have been transmitted. Two messages are in message memory.

OPERATOR ACTION
Inputs boSTATUSb2*boCR

SYSTEM RESPONSE
CR/LF
RECEIVED MESSAGE NO. 0001
PRECEDENCE R PRINTED 001
BLOCKS CR/2LF
COMPOSED MESSAGE NO. 0002
PRECEDENCE R NOT TRANSMITTED
004 BLOCKS CR/2LF
MEMORY 003% FULL
CR/2LF
@
CR/LF

COMMENT
The * input tells system to print status of all messages. System prints messages by message number and precedence. If messages have same precedence, oldest received message is printed first, followed by composed message. Whether message is a received or composed message, and whether it has been printed or transmitted is indicated. Total number of blocks of message memory for each message used is printed, followed by total percent of message memory occupied. After completing printing, system returns to System Command level.

NOTES

If Operator has input boSTATUSb21boCR, Only information concerning message No. 1 would have been printed. Percent of total message memory full would also be printed.

If operator has input boSTATUSboCR, system would have printed only the last received message and percent of message memory all the messages occupied.

F-9. TTY COMMAND - OPERATOR EXAMPLE

Operator wants to notify all stations that system will be off for 10 minutes.

OPERATOR ACTION
Inputs boTTYboCR

SYSTEM RESPONSE
CR/2LF

COMMENT
System accepts command and issues a carriage-return and two line-feeds to indicate that is is ready for operator to enter message. Message is transmitted when a carriage-return is entered. System is returned to System Command level.

F-10. RESTART COMMAND - OPERATOR EXAMPLE

Due to a change in terminal use requirements, operator can restart (initialize) system without turning power off. All messages in memory and parameter subcommand values are retained during execution of this command.

OPERATOR ACTION
Inputs boRESTARTboCR

SYSTEM RESPONSE
ARE YOU SURE (Y/N)

OPERATOR ACTION
Inputs boYboCR to continue with RESTART command.

SYSTEM RESPONSE
CHANGE SWITCH SETTINGS AND ENTER CR TO CONTINUE

OPERATOR ACTION
Change any system configuration control switches as required by new terminal operation requirements, then enter CR.

SYSTEM RESPONSE
System Initialization Message
cR/2LF
@
CR/LF

COMMENT
System is now in System Command level with new switch settings in effect.

F-II. HELP COMMAND - OPERATOR EXAMPLE

This command provides operator with a printed list of all system commands, their format, and a brief description of each.

OPERATOR ACTION
lnputs boHELPboCR

SYSTEM RESPONSE
System prints out complete command listing
CR/2LF
CR/LF

COMMENT
System completes printing list and returns to System Command level. See Appendix J for complete listing of HELP messages.

MODEL C ONLY ADDITIONAL SYSTEM COMMANDS - OPERATOR EXAMPLES

NOTES

AMM - FILE NAME ASSIGNMENT DESCRIPTION

The Auxiliary Memory Module stores messages with a filing system that uses a DATE-TIME stamp as a file name. The format of this naming system is shown in several System Commands in paragraphs 2-14m through 2-14s.

The AMM name assignment of DDTTTT,L obtains information from formated headers on received communications or relay port messages. DD is the day portion of DAY-MONTH-YEAR segment of the header. TTTT is the TIME-OF-DAY (ZULU TIME) segment of the header. L is the sequenced letter for repeated names.

If an unformatted message with no header is received, the substitute default name 778899,(L) is assigned during AMM storage. (L) indicates sequence of message storage. First message will have a SPACE after the comma and then, as additional messages are stored, the character sequence of A through Z will be used.

A default message name 778899,(L) can be changed to a more relevant name in AMM catalog by using RENAME command.

F-12. GET COMMAND - OPERATOR EXAMPLE

If there is a message on the AMM that operator needs to respond to, it can be moved to message memory with this command. Operator may then edit, print, or transmit the message.

OPERATOR ACTION

Inputs boGETb2231345,b1CR

SYSTEM RESPONSE

MESSAGE NUMBER 0001 IS NAMED 231345,b1
CR/2LF
@
CR/LF

COMMENT

Message named 231345 is copied from AMM to message memory. It is numbered 0001 in this example since it was the first message stored in message memory. The original message is still stored in AMM under its header oriented file name of 231345.

See paragraph 2-14m for error message detail if command is not completed.

Message number is automatically and sequentially assigned to message when a copy transfer takes place. However, message name is not transferred with it.

F-13. NEXT COMMAND - OPERATOR EXAMPLE

If operator is not sure which message to work with next, the oldest, highest precedence, nonaccessed messag may be accessed with this command. It will copy specified message to message memory for editing, printing, or transmitting.

OPERATOR ACTION

Inputs boNEXTboCR

SYSTEM RESPONSE

MESSAGE NUMBER 0002 IS NAMED 251030,b1
CR/2LF
@
CR/LF

COMMENT

The message named 251030,b1 is now in message memory waiting for operator use. It has been assigned message No. 2 by the system according to sequence of stored messages. If there are no unaccessed messages, message No. 42 will be printed.

F-14. SAVE COMMAND - OPERATOR EXAMPLE

Having finished composing or editing a message, operator can copy message from message memory to the AMM. This allows for safer storage of message *or* for relayingit to other terminals.

OPERATOR ACTION
Inputs boSAVEb22boCR

SYSTEM RESPONSE
MESSAGE NUMBER 0002 IS NAMED 778899,A
CR/2LF
@
CR/LF

COMMENT
Message No. 2 is copied to the AMM. It was received unformatted, so it was assigned the default name. The A indicates that it is the second unformatted message stored in the AMM. Message number is not stored with message.

F-15. CATALOG COMMAND - OPERATOR EXAMPLE

When operator needs to know what is stored in the AMM, this command prints out a complete list of message names.

OPERATOR ACTION
Inputs boCATALOGboCR

SYSTEM RESPONSE
System prints a listing of AMM-stored messages which includes sequence letter, priority, name, and access status.
CR/LF
85% AMM MEMORY AVAILABLE
CR/2LF
@
CR/LF

PRINTOUT EXAMPLE:

```
F  R  778899Z          RELAY  NOT  ACCESSED
E  R  778899Z          RELAY NOT ACCESSED
D  R  778899Z          RELAY  NOT  ACCESSED
C  R  778899Z          RELAY  NOT  ACCESSED
B  R  123456Z          RELAY ACCESSED
A  R  778899Z          COMPOSED ACCESSED
   R 778899Z           COMPOSED ACCESSED
85% AMM MEMORY AVAILABLE
```

COMMENT
See CATALOG command (paragraph 2-14p) for samples of printout formats. Message also indicates there is 85% AMM message storage space available.

F-16. CLEAR COMMAND - OPERATOR **EXAMPLE**

If MEMFUL indicator is ON and LS command reports that AMM is too full, operator can clear unneeded messages from AMM. They can be cleared one at a time, or the entire auxiliary memory can be cleared of all messages.

a. OPERATOR EXAMPLE NO. 1 - Single Message Clear.

OPERATOR ACTION
Inputs boCLEARb2778899, JboCR

SYSTEM RESPONSE
ARE YOU SURE (Y/N)

OPERATOR ACTION
Inputs boYboCR to continue CLEAR command.

SYSTEM RESPONSE
CR/2LF
@
CR/LF

COMMENT
Message maned 778899,J has been cleared from AMM memory. This can be verified with CATALOG command, which will also indicate percent of AMM memory available.

b. OPERATOR EXAMPLE NO. 2 - Clear All AMM Messages.

OPERATOR ACTION
Inputs boCLEARb2*boCR

SYSTEM RESPONSE
ARE YOU SURE (Y/N)

OPERATOR ACTION
Inputs boYboCR

SYSTEM RESPONSE

******
84. AMRF **IN PROCESS OF CLEARING ENTIRE AMM**
******
CR/2LF
@
CR/LF

COMMENT
Clearing of all AMM messages can be verified with CATALOG command, which would produce printed message:
43. CATALOG EMPTY
100% AMM MEMORY **AVAILABLE**

F-17. RENAME COMMAND - OPERATOR EXAMPLE

AMM has stored several messages that were received unformatted so they were stored under default name 778899,(L). Operator can rename each one with a new name such as the date and time of accessing or handling.

OPERATOR ACTION
lnputs boRENAMEb2778899, J/291530.b1CR

SYSTEM RESPONSE
CR/2LF
@
CR/LF

COMMENT
When name change from 778899,j to 291530,bo is complete, system prints System Command prompt @. To verify that name is changed as requested, use CATALOG command. See RENAME command in paragraph 2-14r for details on error messages.

This example shows how an unformatted, default named message has been given a name related to the date and time of message handling.

F-18. CHANNEL COMMAND - OPERATOR EXAMPLE

This command allows operator to designate unit as master on relay network; cancel master unit designation and channel assignment; assign unit a channel number (1 to 16); request channel number already assigned to unit, or reassign unit a new channel number.

a. OPERATOR EXAMPLE NO. 1 - Channel Assignment/Reassignment.

OPERATOR ACTION
lnputs boCHANNELb25boCR

SYSTEM RESPONSE
55. RELAY CHANNEL #5 REQUEST IN PROCESS
CR/2LF
@
CR/LF
******
53. RELAY CHANNEL ACTIVATED
******
CR/LF

COMMENT
Unit is now assigned as channel #5 on the AM/RF network. It will receive and store AMM messages designated for channel #5 only.

b. OPERATOR EXAMPLE NO. 2 - Master Unit Assignment After Channel Assignment Has Been Completed.

OPERATOR ACTION
Inputs boCHANNELb2Mb0CR

SYSTEM RESPONSE
79. MASTER CHANNEL SELECT ENABLED
CR/2LF
@
CR/LF

COMMENT
Master unit assignment request has been accepted. This means that no other terminal on the relay network had previously been assigned as a master. Now the network is enabled and message relay can take place.

c. OPERATOR EXAMPLE NO. 3 - Clear Channel Number and/or Master Assignment.

OPERATOR ACTION
Inputs b0CHANNELb20bOCR

SYSTEM RESPONSE
54. RELAY CHANNEL NOT ACTIVE
CR/2LF
@
CR/LF

COMMENT
The 0 parameter in CHANNEL command clears the channel number assigned. It will also clear a master unit assignment if one has been previously performed. If the master unit assignment is cleared, the relay network is disabled until one of the terminals on the system is assigned as a master.

F-19. RELAY COMMAND - OPERATOR EXAMPLE

NOTE
Before RELAY command may be performed, Master channel must be designated on relay network.

Operator has message that has been composed and stored in AMM, and now needs to be relayed to other stations on relay network. Using RELAY command allows operator to send message to one or more stations at the same time.

a. OPERATOR EXAMPLE NO. 1 - Relay to One Network Terminal.

OPERATOR ACTION
Inputs boRELAYb2778899, C/2b2CR

SYSTEM RESPONSE

58. RELAY MESSAGE #1 PREPARED
CR/2LF
@
CR/LF
Terminal waits for Master terminal permission to output message onto relay network, then prints:
32. RELAY MESSAGE #1 IN PROGRESS
CR/LF
******

51. COMPLETED RELAY MESSAGE #1
******

CR/LF

COMMENT

Message named 778899,C has been relayed to assigned channel No. 2. It was the first message relayed since system was initialized on power-up. This is indicated by the #1 in messages No. 58 and No. 32. Messages relayed count will step up by one each time another message is relayed. Counter can only be reset by a power-down, then power-up reinitialization process.

b, OPERATOR EXAMPLE NO. 2 - Multi-terminal Relay.

OPERATOR ACTION

Inputs boRELAYb2251300,b1/1,2,5,11b2CR

SYSTEM RESPONSE

58. RELAY MESSAGE #2 PREPARED
CR/2LF
@
CR/LF
46. RELAY MESSAGE #2 IN PROGRESS
CR/LF
******

44. CANNOT RELAY TO CHANNEL #5
51. COMPLETED RELAY MESSAGE #2
******

CR/LF

COMMENT

Message named 251300, the second one relayed, was relayed to and accepted by AM/RF channels #1, #2, and #11. Channel #5 did not receive and store the message. This may have been caused by one of several equipment reasons at the terminal that should have been assigned channel #5. See CHANNEL command paragraph 2-14t and RELAY command paragraph 2-14s.

F-20. TST COMMAND - OPERATOR EXAMPLE

Operator wants to check AM/RF subsystem operating condition to verify correct operation. This is done with the TST command.

OPERATOR ACTION
Inputs boTSTboCR

SYSTEM RESPONSE
System responds in approximately 10 seconds
C R / 2 L F
@
XXX% AMM MEMORY AVAILABLE
CR/LF

COMMENT
System has completed AM/RF self-test and has found no failure in the subsystem If one had been found, one of the following error or status messages would have been printed depending on system condition:

*59. TEST NOT ALLOWED; MESSAGE RELAY IN PROGRESS
60. MAINTENANCE NOTE: ROM TEST FAILED (A2A4)
61. MAINTENANCE NOTE: RAM TEST FAILED (A2A4)
62. MAINTENANCE NOTE: SCC/RELAY TEST FAILED (A2A4)
63. MAINTENANCE NOTE: RTC TEST FAILED (A2A4)
*64. COMMAND NOT ACCEPTED, AUX MEMORY OR RELAY BUSY
*65. AUX MEMORY AND RELAY FUNCTION NOT OPERATING
69. A1A2 FAILURE

NOTE
*** Denotes system status messages due to operating conditions.**

F-21. CANCEL COMMAND - OPERATOR EXAMPLE

Operator has started to relay a message and then decides to do additional editing and change the content. The relay function may be terminated with CANCEL command.

OPERATOR ACTION
Inputs boCANCELboCR

SYSTEM RESPONSE
46. RELAY MESSAGE #3 CANCELED IN PROGRESS
CR/2LF
@
CR/LF
******
91. RELAY MESSAGE #3 NOT SAVED BY CH #7
******
CR/LF

COMMENT

The third message to be relayed that was on its way to channel #7 was canceled in progress. This is indicated by messages No. 46 and No. 91. The station (channel #7) that did not receive the complete message (third message) would print message No. 35 RELAY MESSAGE #3 FROM CH #1 NOT SAVED.

F-22. 1S COMMAND - OPERATOR EXAMPLE

Operator has observed that MEMFUL and MSG RCVD lamps are on. Reasons for indications may be determined with the LS command.

OPERATOR ACTION

Inputs boLSboCR

SYSTEM RESPONSE

Prints MEMFUL lamp messages:
MEMORY 95% FULL
65% AMM MEMORY AVAILABLE

Prints MSG RCVD lamp messages:
NO LOW PRECEDENCE NONPRINTED MESSAGES IN MESSAGE MEMORY
NO HIGH PRECEDENCE NONPRINTED MESSAGES IN MESSAGE MEMORY
LOW PRECEDENCE NONACCESSED MESSAGES ON THE AMM
NO LOW PRECEDENCE NONACCESSED MESSAGES ON THE AMM

COMMENT

Message responses to the LS command have shown that the message memory is nearly full and some messages should be removed. Also, there is an unaccessed message on the AMM. This is shown by removal of the (NO) in front of the appropriate message category.

APPENDIX G

OPERATOR EXAMPLES - PARAMETER SUBCOMMANDS

NOTES

See table 2-5 SYSTEM ABBREVIATIONS in Chapter 2 for explanation of abbreviations and symbols, and to table 2-6 ERROR MESSAGE LIST in Chapter 2 for explanation of error messages by number.

Printed symbol for PARAMETER command is a dash (–)

G-1. LINE SUBCOMMAND

This subcommand allows operator to select length of the text line. On power-up initialization, the line length is set at 80. If no value is selected, 80 is used. Value selected must be between 40 and 132, or error message No. 22 (INPUT IGNORED, LINE LENGTH UNACCEPTABLE) is printed and the subcommand is terminated.

a. Keystroke sequence for LINE subcommand is either:
   (1) boLINE(+b2XXX)boCR (XXX represents line length figure.)
   (2) boLINEboCR (If no value is input, system recognizes value as 80.)

b. Shortest acceptable form of subcommand is LIN.

c. OPERATOR EXAMPLE: Having entered PARAMETER command level in paragraph 2-14b, operator decides to set text line length at 60. Operator knows from the prompt sequence printout (CR/2LF – CR/LF) that the system is ready to accept LINE subcommand as follows:

OPERATOR ACTION
lnputs boLINEb260boCR

SYSTEM RESPONSE
CR/2LF

CR/LF

COMMENT
Terminal accepts input and sets line length at 60.

G-2. SETAB SUBCOMMAND

This subcommand allows operator to select one or more tab positions. If any of the selected tab sets exceed the set line length, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed, and only valid tabs are set. If a selected tab is already set, no change is made. No more than 12 tabs can be set. Total number of tabs includes previously selected and new tab settings.

a. If more than 12 tabs are selected, subcommand accepts the first 12 tabs and prints error message No. 9 (USE 12 TABS MAXIMUM). System returns to PARAMETER command level, and PARAMETER command prompt sequence symbol is printed.

b. After accepting and setting position, system prints all previously set and new tab positions.

c. Keystroke sequence for SETAB subcommand is boSETAB#b2 (enter desired tab set position) boCR.

d. Shortest acceptable form of subcommand is SETA.

e. OPERATOR EXAMPLE: Remaining in PARAMETER subcommand level, operator decides to set tabs at 40, 45, and 60

OPERATOR ACTION
Inputs boSETABb240b245b260boCR

SYSTEM RESPONSE
CR/LF
040b1b1045b1b1060
CR/2LF
–
CR/LF

COMMENT
Terminal accepts input and sets tabs at 40, 45, and 60. It issues PARAMETER prompt sequence.

G-2. CLRTAB SUBCOMMAND

This subcommand allows operator to clear one to 12 specified tabs. To remove all tabs set, enter "*". System is powered up with no tabs set.

a. After clearing specified tabs, any remaining tabs are printed. If no tabs remain, error message No. 20 (NO TABS SET) prints.

b. Keystroke sequence for CLRTAB subcommand is boCLRTAB(+(#b2XX), b2*)boCR.

c. Shortest acceptable form of subcommand is CLR.

d. OPERATOR EXAMPLE: Still operating in PARAMETER subcommand level, operator wants to clear tab set at 45.

OPERATOR ACTION
lnputs boCLRTABb245boCR

SYSTEM RESPONSE
CR/LF
040b1b1060
CR/2LF

CR/LF

COMMENT
Terminal accepts command, clears tab at 45, and responds by printing tabs set in terminal, followed by PARAMETER prompt sequence.

G-4. DISPLAY SUBCOMMAND

This subcommand allows operator to print out all tab settings, in order from lowest to highest. If none are set, error message No. 20 (NO TABS SET) is printed.

a. Keystroke sequence for DISPLAY subcommand is boDISPLAYboCR.

b. Shortest acceptable form of subcommand is D1.

c. System response is XXX(#b1b1XXX). (XXX represents tab setting.)

d. OPERATOR EXAMPLE: With tab system operating in PARAMETER subcommand level, operator wants to check tab settings.

OPERATOR ACTION
Inputs boDISPLAYboCR

SYSTEM RESPONSE
CR/LF
000b1b1060
CR/2LF

CR/LF

COMMENT
Terminal prints tab settings and issues PARAMETER prompt sequence.

G-5. CAPIT SUBCOMMAND

NOTE
This subcommand is only available in the ASCII mode.

This subcommand allows operator to set or reset capitalize option. If this option is set, all lower case letters (a through z) input from the keyboard are changed to capitals and stored as such in memory. If this option is not set, no change is made.

a. If CAPIT option is tried in Baudot mode, error message No. 125 (COMMAND INVALID FOR BAUDOT) is printed.

b. Keystroke sequence for CAPIT subcommand is b0CAPITb2(+ON,OFF) b0CR.

c. Shortest acceptable form of subcommand is CAP.

d. OPERATOR EXAMPLE: With system in PARAMETER subcommand level, operator wants to set CAPIT option to **OFF.**

OPERATOR ACTION
Inputs b0CAPITb2OFFb0CR

SYSTEM RESPONSE
CR/2LF
–
CR/LF

COMMENT
Terminal accepts command and all letters are stored in message memory without being changed.

G-6. REMIND SUBCOMMAND

This subcommand allows operator to have REMIND option on or off. If REMIND option is on, whenever a TRANSMIT command or a TTY command is given in the ICT state, the following reminder is printed: KEY TRANSMITTER AND ENTER CR CR/2LF.

NOTE
KEY TRANSMITTER refers to turning TRANSFER switch to ON.

a. On power-up initialization, this option is off.

b. Keystroke sequence for REMIND subcommand is b0REMINDb2(+ON, OFF) b0CR.

c. Shortest acceptable form of subcommand is REMI.

d. OPERATOR EXAMPLE: With system in PARAMETER subcommand level, operator wants to have the REMIND option on.

OPERATOR ACTION
Inputs b0REMINDb2ONb0CR

SYSTEM RESPONSE
CR/2LF

CR/LF

COMMENT
Terminal accepts command and sets REMIND option for TRANSMIT and/or TTY commands.

G-7. END-OF-LINE SUBCOMMAND

This subcommand allows operator to select the end-of-line (EOL) sequence for transmission. The EOL character is sent in place of a carriage-return.

NOTE
When transmission circuit requirements dictate a change in EOL, the station SOP determines the change.

a. EOL character sequence consists of zero to eight characters.

b. If more than eight characters are selected, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed.

c. On power-up initialization, EOL sequence is: Characters: CR CR LF.

d. If transmission is in process when EOL subcommand is selected, error message No. 19 (COMMAND NOT ACCEPTED, MESSAGE IS CURRENTLY IN TRANSMISSION ON COMM PORT) is printed, no change is made, and subcommand is complete.

e. Keystroke sequence for EOL subcommand is b0EOL(#b2A)boCR.

f. Shortest acceptable form of subcommand is EOL.

g. OPERATOR EXAMPLE: While in PARAMETER subcommand level, operator decides to attach ASCII character - to the end of each line.

OPERATOR ACTION
inputs bOEOLb2-bOCR

SYSTEM RESPONSE
CR/2LF

CR/LF

G-8. LINE-FEED SUBCOMMAND

This subcommand allows operator to select either one or two line-feeds following a carriage-return.

a. On power-up initialization, line-feed is set at 1.

b. Keystroke sequence for LINE-FEED subcommand is boLFb2(+l,2)boCR.

c. If 1 or 2 is not specified, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed.

d. Shortest acceptable form of subcommand is LF.

e. OPERATOR EXAMPLE: In PARAMETER subcommand level, operator wants a double line-feed after each carriage-return.

OPERATOR ACTION
Inputs b0LFb2(+l,2)b0CR

SYSTEM RESPONSE
CR/2LF
—
CR/LF

COMMENT
Terminal accepts input and sets a double line-feed into the system

G-9. SPACE SUBCOMMAND

In ASCII only, this subcommand allows operator to have space option on or off.

a. If space option is on and a tab character is input, tab character is replaced by a space. Spaces are inserted until a tab position or the end of the line is reached.

b. If space option is off, tab character is inserted into the message. Spaces are inserted until a tab set position or the end of the line is reached.

NOTE

If ON or OFF is not inserted as an operand, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed, and no change is made.

c. In ASCII, space option is off at power-up initialization, but may be placed in an ON position.

d. In Baudot, space option is on at power-up initialization, but cannot be placed in an OFF position.

e. Keystroke sequence for SPACE subcommand is b0SPACEb2(+ON,OFF)boCR.

f. Shortest acceptable form of subcommand is SP.

g. OPERATOR EXAMPLE: System is in ASCII mode and operator wants to activate space option to ON.

OPERATOR ACTION
Inputs b0SPb20Nb0CR

SYSTEM RESPONSE
CR/2LF

CR/LF

COMMENT
Terminal accepts input and sets SPACE option.

G-10. PAPER SUBCOMMAND

This subcommand turns off the printer so that paper and/or ribbon may be changed without a loss of messages in memory. No further inputs are printed until printer is restarted by executing GO subcommand. All other keystrokes are ignored.

NOTE
PAPER subcommand is only valid in ICT state.

a. LINE-FEED switch is activated to assist in loading paper.

b. Incoming messages are lost if memory becomes full while printer is inactive.

c. If paper runs out, PAPER subcommand is activated and stops printer and ribbon feed.

NOTE
Operator must initiate GO command to enable printer.

d. Keystroke sequence for PAPER subcommand is b0PAPERb0CR.

e. Shortest acceptable form of subcommand is PAP.

f. OPERATOR EXAMPLE: While in PARAMETER subcommand level, operator wants to resupply terminal with paper.

OPERATOR ACTION
Inputs b0PAPERb0CR

SYSTEM RESPONSE
Printer and ribbon feed stop.

COMMENT
Paper and/or ribbon may be changed. All keystrokes are ignored until GO CR is entered.

G-11. GO SUBCOMMAND

This subcommand restarts the motor that operates printer and ribbon feed.

a. Keystroke sequence for the GO subcommand is GO CR.

b. Shortest acceptable form of subcommand is GO.

c. OPERATOR EXAMPLE: While in PAPER subcommand, operator replenishes paper supply or ribbon. When operator is ready to turn on printer and ribbon feed, operator performs the following:

OPERATOR ACTION
Inputs boGOboCR

SYSTEM RESPONSE
CR/2LF
–
CR/LF

COMMENT
Terminal accepts command. Printer and ribbon feed start operating again. Terminal is returned to PARAMETER command level

NOTE
If system has been in SYSTEMS command, or EDIT command, and paper has run out, system would have automatically returned to that command level.

G-12. TENVELOPE SUBCOMMAND

This subcommand allows operator to set the envelope which is put around a message for transmission. This sequence never appears in the message storage and is used for communications purposes only.

NOTE
Station SOP will determine the characters for TRANSMIT ENVELOPE option.

a. Envelope consists of zero to eight characters of start sequence.

b. If more than the required characters are specified, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed.

c. If a message is being transmitted when TENVELOPE subcommand is selected, error message No. 19 (COMMAND NOT ACCEPTED, MESSAGE IS CURRENTLY IN TRANSMISSION ON COMM PORT) is printed. No change is made, and subcommand is complete.

d. In Baudot mode, on power-up initialization, envelope is empty.

e. In ASCII mode, on power-up initialization, envelope is as follows:

ASCII CHARACTERS

Front: V Z C Z C :
End: N N N N
Repeated 12 times: D E

f. Keystroke for TENVELOPE subcommand is b0TENVELOPE(#b2A):(#b2A)bOCR.

NOTE
If null (no) envelopes are desired, do not enter any characters after the space following the subcommands. Enter the colon (:), a space, and a CR.

g. Shortest acceptable form of subcommand is TENV.

h. OPERATOR EXAMPLE: While in PARAMETER subcommand level, operator decides to change TENVELOPE using characters to read BEGIN and END.

OPERATOR ACTION
Inputs b0**TENVELPOE**b2**B**b2b2**G**b2**I**b2**N:**b2**E**b2**N**b2**D**b0**CR**

SYSTEM RESPONSE
CR/2LF
–
CR/LF

COMMENT
This establishes transmit envelope as:

ASCII CHARACTERS
Front: BEGIN
End: END

G-13. RENVELOPE SUBCOMMAND

This subcommand allows operator to set envelope which is removed from a message on reception. This sequence never appears in message storage and is used for communication purposes only.

a. Envelope consists of zero to eight characters of start sequence, and zero to sixteen characters of stop sequence. These sequences are entered as ASCII characters.

b. If more than the required characters are specified, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed.

c. If a message is being received when the RENVELOPE subcommand is selected, error message No. 19 (COMMAND NOT ACCEPTED, MESSAGE IS CURRENTLY IN TRANSMISSION ON COMM PORT) is printed, no change is made, and subcommand is complete.

d. In Baudot mode, on power-up initialization, the envelope is empty.

e. In ASCII mode, on power-up initialization, the envelope is as follows:

ASCII CHARACTERS
Front: V C Z C Z :
End: N N N N

f. Keystroke sequence for RENVELOPE subcommand is b0RENVELOPE(#b2A) **:(#b2A)b0CR.**

g Shortest acceptable form of subcommand is RENV.

h. OPERATOR EXAMPLE: While in PARAMETER subcommand level, operator decides to change RENVELOPE using characters to read BEGIN and END.

OPERATOR ACTION
Inputs b0RENVELOPEb2Bb2b2Gb2lb2N:b2Eb2Nb2Db0CR

SYSTEM RESPONSE
CR/2LF

CR/LF

COMMENT
This establishes receive envelope as:

ASCII CHARACTERS
Front: BEGIN
End: END

G-14. EOMLF SUBCOMMAND

This subcommand allows operator to set number of line-feeds which are automatically inserted following message printout. Value specified must be between 1 and 20 inclusive or error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed, and no change is made.

a. On power-up initialization, EOMLF is set to 20.

b. Keystroke sequence for EOMLF subcommand is b0EOMLFb2(XX)boCR,

c. Shortest acceptable form of subcommand is EOM.

d. OPERATOR EXAMPLE: While in PARAMETER subcommand level, operator decides to change number of line-feeds following message printout.

OPERATOR ACTION
Inputs b0EOMLFb25boCR

SYSTEM RESPONSE
EOMLF 5
CR/2LF

CR/LF

COMMENT
System will now automatically perform five line-feeds after each message printout

G-15. FONT SUBCOMMAND

This subcommand allows operator to specify the character set used by the printer. Value specified must be between 1 and 6 inclusive or error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed, and no change is made. On power-up initialization, font selected is 1 and is the 64 character ASCII set. Font 2 is the 96 character ASCII set, and font 3 is the 128 character ASCII set. Fonts 4, 5, and 6 are not yet available. If they are selected, error message No. 29 (FONT NOT AVAILABLE) is printed.

a. Keystroke sequence for FONT subcommand is boFONTb2(X)b0CR.

b. Shortest acceptable form of subcommand is FO.

c. OPERATOR EXAMPLE: While in PARAMETER subcommand level, operator decides to change the ASCII set for printing. Font 2 is selected so that messages may be printed in upper case and lower case.

OPERATOR ACTION
lnputs bOFONTb22b0CR

SYSTEM RESPONSE
FONT 2
CR/2LF
–
CR/LF

COMMENT
System will now print messages using full upper and lower case characters.

G-16. COPIES SUBCOMMAND

This subcommand allows operator to specify the number of copies in the multipart paper being used. Value specified by operator must be between 1 and 3 inclusive or error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed, and no change is made. On power-up initialization, the number of copies is set to 1.

a. Keystroke sequence for COPIES subcommand is b0COPlESb2(X)b0CR.

b. Shortest acceptable form of subcommand is CO.

c. OPERATOR EXAMPLE: Operator has changed paper to three-part (copy) in the printer. This change of paper thickness can be adjusted for with the COPIES subcommand.

OPERATOR ACTION
Inputs b0COPlESb23 b0CR.

SYSTEM RESPONSE
COPIES 3
CR/2LF
–
CR/LF

COMMENT
The print head pressure during printing is adjusted.

G-17. DUPLEX SUBCOMMAND

This subcommand allows operator to set the mode of operation for communications line to helf-duplex or full-duplex. When in full-duplex, messages can be received and transmitted on the communications line simultaneously. When in half-duplex, the communications line can either receive or transmit messages, but not at the same time.

If “F” or "H” is not inserted in the parameter field, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed, and no change is made. On power-up initialization, DUPLEX option is set to FULL. If a message is currently being transmitted and/or received when DUPLEX subcommand is recognized by system, error message No. 11 (COMMAND NOT ACCEPTED, COMMUNICATIONS PORT BUSY) is printed, and no change is made.

a. Keystroke sequence for DUPLEX subcommand is boDUPLEXb2(H,F) boCR.

b. Shortest acceptable form of subcommand is DU

c. OPERATOR EXAMPLE: While in PARAMETER subcommand level, operator needs to change operating mode to half-duplex. This is used to stop remote station from echoing back the message.

OPERATOR ACTION
Inputs boDUPLEXb2HboCR

SYSTEM RESPONSE
DUPLEX H
CR/2LF
–
CR/LF

COMMENT
System is now in half-duplex mode on the communications port.

G-18. HEADERS SUBCOMMAND

This subcommand allows operator to print current header information for the JANAP-128, ACP-127 NATO Supp 3, and ACP-127 USA Supp 1 headers. For each header type, the type and the current header is printed. If the header has not been created, error message No. 23 (NO HEADER DEFINED) is printed.

a. Keystroke sequence for HEADERS subcommand is boHEADERSboCR.

b. Shortest acceptable form of command is HEADERS.

c. OPERATOR EXAMPLE: Operator needs to determine which headers have been set up.

OPERATOR ACTION
Inputs boHEADERSboCR

SYSTEM RESPONSE
HEADERS
CR/LF
JANAP 128
CR/2LF
(Prints JANAP 128 header information as defined with SETUP subcommand.)
CR/LF
ACP-127 USA SUPP 1
CR/2LF
23. NO H EADER DEFINED
CR/2LF
ACP-127 NATO SUPP 3
CR/2LF
23. NO HEADER DEFINED
CR/2LF

CR/LF

COMMENT
Header setup under the JANAP 128 format had been previously defined so it printed out with appropriate information. The other two formats for headers were not set up, so message No. 23 (NO HEADER DEFINED) printed out, indicating no setup for each one.

G-19. SETUP SUBCOMMAND

This subcommand provides prompting for a JANAP 128 PLAINDRESS, ACP-127 USA Supplement 1, or ACP-127 NATO Supplement 3 header format. The current line length must be set at 69 characters or less for this subcommand. If the current line length is greater than 69, error message No. 6 (COMMAND NOT ACCEPTED, CURRENT LINE TOO LONG, CHANGE LINE PARAMETER) is printed and the subcommand is terminated. Prompting consists of the machine automatically printing a series of questions, each one followed by a carriage-return, line-feed, and the present value of the item being requested. After each question, operator must respond with a typed input, followed by a carriage-return, or just a carriage-return. The number and type of characters to be input are given in parentheses at the end of each question. If the input does not conform in number or type, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed and the question is repeated.

Whenever data is being inputted, leading and trailing spaces are allowed. Correction keys (DLC, DLL, REV) and CAPIT command are active. All numbers are entered with or without leading zeros as required. If HLT key is activated during prompting, prompting sequence is terminated and control is returned to the PARAMETER subcommand level. For purposes of constructing the header, the answer to each question is considered as a variable which carries the same number as the question (e.g., question 1 - channel identifier is V1).

The variables and their corresponding number and kind of value are as follows: (Note that line one above corresponds to variable one (V1), line two to variable two (V2), etc.)

V1		3 alpha	
V2	Ž	R1/PLA	
V3	Ž	1 alpha must be:	Y - emergency
			Z - flash
			O - immediate
			P - priority
			R - routine
V4	Ž	2 alpha	
V5	Ž	1 alpha must be:	U - unclas
			E - unclas EFTO
			C - confidential
			S - secret
			T - top secret
			R - Restricted
V6	Ž	4 alpha/numeric	
V7	Ž	4 numeric	
V8	Ž	3 numeric	
V9	Ž	4 numeric	
V10	Ž	RI/PLA (may have multiple inputs)	
V11		RI/PLA (may have multiple inputs)	
V12	Ž	4 numeric	
V13A-		2 numeric	V13B - 3 alpha V13C - 2 numeric
V14	-	3 numeric	
V15	-	RI/PLA (may have multiple inputs)	
V16	-	2 alpha	
V17	-	1 alpha	

The Routing Indicator/Plain Language Address (RI/PLA) is entered as **bORIb0/bOPLAbOCR.**

RI is four to seven alpha characters, and PLA is any amount of text necessary. Each line of PLA text must be terminated by an operator-entered carriage-return. If a line of PLA text exceeds the current line length (69 characters or less), message No. 22 (INPUT IGNORED, LINE LENGTH UNACCEPTABLE) is printed, the R1/PLA is not saved, and question No. 2 is repeated. The PLA text, and thus question No. 2, is terminated by entering a null line **(boCR).**

NOTE

A total of 8 lines of RI/PLA may be entered. This includes ORIGINATOR, ACTION, INFO, and EXEMPT addresses.

a. Keystroke sequence for SETUP subcommand is b0SETUPb2(128,1271,1273)b0CR.

b. Shortest acceptable form of subcommand is SETU.

c. OPERATOR EXAMPLE: Operator needs to set up a formatted message using JANAP 128 format.

OPERATOR ACTION
Inputs b0SETUPb2128b0CR

SYSTEM RESPONSE
System prints out a series of prompting questions that operator must answer or respond to with at least a CR.

Text of each of the questions (for all three header formats) is as follows:

1. ENTER CHANNEL IDENTIFIER (3A)
2. ENTER ORIGINATOR ROUTING INDICATOR/PLAIN LANGUAGE ADDRESS (RI/PLA)
3. ENTER MESSAGE PRECEDENCE (1A)
4. ENTER ORIGINATOR AND DESTINATION LANGUAGE AND MEDIA FORMAT (2A)
5. ENTER CLASSIFICATION (1A)
6. ENTER CONTENT INDICATOR/COMMUNICATION ACTION IDENTIFIER (4AN)
7. ENTER STATION SERIAL NUMBER (4N)
8. ENTER JULIAN DATE (3N)
9. ENTER TIME FILED (4N)
10. ENTER ACTION ROUTING INDICATOR/PLAIN LANGUAGE ADDRESS (RI/PLA)
11. ENTER INFORMATION ROUTING INDICATOR/PLAIN LANGUAGE ADDRESS (RI/PLA)
12. ENTER TIME OF DAY (ZULU TIME) (4N)
13. ENTER DAY, MONTH, AND YEAR (2N 3A 2N)
14. ENTER CHANNEL SEQUENCE NUMBER (3N)

NOTE
For ACP-127 formats, the following additional questions are asked:

15. ENTER EXEMPT ROUTING INDICATOR/PLAIN LANGUAGE ADDRESS (RI/PLA)
16. ENTER SECURITY PROSIGN (+2 A, NULL)
    Two prosigns are recognized - UU and HH. A null input will be accepted, in which case no security prosign will be included *in* format line 1.
17. ENTER SECOND PRECEDENCE (+1A,NULL)

COMMENT
For the JANAP 128 format questions, when the first 14 are complete, the formatting is finished. This may be verified using HEADERS subcommand. System IS now in PARAMETER (–) command level.

If either of the ACP-127 formats had been designated in the subcommand, the three additional questions would have been prompted by the system.

d. The JANAP 128 PLAINDRESS header and trailer are formed as follows:

Header is formed as follows and inserted before body of message.

(1) VI V14 CR
(2) V3 V4 V5 V6 (Rl from V2) V7 V8 V9 - (repeat V5 four times) - (Rls from V10 and V11 separated by spaces or CR as required) CR
(3) ZN (if V5 = U then R else Y) (repeat V5 five times) CR
(4) V3 V13A V12 Z V13B V13C CR
(5) FM V2 (PLA only) CR
(6) TO (V10 each entry shall be separated by CR) CR
(7) INFO (V11 each entry shall be separated by CR) CR
(8) BT CR
(9) Based on V5, classification is entered here and written out as follows:
U - UNCLAS
E - UNCLASS E F T O
C - c o n f i d e n t i a l
S - SECRET
T - TOP SECRET CR

Trailer of message is as follows and appended after body of message.
BT CR
V7 CR LF LF LF LF LF LF LF

The ACP-127 NATO Supplement 3 PLAINDRESS header is formed as follows and inserted before body of message:

(1) V1V14 V16 CR
(2) V3 (repeated twice) V10A V11A CR
(3) DE V2 (Rl only) V7 V8V9 CR
(4) ZN (if V5 = U then R else Y) V5 (repeated five times) CR
(5) V3 V13AV12Z V13B V13C CR
or, (if V17 is not null)
V3 V17 V13AV12Z V13B V13C CR
(6) FM V2 CR
(7) TO V10 CR
(8) INFO V11 CR
(9) XMT V15 CR
(10) BT CR
(11) Based on V5, classification is entered here and written out as follows:
NATO UNCLAS
N A T O R E S T R I C T E D
N A T O CONFIDE N T I A L
N A T O S E C R E T
N A T O T O P S E C R E T CR

The ACP-127 USA Supplement 1 PLAINDRESS header is formed the same as ACP-127 NATO Supplement 3 except for format line 3 and the security words in item 11 (format line 12), A number sign will be placed before V7 in format line 3 and the security words inserted will be the same as those inserted for the JANAP 128 header.

If the system is operating in Baudot mode, header and trailer are formed as above and inserted before the body of message. LTRS and FIGS codes are inserted into the message as required for transmission only. In both ASCII and Baudot, end of line sequence (EOL) is substituted for CR as the message is transmitted.

G-20. PAGE SUBCOMMAND

This subcommand allows operator to select the number of lines to be printed prior to the automatic insertion of enough line-feeds to form a page which is 66 lines in length. Value specified must be between 1 and 66 inclusive or error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed and subcommand terminates. To turn off auto line-feed insertion, operator enters 66. On power-up initialization, PAGE length is set to 66 lines.

a. Keystroke sequence for PAGE subcommand is b0PAGE b2(XX)b0CR.

b. Shortest acceptable form of subcommand is PAG.

c. OPERATOR EXAMPLE: Operator has a 150-line message to print on fanfold 66-line paper. To cause printer to fill in enough line-feeds to produce the 66-line pages, PAGE subcommand is used.

OPERATOR ACTION
lnputs b0PAGEb255b0CR

SYSTEM RESPONSE
PAGE 55
CR/LF
ALIGN PAPER AND ENTER CR TO CONTINUE
cR/2LF
–
CR/LF

COMMENT
System will print 55 lines of text per page, perform 11 line-feeds, and print the rest of the message in this manner. This is used primarily with 11-inch standard form feed paper to prevent printing over page perforations.

G-21. HELP SUBCOMMAND

This subcommand allows operator to print a list of PARAMETER subcommands. List includes the subcommand format and a brief description of subcommand function.

a. Keystroke sequence for HELP subcommand is b0HELPb0CR.

b. Shortest acceptable form of subcommand is HEL.

c. OPERATOR EXAMPLE: Operator requires assistance in remembering a seldom used PARAMETER subcommand. HELP subcommand obtains a list of all PARAMETER subcommands.

OPERATOR ACTION
lnputs b0HELPb0CR

SYSTEM RESPONSE
System prints list of PARAMETER subcommands.

COMMENT
List will contain shortest acceptable form and a brief description of all PARAMETER subcommands.

See Appendix J for complete listing of PARAMETER subcommands

MODEL C ONLY ADDITIONAL PARAMETER SUBCOMMANDS.

G-22. AUTOS SUBCOMMAND

This subcommand allows operator to set or reset AUTO SAVE message option. If this option is ON, all received messages through communications port will be stored in message memory and also stored in auxiliary memory. If OFF, received messages will be stored in message memory only.

If "ON" or "OFF" is not inserted in parameter field, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed, and no change is made. On power-up initialization, AUTOS option is ON. If system configuration is not UGC-74C(V)3 and this subcommand is entered, error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed and subcommand is complete.

a. Keystroke sequence for AUTOS subcommand is b0AUTOSb2(+ON,OFF) b0CR.

b. Shortest acceptable form of command is AUTOS.

c. OPERATOR EXAMPLE: Operator wants to ensure that incoming messages do not get lost if there is a power failure. Communications port messages can be automatically saved to auxiliary memory with AUTOS subcommand.

OPERATOR ACTION
Inputs b0AUTOSb2ONb0CR

SYSTEM RESPONSE
AUTOS ON
CRJ2LF
–
CR/LF

COMMENT
System has accepted automatic save on subcommand and returned to PARAMETER subcommand level.

G-23. AUTOP SUBCOMMAND

This subcommand allows operator to set or reset AUTO PRINT message option. This option is used in conjunction with AUTOS option, and will automatically print relay message after a 60-second delay. If AUTOS option is OFF, error message No. 31 (COMMAND NOT ACCEPTED, AUTOSAVE MUST BE ON) is printed and subcommand terminates. If AUTOS option is ON and AUTOP option is also ON, messages are printed and then deleted from UGC-74 message memory, without operator intervention, after they have been saved on the AMM.

If "OFF" or "ON" is not inserted in parameter field, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed, and no change is made. On power-up initialization, AUTOP option is OFF. If system configuration is not AN-UGC74C(V)3 and this subcommand is entered, error message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed and subcommand is complete.

a. Keystroke sequence for AUTOP subcommand is b0AUTOPb2(+ON,OFF)b0CR.

b. Shortest acceptable form of subcommand is AUTOP.

c. OPERATOR EXAMPLE: Operator wants messages to be printed out automatically after reception to keep message memory space available.

OPERATOR ACTION
lnputs b0AUTOPb2ONb0CR

SYSTEM RESPONSE
AUTOP ON
CR/2LF
–
CR/LF

COMMENT
Automatic printing is now on. Received messages will be saved to the AMM, printed, and deleted from message memory.

G-24. NOFORM SUBCOMMAND

This subcommand allows operator to set or reset NOFORM option. If option is ON, all messages (formatted or not) are saved on the AMM. If option is OFF, unformatted messages are not saved on the AMM (this includes messages received by the AM/RF from both the UGC-74 and the relay port). If “ON” or "OFF" is not inserted in parameter field, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed and no change is made. If software system configuration is not UGC-74C(V)3 and this command is entered, message No. 65 (AUX MEMORY AND RELAY FUNCTION NOT OPERATING) is printed to inform operator the command is not available. On power-up initialization, NOFORM option is ON. If the AM/RF is busy upon acceptance of this subcommand, message No.64 (COMMAND NOT ACCEPTED, AUX MEMORY RELAY BUSY) is printed and the subcommand is terminated.

APPENDIX H

OPERATOR EXAMPLES - EDIT SUBCOMMANDS

NOTE
See table 2-5, SYSTEM ABBREVIATIONS in Chapter 2 for explanation of abbreviations and symbols, and table 2-6, ERROR MESSAGE LIST in Chapter 2 for explanation of error message by number.

H-1. TOP SUBCOMMAND

This subcommand moves the line pointer to first line of message being edited, and that line is printed. If message is empty, error message No. 7 (MESSAGE EMPTY) is printed.

a. Keystroke sequence for TOP subcommand is b0TOPb0CR.

b. Shortest acceptable form of subcommand is TO.

c. OPERATOR EXAMPLE: Operator wants to check first line of a message.

OPERATOR ACTION
Inputs b0TOPb0CR

SYSTEM RESPONSE
CR/LF
Prints THE QUICK BROWN FOX JUMPED OVER THE
CR/2LF
*
CR/LF

COMMENT
Terminal prints the top line of message

H-2. BOTTOM SUBCOMMAND

This subcommand moves the line pointer to last line of message being edited, and that line is printed. If message is empty, error message No. 7 (MESSAGE EMPTY) is printed.

a. Keystroke sequence for BOTTOM subcommand is b0BOTTOMb0CR.

b. Shortest acceptable form of subcommand is BO.

c. OPERATOR EXAMPLE: Operator wants to review last line of message.

OPERATOR ACTION
Inputs b0BOTTOMb0CR

SYSTEM RESPONSE
CR/LF
Prints BEFORE HE JUMPS AGAIN
CR/2LF
*
CR/LF

COMMENT
Terminal prints out last line of message.

H-3. UP SUBCOMMAND

This subcommand allows operator to move the line pointer a designated number of lines toward the first line of the message being edited, and prints line at the new position.

If number of lines is not entered, it is assumed to be 1. Entering "*" is the same as executing the TOP subcommand. If number greater than 99 or an alpha character is entered, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed.

If number of lines entered is greater than the number of lines from the position of line pointer to top line of message, the line pointer is moved to first line. That line is printed.

If message being edited is empty, error message No. 7 (MESSAGE EMPTY) is printed.

a. Keystroke sequence for UP subcommand is either (1), (2), or (3) below:
(1) boUPb2(xx)boCR - XX is input for a specific number of lines.
(2) boUPboCR - to move pointer up one line.
(3) boUPb2*boCR - to move pointer to top line.

b. Shortest acceptable form of subcommand is U.

c. OPERATOR EXAMPLE: From line 10 in message, operator wants to review the top line of message.

OPERATOR ACTION
Inputs boUPb2*boCR

SYSTEM RESPONSE
CR/LF
Prints THE QUICK BROWN FOX JUMPED OVER THE
CR/2LF
*
CR/LF

COMMENT
Terminal prints out first line of message.

H-4. DOWN SUBCOMMAND

This subcommand allows operator to move the line pointer a designated number of lines toward last line of message, and prints line at the new position.

Entering "*" is the same as executing BOTTOM subcommand. If a number greater than 99 or an alpha character is entered, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed.

If line being edited is empty, error message No. 7 (MESSAGE EMPTY) is printed.

If number of lines entered is greater than number of lines from position of pointer to the last line of message, the line pointer is moved to last line. That line is printed.

a. Keystroke sequence for DOWN subcommand is either (1), (2), or (3) below:
   (1) boD0WNb2(XX)boCR - XX is number of lines the pointer is moved down.
   (2) boDOWNboCR - to move pointer one line down.
   (3) boD0WNb2*boCR - to move pointer to bottom line.

b. Shortest acceptable form of subcommand is DO.

c. OPERATOR EXAMPLE: Operator wants to move the pointer down six lines from present position.

   OPERATOR ACTION
   Inputs boDOWNb26boCR

   SYSTEM RESPONSE
   CR/LF
   Terminal prints text six lines down from line pointer position.
   CR/2LF
   *

   CR/LF

   COMMENT
   Terminal moves down six lines and prints out the line.

H-5. BEFORE SUBCOMMAND

This subcommand allows operator to insert a block of text before current line. This is the only subcommand that allows operator to add lines of text in front of line 1 of a previously composed message.

Process is terminated by pressing HLT key. Line pointer remains at original line.

Lines are entered until the desired block has been entered. BEFORE subcommand provides no prompt sequence.

Pressing HLT key indicated that desired text has been created. Subcommand is terminated and a prompt indicator (*) is printed.

Message is inserted line by line. Each line is entered into memory when a carriage-return is entered, or if line reaches current line length, a carriage-return is added to the line.

A non-empty line, terminated by pressing HLY key, adds a carriage-return to the line, inserts line into message, and terminates BEFORE subcommand.

An empty line, terminated by pressing HLT key, terminates subcommand.

NOTE

If there is not sufficient memory available to insert the input line error message No. 3 (INTERNAL MESSAGE MEMORY FILLED) is printed. The line is not inserted into message. The subcommand is terminated.

Blank lines are inserted into memory as a SPACE code, followed by CR code.

a. Keystroke sequence for BEFORE subcommand is boBEFOREboCR.

b. Shortest acceptable form of subcommand is BE.

c. OPERATOR EXAMPLE: Operator has a new paragraph number one to insert in a previously composed message. After moving pointer to line one, operator is ready to insert the new paragraph.

OPERATOR ACTION
Inputs boBEFOREboCR
Types in the text
Presses HLT key to terminate subcommand

NOTE

There will be no system response until HLT key is pressed and subcommand is terminated.

SYSTEM RESPONSE
Edit prompt sequence is issued.
CR/2LF
*

CR/LF

COMMENT
Terminal inserts text into message memory before line one.

NOTE

Pointer remains on the original line of text.

H-6. INSERT SUBCOMMAND

This subcommand allows operator to compose a message and also to insert a block of text after current line. Command is terminated by pressing HLT key. Line pointer moves to last inserted line of the text.

NOTE

This is the only subcommand which allows operator to add lines of text after any line within the text.

INSERT subcommand provides no prompt sequence. Lines are inserted until the desired block of text has been entered. Pressing HLT key indicates' that desired block of text has been inserted and subcommand is terminated.

Each line of text is inserted into message when a carriage-return is entered or when current line length is reached. A carriage-return is added to line. Line pointer moves to last inserted line of text.

An empty line, terminated by pressing HLT key, terminates subcommand.

NOTE

If there is not sufficient memory available to insert line of text, error message No. 3 (INTERNAL MESSAGE MEMORY FILLED) is printed. Line is not inserted into message. The subcommand is terminated.

Lines which consist of only carriage-returns are inserted into memory as SPACE code, followed by CR code.

a. Keystroke sequence for INSERT subcommand is b0lNSERTb0CR.

b. Shortest acceptable form of subcommand is I

c. OPERATOR EXAMPLE: Operator has a paragraph to add at the end of previously composed message. After moving pointer to the last line of message, operator is ready to add new paragraph.

OPERATOR ACTION
Inputs b0INSERTb0CR
Types in new paragraph text
Presses HLT key

SYSTEM RESPONSE
None until after subcommand is terminated, then
EDIT prompt sequence is issued
CR/2LF
*
CR/LF

COMMENT
Terminal adds new paragraph to end of message

H-7. DELETE SUBCOMMAND

This subcommand allows operator to delete (erase) a specified number of lines from edited message, starting at current line pointer. If number of lines to be deleted is not entered, it is assumed to be 1. If "*" is specified, or number of lines specified is greater than number of lines remaining in message, rest of message is deleted.

At completion of delete, line pointer is set either at next line not deleted, or at new last line of message.

If message is empty after deletion, error message No. 7 (MESSAGE EMPTY) is printed.

If message is not empty after deletion, line at line pointer is printed.

If number of lines specified is greater than 99 or is an alpha character, error message No. 10 (INVALID OR MISSING COMMAND VARIABLE) is printed.

a. Keystroke sequence for DELETE subcommand is either (1), (2), or (3) below:
(1) b0DELETEb2(XX)b0CR - XX represents number of lines to be deleted.
(2) b0DELETEb2*b0CR - delete all remaining lines.
(3) b0DELETEb0CR - delete current line.

b. Shortest acceptable form of subcommand is DE.

c. OPERATOR EXAMPLE: Operator wants to delete lines 3, 4, 5, and 6 from message. After moving line pointer to line 3 operator is ready to delete lines 3, 4, 5, and 6.

OPERATOR ACTION
lnputs b0DELETEb24b0CR

SYSTEM RESPONSE
Prints line number 7
Issues EDIT prompt sequence
CR/2LF
*
CR/LF

COMMENT
Deletes lines 3, 4, 5, and 6, then prints following line.

H-8. FIND SUBCOMMAND

This subcommand allows operator to locate a portion of text by suing a phrase of up to 20 characters.

From line pointer position, system searches following lines to find phrase. Phrase cannot be located if pointer is at or below phrase. If pointer is not changed, error message No. 4 (PHRASE NOT FOUND) is printed and subcommand is terminated.

When phrase is found, pointer is moved to line which contains phrase. Line is printed and subcommand is terminated.

NOTE
Phrase must be on only one line.

Phrase cannot contain carriage-return characters, It must contain at least one character, or error message No. 5 (DELIMITER/PHRASE IN ERROR) is printed.
Any printable character used to separate phrase to be found from parameter field of

the subcommand is called a delimiter. The only restrictions-on the use of delimiters are:

- •Delimiter must be a character which is not in phrase to be found.
- •Delimiter must be the same on both sides of the phrase.
- •There can be no space between delimiter and the first letter of the first word of phrase to be found.
- •There can be no space between delimiter and the last letter of the last word of phrase to be found.

If a phrase of more than 20 characters is entered, error message No. 5 (DELIMITER/ PHRASE IN ERROR) is printed.

a. Keystroke sequence for FIND subcommand is
b0FINDb2(DELIMITER-PHRASE-DELIMITER)b0CR.

b. Shortest acceptable form of subcommand is F.

c. OPERATOR EXAMPLE: Operator wants to locate phrase REPORT THE COORDINATES so spelling can be corrected.

NOTES

Because "co-ordinates" is spelled wrong in the text, it must be spelled wrong in the FIND subcommand.

Delimiter character in this example is the question mark (?).

OPERATOR ACTION
Inputs b0FINDb2? REPORT THE COORDINATES?b0CR

SYSTEM RESPONSE
CR/LF
Prints REPORT THE COORDINATES
EDIT prompt sequence is issued
CR/2LF
*
CR/LF

COMMENT
Terminal finds phrase, moves line pointer down, and prints the line containing phrase.

H-9. LIST SUBCOMMAND

This subcommand allows operator to print a specified number of lines of message being edited, beginning at current line pointer position. Line pointer position is not changed.

If number of lines to be printed is not entered, it is assumed to be 1, If "*" is entered, remainder of message is printed.

If number of lines is greater than 99, or is an alpha character, error message No. 10

(INVALID OR MISSING COMMAND VARIABLE) is printed. If number of lines specified is greater than number of lines from current line to the end of message, only the remainder of message is printed.

Pressing HLT key during printing stops printing, and error message No. 7 (MESSAGE EMPTY) is printed.

If message is empty, error message No. 7 (MESSAGE EMPTY) is printed

a. Keystroke sequence for LIST subcommand is either (1), (2), or (3) below:
   (1) b0LISTb2XXb0CR - XX represents number of lines to be printed beginning at current line.
   (2) b0LlSTb2*b0CR - prints entire message beginning at current line.
   (3) b0LISTb0CR - prints current line.

b. Shortest acceptable form of subcommand is LIS.

c. OPERATOR EXAMPLE: Operator has the line pointer at line 10. Operator wants to print lines 10 through 15.

OPERATOR ACTION
Inputs b0LlSTb26b0CR

SYSTEM RESPONSE
CR/LF
Prints 10th through the 15th line of text
CR/2LF
*
CR/LF

COMMENT
Terminal prints current line and the five lines below pointer position.

H-10. REPLACE SUBCOMMAND

This subcommand allows operator to find a phrase of 1 to 20 characters in message text, and to replace that phrase with a second phrase of O to 40 characters.

Systm searches current and following lines to find phrase. Phrase must be on one line. Pointer is moved to this line, Characters in the first phrase are replaced by characters in the second phrase.

If new phrase cuases a line length to be exceeded, a carriage-return is inserted. This creates a new line. Line pointer is moved to new line. New phrase is printed.

If first phrase cannot be found, error message No. 4 (PHRASE NOT FOUND) is printed, and subcommand is terminated.

Neither phrase may contain a carriage-return character, and the first phrase must contain at lease one character, or error message No. 5 (DELIMITER/PHRASE IN ERROR) is printed.

If an entire line is deleted, system deletes carriage-return. Line pointer and printing are set as if DELETE subcommand had been executed. (See paragraph H-7, DELETE subcommand.)

a. Keystroke sequence for REPLACE subcommand is either (1) or (2) below:
   (1) boREPLACEb2(DELIMITER PHRASE 1 DELIMITER PHRASE 2 DELIMITERb0CR - to replace one phrase with another phrase.
   (2) b0REPLACEb2(DELIMITER PHRASE 1 DELIMITER DELIMITERb0CR - to delete the phrase without replacing it.

b. Shortest acceptable form of subcommand is REP.

c. OPERATOR EXAMPLE: Operator wants to replace phrase 17638147 NLT with phrase 23718863 NLT 060700 JAN.

OPERATOR ACTION
Inputs b0REPLACEb2?17638147b1NLT?23718863b1NLTb1060700b1JAN?boCR

NOTE
Delimiter character in this example is the question mark (?).

SYSTEM RESPONSE
CR/LF
Prints new line(s) containing changed phrase.
CR/2LF
*
CR/LF

COMMENT
Finds and replaces with new phrase and prints new line(s) containing phrase.

H-11. HEADER SUBCOMMAND

This subcommand allows operator to format a message with a previously defined JANAP 128, ACP-127 USA Supplement 1, or ACP-127 NATO Supplement 3 header. The predefined headers contain both header information and trailer information. Header information inserted prior to the first line of current text and trailer information is inserted after last line of current text. Operator will be asked for TIME-OF-DAY which will be inserted in message in place of the time stored in predefined header. TIME-OF-DAY must be entered as a 4-digit number. If time is incorrectly specified, message No. 24 (INCORRECT TIME-OF-DAY, MUST BE 4 DIGITS) is printed. If header to insert (128, 1271, or 1273) is incorrectly specified, message No. 25 (COMMAND NOT ACCEPTED, INCORRECT HEADER SELECTION) is printed.

Setup of headers is performed using SETUP subcommand of PARAMETER command. The predefined headers may be examined using HEADERS subcommand of PARAMETER command.

a. Keystroke sequence for HEADER subcommand is boHEADERb2(+128,1271,1273)b0CR

b. Shortest acceptable form of subcommand is HEADER.

c. OPERATOR EXAMPLE: Operator wants to generate **a** formatted message for transmission. A predefined header/trailer must be attached around message.

OPERATOR ACTION
Inputs boHEADERb2128b0CR

SYSTEM RESPONSE
HEADER 128
CR/LF
ENTER TIME OF DAY (ZULU TIME)
XXXX (+NULL,4N)
XXXX
CR/2LF
*
CR/LF

OPERATOR ACTION
Inputs b01445b0CR

SYSTEM RESPONSE
1445
CR/2LF
*
CR/LF

COMMENT
The predefined JANAP 128 header has been placed around message. New TIME-OF-DAY has been entered in the header.

TIME-OF-DAY change could have been omitted by simply pressing CR and entering a null.

If no header had been previously defined, message No. 23 (NO HEADER DEFINED) would be printed.

H-12. APPEND SUBCOMMAND

This subcommand allows operator to attach text of one message to the end of another message. Message that is to be lengthened must be called up by message number. The APPEND subcommand is entered, Message number of message to be added is entered. Text of second message is added to the end of first message.

Both messages must be valid messages (identified by a message number in system), or error message No. 2 (MESSAGE NOT FOUND) is printed, and subcommand is terminated.

NOTE

The APPEND command does not change any message.

If message to be added contains characters with parity errors, those characters are changed to spaces as added message is executed.

If APPEND subcommand causes memory to become full, error message No. 3 (INTERNAL MESSAGE MEMORY FILLED) is printed, and subcommand is not executed.

a. Keystroke sequence for APPEND subcommand is b0APPENDb2XXXXb0CR.

b. Shortest acceptable form of subcommand is AP.

c. OPERATOR EXAMPLE: Operator wants to add message number 8 to message number 4. Both messages contain unit movement instructions and have identical addresses.

OPERATOR ACTION
Inputs b0EDlTb24b0CR
Inputs b0APPENDb28b0CR

SYSTEM RESPONSE
CR/LF
Edited
CR/2LF
*
CR/LF

COMMENT
System adds message 8 to bottom of message 4, prints last line of message 8, and issues EDIT prompt sequence.

H-13. HELP SUBCOMMAND

This subcommand allows operator to print a list of EDIT subcommands. List includes subcommand format and a brief description of subcommand function.

a. Keystroke sequence for HELP subcommand is b0HELPb0CR.

b. Shortest acceptable form of subcommand is HEL.

c. OPERATOR EXAMPLE: Operator needs assistance with EDIT subcommand keystroke sequence.

OPERATOR ACTION
Inputs b0HELPb0CR

SYSTEM RESPONSE
System prints list of EDIT subcommands, format, and brief description of each.
CR/2LF
*
CR/LF

COMMENT
After printing list of subcommands, system returns to EDIT subcommand level.

H-14. EXIT SUBCOMMAND

This subcommand causes system to leave EDIT or PARAMETER command level and return to System Command level. System responds by printing System Command prompt sequence.

a. Keystroke sequence for EXIT subcommand is b0EXITb0CR.

b. Shortest acceptable form of subcommand is EX.

c. OPERATOR EXAMPLE: Operator has finsihed editing input and decides to return to System Command level.

OPERATOR ACTION
Inputs b0EXITb0CR

SYSTEM RESPONSE
CR/2LF
*
CR/LF

COMMENT
System accepts input and returns to System Command level.

APPENDIX I

SUMMARY LISTS OF OPERATOR ACTIONS AND TERMINAL RESPONSES

1-1. GENERAL

The following lists describe operator actions and terminal response to each action. These lists can be used by operator as a quick reference for the purpose of each control, and the purpose of each operator action.

These lists can also be used by operator for rapid operational check of equipment in ICT and KSR states.

1-2. SUMMARY LISTS

Summary List No. 1 - Terminal Operation in the ICT state.

Summary List No. 2 - Terminal Operation in the KSR state.

NOTE

Operator should read and become familiar with SYSTEM, PARAMETER, and EDIT commands before continuing with Appendix I examples.

SUMMARY LIST NO. 1 - TERMINAL OPERATION IN ICT STATE

STEP	OPERATOR ACTION	TERMINAL RESPONSE	COMMENTS
1	Set TRANSFER switch to OFF.	None	
2	Set AUDIO control to midpoint.	None	
3	Set ILLUM control to midpoint.	None	
4	Set ASCII/BAUDOT mode to ASCII.	None	Places terminal in ASCII mode.
5	Set BAUD RATE switch to 300.	None	Sets data rate to 300 baud.
6	Set REC MODE switch to LO DATA.	None	Conditions receive circuit for low-level non-inverted operation.
7	Set XMIT MODE switch to LO DATA.	None	Conditions transmit circuit for low-level non-inverted operation.
8	Set SELF-TEST switch to OFF.	None	
9	Set SIGNAL NRZ/Dl-PHASE switch to NRZ.	None	Conditions terminal for NRZ communication.
10	Set PARITY switch to ODD.	None	Conditions communications circuits for odd parity.
11	Set STATE switch to ICT.	None	Allows terminal to operate as intelligent comm. terminal.
12	Set CLOCK INT/EXT/ KG-30 switch to INT.	None	Allows system to operate on local clock.
13	Set CLOCK +/– switch to +.	None	Conditions system to operate from + transitions of clock.
14	Set FIG S/J switch to S.	None	Selects whether figure S or J code activates audible alarm
15	Set STOP BITS switch to 2.	None	Adds 2 stop bits to all transmitted words.
16	Set POWER switch to ON.	Copy lamps on, all other lamps off. Terminal prints ICT Operation Validation/ State Determination message. CR/2LF @ CR/LF	Terminal goes from Cold Start state to Operation Validation/ State Determination state and into the ICT state. Message indicates terminal configuration (B or C) and switch positions.

SUMMARY LIST NO. 1 - TERMINAL OPERATION IN ICT STATE - Continued

STEP	OPERATOR ACTION	TERMINAL RESPONSE	COMMENTS
17	b0PARAMETERb0CR	CR/2LF - CR/LF	Puts terminal in PARAMETER command.
18	b0LINEB260B0CR	CR/2LF - CR/LF	Sets line length to 60.
19	b0SETABb240b245B260B0CR	CR/LF 040,045,060 CR/2LF - CR/LF	Sets tabs at columns 40, 45, and 60.
20	b0CLRTABb245b0CR	CR/LF 040,060 CR/2LF – CR/LF	Clears tab at column 45.
21	b0DISPLAYb0CR	CR/LF 040,060 CR/2LF - CR/LF	Prints all tab positions.
22	b0CAPlTb2OFFb0CR	CR/2LF – CR/LF	Allows lower case letters to be stored in memory.
23	b0REMlNDb2ONb0CR	CR/2LF – CR/LF	Sets remind option for TRANSMIT commands.
24	b0EOLb2Ab1Bb1Cb1Db0CR	CR/2LF – CR/LF	Attaches ASCII character sequence ABCD to end of each line in message for transmission.
25	b0LFb12b0CR	CR/2LF - CR/LF	Sets double line-feed following carriage-return.
26	b0SPACEb2ONb0CR	CR/2LF - CR/LF	Allows space characters to input from keyboard via TAB key.
27	b0PAPERb0CR	Printer and ribbon feed stop.	Paper and/or ribbon may be changed. All keystrokes ignored until GO CR is entered.
28	GO CR	CR/2LF - CR/LF	Printer, ribbon feed start operating again. Returns terminal to PARAMETER command.
29	b0RENVELOPEb2Bb2Eb2G b2lN:Eb2Nb2Db0CR	CR/2LF - CR/LF	Establishes receive envelope as: Front Code ASCII Char: B E G I N, End Code ASCII Char: E N D.
30	b0TENVEL0PEb2Bb2Eb2G b2lb2N:Eb2Nb2Db0CR	CR/2LF - CR/LF	Establishes transmit envelope as: Front Code ASCII Char: B E G I N, End Code ASCII Char: E N D.
31	b0EOMLFb25b0CR	CR/2LF - CR/LF	System inserts five line-feeds at end of message.
32	b0F0NTb22b0CR	CR/2LF - CR/LF	System printouts now use font No. 2 (96-character set).

SUMMARY LIST NO. 1 - TERMINAL OPERATION IN ICT STATE - Continued

STEP	OPERATOR ACTION	TERMINAL RESPONSE	COMMENTS
33	b0COPIESb23b0CR	CR/2LF – CR/LF	Print head pressure adjusted for three copy forms.
34	b0DUPLEXb2Hb0CR	CR/2LF – CR/LF	System placed in half-duplex mode.
35	b0HEADERSb0CR	CR/2LF System prints JANAP 128, ACP 1271, ACP 1273 headers or NO HEADER DEFINED for each type header if not set up. – CR/LF	Gives header status information. See SETUP subcommand to define headers (paragraph G-19).
36	b0PAGEb255b0CR	Aline paper, enter CR to continue. CR/2LF – CR/LF	Sets number of printed lines to 55 for 66-line page length.
37	b0HELPb0CR	CR/2LF System prints list of PARAMETER subcommands.	See Appendix J.
38	b0EXITb0CR	CR/2LF @ CR/LF	System returns to System Command level.
39	b0QUERYb0CR	CR/2LF System prints Operation Validation/ State Determination message. CR/2LF @ CR/LF	Terminal executes a QUERY command.
MODEL C ONLY ADDITIONAL SUMMARY LIST IN ICT STATE			
40	b0PARb0CR	CR/2LF – CR/LF	System enters PARAMETER command.
*41	b0AUTOSb2ONb0CR	CR/2LF – CR/LF	Auto Save to auxiliary memory is turned on.
*42	b0AUTOPb2ONb0CR	CR/2LF – CR/LF	Auto Print operates with Auto Save turned on.
*43	b0oNOFORMb2ONb0CR	CR/2LF – CR/LF	Turns on no-format, which is required to save on auxiliary memory.
44	b0EXb0CR	CR/2LF @ CR/LF	System returns to System Command level.
45	b0EDITb0CR	CR/2LF prints MESSAGE NUMBER 0001 CR/2LF – CR/LF	Places terminal in EDIT mode and terminal assigns message number.

SUMMARY LIST NO. 1 - TERMINAL OPERATION IN ICT STATE - Continued

STEP	OPERATOR ACTION	TERMINAL RESPONSE	COMMENTS
58	bOTOPbOCR	CR/2LF prints THE QUICK BROWN FOR JUMPED OVER THE CR/2LF * CR/LF	The terminal prints the top line of the message.
59	bOFINDb2/NOW IS THE TIME/bOCR	CR/2LF prints NOW IS THE TIME CR/2LF * CR/LF	Finds the entered phrase and prints the line containing the phrase.
60	bODELETEbOCR	CR/2LF prints LAZY DOGS BACK 1234567890 TIMES CR/2LF * CR/LF	Deletes NOW IS THE TIME from the message being edited and prints the line above it in the message.
61	bOUPb2*bOCR	CR/2LF prints THE QUICK BROWN FOX JUMPED OVER THE CR/2LF * CR/LF	Moves to the top of the message and prints the first line.
62	bOLISTb2*bOCR	CR/2LF prints THE QUICK BROWN FOX JUMPED OVER THE CR/2LF LAZY DOGS BACK 1234567890 TIMES CR/2LF * CR/LF	Prints the entire message, beginning at the first line.
63	bOJUSTIFYb21bOCR	CR/2LF @ CR/LF	Message number 0001 is line justified.
64	bOHEADERb2128bOCR	CR/LF ENTER TIME OF DAY (ZULU TIME) CR/2LF *CR/LF	The predefined header 128 is appended around the message with new operator intered time of day.
65	bOEXITbOCR	CR/2LF @ CR/LF	Returns the terminal to the System Command level.
66	bOPRINTb21bOCR	CR/2LF prints THE QUICK BROWN FOX JUMPED OVER THE LAZY DOGS BACK CR/2LF 1234567890 TIMES CR/2LF @ CR/LF	Message number 0001 is printed.
67	bOTRANSMITb21bOCR	CR/2LF prints KEY TRANSMITTER AND ENTER CR	The terminal uses the REMIND option to prompt the operator to turn the TRANSFER switch on and enter a CR.
68	Turn TRANSFER switch to ON	None	

SUMMARY LIST NO. 1 - TERMINAL OPERATION IN ICT STATE - Continued

STEP	OPERATOR ACTION	TERMINAL RESPONSE	COMMENTS
69	Press CR key.	CR/2LF prints THE QUICK BROWN FOX JUMPED OVER THE LAZY DOGS BACK CR/2LF 1234567890 TIMES CR/2LF @ CR/LF	Transmits and prints message number 0001.
70	Turn TRANSFER switch to OFF.	None	The terminal does not prompt for TRANSFER switch deactivation.
71	bOREMOVEb21bOCR	CR/2LF prints MESSAGE 0001 REMOVED CR/2LF @ CR/LF	Delete message number 0001 from message memory.
72	bOTTYbOCR	CR/2LF	Places terminal in the TTY command.
73	Type: ALL GOOD MEN CR	CR/2LF prints KEY TRANSMITTER AND ENTER CR	The terminal uses the REMIND option to prompt the operator to turn the TRANSFER switch to ON and then enter a CR.
74	Turn TRANSFER switch to ON.	None	
75	Press CR	CR/2LF @ CR/LF	The message is transmitted. The terminal returns to the System Command.
76	Turn TRANSFER switch to OFF.	None	The terminal does not prompt for TRANSFER switch deactivation.
77	bORESTARTbOCR	prints ARE YOU SURE? (Y/N)	
78	bOYbOCR	prints CHANGE SWITCH SETTINGS AND ENTER CR TO CONTINUE	System waits for operator to change system parameter control switches and press CR.
79	Place STATE switch in the KSR position. Press CR.	CR/2LF @ CR/LF System prints new initialization message.	System is now in KSR state.

SUMMARY LIST NO. 2 - TERMINAL OPERATION IN KSR STATE

STEP	OPERATOR ACTION	TERMINAL RESPONSE	COMMENTS
1	Set STATE switch to KSR position.	None	Allows the terminal to operate as a line teletypewriter.
2	Turn POWER switch to ON.	Copy lamps are on and all other lamps are off. The terminal prints the KSR Operation Validation/State Determination message. And then CHARACTER OR LINE TRANSMISSION ?(C/L)	Terminal goes from Cold Start State to the Operation Validation/State Determination state and into KSR state. Initialization message indicates switch settings.
3	bOLbOCR	L CR/2LF prints AUTOMATIC LINE FEED WITH CARRIAGE RETURN ? (Y/N) CR/2LF	System is in line transmission mode of KSR state. System asks if line-feed insertion with CR's is required.
4	bOYbOCR	Y CR/2LF	
5	Type: NOW IS THE TIME	The terminal prints each character as it is typed.	
6	Press the DLL key.		Deletes the typed line.
7	Press the line-feed (LF)	Paper advances.	
8	Type: THE QUICK BROWNF	The terminal prints each character as it is typed.	
9	Press the DLC key.	The terminal prints a backward slash over the last character input, i.e., BROWNF .	Deletes the last character input.
10	Press space bar, type: FOX JUMPED OVER THE	The terminal prints each character as it is typed.	
11	Press the line-feed (LF)	Paper advances.	
12	Press the REV key.	Prints THE QUICK BROWN FOX JUMPED OVER THE	Reviews or reprints the current input line.
13	Turn the TRANSFER switch to ON.	None	
14	Press space bar, type: LAZY DOGS BACKbOCR	CR/LF prints THE QUICK BROWN FOX JUMPED OVER THE LAZY DOGS BACK CR/LF	Transmits the composed line.
15	Turn TRANSFER off.	None	The terminal does not prompt for TRANSFER switch deactivation.
16	Turn POWER off.	All lamps are off.	

APPENDIX J

HELP COMMAND MESSAGES

Table J-1. SYSTEM Commands

The system HELP command prints the following listing.

SYSTEM PROMPT CHARACTER IS : @

DLC KEY DELETES THE LAST CHARACTER INPUT.
DLL KEY DELETES THE CURRENT INPUT LINE.
REV KEY REVIEWS (REPRINTS) THE CURRENT INPUT LINE.

SYSTEM COMMAND	COMMAND FORMAT(S)	DESCRIPTION
PARAMETER	PAR	ALLOWS SYSTEM PARAMETERS TO BE SPECIFIED.
EDIT	ED XXXX	ALLOWS EDITING FUNCTIONS TO BE SPECIFIED FOR MESSAGE XXXX.
	ED	NEW MESSAGE CREATION.
PRINT	PR XXXX	PRINTS MESSAGE XXXX.
	PR *	PRINTS ALL RECEIVED MESSAGES. THE HLT KEY WILL TERMINATE ANY PRINT ACTIVITY.
TRANSMIT	TR XXXX	TRANSMITS MESSAGE XXXX.
	TR XXXX WITH NNN	WITH NNN = A SPECIFIED CHANNEL SEQUENCE NUMBER (NNN = 1 TO 999). THE HLT KEY WILL TERMINATE ANY PRINT ACTIVITY.
REMOVE	REMO XXXX	REMOVES MESSAGE XXXX FROM STORAGE.
JUSTIFY	J XXXX	REFORMATS MESSAGE XXXX IN MESSAGE STORAGE.
QUERY	Q	PRINTS CURRENT SYSTEM STATUS.
STATUS	ST XXXX	PRINTS CURRENT STATUS OF MESSAGE XXXX.
	ST *	STATUS OF ALL MESSAGES.
	ST	LAST RECEIVED MESSAGE STATUS.
		THE HLT KEY WILL TERMINATE ANY PRINT ACTIVITY.
TTY	TT	IMMEDIATE TRANSMISSION OF A SINGLE LINE OF INPUT.
HELP	HEL	PRINTS LIST OF AVAILABLE SYSTEM COMMANDS.
RESTART	RES	ALLOWS OPERATOR TO CHANGE UNIT SWITCH SETTINGS AND RESTART SYSTEM.

NOTE: XXXX INDICATES THE SPECIFIC MESSAGE NUMBER. THE RANGE OF NUMBERS IS FROM 1 TO 9999.

Table J-1. SYSTEM Commands - Continued

MODEL C ADDITIONAL HELP MESSAGES

SYSTEM COMMAND	COMMAND FORMAT(S)	DESCRIPTION
GET	GE DDTTTT,L	RETRIEVES A MESSAGE FROM AUXILIARY MEMORY MODULE (AMM) AND SAVES IT IN MESSAGE MEMORY.
NEXT	N	RETRIEVES OLDEST HIGHEST PRECEDENCE MESSAGE FROM AMM TO MESSAGE MEMORY.
SAVE	SA XXXX	SAVES A MESSAGE WHICH IS IN MESSAGE MEMORY INTO AMM.
CATALOG	CAT	DISPLAYS CATALOG OF MESSAGE NAMES STORED IN AMM; IN LAST-IN FIRST-OUT (LIFO) ORDER.
	CAT S	DISPLAYS CATALOG OF MESSAGE NAMES STORED IN AMM; SORTED BY DATE, TIME, SEQUENCE LETTER. THE HLT KEY WILL TERMINATE ANY PRINT ACTIVITY.
CLEAR	CLE DDTTTT,L CLE *	DELETE A MESSAGE FROM AMM. CLEARS ENTIRE AMM TO A KNOWN STATE.
RENAME	RENA DDTTTT,L/ DDTTTT,L	RENAMES AN ENTRY IN AMM CATALOG.
CHANNEL	CH XX CH M CH 0	SETS RELAY PORT CHANNEL NUMBER (XX = 1 TO 16.) DESIGNATES UNIT AS THE MASTER. CANCELS MASTER DESIGNATION AND/OR ASSIGNED CHANNEL NUMBER.
	CH	PRINTS MASTER DESIGNATION AND/OR ASSIGNED CHANNEL NUMBER.
RELAY	REL DDTTTT,L/ (XX,XX,XX,...)	RETRIEVES A MESSAGE FROM AMM AND TRANSMITS IT USING THE RELAY PORT TO LISTED CHANNELS. (XX,XX,XX,...) IS A LIST OF CHANNEL NUMBERS, FOR EXAMPLE, (2,3,12,15).
TST	TS	INITIATES AMU SELF TEST AND REPORTS RESULTS.
CANCEL	CAN	CANCELS RELAY TRANSMISSION IN PROGRESS.
LS	LS	PRINTS STATUS OF DUAL PURPOSE LAMPS (MEM FULL, MSG RCVD).

NOTE: XXXX INDICATES THE SPECIFIC MESSAGE NUMBER. THE RANGE OF NUMBERS IS FROM 1 TO 9999.

NOTE: DDTTTT,L INDICATES CATALOG ENTRY. DD = DAY OF MONTH, TTTT = MILITARY TIME OF DAY, L = SEQUENCE LETTER OR SPACE.

Table J-2. PARAMETER Subcommands

The PARAMETER HELP subcommand prints the following listing.

PARAMETER PROMPT CHARACTER IS: -

DLC KEY DELETES THE LAST CHARACTER INPUT.
DLL KEY DELETES THE CURRENT INPUT LINE.
REV KEY REVIEWS (REPRINTS) THE CURRENT INPUT LINE.

PARAMETER SUBCOMMAND	COMMAND FORMAT(S)	DESCRIPTION
DUPLEX	DU F DU H	SELECTS FULL DUPLEX OPERATIONON COMM PORT. SELECTS HALF DUPLEX OPERATIONON COMM PORT.
REMIND	REMI ON REMI OFF	SETS TRANSMISSION REMINDER MESSAGE. RESETS TRANSMISSION REMINDER MESSAGE.
EOL	EOL AAA	SETS END OF LINE SEQUENCE FOR TRANSMISSION TO ASCII VALUES SPECIFIED.
EOMLF	EOM XX	SETS NUMBER OF END OF MESSAGE LINE FEEDS (XX=1 TO 20).
TENVELOPE	TENV AAAA:AAAA	SETS ENVELOPE FOR MESSAGE TRANSMISSION. UP TO 8 ASCII START ENVELOPE VALUES: THEN UP TO 16 ASCII STOP ENVELOPE VALUES.
RENVELOPE	RENV AAAA:AAAA	SETS ENVELOPE FOR MESSAGE RECEPTION. UP TO 8 ASCII START ENVELOPE VALUES: THEN UP TO 16 ASCII STOP ENVELOPE VALUES.
SPACE	SP ON SP OFF	SETS SPACE OPTION. RESETS SPACE OPTION.
CAPIT	CAP ON CAP OFF	SETS CAPITALIZATION OPTION. RESETS CAPITALIZATION OPTION.
LINE	LIN LIN XXX	SETS LINE LENGTH TO 80 CHARACTERS. SETS LINE LENGTH (XXX = 40 TO 132).
LF	LF 1 LF 2	SETS UP FOR 1 LINE FEED AFTER CARRIAGE RETURN. SETS UP FOR 2 LINE FEEDS AFTER CARRIAGE RETURN.
FONT	FO X	SELECTS CHARACTER FONT SET (X=1 TO 6).
PAGE	PAG XX	SELECTS NUMBER OF LINES PER PAGE (XX=1 TO 66).
COPIES	CO X	SELECTS NUMBER OF PRINTED COPIES (X=1 TO 3).
PAPER	PAP	TURNS PRINTER OFF TO ALLOW PAPER/RIBBON CHANGES.

Table J-2. PARAMETER Subcommands - Continued

PARAMETER SUBCOMMAND	COMMAND FORMAT(S)	DESCRIPTION
GO	GO	TURNS PRINTER ON.
SETAB	SETA XX SETA XX XX XX, ETC.	SETS TAB MARK TO VALUE SPECIFIED. SETS UP TO 12 TAB MARKS TO VALUES SPECIFIED (XX = 1 TO CURRENT LINE LENGTH).
CLRTAB	CLR XX	CLEARS TAB MARK SPECIFIED (XX = 1 TO CURRENT LINE LENGTH).
	CLR XX XX XX, ETC.	CLEARS TAB MARKS SPECIFIED (XX = 1 TO CURRENT LINE LENGTH).
	CLR *	CLEARS ALL TAB MARKS.
DISPLAY	DI	DISPLAYS ALL TAB MARK SETTINGS.
HEADERS	HEADERS	PRINTS CURRENT PRESTORED JANAP-128, ACP-127 USA SUPP 1, ACP-127 NATO SUPP 3 HEADERS.
SETUP	SETU 128	PROMPTS OPERATOR THROUGH CREATION/ MODIFICATION OF JANAP-128 HEADER FOR STORAGE.
	SETU 1271	PROMPTS OPERATOR THROUGH CREATION/ MODIFICATION OF ACP-127 USA SUPP 1 HEADER FOR STORAGE.
	SETU 1273	PROMPTS OPERATOR THROUGH CREATION/ MODIFICATION OF ACP-127 NATO SUPP 3 HEADER FOR STORAGE.
HALT KEY WILL ABORT ANY SETUP ACTIVITY. ENTER NULL (CR) TO RETAIN PREVIOUS INPUT.		
HELP	HEL	PRINTS LIST OF PARAMETER SUBCOMMANDS.
AUTOS	AUTOS ON AUTOS OFF	SETS AUTO SAVE OPTION. RESETS AUTO SAVE OPTION.
AUTOP	AUTOP ON AUTOP OFF	SETS AUTO PRINT OPTION. RESETS AUTO PRINT OPTION.
NOFORM	NOF ON NOF OFF	SETS NOFORM OPTION. RESETS NOFORM OPTION.
EXIT	EX	RETURNS TO SYSTEM COMMAND LEVEL (@).

NOTE: IN EOL AND ENVELOPE COMMANDS, THE ASCII CARRIAGE RETURN CHARACTER IS INPUT AS "CR" (NO SPACE BETWEEN CHARACTERS), THE ASCII LINE FEED CHARACTER IS INPUT AS "LF" (WITH NO SPACE BETWEEN CHARACTERS), AND THE ASCII DELETE CHARACTER IS INPUT AS "DE" (NO SPACE BETWEEN CHARACTERS.)

Table J-3. EDIT Subcommands

The EDIT HELP subcommand prints the following listing.

THE EDIT PROMPT CHARACTER IS: *

DLC KEY DELETES THE LAST CHARACTER INPUT.
DLL KEY DELETES THE CURRENT INPUT LINE.
REV KEY REVIEWS (REPRINTS) THE CURRENT INPUT LINE.

EDIT SUBCOMMAND	COMMAND FORMATS	DESCRIPTION
TOP	TO	SETS LINE POINTER TO FIRST LINE OF THE MESSAGE.
BOTTOM	BO	SETS LINE POINTER TO LAST LINE IN THE MESSAGE.
UP	U U XX U *	SETS LINE POINTER UP 1 LINE. SETS LINE POINTER UP REQUESTED NUMBER OF LINES BUT NOT PAST TOP OF MESSAGE. SETS LINE POINTER TO TOP OF MESSAGE.
DOWN	DO DO XX DO *	SETS LINE POINTER DOWN 1 LINE. SETS LINE POINTER DOWN REQUESTED NUMBER OF LINES, BUT NOT PAST BOTTOM OF MESSAGE. SET LINE POINTER TO BOTTOM OF MESSAGE.
BEFORE	BE	INSERTS THE OPERATOR ENTERED BLOCK OF TEXT BEFORE THE CURRENT LINE AS DEFINED BY LINE POINTER. THE HLT KEY WILL TERMINATE THIS ACTIVITY.
INSERT	I	INSERTS THE OPERATOR ENTERED BLOCK OF TEXT AFTER THE CURRENT LINE AS DEFINED BY LINE POINTER. THE HLT KEY WILL TERMINATE THIS ACTIVITY.
DELETE	DE DE XX DE *	DELETES CURRENT LINE. DELETES THE SPECIFIED NUMBER OF LINES FROM CURRENT LINE POINTER DOWN, (INCLUDES CURRENT LINE). DELETES REMAINDER OF LINES (PHRASE).
FIND	FI DTTTTTD	SPECIFIES A GIVEN PIECE OF TEXT THAT IS TO BE LOCATED. (TTTTT) CAN BE UP TO 20 CHARACTERS WITH A CHARACTER DELIMITER (D) AT THE BEGINNING AND END.
LIST	LIS LIS XX LIS *	LIST CURRENT LINE. LISTS REQUESTED NUMBER OF LINES, BEGINNING AT CURRENT LINE POINTER. LISTS REMAINDER OF LINES. THE HLT KEY WILL TERMINATE ANY PRINT ACTIVITY.

Table J-3. EDIT Subcommands - Continued

EDIT SUBCOMMAND	COMMAND FORMATS	DESCRIPTION
REPLACE	REP DP1DP2D	WHERE (P1) INDICATES PHRASE TO BE REPLACED (UP TO 20 CHARACTERS), (P2) INDICATES REPLACEMENT PHRASE (UP TO 40 CHARACTERS) AND (D) INDICATES DELIMITER.
HEADER	HEADER 128	PLACES PREDEFINED JANAP-128 HEADER AND TRAILER AROUND MESSAGE.
	HEADER 1271	PLACES PREDEFINED ACP-127 USA SUPP. 1 HEADER AND TRAILER AROUND MESSAGE.
	HEADER 1273	PLACES PREDEFINED ACP-127 NATO SUPP. 3 HEADER AND TRAILER AROUND MESSAGE.
APPEND	AP XXXX	ADDS A COPY OF THE DESIGNATED MESSAGE TO THE END OF THE CURRENTLY EDITED MESSAGE.
EXIT	EX	RETURNS TO SYSTEM COMMAND LEVEL (@).
HELP	HEL	PRINTS LIST OF EDIT SUBCOMMANDS.

NOTE: XXXX INDICATES THE SPECIFIC MESSAGE NUMBER. THE RANGE OF NUMBERS IS FROM 1 TO 9999.

NOTE: XX INDICATES NUMBERS IS FROM 1 TO 99.

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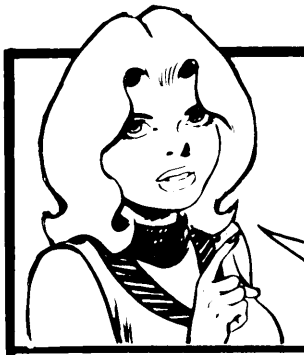

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PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 11-5840-340-12	23 Jan 74	Radar Set AN/PRC-76

BE EXACT PIN-POINT WHERE IT IS

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
2-25	2-28		
3-10	3-3		3-1
5-6	5-8		
		F03	

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

Recommend that the installation antenna alignment procedure be changed throughout to specify a 2^{o} IFF antenna lag rather than 1^{o}.

REASON: Experience has shown that with only a 1^{o} lag, the antenna servo system is too sensitive to wind gusting in excess of 25 knots, and has a tendency to rapidly accelerate and decelerate as it hunts, causing strain to the drive train. Hunting is minimized by adjusting the lag to 2^{o} without degradation of operation.

Item 5, Function column. Change "2 db" to "3db."

REASON: The adjustment procedure for the TRANS POWER FAULT indicator calls for a 3 db (500 watts) adjustment to light the TRANS POWER FAULT indicator.

Add new step f.1 to read, "Replace cover plate removed in step e.1, above."

REASON: To replace the cover plate.

Zone C 3. On J1-2, change "+24 VDC to "+5 VDC."

REASON: This is the output line of the 5 VDC power supply. +24 VDC is the input voltage.

SAMPLE

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER
SSG I. M. DeSpiritof 999-1776

SIGN HERE I. M. DeSpiritof

DA FORM 1 JUL 79 2028-2

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.--IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS

TEAR ALONG PERFORATED LINE

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

THEN...JOT DOWN THE DOPE ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL.

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS

DATE SENT

PUBLICATION NUMBER	PUBLICATION DATE	PUBLICATION TITLE
TM 11-5815-602-10-1	1 March 1987	Terminal, Communications AN/UGC-74C(V)3

BE EXACT PIN-POINT WHERE IT IS

PAGE NO.	PARA-GRAPH	FIGURE NO.	TABLE NO.

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PRINTED NAME GRADE OR TITLE AND TELEPHONE NUMBER

SIGN HERE

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THE METRIC SYSTEM AND EQUIVALENTS

'NEAR MEASURE

. Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
1 Kilometer = 1000 Meters = 0.621 Miles

'VEIGHTS

Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
1 Kilogram = 1000 Grams = 2.2 lb.
1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches
1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet
1 Sq. Kilometer = 1,000,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

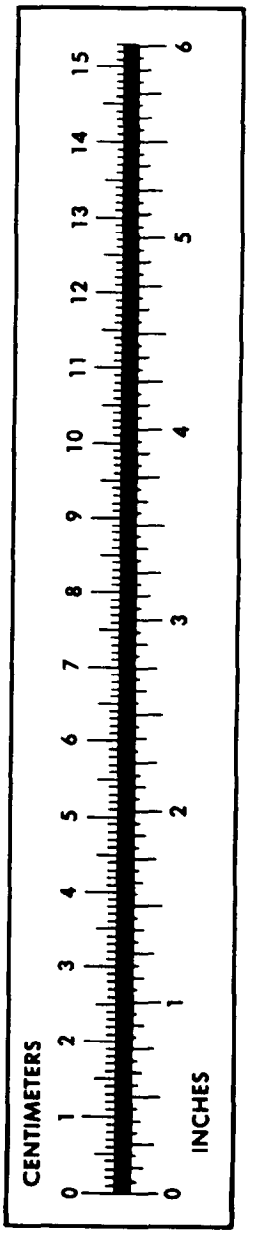
TEMPERATURE

5/9(°F - 32) = °C
212° Fahrenheit is evuivalent to 100° Celsius
90° Fahrenheit is equivalent to 32.2° Celsius
32° Fahrenheit is equivalent to 0° Celsius
9/5C° + 32 =°F

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
ıts	Liters	0.473
arts	Liters	0.946
allons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour	Kilometers per Hour	1.609

TO CHANGE	TO	MULTIPLY BY
Centimeters	Inches	0.394
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
ers	Gallons	0.264
ms	Ounces	0.035
ograms	Pounds	2.205
Metric Tons	Short Tons	1.102
Newton-Meters	Pounds-Feet	0.738
Kilopascals	Pounds per Square Inch	0.145
lometers per Liter	Miles per Gallon	2.354
meters per Hour	Miles per Hour	0.621



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