ARMY
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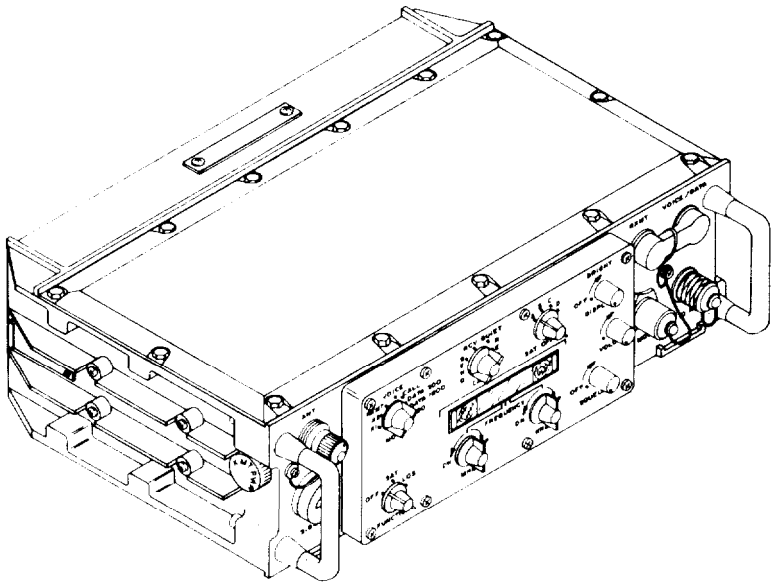
MARINE CORPS

TM 11-5895-1182-20
EE150-QC-MMO-010/RT1402/G
TO31R2-4-675-2
TM 5895-10/5

TECHNICAL MANUAL

ORGANIZATIONAL MAINTENANCE



RECEIVER/TRANSMITTER RT-1402A/G

(NSN 5820-01-238-0559)

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

15 FEBRUARY 1988

This copy is a reprint which includes current pages from Change 1.

CHANGE

No. 1

DEPARTMENTS OF THE ARMY, THE NAVY, AND
HEADQUARTERS, MARINE CORPS
Washington, DC, 15 January 1992

ORGANIZATIONAL MAINTENANCE MANUAL
RECEIVER/TRANSMITTER RT-1402A/G
(NSN 5820-01-238-0559) (EIC: N/A)

TM 11–5895–1182–20/EE 1150-QC-MMO-010/RT1402/G/TM 5895–20/5,1 5 February 1988, is changed as follows:

1. Remove old pages and insert new pages as indicated. New or changed material is indicated by a vertical ba in the margin of the page.

Remove pages	*Insert pages*
i and ii	i and ii
1 –1 and 1 –2	1–1 and 1–2
A–1 and A–2	A–1 and A–2
B–5 and B–6	B–5 and B–6

2. File this change sheet in the front of the publication for reference purposes.

By Order of the Secretary of the Army:

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03150

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ROBERT AILES
Rear Admiral, United States Navy
Command, Space and Naval Warfare
Systems Command

DISTRIBUTION:

To be distributed in accordance with DA Form 12-51-E, block 0104, Unit Maintenance Requirements for TM 11-5895-1182-20.

WARNING

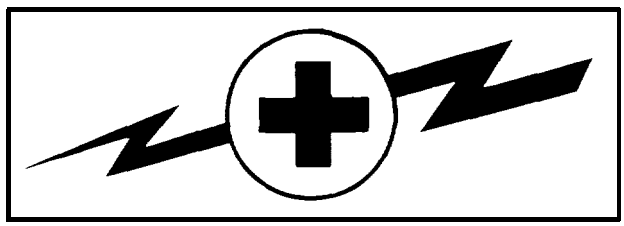
Adequate ventilation should be provided while using TRICHLOROTRIFLUOROETHANE. Prolonged breathing of vapor should be avoided. The solvent should not be used near heat or open flame; the products of decomposition are toxic and irritating. Since TRICHLOROTRIFLUOROETHANE dissolves natural oils, prolonged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

Compressed air shall not be used for cleaning purposes except where reduced to less than 29 pounds per square inch (psi) and then only with effective chip guarding personal protective equipment. Do not use compressed air to dry parts when TRICHLOROTRIFLUOROETHANE has been used. Compressed air is dangerous and can cause serious bodily harm if protective means or methods are not observed to prevent chips or particles (of whatever size) from being blown into the eyes or unbroken skin of the operator or other personnel.

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 DRY WOODEN POLE OR A DRY 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

WARNING



HIGH VOLTAGE

is used in the operation of this equipment.

DEATH ON CONTACT

may result if personnel fail to observe safety 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 shutoff 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 the power has been turned off, always ground every part before touching it.

Be careful not to contact high-voltage connections or 115 volt ac input connections 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 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 Artifical Respiration, refer to FM 21-11.

WARNING

A lithium-sulfur dioxide (Li-SO2) battery used with the RT-1402A/G contains pressurized sulfur dioxide (SO2) gas. The gas is toxic, and the battery MUST NOT be abused in any way which may cause the battery to rupture.

Do not heat, short circuit, crush, puncture, mutilate, or disassemble batteries,

Do not use any battery which shows signs of damage, such as bulging, swelling, disfigurement, brown liquid in the plastic wrap, a swollen plastic wrap, etc.

Do not test Li-SO2 batteries for capacity.

Do not recharge Li-SO2 batteries.

Do not use water to extinguish Li-SO2 battery fires if a shock hazard exists due to high voltage electrical equipment in the imrnediate vicinity (i. e., greater than 30 volts, alternating current (ac) or direct current (dc).

If the battery compartment becomes hot to the touch, if you hear a hissing sound (i.e., battery venting), or smell irritating sulfur dioxide gas, immediately turn OFF the equipment. Remove the equipment to a well ventilated area or leave the area.

Do not use a Halon type fire extinguisher on a lithium battery fire.

In the event of a fire, near a lithium battery (ies), rapid cooling of the battery(ies) is important. Use a carbon dioxide (CO2) extinguisher. Control of the equipment fire, and cooling, may prevent the battery from venting and potentially exposing lithium metal. In the event that lithium metal becomes involved in fire, the use of a graphite based Class D fire extinguisher is recommended, such as Lith-X or MET-L-X.

Do not store lithium batteries with other hazardous materials and keep them away from open flame or heat.

Technical Manual
No. 11-5895–1182-20
Technical Manual
No. EE150-QC-MMO-01A/RT1402/G
Technical Order
No. 31R2-4-675-2
Technical Manual
No. 5895-20/5

DEPARTMENTS OF THE ARMY,
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AND HEADQUARTERS, MARINE CORPS

Washington, DC, 15 February 1988

ORGANIZATIONAL MAINTENANCE MANUAL
RECEIVER/TRANSMITTER
RT-1402A/G
(NSN 5820-01-238-0559) (EIC: N/A)

REPORTING 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–LC–LM–LT, Fort Monmouth, New Jersey 07703-5007.

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

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

Marine Corps units, submit NAVMC 10772 (Recommended Changes to Technical Publications) to: Commanding General, Marine Corps Logistics Base (Code 850), Albany, Georgia 31704-5000.

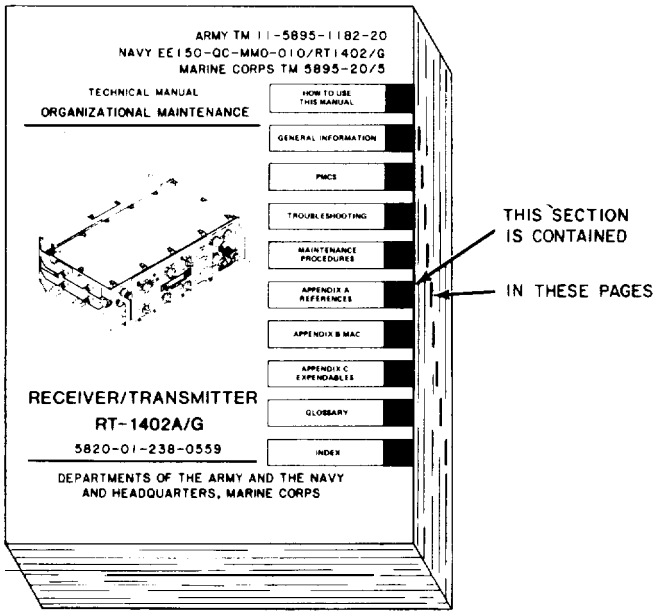
HOW TO USE THIS MANUAL

This manual is divided into two chapters:

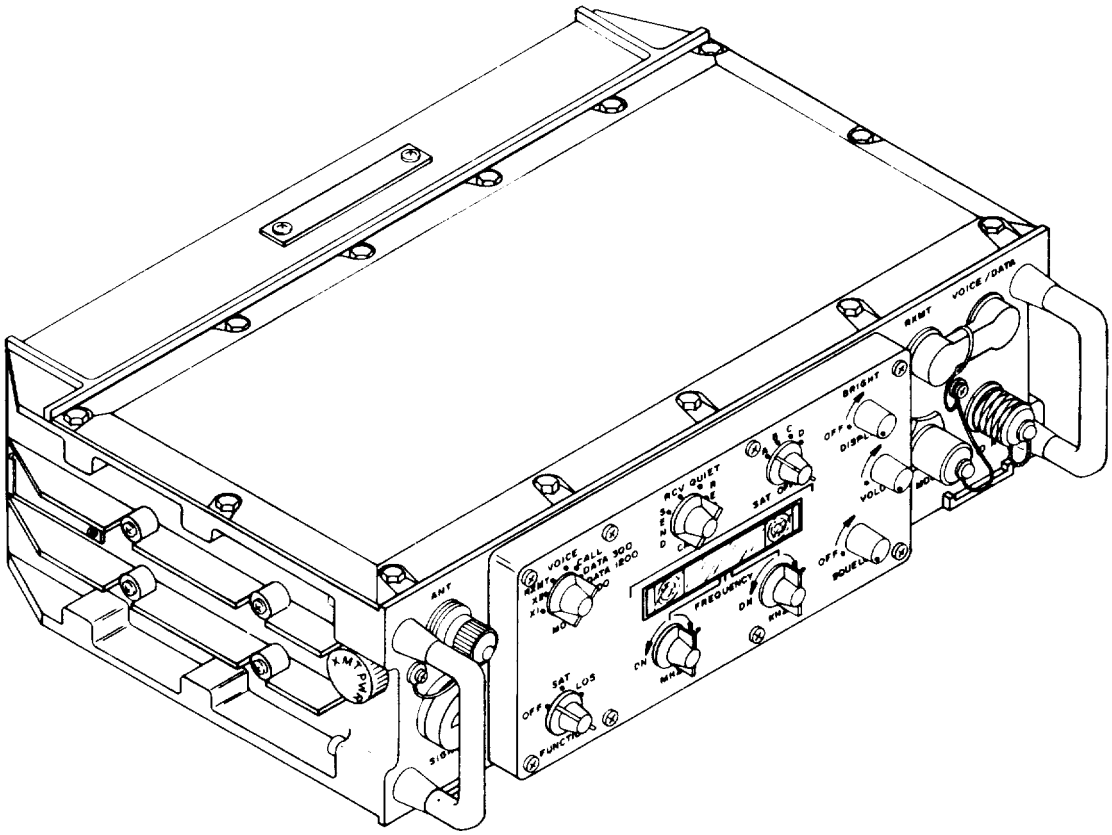
* CHAPTER 1 contains an introduction to the manual and Receiver/Transmitter RT-1402A/G. It provides general information, equipment description and data, and basic principles of operation.

* CHAPTER 2 contains maintenance data. This chapter will provide you with instructions for equipment servicing, unpacking, installation, and preparation for storage or shipment. It contains a table of preventive maintenance checks and services, and provides troubleshooting information and general maintenance procedures such as cleaning, painting, repair, and replacement.

The pages are numbered consecutively within each chapter. Chapters are divided into sections and sections into paragraphs. An index will precede each chapter and section. Frequently used section titles will be boxed on the front cover. At the right-hand edge of each box on the cover is a blackened area. This blackened area matches a black mark appearing on the first page of that section in the manual.



Where descriptive text or procedures require supporting illustrations, the illustration will immediately precede the text. Illustration numbers are not assigned in this manual.



RECEIVER/TRANSMITTER RT-1402A/G

CHAPTER 1

INTRODUCTION

Section I

GENERAL INFORMATION

1-1. SCOPE

Type of Manual: Organizational maintenance.

Model Number and Equipment Name: Receiver/Transmitter RT–1402A/G.

Purpose of Equipment: Receiver/Transmitter RT–1402A/G will be referred to hereinafter as R/T Unit. The R/T Unit,when interfaced with other major components, provides two-way communication over the UHF frequency range of 225 to 399.995 MHz. It provides plain voice, secure voice, and data communications in both satellite relay (SAT) and line-of–sight (LOS) modes of operation when interfaced with appropriate auxiliary equipment.

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, as contained in Maintenance Management Update, 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 maintains forms and procedures as prescribed by TM4700-15/1.

b. Report of Packaging and Handling Deficiencies. Fill out and forward SF 364 (Report of Discrepancy (ROD)) as prescribed in AR 735–11–2/DLAR4140.55/SECNAVINST 355.18/AFR 400-54/MCO4430.3J.

c. Transportation Discrepancy Report (TDR) (SF 361). Fill out and forward Transportation Discrepancy Report (TDR) (SF 361) as prescribed in AR 55–38/NAVSUPINST 4610.33C/AFR 75-18/MCO P4610.19D/DLAR 4500.15.

1–3. DESTRUCTION OF ARMY MATERIEL TO PREVENT ENEMY USE

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

1-4. PREPARATION FOR STORAGE OR SHIPMENT

Procedures for storage and shipment are described in chapter 2, section VI of this manual.

1-5. NOMENCLATURE CROSS–REFERENCE LIST

The following list should help you locate the official nomenclature of components of/or equipment used with Receiver/Transmitter RT–1402A/G. Official nomenclature must be used when completing report forms or when looking up technical manuals.

COMMON NAME	OFFICIAL NOMENCLATURE
Backpack Radio Set	Radio Set AN/PSC-3
DMDG	Digital Message Device Group OA–8990/P
R/T Unit	Receiver/Transmitter RT–1402A/G
RXMT Cable	Retransmission Cable MK-456/GRC

1-6. REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATIONS (EIR)

a. Army. If your RT–1402A/G needs improvement, 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 or performance. . Put it on an SF 368 (Product Quality Deficiency Report). Mail it to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL–ED–PH, Fort Monmouth, New Jersey 07703–5007. We'll send you a reply.

b. Air Force. Air Force personnel are encouraged to submit EIR's in accordance with AFR 900-4.

c. Navy. Navy Personnel are encouraged to submit ElR's through their local Beneficial Suggestion Program.

d. Marine Corps Users. QDR shall be reported on SF 368 in accordance with MCO 1650.17 Quality Deficiency Report Manual. Submit to Commanding General, Marine Corps Logistics Base (Code 856), Albany, Georgia 31704-5000.

e. Consolidated Index of Army Publications and Blank Forms. Refer to the latest issue of DA Pam 25–30 to determine whether there are new editions, changes, or additional publications pertaining to the equipment. Marine Corps personnel should refer to the latest issue of SL-1-2 to determine whether there are any new editions.

Section II

EQUIPMENT DESCRIPTION AND DATA

1-7. EQUIPMENT CHARACTERISTICS, CAPABILITIES AND FEATURES

The equipment data provided in this section is brief and basic. The R/T Unit must be configured as part of a UHF radio system. For additional information, such as operating instructions, setup procedures, removal and/or installation, refer to the operator's manual for the system in which it is being used.

CHARACTERISTICS

* Operates from 24 V dc (vehicle or battery box).
* Modular construction.
* Transportable by one person.
* Built-in battery protection circuitry.
* Operates in 225 to 399.995 MHz UHF frequency range.
* Built-in operator protection circuit for high RF outputs.

CAPABILITIES AND FEATURES

* Plain voice communication.
* Secure voice communication when interfaced with COMSEC devices.
* Data communication when interfaced with MIL-STD 188C low level data devices.
* RXMT (retransmit) communication with standard field radios interfaced.
* Manpack operation.
* Vehicle or communications shelter operation.
* Satellite relay (SAT) communication.
* Line-of-sight (LOS) communication.
* Variable output (X MT) power.

1-8. LOCATION AND DESCRIPTION OF MAJOR COMPONENTS

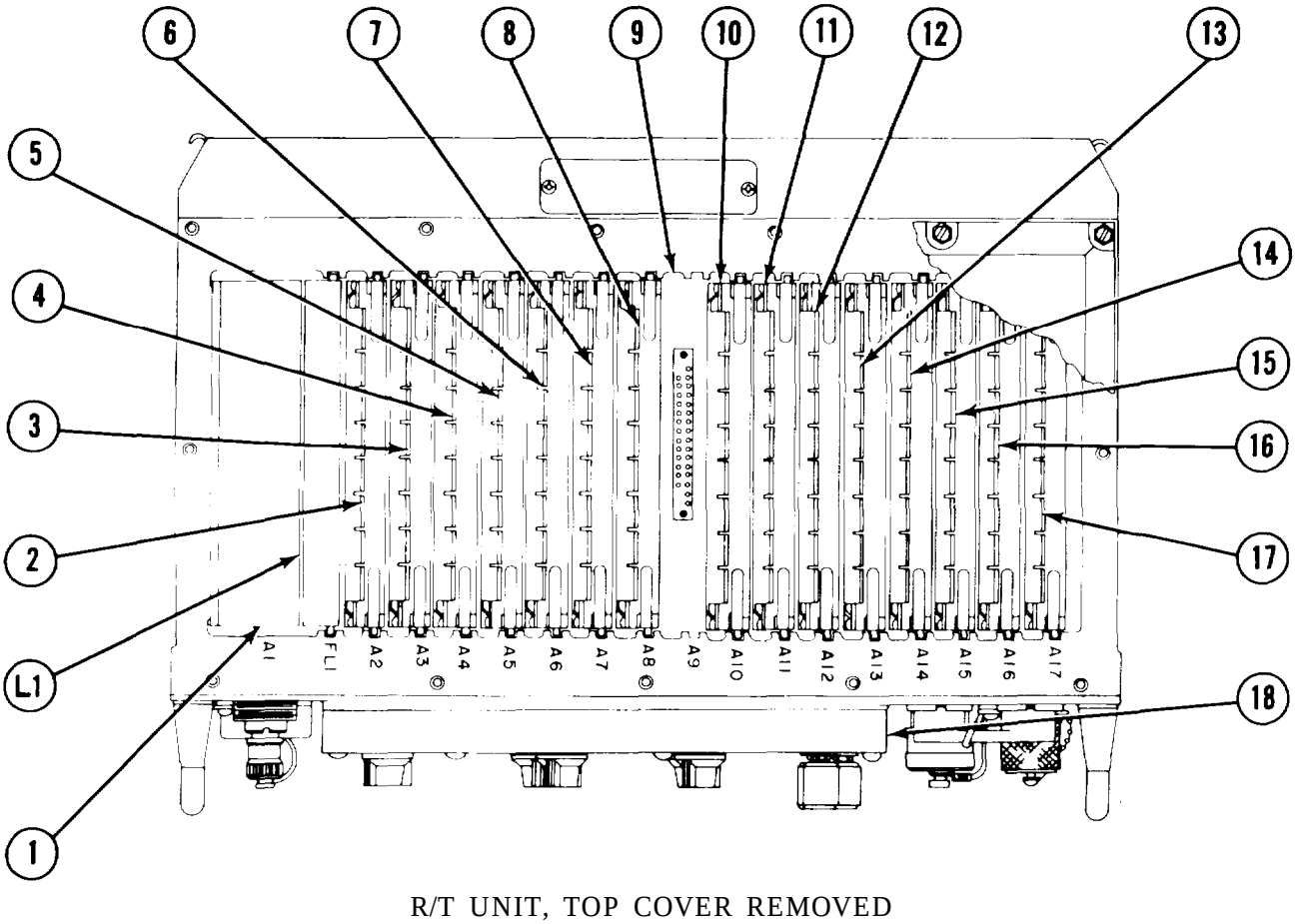
The information provided in this paragraph is for your use in identifying and locating the various modules of the R/T Unit. A brief description has been provided for each module. Refer to section IV for a functional description of the entire system, location and description of controls, connectors, and indicators.

POWER AMPLIFIER MODULE (A1A1)(1). The Power Amplifier provides a 2 watt or 27.8 watt output when driven with a 20 milliwatt signal. It covers the 225 to 399.995 MHz UHF range with no band switching or tuning.

HARMONIC FILTER MODULE (A1FL1) (L1). Harmonic filtering is provided by the low pass filter common to both the transmit and receive path.

TUNER MODULE (A1A2)(2). The Tuner Module provides low noise conversion of the RF input (225 to 399.995 MHz) to the first IF (69.4 MHz) in the receive mode.

VCO MODULE (A1A3)(3). The VCO Module provides a first local oscillator signal to the Tuner Module in the receive mode and a frequency input to the Upper Loop Module in the transmit mode.



R/T UNIT, TOP COVER REMOVED

UPPER LOOP MODULE (A1A4) (4). The Upper Loop Module provides a drive signal to the Power Amplifier in transmit. It controls the VCO Module frequency output in both transmit and receive mode.

LOWER LOOP MODULE (A1A5) (5). The Lower Loop Module supplies the Upper Loop Module with a modulated signal in the transmit mode and an unmodulated signal in the receive mode.

REFERENCE MODULE (A1A6) (6). The Reference Module provides the 4 MHz and 80 MHz reference signals used by various other modules.

69.4 IF MODULE (A1A7) (7). This 69.4 MHz IF Module accepts the output of the Tuner Module, filters and amplifies it and converts 69.4 MHz to the second intermediate frequency of 10.6 MHz.

10.6 IF MODULE (A1A8) (8). This 10.6 IF Module demodulates the 10.6 MHz IF signal for FM voice and FSK data. Supplies the carrier recovery circuits with 10.6 MHz (AGC controlled IF) for demodulation and provides audio distribution for demodulated information.

BLANK SLOT (9). No module installed at this time.

CARRIER RECOVERY No. 1 MODULE (A1A10) (10). Carrier Recovery No. 1 Module (CR1) supplies Carrier Recovery No. 2 Module with a demodulated 1 MHz signal in the receive mode. In transmit mode, it supplies the synthesizer with a modulated 10.6 MHz signal for up conversion.

CARRIER RECOVERY No. 2 MODULE (A1A11) (11). Carrier Recovery No. 2 Module (CR2) provides VCXO control voltages to Carrier Recovery No. 1 Module, also lock detect and meter drive signals to the BBPC Module.

BIT SYNC No.1 MODULE (A1A12) (12). BIT SYNC No. 1 Module supplies BIT SYNC No. 2 Module with data and clock phase information and differentially decodes recovered data.

BIT SYNC No. 2 MODULE (A1A13) (13). BIT SYNC No. 2 Module provides an in-phase data-rate clock and timing signals used throughout the R/T Unit.

BBPC MODULE (A1A14) (14). The Baseband Processing and Control Module (BBPC) provides control signals, lock signals, meter drive, and amplified audio to various modules.

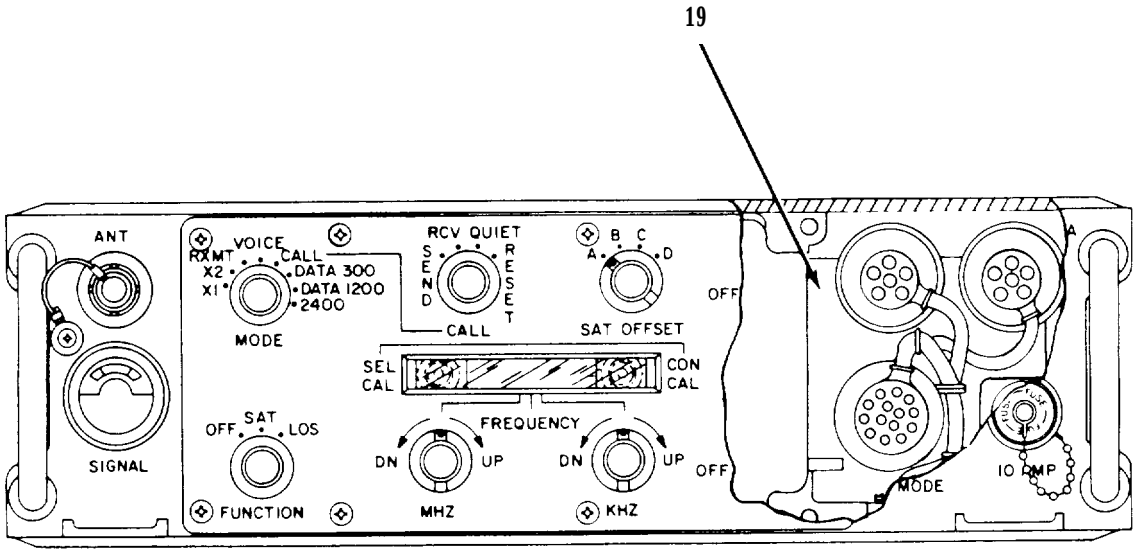
CALL DECODE MODULE (A1A15) (15). The Call Decode Module monitors the incoming receive data and generates visual and audio call signals.

MODULATOR MODULE (A1A16) (16). The Modulator Module modulates (BPSK, DBPSK, or FM-FSK) transmit data from input device. Processes and supplies interface and mode signals to other functions of the R/T Unit.

POWER SUPPLY MODULE (A1A17) (17). The Power Supply Module provides the conversion from battery voltage or other external power source to all the required operating voltages for the R/T Unit. Provides the R/T Unit with short circuit, overvoltage, and undervoltage protection.

FREQUENCY CONTROL ASSEMBLY (A1A18) (18). The Frequency Control Assembly controls the modes of operation, determines and displays the operating frequency of the R/T Unit. The Frequency Control Assembly consists of Control Assembly, Front Panel A1A18A1, CPU Assembly A1A18A3, and Display Assembly A1A18A2.

ANDVT INTERFACE MODULE (A1A19A3) 19. The ANDVT Interface Module allows the use of the Advance Narrowband Voice Terminal (ANDVT) with the R/T Unit. It provides an RS-232 type interface by level shifting transmit and receive interface signals and providing the necessary handshake signals.



R/T UNIT, ANDVT MODULE LOCATION

1-9. EQUIPMENT DATA

The data listed in table 1-1 is only for the R/T Unit. Data for equipment used with the R/T Unit can be obtained from the appropriate system operator's manual.

Table 1-1. EQUIPMENT DATA

WEIGHTS AND DIMENSIONS	
Length	9.63 in.
Width	13.0 in.
Height	4.0 in.
Volume	400 cubic in.
Weight	15.0 lbs

POWER REQUIREMENTS	
Input Power:	
* +22 V dc to 32 V dc	nominal +24 V dc
* Transmit	SAT: 6 amperes . . LOS: 2.5 amperes
* Receive	400 ma maximum without FREQUENCY display illuminated
	600 ma maximum with FREQUENCY display illuminated

PERFORMANCE DATA	
R/T Unit	
General:	
* Frequency Range	225 to 399.995 MHz
* Channel Spacing	SAT: 5 kHz . . . LOS: 25 kHz
* Frequency Stability	Long Term: 1 in 10^6
* Modulation	FM, FM-FSK, BPSK, and DBPSK
* Tuning Increments	LOS: 25 kHz . . . SAT: 5 kHz
* Bandwidth	DATA: 5 kHz . . . VOICE: 25 kHz
* Operating Conditions	
Temperature	-25° F to +125° F
Humidity	5% to 100%
Altitude	Up to 10,000 feet above sea level
* MTBF	2000 hours

Transmitter:

* Power Output:
  ..... SAT: Continuously variable from less than 1 watt up to 27.8 watts ±2 dB
  ..... LOS: Continuously variable from less than 1 watt up to 2 watts ±2 dB
* Sidetone ..... RF power gated
* Load Protection ..... No transmitter damage from antenna short or open circuit
* Duty Cycle ..... 1 to 9 (XMT to REC) with 10 minute continuous keying limit
  Continuous transmit permitted as part of Radio Set AN/VSC-7

Receiver:

* Offset Frequency ..... SAT: 4 externally preset . . LOS: No offset required
* Sensitivity ..... -116.5 to -144 dBm depending on mode of operation
* Intermodulation . . . 3rd order 60 dB below two, -70 dBm signals at antenna terminal
* Noise Figure ..... 4 dB maximum
* Spurious Response ..... Greater than 80 dB below desired response

1-10. SAFETY, CARE, AND HANDLING

Observe all WARNINGS, CAUTIONS, and NOTES in this manual. This equipment can be dangerous to you or you can damage the equipment, if these instructions are not followed.

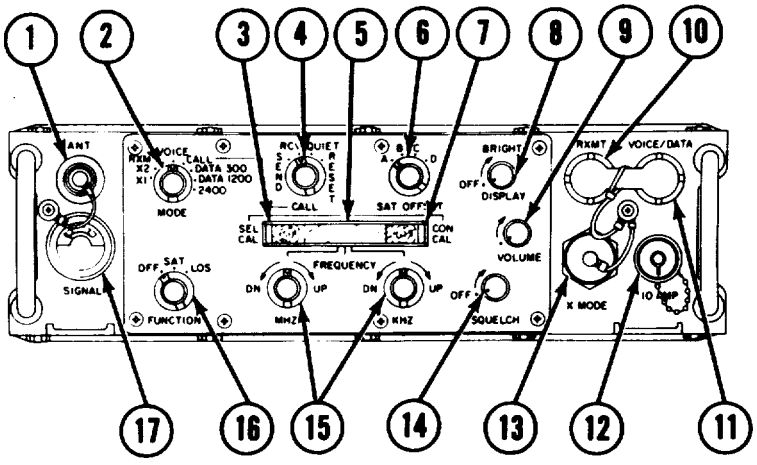
Section III

PRINCIPLES OF OPERATION

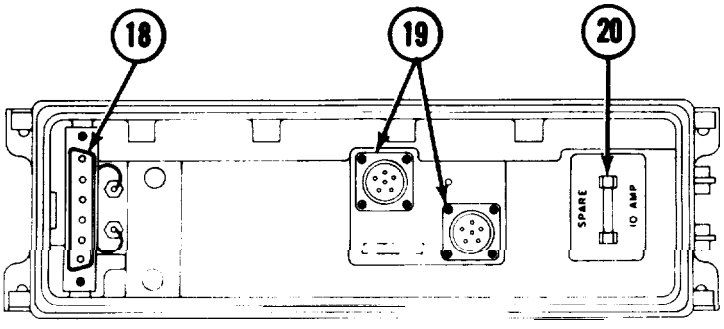
1-11. GENERAL

This section will provide you with a basic description of controls, indicators, and connectors. There is also a basic functional description of the R/T Unit and auxiliary equipment required to make up a complete UHF communication system. Operating instructions will be provided in the appropriate operator's manual for the system in which the R/T Unit is a major component.

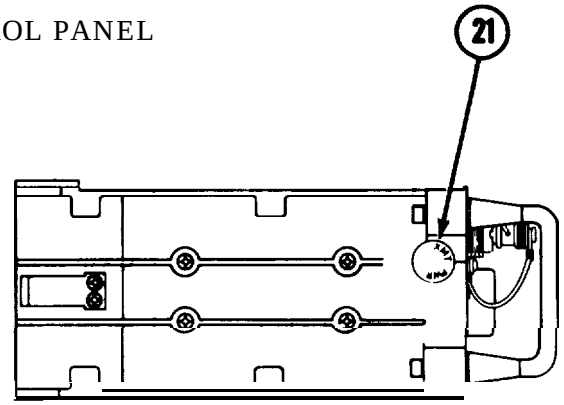
1-12. R/T UNIT CONTROLS AND INDICATORS



R/T UNIT, FRONT CONTROL PANEL



R/T UNIT, REAR PANEL



R/T UNIT, SIDE VIEW

Table 1-2. R/T UNIT CONTROLS AND INDICATORS

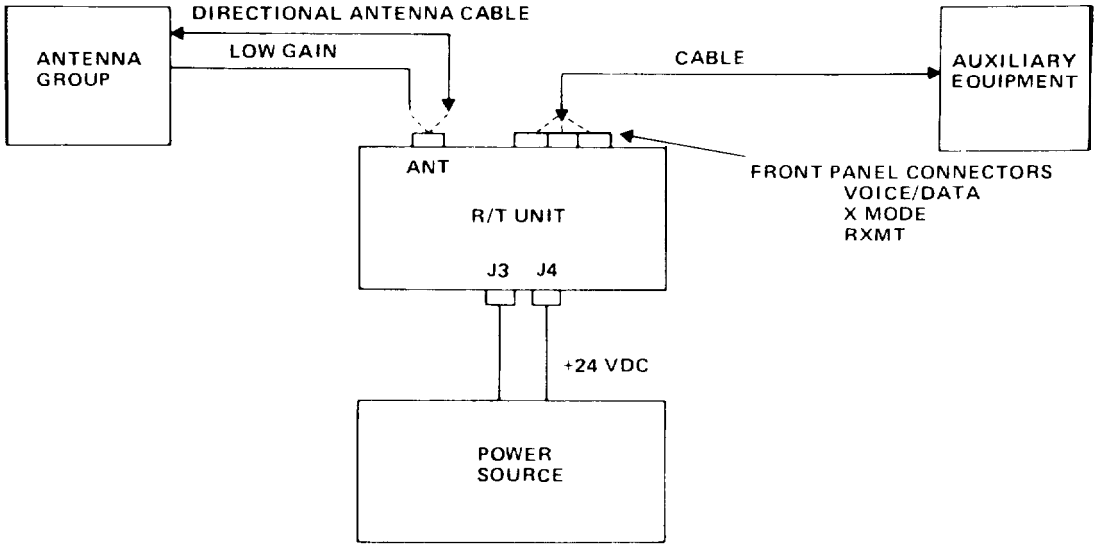
KEY	CONTROL/ INDICATOR	FUNCTION
1	ANT Connector	Connector for a low-gain antenna in LOS mode or directional antenna cable in SAT mode.
2	MODE Control	Selects any one of eight communication modes: * X1 - Selects interface with TSEC/KY-65 and is used in preset loading. * X2 - Selects interface with TSEC/KY-57 and is used in preset loading. * RXMT - Retransmit operation. * VOICE - Handset plain voice communication. * CALL - Call mode and works in conjunction with CALL control. * DATA 300- Selects interface for MIL-STD-188C low level data equipment (burst or synchronous) at 300 bps. * DATA 1200- Selects interface for MIL-STD-188C low level data equipment (burst or synchronous) at 1200 bps. * 2400- Selects interface for MIL-STD-188C low level data equipment (burst or synchronous) at 2400 bps.
3	SEL CAL Indicator	Black and white ball, referred to hereinafter as a white flag, pivots to white when a selective call signal is received.
4	CALL Control	Selects any one of four functions and used in conjunction with MODE control and preset loading procedures: * SEND - A spring-loaded, momentary position which initiates the transmission of a 1 minute conference call signal * RCV - Provides for reception of a selective/conference call signal. * QUIET - The audible alarm will not sound upon reception of a selective/conference call signal. The white flags will operate normally. * RESET - A spring-loaded, momentary position which stops the 1 minute call transmission and resets the SEL CAL/ CON CAL white flags.
5	FREQUENCY Display	A six-digit electronic frequency display. Displays transmitter and receiver frequency in LOS mode and transmitter frequency in SAT mode.
6	SAT OFFSET Control	Selects any one of four preset receiver offset frequencies in SAT mode.
7	CON CAL Indicator	Black and white ball, referred to hereinafter as a white flag, pivots to white when a conference call signal is received.

Table 1-2. R/T UNIT CONTROLS AND INDICATORS (cont)

KEY	CONTROL/ INDICATOR	FUNCTION
8	DISPLAY Control	Adjusts the intensity or extinguishes FREQUENCY display illumination.
9	VOLUME Control	Adjusts the audio output level of the Handset in VOICE mode, TSEC/KY-57 in X2 mode, and TSEC/KY-57 with its control set to OFF or PT.
10	RXMT Connector	Interface connection for RXMT Cable when interfacing with Radio Set AN/PRC-70, Radio Set AN/PRC-77, and Radio Set AN/V RC-12 series.
11	VOICE/DATA Connector	Interface connector for Handset in VOICE and RXMT modes; DMDG in DATA 300/DATA 1200 modes or TSEC/KY-65 in X1 mode.
12	10 AMP Fuse	R/T Unit protection from excessive current or short in R/T Unit.
13	X MODE Connector	Interface connector for TSEC/KY-57 in X2 mode.
14	SQUELCH Control	Adjusts the receiver gain to mute the noise in VOICE, RXMT, X1 (TSEC/KY-65 plain voice), and X2 (TSEC/KY-57 plain voice) modes.
15	MHZ/KHZ Controls	Provides operator selection of operating frequencies.
16	FUNCTION Control	Turns input power on or off and selects either SAT or LOS modes of operation.
17	SIGNAL Strength Meter	Indicates relative transmitter power and aids in directing the antenna for reception of optimum signal.
18	Battery Connector	Interface connector (J2) for external power sources.
19	Battery Connectors	Interface connectors (J3 and J4) for Battery Box CY-8006/ PSC-3 and Control Converter C-11119A/VSC-7.
20	SPARE 10 AMP Fuse	SPARE 10 AMP fuse for front panel.
21	XMT PWR Control	Adjusts the output (X MT) power of the R/T Unit during transmitting. Will always be at its full-up (extreme CW) position unless otherwise directed.

1-13. FUNCTIONAL DESCRIPTION OF THE R/T UNIT

The following information is for your use in understanding the principles of operation. The simplified block diagram shows the R/T Unit's role in a UHF system.



The R/T Unit must interface with one equipment from each block above to function as part of a UHF communication system. The antenna selected will determine either LOS mode or SAT mode of operation. The auxiliary equipment will provide a means for entering and retrieving information (voice or data) from the R/T Unit. The power source used is determined by how and where the system is used.

a. Antenna group. There are three antennas which will connect directly to the ANT connector located on the front panel. A low-gain antenna is used for LOS mode and directional antennas are used for SAT mode of operation.

b. Power source. The power source will be determined by how and where the R/T Unit is being used. The +24 V dc input power requirement of the R/T Unit can be provided by any of the following:

* Battery Box CY-8006/PSC-3, containing two BA-5590/U (Lithium) or BB-590/U (Ni-Cad) Batteries.
* Battery Storage BB-542/U.
* Power Supply PP-6148/U.
* Generator, Direct Current G-76 (V)1/G.

c. Auxiliary equipment. This equipment provides a means of entering and retrieving information from the R/T Unit. The following equipment, when interfaced with the R/T Unit, provides plain voice, secure voice, or data communications:

* Handset H-250/U - plain voice.

* Digital Message Device Group OA-8990/P(DMDG) - data.

* Tactical Speech Security Equipment TSEC/KY-57 - secure or plain voice.

* Tactical Speech Security Equipment TSEC/KY-65 - secure or plain voice.

NOTE

For additional information on the auxiliary equipment, refer to appropriate operator's manual listed in Appendix A.

CHAPTER 2

MAINTENANCE INSTRUCTIONS

Section I

REPAIR PARTS, SPECIAL TOOLS, TMDE AND SUPPORT EQUIPMENT

2-1. COMMON TOOLS AND TEST EQUIPMENT

Tools and special test equipment used for organizational maintenance of the R/T Unit are listed in the Maintenance Allocation Chart (MAC) in Appendix B.

2-2. SPECIAL TOOLS, TMDE AND SUPPORT EQUIPMENT

There are no special tools required for organizational maintenance of this equipment.

2-3. REPAIR PARTS

Repair parts are listed and illustrated in the Repair Parts and Special Tools List TM 11-5895-1182-20P covering organizational maintenance for this equipment.

Section II

SERVICE UPON RECEIPT

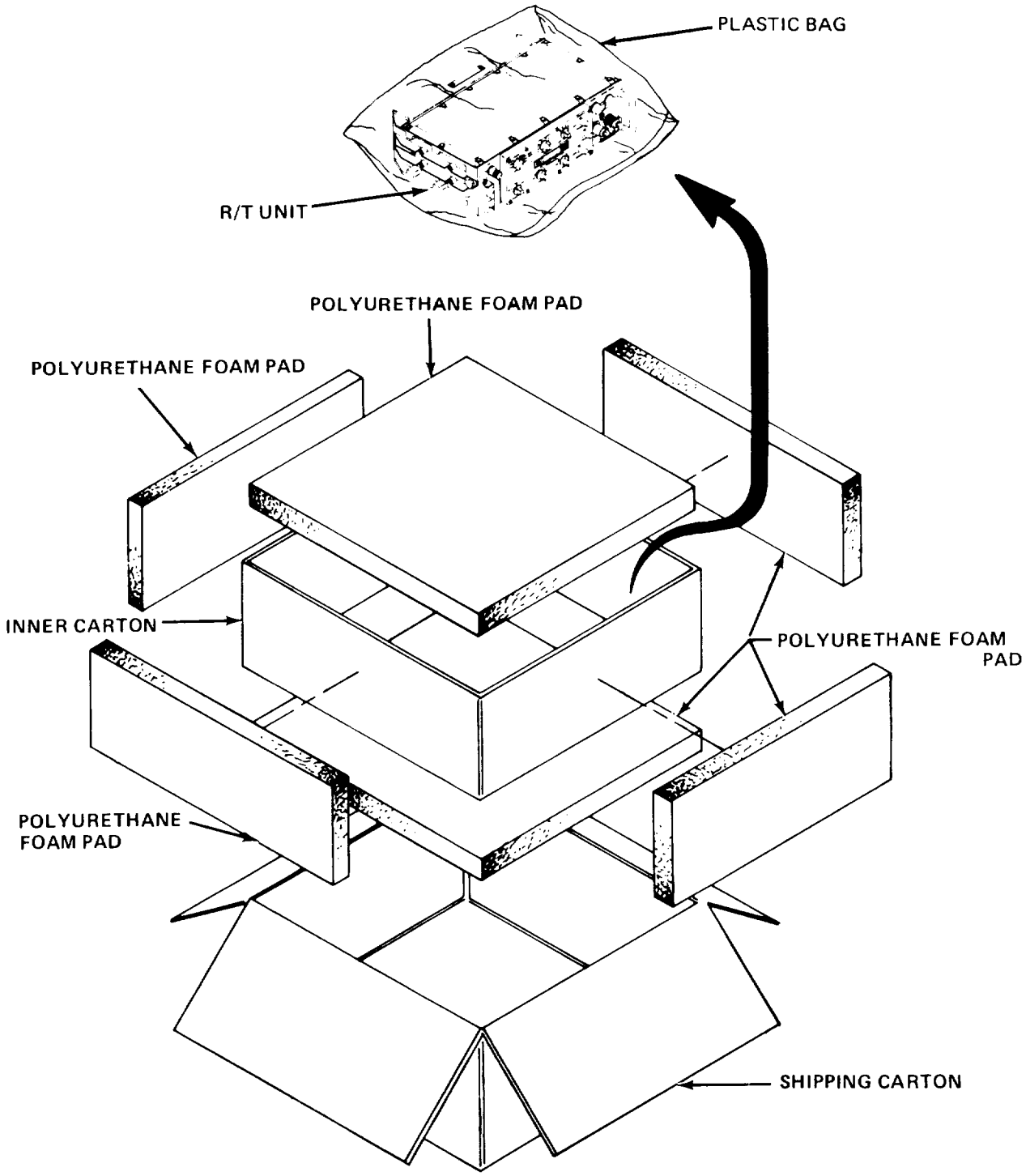
2-4. UNPACKING

NOTE

Be careful not to damage packing materials any more than necessary; store them for reuse.

Refer to the illustration (Packaging for R/T Unit) while performing the following instructions for unpacking the R/T Unit.

ITEM	ACTION	REMARKS
1. Shipping carton	* Pick a solid flat surface. * Remove and save packing slip. * Use cutter to break seal on top of shipping carton. * Remove polyurethane foam pad from shipping carton.	
2. Inner carton	* Remove R/T Unit from inner carton. * Remove plastic bag from R/T Unit.	
3. R/T Unit	* Inspect for damage during shipment.	Report any damage on SF 364, Report of Discrepancy (ROD).
	* Check packing list to ensure shipment is correct.	Report any discrepancies according to instructions in DA Pam 738-750.
	* Check for modifications.	Check nameplates for changed numbers. Check DA Pam 25-30 for Modification Work Orders (MWO'S) applying to your equipment.
	* Apply all URGENT MWO'S. Schedule all NORMAL MWO'S.	



PACKING FOR R/T UNIT

2-5. INSTALLATION INSTRUCTIONS

Refer to operator's manual for system in which the R/T Unit will be installed.

2-6. PRELIMINARY SERVICING AND ADJUSTMENTS OF EQUIPMENT

Refer to Preventive Maintenance Checks and Services table 2-1 and perform all steps. Refer to the appropriate system operator's manual for proper interconnections with other equipment and operator controls. Refer to the appropriate operators manual for instructions on loading presets or SAT offsets.

Section III

PREVENTIVE MAINTENANCE CHECKS AND SERVICES

2-7. GENERAL

Preventive Maintenance Checks and Services (PMCS) are done to find and correct problems before they can cause major damage to the equipment. These checks and services are done by organizational maintenance personnel at regular intervals according to the PMCS table. To save time and make sure that all items are checked, do the PMCS in the order given in the table. Record all discrepancies and corrective actions taken on DA Form 2404, Equipment Inspection and Maintenance Worksheet.

2-8. PMCS TABLE

CAUTION

When you are performing any PMCS or routine checks, keep in mind the WARNINGS and CAUTIONS in this manual.

ITEM NO. This column gives the order in which the checks and services are to be performed. Use this item number when filling out the TM Number column of DA Form 2404, Equipment Inspection and Maintenance Worksheet.

INTERVAL. These columns state how often the checks and services are to be performed. A dot (•) in one or more of the columns indicates the check and/or service should be performed as follows:

WEEKLY- Perform your [W] PMCS

MONTHLY-Perform your [M] PMCS.

ITEM TO BE INSPECTED. This column names the item to be checked or serviced.

PROCEDURES. This column tells you how to perform the required checks and services. Carefully follow these instructions.

If your equipment fails to operate, refer to page 2-6, Maintenance Procedures.

2-9. ROUTINE CHECKS

Routine checks (equipment inventory, cleaning, dusting, checking frayed cables, storing items not in use, and checking loose nuts) are not listed as PMCS checks. These are things you should do anytime you see they must be done.

Table 2-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES

NOTE

If the equipment must be kept in continuous operation, check and service only those items that can be checked and serviced without disturbing operation. Make the complete checks and services when the equipment can be shutdown.

W-Weekly M-Monthly

Item No.	Interval		Item to be Inspected	Procedures
	W	M		
1	●		Connectors.	Check that all connectors are free of corrosion, foreign material or objects, or damage. Refer to page 2-7 if cleaning is required. If cleaning did not correct fault, refer R/T Unit to next higher maintenance level.
2		●	Connectors not in use.	Check that all connectors are tight, covered, and that covers are securely in place.
3		●	Connectors in use.	Check that all connections are tight.
4		●	Controls.	Conduct inspection of R/T Unit controls to check that all are free of corrosion, not loose or damaged, and operate smoothly. Tighten loose control knobs and replace damaged or broken knobs. If controls do not operate smoothly, refer R/T Unit to next higher maintenance level.

Table 2-1. ORGANIZATIONAL PREVENTIVE MAINTENANCE CHECKS AND SERVICES **(cont)**

Item No.	Interval W	Interval M	Item to be Inspected	Procedures
5		•	R/T Unit.	Set FUNCTION control to SAT. Set SAT OFFSET control to A. Compare frequency display with frequency list in accordance with operation requirements. If frequency appearing in FREQUENCY display is same, R/T Unit checks good. If different, refer to the system operators manual and perform the preset loading procedures. If preset loading procedure cannot be accomplished, refer to next higher maintenance level. Repeat above procedures with SAT OFFSET control set to positions B, C, and D).

Section IV

TROUBLESHOOTING

Troubleshooting of the R/T Unit at organizational level is not authorized. Refer R/T unit to next higher level of Maintenance.

Section V

MAINTENANCE PROCEDURES

2-10. GENERAL

a. Organizational maintenance of the R/T Unit is limited to the following:

* Visual inspection.
* Cleaning.
* Tightening loose control knobs and replacing damaged control knobs.
* Replacement of a defective fuse.

b. Tools and test equipment needed by organizational maintenance are:

* Tool Kit, Electronic Equipment TK-101/G.

2-11. OPERATIONAL TEST

Operational tests are to be performed whenever maintenance involving the operation of the equipment has been performed. To check that the equipment is operational, refer to operator's manual of system in which R/T Unit is installed and perform operational test.

2-12. CLEANING

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 TRICHLOROTRIFLUOROETHANE dissolves natural oils, prolonged contact with skin should be avoided. When necessary, use gloves which the solvent cannot penetrate. If the solvent is taken internally, consult a physician immediately.

Compressed air shall not be used for cleaning purposes except where reduced to less than 29 pounds per square inch (psi) and then only with effective chip guarding personal protective equipment. Do not use compressed air to dry parts when TRICHLOROTRIFLUOROETHANE has been used. Compressed air is dangerous and can cause serious bodily harm if protective means or methods are not observed to prevent chips or particles (of whatever size) from being blown into the eyes or unbroken skin of the operator or other personnel.

Inspect the exterior of the equipment for dirt, moisture, grease, and fungus. Correct discrepancies as follows:

* Remove dirt and moisture with dry, clean, lint-free soft cloth.

* Remove grease, fungus, and ground-in dirt with a clean, soft cloth dampened (not wet) with trichlorotrifluoroethane.

* Clean control knobs and switches with a clean, soft cloth dampened with mild soap and water.

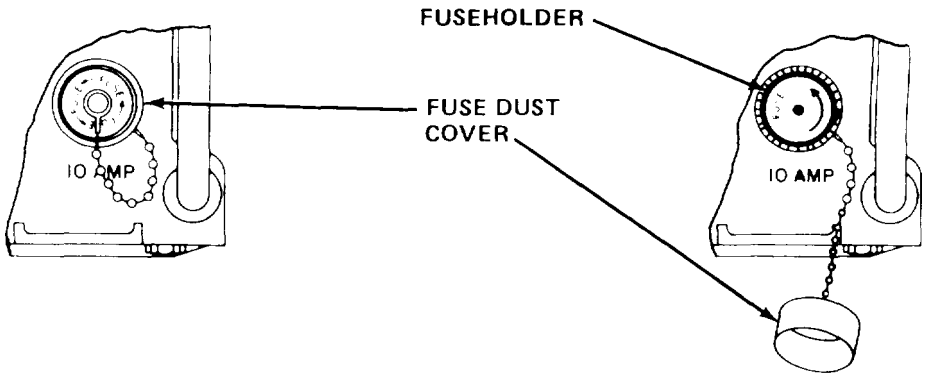
* Clean all connectors with a pencil eraser.

2-13. REPAIR AND REPLACEMENT

a. Repair. Organizational maintenance repair is limited to tightening of loose control knobs and switches and replacing damaged control knobs or a defective fuse on the front panel. The tightening or replacing of damaged control knobs is accomplished by using standard shop maintenance procedures.

b. Replacement. Organizational maintenance is limited to removal and replacement of the 10 AMP fuse located on the front control panel. Illustrations and instructions are provided for your use when performing this maintenance task.

FUSE - REMOVAL



STEP 1 Set R/T Unit FUNCTION control to OFF.

STEP 2 Remove fuse self-contained dust cover by rotating CCW.

STEP 3 Remove fuseholder by rotating CCW.

STEP 4 Remove fuse from fuseholder.

STEP 5 Proceed to FUSE-INSTALLATION.

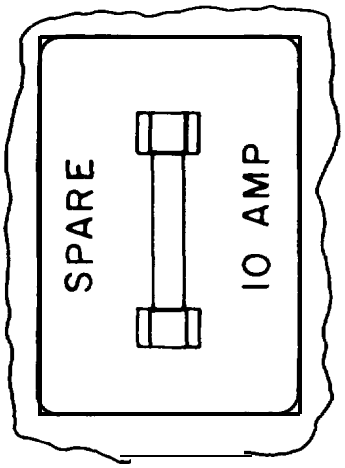
FUSE - INSTALLATION

STEP 1 Remove SPARE 10 AMP fuse from rear panel of R/T Unit.

STEP 2 Install spare fuse in fuseholder.

STEP 3 Insert fuseholder in R/T Unit and rotate fuseholder CW.

STEP 4 Install fuse dust cover by rotating cw until hand tight.



2-14. PAINTING, REFINISHING, AND MARKING

CAUTION

Do not use steel wool. Minute particles frequently enter the case and cause harmful internal shorting or grounding of circuits.

Refinishing processes should restore equipment surfaces to original appearance and as-new standards. Minor damage to finishes, such as small scratches, require touch-up painting of the affected areas only. Major surface damage requires complete repainting. Inspect the equipment to determine the extent of painting and refinishing that is required. Refer to MIL-F-14072 finish No. P513.1 for determination of paints, finishing processes, and quality assurance provisions.

NOTE

Refer to TB 43-0118, Field Instructions For Painting And Preserving Communications-Electronics Equipment.

* Touch-Up Painting Procedures.

— Remove all rust and corrosion by lightly sanding the affected area with fine sandpaper (NSN 5350-00-235-0124). Clean with solvent and allow to dry.

— Apply chemical film per MIL-C-5541 using a small camel's hair brush. Allow to dry.

— Apply a thin coat of zinc chromate primer per Federal Specification TT-P-1757 over the chemical film using a small camel's hair brush. Allow to dry.

— Apply one coat of semigloss olive drab enamel paint (color No. 24087 per FED-STD-595). Refer to SB 11-573 for available paint and preservation supplies Allow to dry.

* Refinishing Procedures. Complete repainting procedures will be accomplished by higher level of maintenance.

* Marking. Marking of equipment case and parts shall be in accordance with MIL-M-13231.

2-15. FINAL INSPECTION

The final inspection procedures make sure that all maintenance functions contained in this manual have been complied with before the equipment has been returned to service.

* Modifications. Be sure that any MWO'S listed in DA Pam 25-30 have been performed.

* PMCS. Be sure that all PMCS in chapter 2, section III, have been performed.

* Completeness. Inspect the R/T Unit for completeness.

* Final Performance Check. All equipment shall meet the requirements of section V before operating, packaging, or storage. If the operation checks, PMCS, or a final performance check cannot be satisfactorily performed, contact the next higher maintenance level.

Section VI

PREPARATION FOR STORAGE OR SHIPMENT

2-16. SECURITY PROCEDURES

Refer to AR 190-11 or AR 190-13.

2-17. REPACKING FOR STORAGE OR SHIPMENT

Refer to the illustration (Packaging for R/T Unit) on page 2-3 and perform the following steps:

* Place shipping carton on a solid flat surface.
* Remove top polyurethane foam pad from shipping carton.
* Remove plastic bag from inner carton.
* Place R/T Unit in plastic bag or wrap it in plastic.
* Place R/T Unit in inner carton as shown in illustration.
* Place top polyurethane foam pad on top of inner carton.
* Secure shipping carton flaps with reinforced tape.

2-18. TYPES OF STORAGE

* Short term (administrative): 1 to 45 days. All equipment in administrative storage must be able to be made ready for use within 24 hours. Before and after placing any item in storage, perform your scheduled PMCS and correct or repair any deficiencies you find. The administrative storage site should provide required protection from extreme weather conditions and allow you to reach the equipment for visual inspections or exercises when applicable. Refer to TM 740-90-1 for administrative storage requirements.
* Long term or flyable: No time limit.

APPENDIX A

REFERENCES

A–1. PUBLICATION INDEXES

The following indexes should be consulted frequently for latest changes or revisions of references given in this appendix and for new publications relating to material covered in this manual.

Consolidated Index of Army Publications and Blank Forms . . . . . DA Pam 25–30

A-2. FORMS

Equipment Inspection and Maintenance Worksheet . . . . . DA Form 2404
Product Quality Deficiency Report . . . .SF 368
Recommended Changes to Equipment Technical Manuals . . . . . DA Form 2028–2
Recommended Changes to Publications and Blank Forms . . . . . DA Form 2028
Report of Discrepancy (ROD)..... . . . . .. SF364
Recommended Changes to Technical Publications . . . . . NAVMC 10772

A-3. TECHNICAL MANUALS

Operator's Manual for Radio Set AN/PSC-3
(NSN5820-01-145-4943) . . . . . TM 11–5895-1180-10/
EE125–JC–OPI-010/PSC3
TM 5895–10/1

Operator's Manual for Radio Set AN/VSC-7
(NSN5820-0l-090-5449) . . . . . TM 11-5895-1181-10/
EE125-JH-OPI-010/VSC7/
TM 5895–10/2

Organizational Maintenance Repair Parts and Special
Tools List for Receiver/Transmitter
RT-1402A/G (NSN 5820-01-238-0559) . . . . . TM 11–5895–1182–20P/
EE150-QE-MIB-010/RT1402/G/
TM 5895–20P/8

Operator's Manual for Generator, Direct Current
G–76(V)1/G(NSN6115-01-119–8170)
G-76(V)2/G(NSN6115-4)-124-8033)
G–76/G(NSN 6115-01-082-8107) . .. . .TM 11-6115-470-10

Operator's and Organizational Maintenance Manual
for Power Supply PP-6148/U(NSN 6130-01-082-8107) TM6130-356-12

Administrative Storage of Equipment . . . . . TM 740-90-1

Procedures for Destruction of Electronics Materiel to
Prevent Enemy Use (Electronics Command) . . . . . TM 750-244-2

Equipment Record Procedures TM4700-15/1

A-4. MISCELLANEOUS PUBLICATIONS

Sets, Kits, and Outfits, Components List:
Tool *Kit,* Electronics Equipment, TK-101/G . . . . . SC 5180-91-CL-R13

Field Instructions For Painting and Preserving
Electronics Command Equipment TM43-0118

A-4. MISCELLANEOUS PUBLICATIONS - (Continued)

Painting and Preservation of Supplies Available for Field Use for Electronics Command Equipment.	SB 11-573
Finishes for Ground Electronics Equipment.	MIL-F-14072
Marking of Electrical and Electronic Equipment	MIL-M-13231
Primer Coating, Zinc Chromate, Low Moisture Sensitivity	TT-P-1757
The Army Maintenance Management System (TAMMS)	DA Pam 738-750
Marine Corps Military Incentive Awards Program	MCO1650.17
Report of Packaging and Handling Deficiencies	MCO4430.3F
Discrepancy in Shipment Report.	MCOP4610.19D
Marine Corps Warehousing Manual	MCOP4450.7
Index of Authorized Publications for Equipment Support	SL 1-2

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section I

INTRODUCTION

B-1. GENERAL

This appendix provides a summary of the maintenance operations for the Receiver/Transmitter RT-1402A/G. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools, and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

B-2. MAINTENANCE FUNCTIONS

Maintenance functions will be limited to and defined as follows:

a. INSPECT. To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

b. TEST. To verify serviceability and to detect incipient failure by measuring the mechanical or electrical characteristics of an item and comparing those characteristics with prescribed standards.

c. SERVICE. Operations required periodically to keep an item in proper operating condition, i.e., to clean (decontaminate), to preserve, to drain, to paint, or to replenish fuel, lubricants, hydraulic fluids, or compressed air supplies.

d. ADJUST. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to the specified parameters.

e. ALINE. To adjust specified variable elements of an item to bring about optimum or desired performance.

f. CALIBRATE. To determine and cause corrections to be made or to be adjusted on instruments or test measuring and diagnostic equipments used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. INSTALL. The act of emplacing, seating, or fixing into position an item, part, module (component or assembly) in a manner to allow the proper functioning of the equipment or system.

h. REPLACE. The act of substituting a serviceable like type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. REPAIR. The application of maintenance services (inspect, test, service, adjust, aline, calibrate, replace) or other maintenance actions (welding, grinding, riveting, straightening, facing, remachining, or resurfacing) to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in part, subassembly, module (component or assembly), end item, or system.

j. OVERHAUL. That maintenance effect (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards (i. e., DMWR) in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like new condition.

k. REBUILD. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like new condition in accordance with original manufacturing standards. Rebuild is the highest degree of materiel maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours, miles, etc.) considered in classifying Army equipments/components.

B-3. COLUMN ENTRIES USED IN SECTION II

a. Column 1: GROUP NUMBER. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2: COMPONENT ASSEMBLY. Column 2 contains the noun names of components, assemblies, subassemblies, and modules for which maintenance is authorized.

c. Column 3: MAINTENANCE FUNCTIONS. Column 3 lists the functions to be performed on the item listed in column 2. When items are listed without maintenance functions, it is solely for the purpose of having the group numbers in the MAC and RPSTL coincide.

d. Column 4: MAINTENANCE CATEGORY. Column 4 specifies, by the listing of a “work time” figure in the appropriate subcolumn(s), the lowest level of maintenance authorized to perform the function listed in column 3. This figure represents the active time required to perform that maintenance function at the indicated category of maintenance. If the number or complexity of the tasks within the listed maintenance function varies at different maintenance categories, appropriate “work time” figures will be shown for each category. The number of task-hours specified by the “work time” figure represents the average time required to restore an item (assembly, subassembly, component, module, end item or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, troubleshooting time, and quality assurance/quality control time in addition to the time required to perform the specific tasks identified for the maintenance functions authorized in the maintenance allocation chart. Subcolumns of column 4 are as follows:

C - Operator/Crew Maintenance
O - Organizational Maintenance
F - Direct Support
H-General Support Maintenance
D - Depot Maintenance

e. Column 5: TOOLS AND EQUIPMENT. Column 5 specifies by code, those common tool sets (not individual tools) and special tools, test and support equipment required to perform the designated function.

f. Column 6: REMARKS. Column 6 contains an alphabetic code which leads to the remark in Section IV, Remarks, which is pertinent to the item opposite the particular code.

B-4. TOOLS OR TEST EQUIPMENT REQUIREMENTS (SECTION III)

a. TOOL OR TEST EQUIPMENT REFERENCE CODE. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool or test equipment for the maintenance functions.

b. MAINTENANCE CATEGORY. The codes in this column indicate the maintenance category allocated the tool or test equipment.

c. NOMENCLATURE. This column lists the noun name and nomenclature of the tools and test equipment required to perform the maintenance functions.

d. NATIONAL/NATO STOCK NUMBER. This column lists the National/NATO stock number of the specific tool or test equipment.

e. TOOL NUMBER. This column lists the manufacturer's part number of the tool followed by the Federal Supply Code for Manufacturers (5-digit) in parentheses.

B-5. REMARKS (SECTION IV)

a. REFERENCE CODE. This code refers to the appropriate item in Section II, Column 6.

b. REMARKS. This column provides the required explanatory information necessary to clarify items appearing in Section II.

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT.	(6) REMARKS
			C	O	F	H	D		
00	RECEIVER/TRANSMITTER RT-1402A/G	Inspect	0.1						
		Adjust	0.1						O
		Test		0.2					A, B
		Adjust		0.2					O
		Replace		0.1					
		Test			0.3			1,2,3, 5,19,20	C
		Repair			0.2			1,17	D
		Adjust			0.2			5,17,20	E
		Test				0.4		4 thru 16,18 thru 21	F
		Repair				0.1		17	G, D
		Test					2.2	5,9,11, 12,19, 20,22, 23,49, 50,53, 54,59, 61,63, 68,72 thru 75, 79,82, 13,86, 87,95, 96	H
		Repair					6.0	17	
01	COVER ASSEMBLY, TOP (A1A20)	Inspect			0.1				
		Replace			0.1			17	
		Repair			0.2			17	J
02	COVER ASSEMBLY, BOTTOM (A1A21)	Inspect			0.1				
		Replace			0.1			17	
		Repair			0.2			17	J

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT/1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) C	O	F	H	D	TOOLS AND EQPT.	REMARKS
03	CASE ASSEMBLY A1A19)	TEST				0.5		4 thru 16, 18 thru 21	F
		TEST					0.5	17,50	I
		REPLACE					4.0	17	
		REPAIR					1.3	17	N
0301	PARENT BOARD A1A19A2)	TEST					1 .0	17,50	I
		REPLACE					1.0	17	
		REPAIR					2.3	17	N
0302	ANDVT MODULE A1A19A3)	TEST				0.6		4,5, 8, 9, 10, 11,13, 15, 16, 20	F
		REPLACE				0.6		17	
		TEST					0.6	9,50, 59,63, 92,99, 100	H, I
		REPAIR					1.1	9, 17, 50,59, 63,92, 99, 100	N
030201	ANDVT CARD (A1A19A3A1)	REPAIR					1.1		P
04	FREQUENCY CONTROL ASSEMBLY (A1A18)	TEST				0.5		4 thru 21	F
		REPLACE				0.1		17	
		TEST					0.5	9,42, 43,49, 50,59	H, K
		REPAIR					1.2	17	N

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT.	(6) REMARKS
0401	CONTROL ASSEMBLY, FRONT PANEL (A1A18A1)	Replace					0.1	17	
		Test					0.5	9,44, 45,50	H
		Repair					1.3	17	N
0402	CPU ASSEMBLY (A1A18A3)	Replace					0.1	17	
		Test					0.5	9,42 43,50, 59,92	H
		Repair					1.2	17	N
0403	DISPLAY ASSEMBLY (A1A18A2)	Replace					0.1	17	
		Test					0.4	19,44, 45,49, 50,59, 63	H
		Repair					1.0	17	N
05	POWER SUPPLY MODULE (A1A17)	Test			0.3			1,5,20,	C
		Replace			0.1			17	
		Test					0.3	36,37, 49,50, 92	H
		Repair					1.3	17,36, 37,49, 50,59, 92	N
06	HARMONIC FILTER (A1FL1)	Test			0.3			2,3,5, 19,20	
		Replace			0.1			17	L

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	0	F	H	D	(5) TOOLS AND EQPT.	(6) REMARKS
07	POWER AMPLIFIER MODULE (A1A1)	Test			0.3			1,2,3, 5,19,20	C
		Replace			0.2			17	
		Test					0.4	3,19,40, 41,49, 50,52, 53,56, 57,62, 76,77, 30,81, 92	H,K
		Repair					1.2	3,17,19 40,41 49,52, 53,56, 57,62, 76,77, 80,92	N
0701	RF AMPLIFIER (A1A1R1)	Test					0.4	9,19,40 41,49, 50,52, 53,56, 57,62, 80,81, 92	M
		Replace					0.2	17	
		Repair					2.0	17	M

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT.	(6) REMARKS
0702	COUPLER & CONTROL (A1A1A1)	Replace					0.2	17	
		Test					0.2	9,19,40, 41,49, 50,52, 57,66, 76,77, 80,92	H
		Repair					1.0	9,17,19, 40,41, 49,50, 52,57, 66,76, 77,80	N
08	TUNER MODULE (A1A2)	Test				0.4		4 thru 11,14, 15,16, 18,19, 20	F
		Replace				0.1		17	
		Test					0.3	9,19,24, 25,48, 50,58, 61,62, 73 thru 75,76, 77,78, 92	H
		Repair					2.3	9,17,19 24,25 48,58, 61,62, 76,77, 78,93	N

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCECATEGORY C	O	F	H	D	(5) TOOLS AND EQPT.	(6) REMARKS
09	UPPER LOOP MODULE (A1A4)	Test				0.5		4 thru 7,14,15 16,19, 20	F
		Replace Test				0.1	0.7	17 9,19, 26,27 48 thru 51,60, 62,63, 68,71 73 thru 75,82, 92,97	H
		Repair					4.3	1,17,19 26,27, 48,49 51,62, 63,65, 73,74 75,82 88,93	N

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT.	(6) REMARKS
10	LOWER LOOP MODULE (A1A5)	Test				0.5		4 thru 7,14,15 16,18, 19,20	F
		Replace				0.1		17	
		Test					0.3	9,19,26 27,48 thru 51 54,62, 63,72 thru75, 92,96	H
		Repair					2.0	9,17,19 26,27, 48 thru 51,54, 62,63, 65,72 thru 75 82,89, 96	N
11	REFERENCE MODULE (A1A6)	Test				0.5		4,5,7, 9,10,11 15,16, 18,19, 20	F
		Replace				0.1		17	
		Test					0.3	3,19,26, 27,49 thru 51, 59,68, 92	H
		Repair					1.3	9,17,19, 26,27, 49,50, 5l,68, 73,74, 75,90, 94	N

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT.	(6) REMARKS
12	VCO MODULE (A1A3)	Test				0.5		4 thru 7, 14 thru 16, 19,20, 21	F
		Replace				0.1		17	
		Test					0.3	9,19, 26,27, 48 thru 51,60 68,73 thru 75, 92,94	H
		Repair					1.3	9,17,19 26,27, 48 thru 51,60, 68,73, 74,75, 94	N
13	69.4 IF MODULE (A1A7)	Test				0.5		4,5,7, 9,10,11, 15,16, 18,19, 20	F
		Replace				0.1		17	
		Test					0.3	9,19,24, 25,50, 51,61, 62,92	H
		Repair					1.3	9,17,19 24,25 59,61 62,82	N

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT.	(6) REMARKS
14	10.6 IF MODULE (A1A8)	Test				0.5		4,5,8 thru 11, 15,16, 18 thru 21	F
		Replace				0.1		17	
		Test					0.5	9,19,24, 25,46, 47,50, 51,59, 61 thru 63,67, 68,72, 82,84, 92,95, 96	H
		Repair					2.0	9,17,19 24,25 46,47 50,51 61,62 67,72 82,84 91,95	N
15	MODULATOR MODULE (A1A16)	Test				0.5		4,5,8 thru 11, 13,15, 16,18 thru 21	F
		Replace				0.1		17	
		Test					0.8	9,11,19, 34,35, 50,54, 59,63, 69,72, 92,95, 96	H
		Repair					1.9	17	N

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT.	(6) REMARKS
			C	O	F	H	D		
16	CALL DECODE MODULE (A1A15)	Test				0.5		4,5,9 thru 12, 15,18, 19,20	F
		Replace				0.1		17	
		Test					1.5	9,12,19, 28,29, 50,59, 63,69, 92	H
		Repair					3.3	17	N
17	CARRIER RECOVERY NO. 1 MODULE (A1A10)	Test				0.5		4,5,7, 9 thru 11,15, 16,18, 19,20	F
		Replace				0.1		17	
		Test					0.3	9,19,30, 31,50, 51,55, 59,62, 63,70, 72,92, 94 thru 96	H
		Repair					1.4	9,17,19 30,31 51,59, 63,96	N

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT.	(6) REMARKS
18	CARRIER RECOVERY NO. 2 MODULE (A1A11)	Test				0.5		4,5,9 thru 11, 15,16, 18,19, 20	F
		Replace				0.1		17	
		Test					1.5	9,11,19, 30,31, 46,47, 50,51, 59,61, 62,63, 67,70, 71,82, 83,87, 92,95, 98	H
		Repair					4.0	9,11, 17,19 30,31, 46,47, 50,51, 59,61, 62,63, 67,70, 71,82, 83,95, 98	N

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY C	O	F	H	D	(5) TOOLS AND EQPT.	(6) REMARKS
19	BBPC MODULE (A1A14)	Test				0.4		4,5,7 thru 13, 15,16, 18 thru 21	F
		Replace				0.1		17	
		Test					1.2	9,19,32, 33,50, 59,63, 72,92, 95	H
		Repair					2.5	17	N
20	BIT SYNC NO. 1 MODULE (A1A12)	Test				0.5		4,5,9 thru 11, 15,16, 18 thru 21	F
		Replace				0.1		17	
		Test					1.1	9,11,19, 38,39, 50,59, 64,67, 85,92, 96	H
		Repair					2.4	17	N

Section II

MAINTENANCE ALLOCATION CHART
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT.	(6) REMARKS
			C	O	F	H	D		
21	BIT SYNC NO. 2 MODULE (A1A13)	Test				0.5		4,5,7, 9 thru 11,15, 16,18 thru 21	F
		Replace				0.1		1 7	
		Test					0.8	9,38,39, 50,59, 69,92, 9 5	H
		Repair					1.9	1 7	N

Section III

TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
RECEIVER/TRANSMITTTER RT-1402A/G

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/ NATO STOCK NUMBER	TOOL NO.
1	F	MULTIMETER, DIGITAL AN/USM-486/U	6625-01-145-2430	FLUKE 8050A-01 (89536)
2	F	TEST SET, RADIO FREQUENCY POWER AN/URM-120A	6625-01-039-1488	
3	F	51.5 OHM TERMINATION	6625-00-177-1639	HP11593A (28480)
4	H	TEST SET, RADIO AN/GRM-114A	6625-01-144-4481	
5	F, H	POWER SUPPLY PP-2309C/U OR EQUIVALENT	6130-01-139-2514	
6	H, D	CABLE, COAX BNC\SMB (2)	6625-01-192-9241	B4028991 (80063)
7	H	COUNTER, ELECTRONIC AN/USM-459	6625-01-061-8928	HP-5328A (28480)
8	H	TEST BOX, X MODE INTERFACE	6625-01-192-9231	B4028980 (80063)
9	H, D	POWER SUPPLY PP-6498/U OR EQUIVALENT (7)	6130-00-496-0549	PD5005R (98095)
10	H	TEST BOX, PHASE MODULATOR	6625-01-192-9229	B4028970 (80063)
11	H, D	ANALYZER, DATA ERROR	6625-00-487-0662	HP-1645A (28480)
12	H, D	GENERATOR, SERIAL DATA	6625-01-145-2808	HP-8018A (28480)
13	H	GENERATOR, FUNCTION SG-1133/U	6625-01-028-4989	HP-3312A (28480)
14	H	VOLTMETER, RF ME-426/U	6625-00-113-3491	
15	H	30 dB POWER PAD, 50 WATT	5985-01-145-3237	
16	H	TEST BOX, VOICE/DATA AND RXMT	6625-01-192-9232	B4028985 (80063)
17	F, H, D	TOOL KIT, ELECTRONIC EQUIPMENT TK-105/G	5180-00-610-8177	
18	H	CABLE, POWER DUAL BANANA/ BANANA (2)	6625-01-192-9243	B4028994 (80063)
19	F, H, D	CABLE ASSEMBLY, CG-409G/U4FT2IN (12)	5995-00-889-0590	

Section III

TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/ NATO STOCK NUMBER	TOOL NO.
20	F, H, D	CABLE, R/T UNIT POWER	6625-01-192-9246	B4028997 (80063)
21	H	CABLE, COAX PHONE PLUG/BNC	6625-01-192-9245	B4028996 (80063)
22	D	TEST FIXTURE, RT-1402		B4029007 (80063)
23	D	CABLE, POWER		B4029010 (80063)
24	D	TEST FIXTURE, SIGNAL PATH		B4029014 (80063)
25	D	CABLE, POWER		B4029017 (80063)
26	D	TEST FIXTURE, SYNTHESIZER		B4029021 (80063)
27	D	CABLE, POWER		B4029024 (80063)
28	D	TEST FIXTURE, CALL DECODE		B4029028 (80063)
29	D	CABLE, POWER		B4029031 (80063)
30	D	TEST FIXTURE, CR1\CR2		B4029035 (80063)
31	D	CABLE, POWER		B4029038 (80063)
32	D	TEST FIXTURE, BASEBAND PROCESSING AND CONTROL		B4029042 (80063)
33	D	CABLE, POWER		B4029045 (80063)
34	D	TEST FIXTURE, MODULATOR		B4029049 (80063)
35	D	CABLE, POWER		B4029052 (80063)
36	D	TEST FIXTURE, POWER SUP/VOLTAGE REG		B4029056 (80063)
37	D	CABLE, POWER		B4029059 (80063)
38	D	TEST FIXTURE, BIT SYNC 1/BIT SYNC 2		B4029063 (80063)

Section III

TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

T'OOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/ NATO STOCK NUMBER	TOOL NO.
39	D	CABLE, POWER		B4029066 (80063)
40	D	TEST FIXTURE, POWER AMP		B4029070 (80063)
41	D	CABLE, POWER		B4029073 (80063)
42	D	TEST FIXTURE, FREQUENCY CONTROL/CPU		B4029084 (80063)
43	D	CABLE, POWER		B4029087 (80063)
44	D	TEST FIXTURE, FREQUENCY CONTROL/DISPLAY		B4029068 (80063)
45	D	CABLE, POWER		B4029076 (80063)
46	D	TEST FIXTURE, 10.6 SIGNAL + NOISE SOURCE		B4029091 (80063)
47	D	CABLE, POWER		B4029094 (80063)
48	D	POWER SUPPLY, DC	6130-00-496-8652	HP6207B (28480)
49	D	POWER SUPPLY, DC	6625-00-415-0300	HP6267B (28480)
50	D	MULTI METER, DIGITAL (2)	6625-01-039-7922	HP3465A (28480)
51	D	MILLIVOLTMETER, RADIO FREQUENCY ME-526/USM	6625-01-030-5260	BOONTON 92B (04901)
52	D	TEST SET, RADIO FREQUENCY TS-3793/U	6625-01-075-0261	HP436A (28480)
53	D	TEST SET, RADIO FREQUENCY POWER AN/USM-298	6625-00-880-5119	BIRD 43 (70998)
54	D	METER, MODULATION	6625-01-061-1459	BOONTON 82AD (04901)
55	D	METER, GAIN-PHASE TS-3792/U	6625-01-018-1028	HP3575A (28480)

Section III

TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/ NATO STOCK NUMBER	TOOL NO.
56	D	AMMETER, DC - 10 AMP	6625-00-683-9734	WESTON 93 (65092)
57	D	POWER SENSOR		HP8482B (28480)
58	D	METER, NOISE FIGURE	6625-01-149-3890	HP8970A (28480)
59	D	OSCILLOSCOPE	6625-01-020-4203	TEK 466 (80009)
60	D	50 OHM TERMINATION (2)		HP11593A (28480)
61	D	GENERATOR, SIGNAL	6625-01-096-2982	HP8662A (28480)
62	D	GENERATOR, SIGNAL SG-1093/U	6625-01-318-6304	HP8640B (28480)
63	D	FREQUENCY, SYNTHESIZER (2)	6625-01-097-0440	HP3325A (28480)
64	D	GENERATOR, FUNCTION/ARB	6625-01-162-7659	HP3314A (28480)
65	D	GENERATOR, TRACKING SG-1125/U	6625-00-185-4802	HP8444A (28480)
66	D	GENERATOR, SWEPT RF POWER SIGNAL		AILTECH 473 (88869)
67	D	GENERATOR, NOISE SG-827/U	6625-00-799-8999	GR1390B (24655)
68	D	COUNTER, ELECTRONIC	6625-01-048-1981	HP5383A (28480)
69	D	COUNTER, ELECTRONIC	6625-01-181-4395	HP5316A (28480)
70	D	OSCILLATOR, SG-1023/U	6625-00-649-7465	HP209A (28480)
71	D	CABLE, COAX DOUBLE SHIELDED BNC/BNC (USE STANDARD SHOP CABLE)		
72	D	ANALYZER, DISTORTION AN/URM-184A	6625-00-802-8718	HP334A (28480

Section III

TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/ NATO STOCK NUMBER	TOOL NO.
73	D	ANALYZER, SPECTRUM IP-1216 (P)\GR	6625-00-424-4370	HP141T (28480)
74	D	TEST EQUIPMENT, ELECTRONIC PLUG IN UNIT PL-1388/U	6625-00-431-9339	HP8552B (28480)
75	D	ANALYZER, SPECTRUM PLUG IN UNIT PL-1406/U	6625-00-140-0156	HP8554B (28480)
76	D	ANALYZER, NETWORK	6625-01-103-7001	HP8505A (28480)
77	D	TEST SET, S-PARAMETER	6625-01-081-4094	HP8503A (28480)
78	D	GENERATOR, NOISE SOURCE BROADBAND	6625-01-113-2387	HP346B-001 (28480)
79	D	ATTENUATOR, COAXIAL 30 dB		BIRD 8321 (70998)
80	D	ATTENUATOR, 3 dB		NARDA 765-3 (99899)
81	D	ATTENUATOR, 3 dB		NARDA 768-3 (99899)
82	D	ATTENUATOR, POWER STEP (3)		KAY 432D (80138)
83	D	ATTENUATOR, VERNIER		WEINSCHEL 905 (93459)
84	D	POWER SPLITTER	6625-01-039-6789	HP11652-60009 (28480)
85	D	50 OHM FEED THRU ARB	5985-00-563-9679	HP11048C (28480)
86	D	HANDSET H-250( )/U	5965-00-043-3463	
87	D	STOPWATCH		
88	D	ALINEMENT COVER, UPPER LOOP		CE622303 (80045)

Section III

TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
RECEIVER/TRANSMITTER RT-1402A/G (cont)

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/ NATO STOCK NUMBER	TOOL NO.
89	D	ALINEMENT COVER, LOWER LOOP		CE622301 (80045)
90	D	ALINEMENT COVER, REFERENCE MODULE		CE622302 (80045)
91	D	ALINEMENT COVER, 10.6 IF MODULE		CE622300 (80045)
92	D	CABLE, CURRENT		B4029013 (80063)
93	D	CABLE TEST (SEE DMWR 11-5895-1182)	FABRICATED	
94	D	CABLE, POWER EZ/EZ HOOK (2)	6625-01-192-9247	B4028998 (80063)
95	D	CABLE, COAX BNC/EZ HOOK (3)		B4029006 (80063)
96	D	ADAPTER, UG-274A/U (BNC/BNC T CONNECTOR) (2)	5935-00-201-2411	
97	D	CIRCUIT CARD ASSEMBLY (VCO MODULE)	5999-01-135-9640	B4028250 (80063)
98	D	CIRCUIT CARD ASSEMBLY (CR1 MODULE)	5999-01-135-9636	B4028210 (80063)
99	D	TEST FIXTURE, ANDVT		B4028900 (80063)
100	D	CABLE, POWER		B4028901 (80063)

Section IV

REMARKS

REFERENCE CODE	REMARKS
A	Operational Test.
B	Test limited to replacement of unit.
C	Test limited to functions associated with replacement of Power Supply Module (A1A17), Power Amplifier Module (A1A1), and Harmonic Filter (A1FL1).
D	Repair as indicated by component breakdown.
E	Adjust by setting Select Call switch as required by mission requirements.
F	Test limited to functions associated with replacement of modules not replaced by direct support maintenance.
G	Repair limited to replacement of modules not replaced by direct support maintenance.
H	Test of all components using depot test fixtures.
I	Perform continuity checks.
J	Repair limited to replacement of screws and EMI gasket.
K	Test limited to functions associated with replacement of printed circuit assemblies.
L	This item is replaced only and added for clarity.
M	Test for replacement only, repair by contractor maintenance.
N	Repair by replacement of piece parts.
O	Adjustment limited to setting LOS presets or SAT offsets as required by mission requirements.
P	Test and repair as part of next higher assembly.

APPENDIX C

EXPENDABLE SUPPLIES AND MATERIALS LIST

Section I

INTRODUCTION

C-1. SCOPE

This appendix lists expendable supplies and materials you will need to operate and maintain the RT-1402A/G. These items are authorized to you by CTA 50-970, Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items).

C-2. EXPLANATION OF COLUMNS

a. Column (1) - Item Number. This number is assigned to the entry in the listing and is referenced to the narrative instructions to identify the material (e.g., "Use cleaning compound, item 5, App. C").

b. Column (2) - Level. This column identifies the lowest level of maintenance that requires the listed item.

C-Operator/Crew
O- Organizational Maintenance
F - Direct Support Maintenance
H-General Support Maintenance

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

d. Column (4) - Description. Indicates the Federal Item Name and, if required, a description to identify the item. The last line for each item indicates the Federal Supply Code for Manufacturer (FSCM) in parentheses followed by the part number.

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

Section II

EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C,O	8305-00-267-3015	Cloth, Cotton Lintless (81348)	AR
2	C,O	6850-00-105-3084	Trichlorotrifluoroethane (73925) Freon-TF	AR
3	0	5350-00-235-0124	Sandpaper, Fine	EA
4	0		Paint	AR
5	0	8020-00-245-4509	Camel's Hair Brush	EA
6	0		Zinc Chromate Primer	AR

GLOSSARY

Section I

ABBREVIATIONS

AMP	Ampere
ANT	Antenna
BBPC	Base Band Processing Control
bps	bits per second
BPSK	Bi-Phase Shift Keying
CAL	Call
CON	Conference
dB	Decibel
DBPSK	Differential Bi-Phase Shift Keying
ECU	Environmental Control Unit
FM	Frequency Modulation
FM-FSK	Frequency Modulation—Frequency Shift Keying
Hz	Hertz
IF	Intermediate Frequency
kbps	kilo bits per second
kHz	kilo Hertz
LOS	Line-of-Sight
MHz	Megahertz
MTBF	Mean time between failure
Ni-Cad	Nickel-Cadmium Cell
PMCS	Preventive Maintenance Checks and Services
RCV or REC	Receive
RF or rf	Radio Frequency
RXMT	Retransmit
SAT	Satellite
SEL	Selective
TMDE	Test, Measurement, and Diagnostic Equipment
T/R Relay	Transmit/Receive Relay
UHF	Ultra High Frequency
VCO	Voltage Controlled Oscillator
VCXO	Voltage Controlled Crystal Oscillator
Vac	Volts, Alternating Current
Vdc	Volts, Direct Current
VSWR	Voltage Standing Wave Ratio
XMIT or XMT	Transmit

Section II

DEFINITION OF UNUSUAL TERMS

Beamwidth - The angular width of a radio, radar, or other beam measured between two half-power reference lines.

Decibel - The standard unit for expressing transmission gain or loss and relative power levels. Decibels indicate ratio of power output to power input.

Quadrature Modulation (Quadraphase Modulator) - The modulation of two carrier components 90° apart in phase by separate modulating functions.

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INDEX

INDEX

RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS

SOMETHING WRONG WITH THIS PUBLICATION?

FROM (PRINT YOUR UNIT'S COMPLETE ADDRESS)
Commander
Stateside Army Depot
ATTN: AMSTA-US
Stateside, N.J. 07703-5007

DATE SENT
10 July 1975

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	PARAGRAPH	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, causin 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.

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SSG I. M. DeSpiritof 999-1776

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I. M. DeSpiritof

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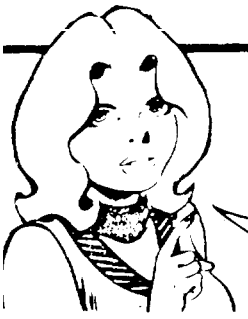

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