

TECHNICAL MANUAL
DIRECT SUPPORT
MAINTENANCE MANUAL

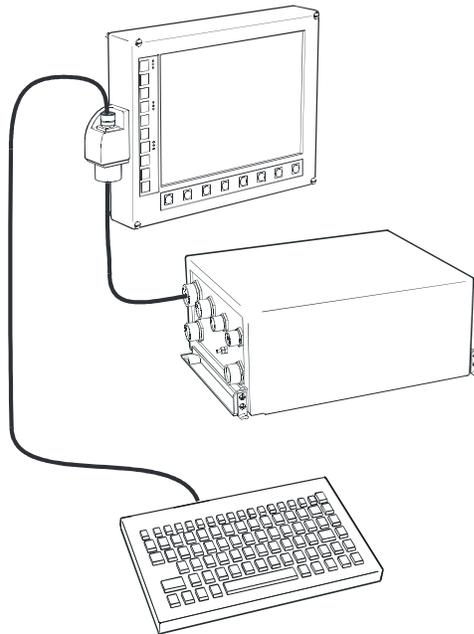
FOR

FORCE XXI BATTLE COMMAND
BRIGADE-AND-BELOW (FBCB2)

COMPUTER SET, DIGITAL AN/UYK-128(V)

AN/UYK-128(V)1 (NSN 7010-01-475-5277) (EIC: NA)

AN/UYK-128(V)2 (NSN 7010-01-475-5275) (EIC: NA)



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07 SEPTEMBER 2001

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SAFETY, CARE, AND HANDLING



5

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

1

DO NOT TRY TO PULL OR GRAB THE INDIVIDUAL WITH BARE HANDS

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 THE ELECTRICAL SHOCK, MOVE THE PERSON A SHORT DISTANCE AWAY AND IMMEDIATELY START CARDIOPULMONARY RESUSCITATION (CPR)

GENERAL SAFETY PRECAUTIONS

For safety precautions during the maintenance of electrical/electronic equipment see TB 385-4 (Army).

For care and handling of electronics equipment see TM 43-0158 (Army).

FIRST AID

For further information on first aid, see FM 21-11.

WARNING

Backlights in the display may break and leak Mercury and Lead. If Mercury and Lead are exposed, avoid contact with skin, eyes, and clothes, and don't breathe vapors. Immediately contact the proper authorities so that the spillage can be properly removed and if necessary, appropriate medical aid is administered. Dispose of Mercury and Lead IAW your local servicing Defense Reutilization and Marketing Office (DRMO).

WARNING

The internal display inverters operate at high voltages. Electrical shock may occur causing injury to personnel and/or death. Do not disassemble the display.

WARNING

Lithium Carbon Monofluoride Complimentary Metal-Oxide Semi-Conductor (CMOS) button-cell internal back-up battery may rupture and cause irritation if leaked electrolytes adhere to eyes and skin. Eyes or skin should be immediately washed with water to remove electrolytes. Dispose of batteries IAW your local servicing Defense Reutilization and Marketing Office (DRMO).

WARNING

NiMH internal hold-up batteries may rupture and cause irritation if leaked electrolytes adhere to eyes and skin. Eyes or skin should be immediately washed with water to remove electrolytes. Dispose of batteries IAW your local servicing Defense Reutilization and Marketing Office (DRMO).

WARNING

Processor Units with internal Light Emitting Diodes (LED) diagnostic displays contain 9-volt non-rechargeable lithium batteries located in battery trays. Batteries may rupture and cause irritation if leaked electrolytes adhere to eyes and skin. Eyes or skin should be immediately washed with water to remove electrolytes. Dispose of batteries IAW your local servicing Defense Reutilization and Marketing Office (DRMO).

TECHNICAL MANUAL
No. 11-7010-326-30&P

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, DC. 07 SEPTEMBER 2001

**DIRECT SUPPORT
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COMPUTER SET, DIGITAL AN/UYK-128(V)

AN/UYK-128(V)1 (NSN 7010-01-475-5277) (EIC: NA)
AN/UYK-128(V)2 (NSN 7010-01-475-5275) (EIC: NA)

REPORTING ERRORS AND RECOMMENDED 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 Publication and Blank Forms), or DA Form 2028-2 located in the back of this manual direct to: Commander, US Army Communications-Electronics Command and Fort Monmouth, ATTN: AMSEL-LC-LEO-D-CS-CFO, Fort Monmouth, New Jersey 07703-5000. The Fax number is 732-532-1413, DSN 992-1413. You may also e-mail your recommendations to AMSEL-LC-LEO-PUBS-CHG @cecom3.monmouth.army.mil. In either case a reply will be furnished direct to you.

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HOW TO USE THIS MANUAL

Operating instructions are located in the Operator's Manual TM 11-7010-326-10.

Chapter 1 is the introduction. It provides general information for the AN/UYK-128(V) computer system common to all configurations.

Chapter 2 provides Direct Support level analysis to verify performance of each LRU of the AN/UYK-128(V) computer. Maintenance instructions are also provided for the Removable Hard Disk Drive Cartridges (RHDDC) used in the AN/UYK-128(V) computer equipment common to all configurations. Instructions are given for performing software loads to the RHDDC. Also provided are instructions for performing a Wipe Disk to clear RHDDC of all information written to the disk.

Appendix A lists the References required for more detailed information on specific subjects.

Appendix B provides the Repair Parts and Special Tools list for maintenance tasks at direct support levels.

Appendix C provides the Expendable/Durable Supplies and Materials Lists.

Appendix D lists Tools required for maintenance tasks at direct support levels.

CHAPTER 1 INTRODUCTION

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SECTION I. GENERAL INFORMATION

1-1 SCOPE

- a. Type of Manual: Direct Support.

This manual contains fault verification procedures for the two versions of the AN/UYK-128(V) computer. Procedures are also given for software loading and DOD Wipeout of the Removable Hard Disk Drive Cartridge (RHDDC). The Line Replaceable Units (LRUs) which make up the AN/UYK-128(V) computer are interchangeable, with the exception of the Removable Hard Disk Drive Cartridge (RHDDC). The Removable Hard Disk Drive Cartridge is an LRU installed in the Processor Unit. The Removable Hard Disk Drive Cartridges are not interchangeable between the two versions of Processor Units. Following is a listing of the two AN/UYK-128(V) computer components:

Processor Unit NSN 7021-01-475-0217 or NSN 7021-01-487-0579

Removable Hard Disk Drive Cartridge NSN 7025-01-474-5753

Processor Unit NSN 7021-01-474-3793 or NSN 7021-01-487-0578

Removable Hard Disk Drive Cartridge NSN 7025-01-474-3789 or
NSN 7025-01-487-0580

Display Unit (DU)

10.4" DU with 8-Button Bezel Keypad NSN 7025-01-475-0229

10.4"/12.1" DU with 8-Button Bezel Keypad NSN 7025-01-475-0280

12.1" DU without 8-Button Bezel Keypad NSN 7025-01-475-0282

Keyboard Unit (KU)

NSN 7025-01-474-3791 or NSN 7025-01-487-0581

NSN 7025-01-474-3792

- b. Model Number and Equipment Name: Computer Set, Digital AN/UYK-128 (V)1 & (V)2.
- c. Purpose of Equipment: The AN/UYK-128(V) Computer, along with interconnecting cables and host-specific installation kits, provides Situation Awareness (SA) and Command and Control (C²) at the Brigade (BDE) and lower levels of Army tactical forces. SA and C² are communicated through the Tactical Internet (TI) via the Internet Controller (INC) in digital format.

1-2 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.

1-3 MAINTENANCE FORMS, RECORDS, AND REPORTS

1-3.1 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.

1-3.2 REPORTING OF ITEM AND PACKAGING DISCREPANCIES

Fill out and forward SF 364 Report of Discrepancy (ROD) as prescribed in AR 735-11-2.

1-3.3 TRANSPORTATION DISCREPANCY REPORT (TDR) (SF 361)

Fill out and forward the Transportation Discrepancy Report (TDR) (SF 361) as prescribed in AR 55-38.

1-4 DESTRUCTION OF ARMY MATERIEL

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

1-5 ADMINISTRATIVE STORAGE

Administrative storage of equipment issued to and used by Army activities will have Preventive Maintenance Checks and Services (PMCS) performed before storing. When removing the equipment from administrative storage, the PMCS checks should be performed to assure operational readiness.

1-6 REPORTING EQUIPMENT IMPROVEMENT RECOMMENDATION (EIR)

If your FBCB2 equipment or software 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 a SF 368 (Product Quality Deficiency Report). Mail it to: Commander, US Army Communications-Electronics Command, Fort Monmouth, ATTN: AMSEL-LC-LEO-D-CS-CFO, Fort Monmouth, New Jersey 07703-5000. We'll send you a reply.

1-7 NOMENCLATURE AND ABBREVIATIONS/ACRONYMS LIST

1-7.1 NOMENCLATURE

This listing includes the nomenclature and definitions used in this manual.

<u>Common Name</u>	<u>Official Nomenclature</u>	<u>Definition</u>
AN/UYK-128(V) computer	Computer Set, Digital AN/UYK-128(V)	Basic hardware: Processor Unit, Display Unit, Keyboard Unit, and Removable Hard Disk Drive Cartridge.
Processor Unit (PU)	Computer, Digital	Performs all the central processing for the AN/UYK-128(V) computer, and contains an internal power supply which provides all the internal and external voltage requirements.
Removable Hard Disk Drive Cartridge (RHDDC)	Disk Drive Unit	A protective case that contains the Hard Disk Drive, a non-volatile mass storage system, which stores the operating system, the software, and the operator-generated files.
Display Unit (DU)	Display Unit (DU)	Provides for the visual display of information to the operator. Provides for the application of power. The Touch screen provides one method of Soldier-Machine Interface (SMI) with the AN/UYK-128(V) computer.
Keyboard Unit (KU)	Keyboard, Data Entry	Provides two methods of Soldier-Machine Interface (SMI). The first method being the keyboard keys and the second being the mouse pointer device.

<u>Common Name</u>	<u>Official Nomenclature</u>	<u>Definition</u>
FBCB2 Software	FBCB2 Operating System Software	Consists of UNIX Solaris and Embedded Battle Command (EBC) Software. Provides the graphic displays, the operations and the interface that allows the operator to perform his/her mission.

1-7.2 ABBREVIATIONS/ACRONYMS LIST

This listing includes the applicable AN/UYK-128(V) computer system abbreviations and acronyms.

<u>Acronym</u>	<u>Description</u>
C ²	Command and Control
DU	Display Unit
EPLRS	Enhanced Position Location Reporting System
FBCB2	Force XXI Battle Command Brigade-And-Below
GPS	Global Positioning System
INC	Internet Controller
KU	Keyboard Unit
LRU	Line Replaceable Unit
PLGR PU	Precision Lightweight GPS Receiver Processor Unit
RHDDC	Removable Hard Disk Drive Cartridge
SINCGARS ASIP SA	Single Channel Ground and Airborne Radio System Situation Awareness
TI	Tactical Internet

1-8 WARRANTY

The AN/UYK-128(V) Computer system warranty starts on the date found in block 23, DA Form 2408-9 in the logbook. Also refer to TB 11-7010-326-30 for further information regarding warranty. Report all defects to your supervisor, who will take appropriate action.

1-9 SAFETY, CARE AND HANDLING

The following highlights the safety, care, and handling concerns for AN/UYK-128(V) Computer system.

Mechanical

Listed in Table 1-1 is the nominal component weights and dimensions for the AN/UYK-128(V) Computer system.

Table 1-1. System Weights and Measures

COMPONENT	DIMENSIONS (HEIGHT X WIDTH X DEPTH IN INCHES)	WEIGHT (IN POUNDS)
Processor Unit NSN 7021-01-474-3793 NSN 7021-01-487-0578	5.12" x 12.5" x 10.25"	18.6 lbs. (with RHDDC installed)
Processor Unit NSN 7021-01-475-0217 NSN 7021-01-487-0579	5.13" x 12.17" x 10.26"	16.5 lbs. (with RHDDC installed)
Display Unit 10.4" (with 8- Button Bezel Keypad) NSN 7025-01-475-0229	9.5" x 13.06" x 2.03"	9.0 lbs.
Display Unit 12.1" NSN 7025-01-475-0282	10.6" x 14.08" x 2.2"	8.9 lbs.
Display Unit 10.4"/12.1" Combined (with 8-Button Bezel Keypad) NSN 7025-01-475-0280	9.03" x 11.5" x 2.3"	7.0 lbs.
Keyboard Unit NSN 7025-01-474-3791 NSN 7025-01-487-0581	1.07" x 11.5" x 7.25"	2.0 lbs.
Keyboard Unit NSN 7025-01-474-3792	1.06" x 11.5" x 7.26"	2.0 lbs.
Removable Hard Disk Drive Cartridge (RHDDC) NSN 7025-01-474-5753	0.787" x 5.118" x 5.571"	0.85 lbs.
Removable Hard Disk Drive Cartridge (RHDDC) NSN 7025-01-474-3789 NSN 7025-01-487-0580	1.28" x 5.77" W x 7.97"	1.0 lbs.



1-10 ELECTROSTATIC DISCHARGE (ESD)

AN/UYK-128(V) Computer system contains circuitry which is sensitive to ESD. The RHDDC software disk loading and wipe disk maintenance procedures require use of the wrist ground strap. General handling procedures for Electrostatic Sensitive Devices (ESD) items include the following:

- a. Use wrist ground straps when accessing internal electronics.
- b. Keep ESD items in protective covering when not in use.
- c. Ground all electrical tools and test equipment.
- d. Handle ESD items only in protected areas.

1-11 CORROSION, PREVENTION, AND CONTROL

Corrosion Prevention and Control (CPC) of Army material is a continuing concern. It is important that any corrosion problems with this item be reported so that the problem can be corrected and improvements can be made to prevent the problem in future items.

While corrosion is typically associated with rusting of metals, it can also include deterioration of other materials, such as rubber and plastic. Unusual cracking, softening, swelling, or breaking of these materials may be a corrosion problem.

If a corrosion problem is identified, it can be reported using Standard Form 368, Product Quality Deficiency Report. Use of keywords such as "corrosion," "rust," "deterioration," or "cracking" will ensure that the information is identified as a CPC problem.

The form should be submitted to the address specified in DA Pam 738-750.

1-12 NUCLEAR HARDNESS

Not applicable.

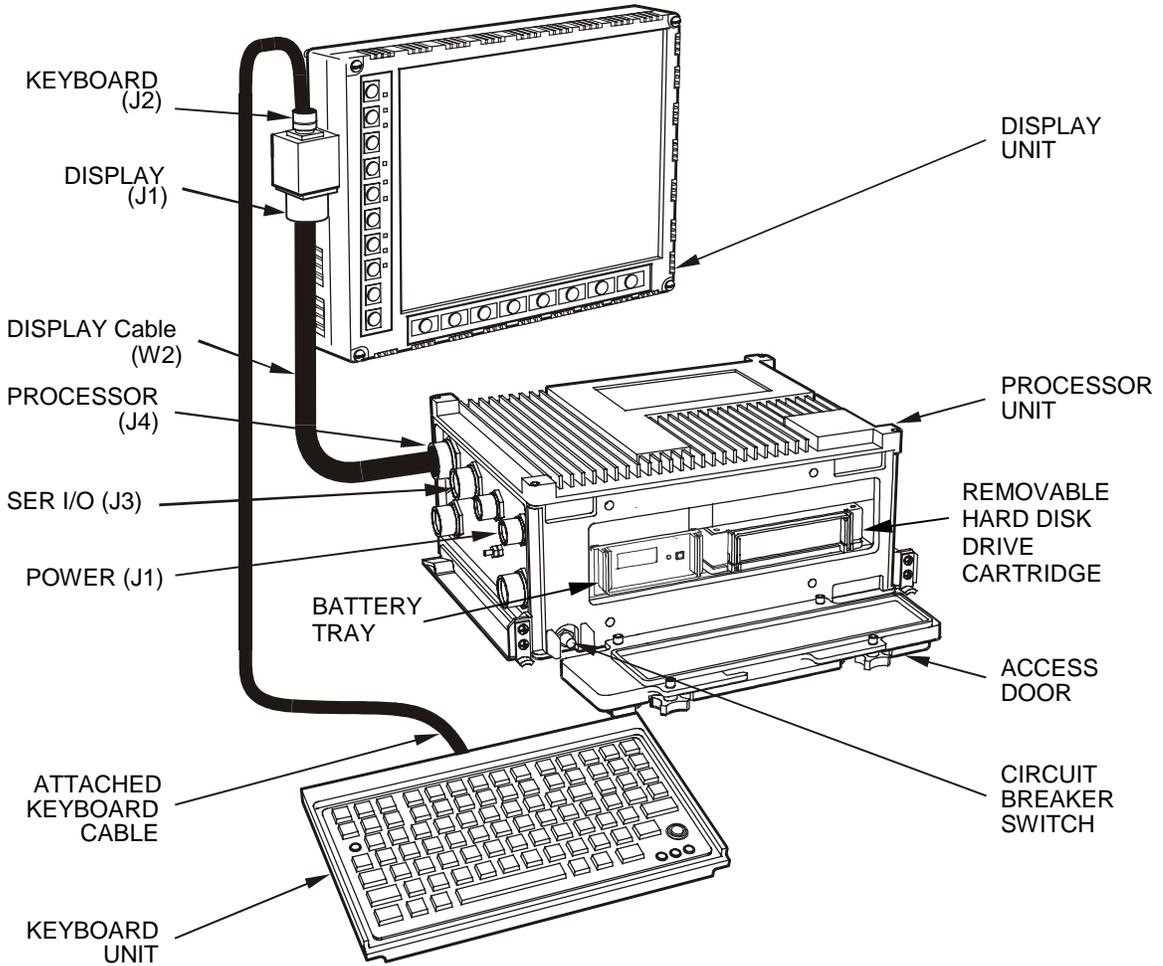
1-13 SECURITY MEASURES FOR ELECTRONIC DATA

When the Removable Hard Disk Drive Cartridge is installed in the Processor Unit or removed from the system (for maintenance, troubleshooting, or any other reason), proper safeguards must be taken to avoid compromise of classified material. The Removable Hard Disk Drive Cartridge is considered classified, regardless of the level of access or the role of the user. The Removable Hard Disk Drive Cartridge must be handled as classified media and maintained in accordance with AR 380-19. Containers that are in accordance with the requirements of AR 380-5 should be used for movement and storage of the removable media that may contain classified information. The Removable Hard Disk Drive Cartridge must be marked in accordance with AR 380-5. The Removable Hard Disk Drive Cartridge remains a classified media until properly purged or destroyed IAW the procedures outlined in AR 380-5.

SECTION II. EQUIPMENT DESCRIPTION AND DATA

1-14 EQUIPMENT CHARACTERISTICS, CAPABILITIES, AND FEATURES

For a general description of the AN/UYK-128(V) Computer system refer to Operator's Manual TM 11-7010-326-10. Figure 1-1 and Figure 1-2 show the two configurations for the AN/UYK-128(V) Computer components.



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Figure 1-1. One Version of the AN/UYK-128(V) Computer

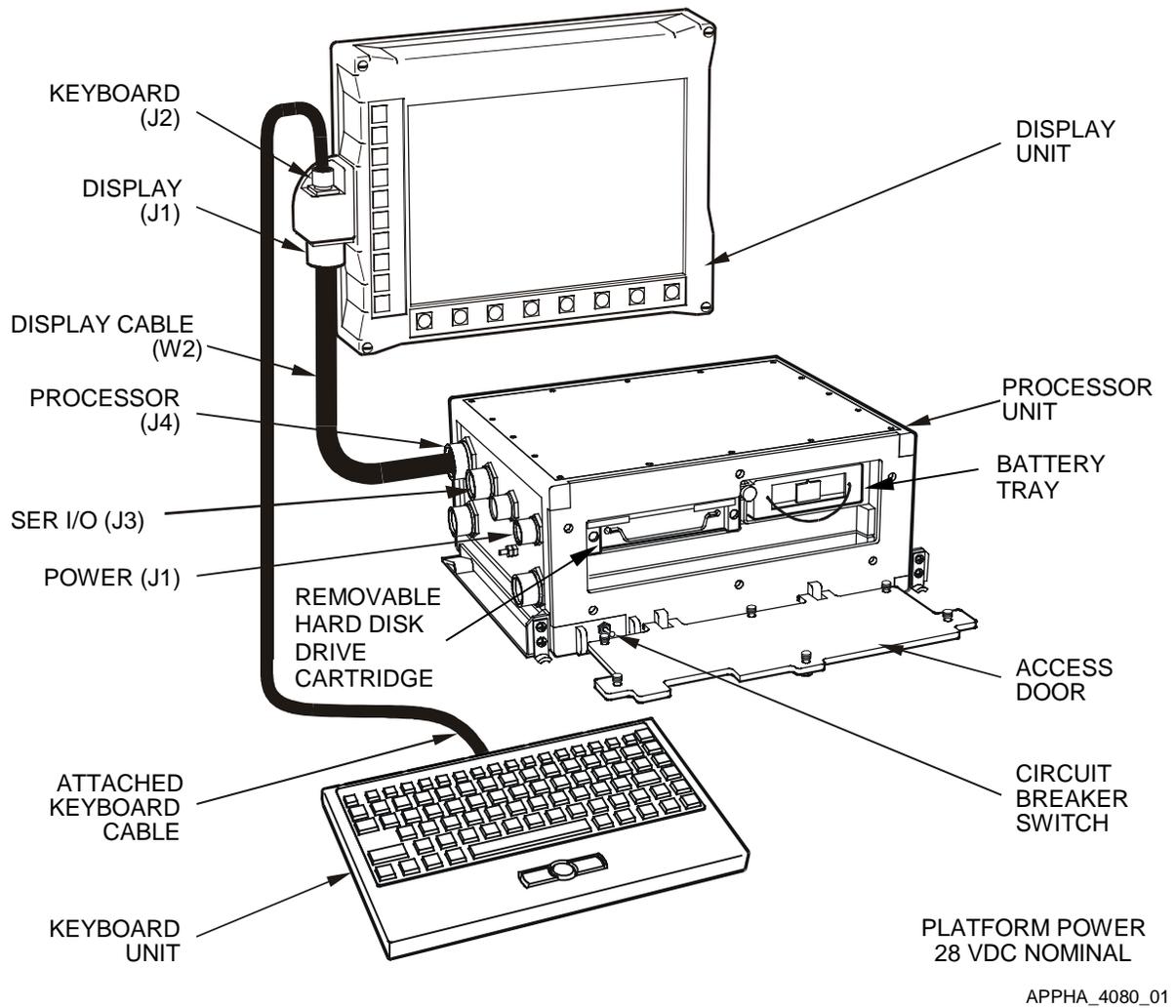


Figure 1-2. Second Version of the AN/UYK-128(V) Computer

1-14.1 POWER INTERFACE

The AN/UYK-128(V) computer operates from an external power source, 28 VDC nominal. For installed equipment, this power source is provided by the host platform. For bench-checked equipment, a separate power source is used.

The AN/UYK-128(V) computer provides protection against power ripple, surge and spike voltage conditions through use of internal power hold-up batteries. A rechargeable, Nickel Metal Hydride (NiMH) battery provides internal power holdup during low voltage conditions. The Processor Unit (PU) can recharge these internal power hold-up batteries while the PU is operating. The internal power hold-up batteries are located in the PU battery box or battery tray (depending on PU version) located behind the access door. The Battery Tray (PU NSN 7021-01-474-3793/NSN 7021-01-487-0578) contains a diagnostic indicator, which can be used to determine the state of charge of the battery. The Battery Box (PU NSN 7021-01-475-0217/NSN 7021-01-487-0579) battery status can be seen through slots on the front and rear of the Battery Box. These slots allow visual access to the status indicator located on the battery. Figure 1-3 shows the power/hardware interface for the AN/UYK-128(V) computer system.

1-14.2 REMOVABLE HARD DISK DRIVE CARTRIDGE INTERFACE

A Removable Hard Disk Drive Cartridge (RHDDC) is located behind the access door in both versions of the PU. There are two different RHDDC, one for each PU version, which are not interchangeable.

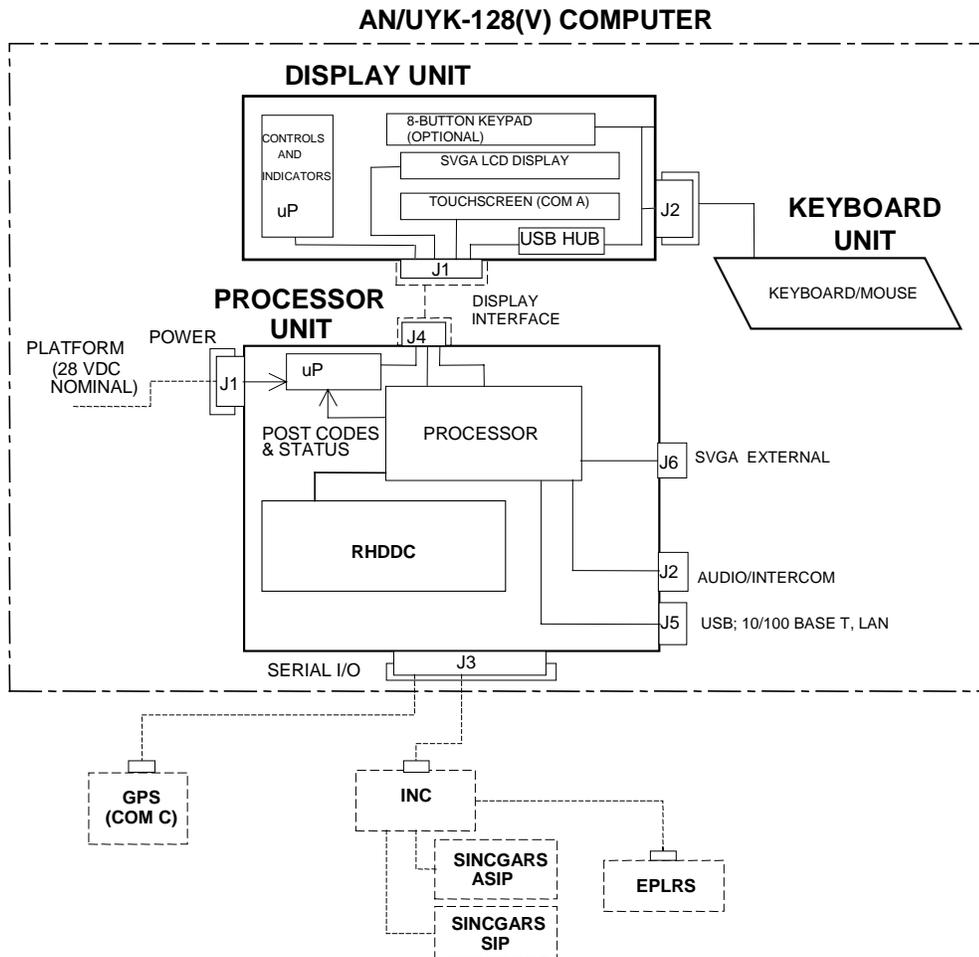


Figure 1-3. Computer System Interface

1-14.3 PRECISION LIGHTWEIGHT GPS RECEIVER (PLGR) INTERFACE

PLGR information is available via an Electronic Industries Association (EIA)-422 serial interface. Only the Time Mark Message is accepted from the PLGR (including position, navigation, timing, PLGR-unique data and satellite almanac, current ephemeris, and current year data). Interface is between the PLGR J2 and SIAD J2 connector using a W3P cable, and SIAD J2 connector and the Processing Unit (PU) J3 connector using a W3 cable.

1-14.4 INTERNET CONTROLLER (INC) INTERFACE

The INC provides the FBCB2 interface to the platform radio suite. The mechanical connection employs 3 wires (two signal wires and a ground wire.). The interface operates at a data rate of 38.4 kbps. Interface is between the INC J6 connector and SIAD J1 connector using a W3N cable, and SIAD J1 connector and the Processor Unit J3 connector using a W3 cable.

1-14.5 DISPLAY UNIT (DU) INTERFACE

The DU to PU interface is the conduit for several types of data: video/graphics, keyboard, touchscreen, power, and discrete signals. Interface is between the DU J1 connector and PU J4 connector using a W2 cable.

1-14.6 KEYBOARD INTERFACE

The keyboard controller provides the interface to the detachable QWERTY keyboard, the embedded pointing device, the alarm circuitry and the status indicators. The keyboard is a membrane switch assembly. The DU provides one connector for connection to the keyboard assembly. The Keyboard Unit end of the interface cable is hardwired to the Keyboard. The Keyboard Unit connects to J2 of the DU.

1-14.7 INTERCOM INTERFACE

AN/UYK-128(V) computer audio output is connected in parallel with the headphone audio output via an adapter cable W4. The W4 cable connects to the Processor Unit via connector J2.

1-14.8 LAN INTERFACE

LAN interface is provided from the Processor Unit via the J5 connector.

CHAPTER 2 DIRECT SUPPORT MAINTENANCE INSTRUCTIONS

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SECTION I REPAIR PARTS, TOOLS, SPECIAL TOOLS, TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT (TMDE); AND SUPPORT EQUIPMENT

2-1 COMMON TOOLS AND EQUIPMENT

The applicable tools for Direct Support level repair are located in the following:

2-1.1 TOOL KIT

<u>Tool Kit Description</u>	<u>NSN Number</u>
None	

2-1.2 TOOLS

<u>Tool Description</u>	<u>NSN Number</u>
 <p>ESD Protection Kit. Reference No. 8502 NSN = GFI Cage = 80063</p>	

2-2 SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT

<u>Description</u>	<u>Part No.</u>	<u>NSN Number</u>
CTX Video Monitor (or equivalent)	MD935A	
Keyboard (or equivalent)	ACK500	
IDE Hard Drive Software Duplicator	D105	
IDE Software Disk (version 5.20)	IDE Datafast	
Ribbon Cable (6 ea.)		
Power Cable (6 ea.)		
RHDDC Ribbon Cable Adapter	8900-07322-0000	
RHDDC Ribbon Cable Adapter	59399-1	
Master Removable Hard Disk Drive Cartridge (RHDDC)	881296-1 (P/N for RHDDC less software load)	7025-01-474-5753
Master Removable Hard Disk Drive Cartridge (RHDDC)	881297-1 or 881297-2 (P/N for RHDDC less software load)	7025-01-474-3789 7025-01-487-0580
Computer consisting of:		
Processor Unit	881292-1 or 881292-2	7021-01-474-3793 7021-01-487-0578
Removable Hard Disk Drive Cartridge	881297-1 or 881297-2	7025-01-474-3789 7025-01-487-0580
Display Unit	881299-1	7025-01-475-0280
Keyboard Unit	881298-1	7025-01-474-3792

2-2 SPECIAL TOOLS, TMDE, AND SUPPORT EQUIPMENT (Continued)

<u>Description</u>	<u>Part No.</u>	<u>NSN Number</u>
Computer consisting of:		
Processor Unit	881291-1 or 881291-3	7021-01-475-0217 7021-01-487-0578
Removable Hard Disk Drive Cartridge	881296-1	7025-01-474-5753
Display Unit	881293-1	7025-01-475-0229
Keyboard Unit	881295-1 or 881295-3	7025-01-474-3791 7025-01-487-0581
Touchscreen stylus and Tether	59848-1	7520-01-484-1219
Computer cabling (2ea) consisting of:		
W1 Power Cable	866004-1	5995-01-478-4908
W2 Cable	881327-1	5995-01-478-4876
W3 SIAD Cable	881331-1	4920-01-478-3722
W3P PLGR Cable	881335-1	5995-01-478-4891
W3N INC Cable	881336-1	5995-01-478-4913
PLGR consisting of:		
AN/PSN-11 Antenna	013-1925-030	5825-01-395-3513 5985-01-375-4660
Antenna Cable	426-0141-050	6150-01-375-8662
Power Cable	9728558-10	6150-01-375-8661
EPLRS radio consisting of:		
EPLRS	RT-1720C	5820-01-457-0012
Power Adapter		6130-01-461-9310
URU		5895-01-452-1222
URU		7021-01-177-0789
Cable, URU		5995-01-417-8085
Power Cable	A3004939	
INC Cable	A3279383-3	
Base Antenna	A3005067-1	5985-01-166-9128
Antenna Element	A3005068-1	5985-01-288-9873
Antenna Cable	SM-C-911480	
SINGARS ASIP consisting of:		
Mounting Base	MT-6352A	
Vehicular Amplifier Adapter	AM-7239E	5895-01-464-6017
Receiver – Transmitter	RT-1523E	5820-01-444-1219
Antenna Cable	A3014031-8	
Antenna	AS-3900/VRC	

2-3 REPAIR PARTS

None

SECTION II SERVICE UPON RECEIPT

2-4 PRELIMINARY SERVICING AND ADJUSTMENT OF EQUIPMENT

- a. Upon receipt of packaged replacement parts, check the packing list for correct part numbers and complete shipment when piece parts are involved. Inspect for the following:
 - (1) Check the replacement component packing or covering - remove.
 - (2) Check replacement component and connectors for any obvious damage that may have occurred during shipping.
 - (3) Inventory the list of parts to make sure all part numbers and quantities are correct.
 - (4) Remove shipping material that might block connector jacks.
- b. When the part received is a replacement, the failed part should be placed in the shipping container(s) left by the new part.

SECTION III SYSTEM CHECKOUT

2-5 CHECKOUT PROCEDURE

AN/UYK-128(V) computer is checked out at the Direct Support level when received from the following sources: Repaired Line Replaceable Unit (LRU) received from a vendor or depot, and failed LRUs from Unit Maintenance. Checkout is performed utilizing a testbed. The failed LRU is placed in the testbed and checked to verify whether it has a true fault.

2-5.1 VISUAL INSPECTION

Following are mechanical inspections performed prior to testing the LRU.

2-5.2 PROCESSOR UNIT (PU)

- a. Visually inspect outer surface for dents, gouges, or cracks.
- b. Verify that the PU has a threaded grounding lug with wing nut, and the wing nut travels up and down the threaded lug freely.
- c. Verify that the Removable Hard Disk Drive Cartridge can be removed and reinserted and there is no damage to either RHDDC connector or mating connector in PU.
- d. Verify that the PU access door opens and closes smoothly. Ensure that when closed, the thumb screws can be tightened by hand. Verify there is no damage to the seal around the interior of the access door. Verify the PU has no evidence of water damage (e.g. moisture inside of PU). If there is evidence of water damage, **do not** perform test.
- e. Visually inspect that the PU for bent or broken connectors or connector pins.
- f. Verify that the PU connector covers are connected by a chain, not damaged and that the covers fasten over the connectors properly.

2-5.3 DISPLAY UNIT (DU)

- a. Verify DU case for dents, gouges, or cracks.
- b. DU glass/touchscreen is not broken or scratched (prevent cursor movement).
- c. Visually inspect connectors for damaged or bent/broken pins.
- d. Visually inspect buttons for damage.
- e. Verify that the DU has a threaded grounding lug with wing nut, and the wing nut travels up and down the threaded lug freely.
- f. Verify that the DU connector covers are attached by a lanyard or chain, not damaged and that the covers fasten over the connectors properly.
- g. Verify the DU has no evidence of water damage. If there is evidence of water damage, **do not** perform test.

2-5.4 KEYBOARD UNIT (KU)

- a. Verify that the keyboard cable attached to the Keyboard Unit has a metal screw-on cover, attached by a lanyard, and that the cover screws on and off the connector properly.
- b. Visually inspect the KU cable connector for damaged or bent pins.
- c. Verify all keys operate smoothly and the membrane covering the keys is not torn.
- d. Inspect to ensure there is no water damage, damaged keys, or missing keys.

2-5.5 BENCH CHECK TEST PROCEDURE

When an LRU failure is suspected, the LRU is replaced by Unit Level maintenance and submitted to Direct Support maintenance for further testing. The LRU is connected into the Test Bed in the same manner as it is connected in the platform. The following procedure is then followed. Figure 2-1 shows the test connections.

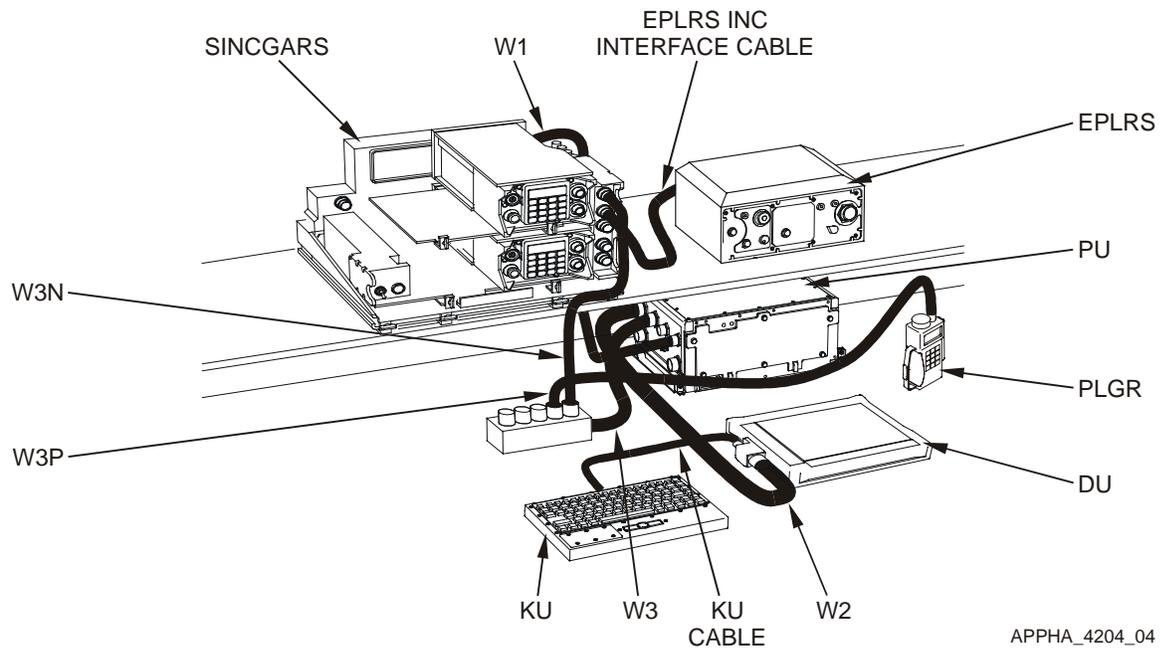


Figure 2-1. Test Connections

2.5.5.1 SET UP TEST BED

Table 2-1 lists equipment necessary to perform check procedure on the AN/UYK-128(V) computer.

NOTE

The bench set up consists of a full complement of the AN/UYK-128(V) computer system. The faulty LRU is installed in place of the bench set up component. Use items 1 through 5 or 6 through 10 of Table 2-1 for the AN/UYK-128(V) computer, items 11 through 15 of Table 2-1 for AN/UYK-128(V) computer cabling, and items 16 through 34 of Table 2-1 for all ancillary equipment. Ensure all hardware, software, and test fixtures are present before running test.

Table 2-1. Test Bed Equipment Listing

ITEM NO.	DESCRIPTION	PART NO	NSN	QTY
AN/UYK-128 Computer consisting of:				
1	Processor Unit	881292-1 or 881292-2	7021-01-474-3793 7021-01-487-0578	1
2	RHDDC (with FBCB2 software Installed)	881297-1 or 881297-2	7025-01-474-3789 7025-01-487-0580	1
3	Display Unit	881299-1,-2	7025-01-475-0280	1
4	Keyboard Unit	881298-1	7025-01-474-3792	1
5	Touchscreen stylus and Tether	59848-1	7520-01-484-1219	1
AN/UYK-128 Computer consisting of:				
6	Processor Unit	881291-1 or 881291-3	7021-01-475-0217 7021-01-487-0579	1
7	RHDDC (with FBCB2 software Installed)	881296-1	7025-01-474-5753	1
8	Display Unit	881293-1,-2	7025-01-475-0229	1
9	Keyboard Unit or	881295-1 881295-3	7025-01-474-3791 7025-01-487-0581	1
10	Touchscreen stylus and Tether	59848-1	7520-01-484-1219	1
AN/UYK-128 Computer Cabling consisting of:				
11	Cable Assembly, W1	866004-1	5995-01-478-4908	
12	Cable Assembly, W2	881327-1	5995-01-478-4876	1
13	Cable Assembly, W3	881331-1	4920-01-478-3722	1
14	Cable Assembly, W3P	881335-1	5995-01-478-4891	1
15	Cable Assembly, W3N	881336-1	5995-01-478-4913	1
PLGR consisting of:				
16	PLGR	AN/PSN-11	5825-01-395-3513	1
17	External Antenna	013-1925-030	5985-01-375-4660	1
18	Antenna Cable	426-0140-050	6150-01-375-8662	1
19	Power Cable	9728558-10	6150-01-375-8661	1
SINCGARS ASIP consisting of:				
20	VAA	AM-7239E	5895-01-464-6017	1
21	Receiver - Transmitter	RT 1523E	5820-01-444-1219	1
22	Mounting Base	MT-6352A		1
23	Antenna Cable	A3014031-8		1
24	Antenna	AS-3900/VRC		1

Table 2-1. Test Bed Equipment Listing (Continued)

ITEM NO.	DESCRIPTION	PART NO	NSN	QTY
EPLRS consisting of:				
25	EPLRS	RT-1720C	5820-01-457-0012	1
26	Power Adapter		6130-01-461-9310	1
27	URU		5895-01-452-1222	1
28	URU		7021-01-177-0789	1
29	URU Cable		5995-01-417-8085	1
30	Power Cable	A3004939		1
31	INC Cable	A3279383-3		1
32	Base Antenna	A3005067-1	5985-01-166-9128	1
33	Antenna Element	A3005068-1	5985-01-288-9873	1
34	Antenna Cable	SM-C-911480		1

2.5.5.2 BENCH SET UP

Replace component in bench set up with LRU to be tested (refer to Figure 2-1). Connect cables as follows:



Do not disconnect or connect any cables without first properly powering down the system and turning OFF all power. Where applicable, always disconnect the ground cable last when disassembling and always connect the ground cable first when assembling. Failure to comply can cause injury to personnel or equipment damage.

- a. Connect ground strap to PU E1 ground lug.
- b. Connect ground strap to DU E1 ground lug.
- c. Connect W1-P2 cable connector to PU J1 connector.
- d. Connect W1-P1 cable connector to SINGARS Mounting Base (MB) (MT-6352/VRC) A4-J2 connector.
- e. Connect W2-P2 cable connector to display J1 connector.
- f. Connect W2-P1 cable connector to PU J4 connector.
- g. Connect W3 SIAD P1 cable connector to PU J3 connector.
- h. Connect W3P-P2 cable connector to PLGR J2 connector using offset flat screwdriver.
- i. Connect W3P-P1 cable connector to W3 SIAD J2 connector.
- j. Connect W3N-P2 cable connector to SINGARS INC J6 connector.
- k. Connect W3N-P1 cable connector to W3 SIAD J1 connector.
- l. Connect SINGARS Mounting Base (MB) (MT-6352/VRC) power cable and antenna cable.
- m. Connect EPLRS power cable, antenna cable and INC interface cable.
- n. Connect PLGR antenna cable.

2.5.5.3 POWER UP AND INITIALIZE ALL INTERFACE EQUIPMENT

Power up and initialize PLGR, EPLRS (if required), INC, and SINCGARS ASIP (if required).

2.5.5.4 VERIFICATION TESTS

Verification tests are used to confirm LRU faults received from Unit Maintenance. Repaired LRUs received from Depot, can also have the verification test run to ensure fault(s) have been corrected. Run tests as outlined in Table 2-2 for the Processor Unit, Table 2-3 for the Display Unit, and Table 2-4 for the Keyboard Unit. If testing a Removable Hard Disk Drive Cartridge, insert into Processor Unit and perform checkout in accordance with Table 2-2. Refer to TM 11-7010-326-20&P for troubleshooting procedures and BIOS settings.

CAUTION

Never insert or remove the Removable Hard Disk Drive Cartridge (RHDDC) while the Processor Unit is powered up. Failure to comply can cause equipment damage.

NOTE

Ensure visual inspection has been performed, prior to running verification test on the selected LRU.

NOTE

The system may not properly initialize if power is ON before the Keyboard Unit cable is connected. Power OFF before connecting Keyboard Unit cable. When powering up the system, the keyboard must be connected to the Display Unit.

Table 2-2. Processor Unit (PU) Test

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
1	Toggle PU Circuit Breaker/Switch to the ON position (pointed to centerline of PU).	Circuit Breaker/Switch remains set to the ON position.
2	Power-up AN/UYK-128(V) computer by pressing PWR button on DU Controls and Indicators panel for up to 4 seconds then release.	<p>a. Observe following indications on DU:</p> <p style="text-align: center;">NOTE</p> <p>Red blinking DISP and CPU LEDs indicates Power On Self Test (POST) when AN/UYK-128(V) computer is first turned ON. Indicators should then illuminate green when POST is completed.</p> <ul style="list-style-type: none"> (1) PWR green LED is illuminated. (2) DISP green LED is illuminated. (3) CPU green LED is illuminated. <p>b. Start-up sequence continues until DU screen displays the Session Manager Screen, Ops Auto-Login dialog box, count down timer, GPS and COMM status boxes.</p>

Table 2-2. Processor Unit (PU) Test (Continued)

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
3	<p>On DU touchscreen, select the Cancel Timeout button on the Ops Auto-Login dialog box to remove it from the Session Manager Screen.</p> <p style="text-align: center;">NOTE</p> <p>Count down timer has a 20 second limit. If allowed to go to zero, then the online process will start automatically.</p>	Login box disappears from Session Manager Screen. Start Comm status box and Router status box are displayed.
4	Check the color of both GPS and COMM dialog boxes (when GPS and COMM cycle is complete).	<p>Green color coding indicates that the equipment is fully mission capable.</p> <p>Yellow color coding indicates degraded operation.</p> <p>Red color coding in the GPS and/or COMM dialog box indicates the GPS and/or COMM is not responding.</p>
5	On the DU screen, verify correct Unit/ Role is being displayed on the Function Bar for the system being checked.	Correct Unit/Role is displayed. If not, perform configure role setup (refer to SUM).
6	On DU touchscreen, select Start button.	Start option menu is displayed.
7	Select the Login option.	The Ops Login dialog box is displayed.
8	Type in your password.	Asterisks are displayed as the password is typed followed by a blinking cursor in the Password text box.
9	Select the Continue button.	The Ops Login dialog box closes.
10	On DU touchscreen, select Start button.	Start option menu is displayed.
11	Select the Settings option.	The Settings option menu is displayed.
12	Select the Touch Screen... option.	The calibration touchscreen is displayed with bulls eye at the lower left hand corner of the DU screen.
13	On DU touchscreen, using stylus, touch center of target bulls eye.	Lower left bulls eye disappears. Upper right bulls eye appears.
14	Select the center of the target bulls eye with stylus.	Upper right bulls disappears. Lower right bulls eye appears.
15	Select the center of the target bulls eye with stylus.	The calibration touchscreen closes. The osc_touch_calibrate.ksh dialog box is displayed.
16	Display shows: "Was calibration performed successfully [y/n]?" Type "y" and press Enter key on KU.	The osc-touch-calibrate.dsk dialog box closes.
17	On DU touchscreen, select Start button.	Start option menu is displayed.
18	Select the FBCB2 option.	The FBCB2 option menu is displayed.
19	Select the Clear Logs & Queues... option.	The Clear Logs and Queues dialog box is displayed.

Table 2-2. Processor Unit (PU) Test (Continued)

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
20	Select Reset System option under Select Items to Clear and then select Apply button.	The Clear Logs and Queues Status dialog box opens and system performs the selected option.
21	Select Close button when message COMPLETED CLEAR LOGS & QUEUES OPERATION is displayed.	The Clear Logs and Queues Status dialog box closes.
22	Select Close button on Clear Logs and Queues dialog box.	The Clear Logs and Queues dialog box closes.
23	Select the Ops button in the Session Manager Function Bar.	The system goes online. The Ops Main Screen with the FBCB2 Display Process dialog box is displayed.
24	On DU Ops screen, observe top banner.	Top banner displays the following: Classification bar shown. DTG should be current. Communication status – green or amber. GPS status-green.
25	On DU touchscreen, select F6 Admin... button on the OPS Function Bar.	Admin dialog box is displayed.
26	Select Local Settings tab.	Local Settings tab group is displayed.
27	Select Audio tab.	Audio tab group is displayed.
28	Select Preview Voice drop down arrow.	Preview Voice drop down menu is displayed.
29	Select an option from the Preview Voice drop down menu.	Highlighted selection is displayed in Preview Voice text box.
30	Adjust Voice Volume slide bar to High level. NOTE Ensure Mute All button is not selected (unchecked).	Slide bar moves left to right (Low to High).
31	Select Play button.	NOTE Even with volume level set to high, background noise could prevent you from hearing the audible tone. Audible sound selected is heard through PU internal speaker.

Table 2-2. Processor Unit (PU) Test (Continued)

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
32	<p style="text-align: center;">NOTE</p> <p>Selecting Destroy FBCB2 button will overwrite the HDD FBCB2 operational database, and FBCB2 executable files making the system unusable.</p> <p>In Admin dialog box, select Exit Ops... button.</p>	Exit Ops confirmation dialog box is displayed.
33	Select Yes button in confirmation dialog box.	As Ops screen closes, it will display the Session Manager screen with 'Ops Auto-Login' window and count down timer.
34	On DU touchscreen, select Cancel Timeout button.	'Login window' is removed and Session Manager screen remains.
35	For PU NSN 7025-01-474-3793, open access door and press diagnostic button three times on front of Battery Tray to display diagnostic codes.	Battery Tray display toggles through the three displays (i.e., hour meter, battery status, and diagnostic codes).
36	Close and secure access door.	
37	On DU touchscreen, select Start button.	The Start button option menu is displayed.
38	Select the Shut Down... option.	The Shut Down option menu is displayed.
39	Select the Shutdown option.	Shutdown confirmation dialog box is displayed.
40	Select the Yes button.	<p>AN/UYK-128(V) computer begins shutdown sequence.</p> <p>Screen displays:</p> <p>Shutting Down the System Safe to power off when the screen message says "syncing file systems... done"</p> <p>When "syncing file systems...done" message is displayed at bottom of the screen, proceed to next step.</p>
41	On DU Controls and Indicators panel, depress the PWR button and hold for 4 seconds (or until PWR LEDs are dark) then release.	
42	Toggle Circuit Breaker/Switch on PU to the OFF position.	All DU LEDs are dark (i.e., not illuminated). DU touchscreen is dark.
43	Power down all interface devices.	

Table 2-3. Display Unit (DU) Test

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
1	Toggle PU Circuit Breaker/Switch to ON position.	PU Circuit Breaker/Switch is pointing toward the center life of the PU.
2	Power-up AN/UYK-128(V) computer by pressing PWR button on DU Controls and Indicators panel for up to 4 seconds then release.	<p>a. Observe following indications on DU:</p> <p style="text-align: center;">NOTE</p> <p>DU NSN 7021-01-475-0280 red blinking DISP and CPU LEDs indicates Power On Self Test (POST) when AN/UYK-128(V) computer is first turned ON. Indicators should then illuminate green when POST is completed.</p> <p>(1) PWR green LED is illuminated.</p> <p>(2) DISP green LED is illuminated.</p> <p>(3) CPU green LED is illuminated.</p> <p>b. Start-up sequence continues until DU screen displays the Session Manager Screen with Ops Auto-Login dialog In box, count down timer, GPS and COMM status boxes.</p>
3	On DU touchscreen, select the Cancel Timeout button on the Login dialog box to remove it from the Session Manager Screen.	Login box disappears from Session Manager screen. Start Comm status box is displayed.
4	On DU touchscreen, press Done on GPS and COMM Initialization dialog boxes when status is displayed.	GPS and COMM Initialization dialog boxes are removed.
5	On DU Controls and Indicators panel, Press the BRT- button until the touchscreen goes dark or lit dimly.	DU touchscreen is dark or lit dimly.
6	On DU Controls and Indicators panel, press the BRT+ button until the brightness on the touchscreen is at maximum level.	DU touchscreen displays Session Manager screen at a bright level.
7	On DU Controls and Indicators panel, press the BRT- button until Session Manager screen is shown at a comfortable level.	
8	On DU Controls and Indicators panel, press the FCN and LED- buttons at the same time until DU Controls and Indicators panel LEDs go dark or dimly lit.	DU LEDs do not illuminate or light dimly.

Table 2-3. Display Unit (DU) Test (Continued)

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
9	On DU Controls and Indicators panel, press the FCN and LED+ buttons at the same time until DU Controls and Indicators panel LEDs are at maximum level.	DU LEDs illuminate at maximum level.
10	On DU Controls and Indicators panel, press the FCN and LED- button at the same time until DU Controls and Indicators panel LEDs are at comfortable level.	
11	On DU Controls and Indicators panel, press BLK OUT button.	The DU touchscreen is dark and all DU LEDs do not illuminate.
12	On DU Controls and Indicators panel, press BLK OUT button.	Session Manager screen is displayed and LEDs illuminate.
13	On DU Controls and Indicators panel, press FCN and LAMP buttons at the same time.	DU NSN 7025-01-475-0280 All LEDs on DU light when FCN and LAMP buttons are pressed. DU NSN 7025-01-475-0229 or NSN 7025-01-475-0282 All LEDs cycle green, amber, and red on DU when FCN and LAMP buttons are pressed.
14	On DU touchscreen, select Start button.	Start option menu is displayed.
15	Select the Login option.	The Ops Login dialog box is displayed.
16	Type in your password.	Asterisks are displayed as the password is typed followed by a blinking cursor in the Password text box.
17	Select the Continue button.	The Ops Login dialog box closes.
18	Select Close button on Map Control dialog box on DU.	Map Control dialog box closes on DU.
19	On DU touchscreen, select Start button.	Start option menu is displayed.
20	Select the Settings option.	The Settings option menu is displayed.
21	Select the Touch Screen... option.	The calibration touchscreen is displayed with bulls eye at the lower left hand corner of the DU screen.
22	On DU touchscreen, using stylus, touch center of target bulls eye.	Lower left bulls eye disappears. Upper right bulls eye appears.
23	On DU touchscreen, using stylus, touch center of target bulls eye.	Lower left bulls eye disappears. Upper right bulls eye appears.
24	Select the center of the target bulls eye with stylus.	Upper right bulls eye disappears. Lower right bulls eye appears.
25	Select the center of the target bulls eye with stylus.	The calibration touchscreen closes. The osc_touch_calibrate.ksh dialog box is displayed.

Table 2-3. Display Unit (DU) Test (Continued)

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
26	The osc_touch_calibrate.ksh dialog box displays: "Was calibration performed successfully [y/n]?" Type "y" and press Enter key.	The osc_touch_calibrate.ksh dialog box is closes.
27	On DU touchscreen, select the Ops button on the Session Manager Function Bar.	The system goes online. The Ops Main Screen with the FBCB2 Display Process dialog box is displayed.
28	On DU Controls and Indicators panel, press FCN and F1 buttons at the same time.	Map Control dialog box is displayed on the DU.
29	On DU touchscreen, select the F4 Messages... button.	Messages dialog box is displayed.
30	On DU touchscreen, select Create Tab.	Create tab group is shown.
31	On DU touchscreen, select Free Text Message.	Free Text Message is highlighted.
32	On DU touchscreen, select Execute button.	Create: Free Text dialog box opens.
33	On DU Controls and Indicators panel, press right tab button.	Cursor in Free Text dialog box moves right to the next tab stop.
34	On DU Controls and Indicators panel, press the ENT button.	Cursor moves down one line and to the left.
35	On DU Controls and Indicators panel, press up arrow button.	Cursor moves up one line.
36	On DU Controls and Indicators panel, press down arrow button.	Cursor moves down one line.
37	On DU Controls and Indicators panel, press the FCN and SPACE buttons at the same time.	Cursor moves to the right one space.
38	On DU Controls and Indicators panel, press FCN and left arrow buttons at the same time.	Cursor moves left one space.
39	On DU Controls and Indicators panel, press FCN and right arrow button.	Cursor moves to right one space.
40	On DU touchscreen, press close button on the Create Free Text dialog box.	Create: Free Text dialog box is removed.
	NOTE Steps 41 through 52 are for the Display Units with Eight Button Bezel Keypad. If the DU you are testing does not have the Eight Button Bezel Keypad, proceed to step 53.	
41	On DU Eight Button Bezel Keypad, press Alt F1 button 3 times.	DU touchscreen Ops Function Bar toggles between the three screens.

Table 2-3. Display Unit (DU) Test (Continued)

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
42	On DU Eight Button Bezel Keypad, press Alt F2 button.	Combat Messages dialog box opens.
43	On DU Eight Button Bezel Keypad, press the Alt F3 button.	Combat Messages dialog box tab selection advances each time Alt F3 Eight Button Bezel Keypad button is pressed.
44	On DU Eight Button Bezel Keypad, press the Alt F3 button until SALT tab is displayed.	Salt tab is shown selected in Combat Messages dialog box.
45	On DU Eight Button Bezel Keypad, press Alt F5 button.	Next selection is highlighted in SALT tab.
46	On DU Eight Button Bezel Keypad, press Alt F4 button.	Previous selection is highlighted in Salt tab.
47	On touchscreen, select Equipment 1: (Target) text box.	Equipment 1: (Target) text box is shown highlighted.
48	On DU Eight Button Bezel Keypad, Press Alt F8 button.	Drop down menu is shown with first selection highlighted.
49	On DU Eight Button Bezel Keypad, press Alt F7 button.	Next selection is highlighted in drop down menu.
50	On DU Eight Button Bezel Keypad, press Alt F6 button.	Previous selection is highlighted in drop down menu.
51	On DU Eight Button Bezel Keypad, press Alt F8 button.	Highlighted selection is displayed in the Equipment 1: (Target) text box
52	On DU touchscreen, select close button in Combat Messages dialog box.	DU Combat Messages dialog box closes.
53	On DU touchscreen, select Admin button on OPS Function Bar.	Admin dialog box is displayed.
54	<p style="text-align: center;">NOTE</p> <p>Selecting the Destroy FBCB2 button will overwrite the HDD FBCB2 operational database, and FBCB2 executable files making the system unusable.</p> <p>On DU select Exit Ops... button.</p>	Exit Confirmation dialog box is displayed.
55	On DU select Yes button on Exit Ops Confirmation dialog box.	As system closes it will display the Session Manager screen with 'Ops Auto-Login window' and count down counter.
56	On DU select Cancel Timeout button.	'Login window' is removed and Session Manager screen remains.
57	On DU touchscreen, select Start button.	The Start button option menu is displayed.
58	Select the Shut Down... option.	The Shut Down option menu is displayed.
59	Select the Shutdown option.	Shutdown confirmation dialog box is displayed.

Table 2-3. Display Unit (DU) Test (Continued)

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
60	Select the Yes button.	AN/UYK-128(V) computer begins shutdown sequence. Screen displays: Shutting Down the System Safe to power off when the screen message says "syncing file systems... done" When "syncing file systems...done" message is displayed at bottom of the screen, proceed to next step.
61	On DU Controls and Indicators panel, depress the PWR button and hold for 4 seconds (or until PWR LEDs are dark) then release.	All DU LEDs are dark (i.e., not illuminated). DU touchscreen is dark.
62	On PU, toggle Circuit Breaker/Switch on PU to OFF position.	PU Circuit Breaker/Switch is pointed toward outer edge of PU.
63	Power down all interface devices.	

Table 2-4. Keyboard Unit (KU) Test

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
1	Toggle PU Circuit Breaker/Switch to ON position.	PU Circuit Breaker/Switch is pointing toward the center life of the PU.
2	Power-up AN/UYK-128(V) computer by pressing PWR button on DU Controls and Indicators panel for up to 4 seconds then release.	<p>a. Observe following indications on DU:</p> <p style="text-align: center;">NOTE</p> <p>DU NSN 7021-01-475-0280 red blinking DISP and CPU LEDs indicates Power On Self Test (POST) when AN/UYK-128(V) computer is first turned on. Indicators should then illuminate green when POST is completed.</p> <p>(1) PWR green LED is illuminated. (2) DISP green LED is illuminated. (3) CPU green LED is illuminated.</p> <p>b. Start-up sequence continues until DU displays the Session Manager Screen with Log-In box, count down timer, GPS and COMM status boxes.</p>
3	On DU touchscreen, select the Cancel Timeout button on the Login dialog box to remove it from the Session Manager Screen.	Login box disappears from Session Manager screen. Start GPS and COMM Initialization boxes are displayed.
4	On DU touchscreen, press Done on GPS and COMM Initialization dialog boxes when status is displayed.	GPS and COMM Initialization dialog boxes close.
5	<p style="text-align: center;">NOTE</p> <p>Keyboard Unit back lighting maybe hard to see if room is brightly lit.</p> <p>On Keyboard Unit press and hold the brightness up and brightness down keys to cycle through maximum to minimum brightness levels.</p>	Keyboard Unit back lighting cycles from maximum brightness to minimum brightness (dark).
6	On DU touchscreen click on the Ops button on the Session Manager Function Bar.	Start On-Line process begins. After system is online, the OPS Auto-Login dialog box is displayed.
7	<p>On DU touchscreen type in password and click on the Continue button.</p> <p style="text-align: center;">NOTE</p> <p>Asterisks appear as the password is entered.</p>	<p>OPS Auto-Login dialog box closes and FBCB2 Display Process dialog box opens. When the process is complete, the OPS Main Screen appears.</p> <p style="text-align: center;">NOTE</p> <p>The FBCB2 Display Process takes about 2 minutes to complete.</p>

Table 2-4. Keyboard Unit (KU) Test (Continued)

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
8	On DU touchscreen, select the F4 Messages... button.	Messages dialog box is displayed.
9	Select Create tab in Messages dialog box.	Create tab is shown.
10	Select Free Text Message.	Free Text Message is highlighted.
11	Select Execute button in Messages dialog box.	Create: Free Text dialog box opens.
12	On Keyboard Unit verify all alpha and numeric keys function.	Alpha and numeric keys being pressed are shown in Free Text pane in Messages dialog box.
13	On Keyboard Unit, verify Shift key, tab key, backspace key, and Del key all function.	Appropriate Alpha and numeric characters are shown in the Free Text dialog box on the DU touchscreen.
14	On DU touchscreen press close button on the Create Free Text dialog box.	Create: Free Text dialog box is removed.
15	On Keyboard Unit press the F1 key.	On DU touchscreen, Map Control dialog box opens.
16	On Du touchscreen, press Close button on Map Control dialog box.	On DU touchscreen, Map Control dialog box closes.
17	On Keyboard Unit, press the F2 key.	On DU touchscreen, Filters dialog box opens.
18	On Du touchscreen, press Close button on Filters dialog box.	On DU touchscreen, Filters dialog box closes.
19	On Keyboard Unit, press the F3 key.	On DU touchscreen, Combat Messages dialog box opens.
20	On Du touchscreen, press Close button on Combat Messages dialog box.	On DU touchscreen, Combat Messages dialog box closes.
21	On Keyboard Unit, press the F4 key.	On DU touchscreen, Messages dialog box opens.
22	On Du touchscreen, press Close button on Combat messages dialog box.	Messages dialog box closes.
23	On Keyboard Unit, press the F5 key.	On DU touchscreen, Status dialog box opens.
24	On Du touchscreen, press Close button on Status dialog box.	On DU touchscreen, Status dialog box closes.
25	On Keyboard Unit, press the F6 key.	On DU touchscreen, Admin dialog box opens.
26	On Du touchscreen, press Close button on Admin dialog box.	On DU touchscreen, Admin dialog box closes.
27	On Keyboard Unit, press the F7 key.	On DU touchscreen, Apps dialog box opens.
28	On Du touchscreen, press Close button on Apps dialog box.	On DU touchscreen, Apps dialog box closes.

Table 2-4. Keyboard Unit (KU) Test (Continued)

STEP	TEST OR INSPECTION	INDICATION OR CONDITION
29	On Keyboard Unit, press the F8 key.	On DU touchscreen, Help dialog box opens.
30	On Du touchscreen, press Close button on Help dialog box.	On DU touchscreen, Help dialog box closes.
31	Using the mouse button on the Keyboard Unit, place cursor on Admin button on DU OPS Function Bar and press the left mouse button.	Admin dialog box is displayed.
32	<p style="text-align: center;">NOTE</p> <p>Selecting Destroy FBCB2 button will overwrite the HDD FBCB2 operational database, and FBCB2 executable files making the system unusable.</p> <p>On DU click Exit Ops... button.</p>	Exit Confirmation dialog box is displayed.
33	On DU touchscreen, click Yes button.	As system closes it will display the Session Manager screen with 'Ops Auto-Login window' and count down counter.
34	On DU touchscreen, click on Cancel Timeout button.	'Ops Auto-Login window' is removed and Session Manager screen remains.
35	On DU touchscreen, select the Start button.	The Start button option menu is displayed.
36	Select the Shut Down... option.	The Shut Down option menu is displayed.
37	Select the Shutdown option.	Shutdown confirmation dialog box is displayed.
38	Select the Yes button.	<p>AN/UYK-128(V) computer begins shutdown sequence.</p> <p>Screen displays:</p> <p>Shutting Down the System Safe to power off when the screen message says "syncing file systems... done"</p> <p>When "syncing file systems...done" message is displayed at bottom of the screen, proceed to next step.</p>
39	Depress the PWR button on the DU and hold for 4 seconds (or until PWR LEDs are dark) then release.	All DU LEDs are dark (i.e., not illuminated). DU touchscreen is dark.
40	Toggle Circuit Breaker/Switch on PU to OFF position.	Circuit Breaker/Switch pointed toward outer edge of PU.
41	Power down all interface devices.	

2.5.5.5 LRU DISPOSITION

Return LRU to service or spare if it passes test. If LRU fails test, handle in accordance with SOP.

2-6 BIOS SETTINGS

2-6.1 BIOS REPAIRS FOR NSN 7021-01-475-0217/NSN 7021-01-487-0579

2.6.1.1 DURING THE BOOT PROCESS RAM COUNT

- a. Enter the Basic Input/Output System (BIOS) by pressing the F2 key. Press the F9 key and load the default settings.
- b. Arrow down to Floppy disk A drive, using the minus key select disable.
- c. Press F10, to save the configuration, and exit the BIOS.
- d. While the software is rebooting the RAM count will continue to count to 191MB. Let the software boot to the screen that states "Initializing System Please Wait". Turn off the AN/UYK-128(V) PU at the circuit breaker switch.
- e. Wait 10 seconds and reboot the AN/UYK-128(V) to the BIOS. (Please Note that the RAM counts should not be seen counting at this time.)
- f. Arrow down to the Floppy disks A drive and using the minus key select the 1.44/1.25MB drive.
- g. Press F10 to save the configuration.
- h. Select the Yes button in the dialog window to reboot the AN/UYK-128(V) computer.

2.6.1.2 WHEN THE AN/UYK-128(V) WILL NOT RECOGNIZE THE HARD DRIVE AND DISPLAYS "NON SYSTEM DISK. REPLACE AND PRESS ANY KEY TO CONTINUE."

NOTE

An exclamation mark (!) next to the device means the device is disabled. Pressing the shift and + keys simultaneously will remove the !.

- a. Reboot the AN/UYK-128(V) and enter the BIOS by pressing the F2 key. Press the F9 key and load the default settings.
- b. Look at the Primary Master and note the size of the hard drive. If the hard drive is recognized, then arrow over the BOOT menu, then arrow down, highlight the hard drive, and press the enter key.
- c. If you see the Boot add-in card on top of the IBM drive, you will need to change the boot sequence to IBM on top of the Boot add-in card. To do this, arrow down to the IBM drive, press the shift, and plus keys simultaneously. This will switch the boot sequence.
- d. Press F10 and save the configuration. Then reboot the AN/UYK-128(V).
- e. Problem not solved, replace RHDDC and recheck BIOS.
- f. Problem solved. If not, replace PU.

2-6.2 BIOS REPAIRS FOR NSN 7021-01-474-3793/NSN 7021-01-487-0578

2.6.2.1 WHEN AN/UYK-128(V) BOOTS TO WINDOWS DIAGNOSTIC SCREEN

NOTE

An exclamation mark (!) next to the device means the device is disabled. Pressing the shift and + keys simultaneously will remove the !.

- a. Reboot the AN/UYK-128(V) and enter the BIOS by pressing the F2 key. Press the F9 key and load the default settings.
- b. Look at the Primary Master and note if you can see the size of the hard drive. If the hard drive is recognized, then arrow over the BOOT menu, then arrow down, highlight the hard drive, and press the enter key.
- c. If you see the Boot add-in card on top of the IBM drive, you will need to change the boot sequence to IBM on top of the Boot add-in card. To do this arrow down to the IBM drive, press the shift and plus keys simultaneously. This will switch the boot sequence.
- d. Press F10 to save the configuration.
- e. Select the Yes button in the dialog window to reboot the AN/UYK-128(V) computer.
- f. Problem not solved, replace RHDDC and recheck BIOS.
- g. Problem solved. If not, replace PU.

2.6.2.2 WHEN RAM COUNT IS VISIBLE DURING THE BOOT PROCESS

- a. Enter the BIOS by pressing the F2 key. Press the F9 key and load the default settings.
- b. Press F10, save the configuration, and exit the BIOS.
- c. While the software is rebooting the RAM count will continue to count to 191MB. Let the software boot to the screen that states "Initializing System Please Wait". Turn off the AN/UYK-128(V) PU at the circuit breaker switch.
- d. Wait 10 seconds and reboot the AN/UYK-128(V) to the BIOS. (Please Note that the RAM counts should not be seen counting at this time.)

2-6.3 CONFIGURING BIOS FROM STANDARD CONFIGURED AN/UYK-128(V) TO BRADLEY HEADLESS SYSTEM FOR PU NSN 7021-01-475-0217/7021-01-487-0579

Following procedure is used for converting the BIOS settings from a standard configured AN/UYK-128(V) computer system to BIOS settings for use in a Bradley headless system.

CAUTION

Never insert or remove the Removable Hard Disk Drive Cartridge (RHDDC) while the Processor Unit is powered up. Failure to comply can cause equipment damage.

CAUTION

Not all RHDDC models are interchangeable. Refer to National Stock Numbers (NSNs) and relevant technical manuals to determine compatibility with Processor Unit (PU). Failure to comply with caution could result in system damage.

NOTE

The headless software can not be booted in a standalone system.

- a. Insert the RHDDC into the PU and perform AN/UYK-128(V) computer start up.
- b. Press F2 key to enter the setup screen.
- c. Disable the 3 1/2 floppy drive on the Main menu by scrolling down to the Legacy Diskette A: and using the minus key, press it until the Legacy Diskette A: displays Disabled.
- d. Scroll to the Boot menu using the arrow keys. Using the arrow key(s) scroll down until Removable Devices is highlighted and press the Enter key.
- e. Scroll down to the Legacy Floppy Drives and press the Shift and ! keys simultaneously to disable the floppy drive (this will place an exclamation mark (!) next to the device that is being disabled) Scroll back up to the Removable Devices and press the Shift and ! keys simultaneously again (this will place an exclamation mark (!) next to the Removable Devices).
- f. Using the arrow keys, scroll down to the ATAPI CD-ROM Drive and press the Shift and ! keys simultaneously to disable the ATAPI CD-ROM Drive (this will place an exclamation mark (!) next to the device that is being disabled).
- g. Scroll back up to the Hard Drive and press the Shift and + keys simultaneously to place the Hard Drive on the top of the Boot menu.
- h. Press the F10 key to save BIOS settings.
- i. Select the Yes button in the Setup Confirmation dialog box and press the Enter key to reboot the AN/UYK-128(V) computer.
- j. Power the PU OFF.

2-6.4 CONFIGURING BIOS FROM BRADLEY HEADLESS SYSTEM TO STANDARD CONFIGURED AN/UYK-128(V) FOR PU NSN 7021-01-475-0217/7021-01-487-0579

Following procedure is used for converting the BIOS settings from a Bradley headless system to BIOS settings used in the standard configured AN/UYK-128(V) computer system.

CAUTION

Never insert or remove the Removable Hard Disk Drive Cartridge (RHDDC) while the Processor Unit is powered up. Failure to comply can cause equipment damage.

CAUTION

Not all RHDDC models are interchangeable. Refer to National Stock Numbers (NSNs) and relevant technical manuals to determine compatibility with Processor Unit (PU). Failure to comply with caution could result in system damage.

NOTE

The headless software can not be booted in a standalone system.

- a. Insert the RHDDC into the PU and perform AN/UYK-128(V) computer start up.
- b. Press F2 to enter the setup screen.
- c. Enable the 3 1/2" floppy drive on the Main menu by scrolling down to the Legacy Diskette A:, then press the – key until the Legacy Diskette A: drive displays: 1.44/1.25 MB 3 1/2 “.
- d. Scroll to the Removable Devices and press the Shift and ! keys simultaneously (this will remove the exclamation mark (!) next to the Removable Devices).
- e. Scroll down to the ATAPI CD-ROM and press the Shift and ! keys simultaneously to enable the ATAPI CD-ROM (this will remove the exclamation mark (!) next to the ATAPI CD-ROM).
- f. Scroll back up to the Hard drives and press the Shift and + keys simultaneously to place the Removable Devices on the top of the boot menu.
- g. Press the F10 key to save BIOS settings.
- h. Select the Yes button in the Setup Confirmation dialog box and press the Enter key to save configuration changes and reboot the AN/UYK-128(V) computer.
- i. During reboot, press the F2 key to reenter the setup screen.
- j. Scroll over to the Boot menu. Scroll down to Removable Devices and press the Enter key. Scroll down to the Legacy Floppy Drives and press the Shift and ! keys simultaneously to enable the floppy drive (this will remove the exclamation mark (!) next to Legacy Floppy Drives).
- k. Press the F10 key to save BIOS settings.
- l. Select the Yes button in the Setup Confirmation dialog box and press the Enter key to reboot the AN/UYK-128(V) computer.
- m. Power the PU OFF.

SECTION IV MAINTENANCE PROCEDURES

2-7 SOFTWARE LOAD PROCEDURE

Removable Hard Disk Drive Cartridge software load/Wipe Disk is performed at the Direct Support level when received from the following sources: Newly received Removable Hard Disk Drive Cartridge from a vendor, and Removable Hard Disk Drive Cartridges received from Unit Maintenance for software load. Also procedures are given for performing a Wipe Disk on a Removable Hard Disk Drive Cartridge requiring software/data to be removed prior to storage, shipment, or disposal. Both of these procedures are outlined below.

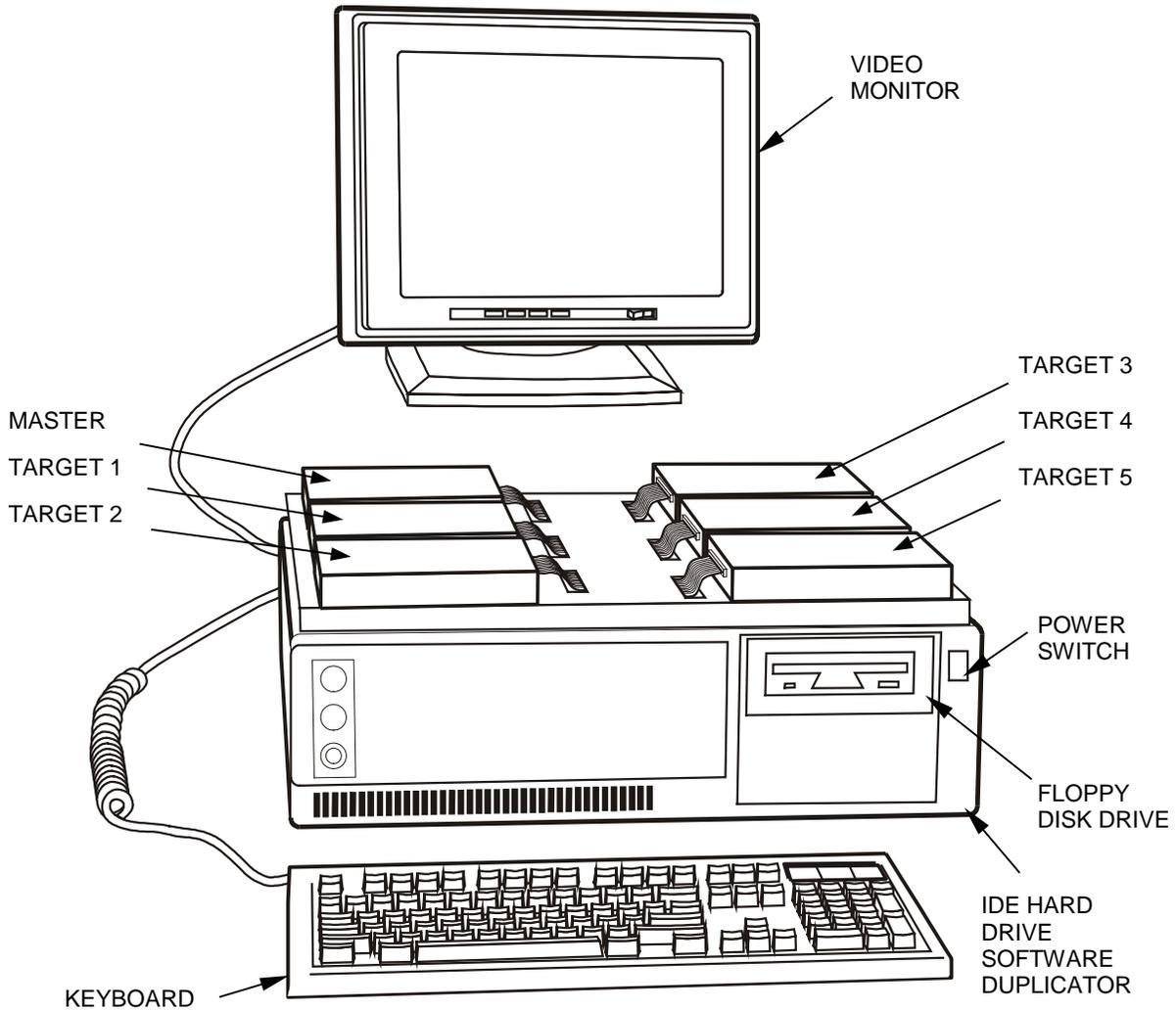
2-7.1 VISUAL INSPECTION

Following are mechanical inspections performed prior to testing the Removable Hard Disk Drive Cartridge.

- a. Visually inspect outer surface for dents, gouges, or cracks.
- b. Visually inspect that the Removable Hard Disk Drive Cartridge has no bent or broken connectors or connector pins.

2-7.2 REMOVABLE HARD DISK DRIVE CARTRIDGE SOFTWARE LOAD PROCEDURE

The following procedure is used to perform a software load onto the Removable Hard Disk Drive Cartridge. Figure 2-2 shows the software duplicating set up. Figure 2-3 and Figure 2-4 show the two versions of the AN/UYK-128(V) Removable Hard Disk Drive Cartridges and associated ribbon cable adapters.



APP4141

Figure 2-2. Software Duplicating Setup

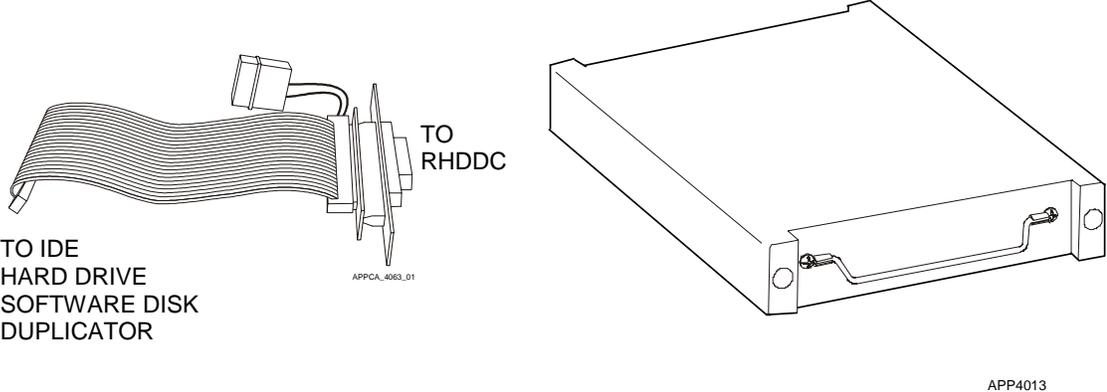


Figure 2-3. RHDDC (NSN 7025-01-474-5753) and Ribbon Cable Adapter

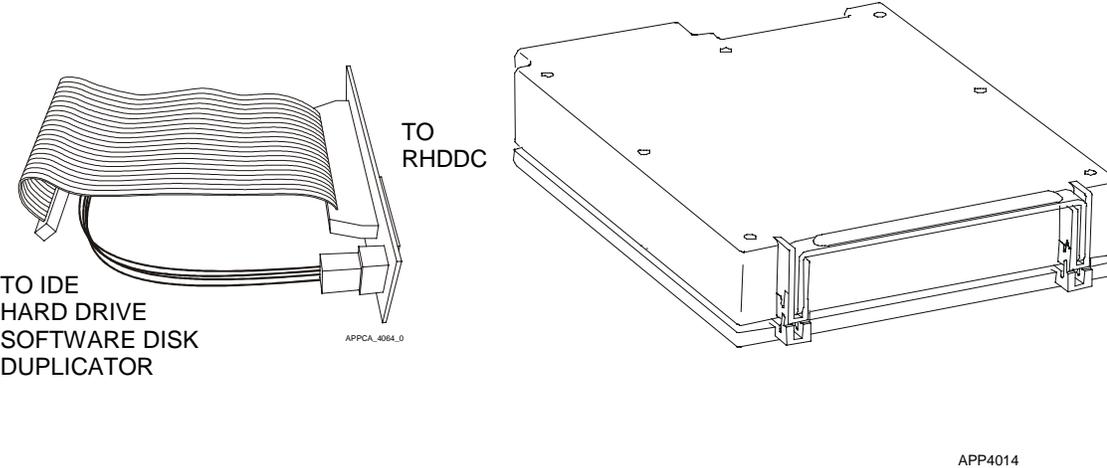


Figure 2-4. RHDDC (NSN 7025-01-474-3789/NSN 7025-01-487-0580) and Ribbon Cable Adapter

2.7.2.1 SET UP EQUIPMENT

Table 2-5 lists equipment required to perform RHDDC loading.

NOTE

Items 12 and 13 NSNs are for the AN/UYK-128(V) computer Removable Hard Disk Drive Cartridges which do not contain the Master software load. The differences in software types and versions are identified with separate labels on each RHDDC.

Table 2-5. RHDDC Software Loading Equipment Listing

ITEM NO.	DESCRIPTION	PART NO.	NSN	QTY
1	Video Monitor (or equivalent)	MD935A		1
2	Power Cable			1
3	Video Cable			1
4	Keyboard Unit (or equivalent)	ACK500		1
5	IDE Hard Drive Software Duplicator	D-105		1
6	IDE Software Disk	IDE Datafast 3 1/2" floppy disk (version 5.20)		1
7	Power Cable	Provided with IDE Hard Drive Software Duplicator		6
8	RHDDC Ribbon Cable Connector Adapter	59399-1 (Used with RHDDC NSN 7025-01-474-5753) (See Figure 2-3)		6
9	Ribbon Cable Adapter	Supplied with IDE Hard Drive Software Duplicator (used with Ribbon Cable Connector Adapter P/N 59399-1)		6
10	RHDDC Ribbon Cable Adapter	8900-07322-0000 (Used with RHDDC NSN 7025-01-474-3789 or NSN 7025-01-487-0580) (See Figure 2-4)		6
11	Power Cable Adapter	Supplied with IDE Hard Drive Software Duplicator (used with P/N 59395-1 and P/N 8900-07322-0000)		6
12	RHDDC with FBCB2 software load (Master Disk)	881296-1 (P/N for RHDDC less software load)	7025-01-474-5753	1
13	RHDDC with FBCB2 software load (Master Disk)	881297-1 or 881297-2 (P/N's for RHDDC less software load)	7025-01-474-3789 or 7025-01-487-0580	1

2.7.2.2 IDE HARD DRIVE SOFTWARE DUPLICATOR CABLE HOOKUP

Following procedure is used for setting up the IDE Hard Drive Software Duplicator.

- a. Connect one end of video cable (supplied with video monitor) to Video Monitor.
- b. Connect other end of video cable to 15-pin video connector on back of IDE Hard Drive Software Duplicator.
- c. Connect Video Monitor power cord (supplied with video monitor) to the Video Monitor.
- d. Connect other end of Video Monitor power cord to power in connector on back of IDE Hard Drive Software Duplicator.
- e. Connect Keyboard connector to keyboard connector on back of IDE Hard Drive Software Duplicator.
- f. Connect IDE Hard Drive Software Duplicator power cord to the power in connector on back of the IDE Hard Drive Software Duplicator.
- g. Plug other end of power cord into an AC outlet.

NOTE

When connecting ribbon cable to IDE Hard Drive Software Duplicator ensure red line on ribbon cable is closest to the 4-pin power connector (refer to Figure 2-5).

- h. For RHDDC(s) being copied or erased, connect appropriate ribbon cable adapter(s) to the IDE Hard Drive Software Duplicator (refer to Table 2-5 for ribbon cable adapter P/Ns and Figure 2-5 for proper hookup).
- i. Connect one end of the 4-wire power cable(s) to the IDE Hard Drive Software Duplicator.
- j. Connect other end of the 4-wire power cable to the ribbon cable adapter.

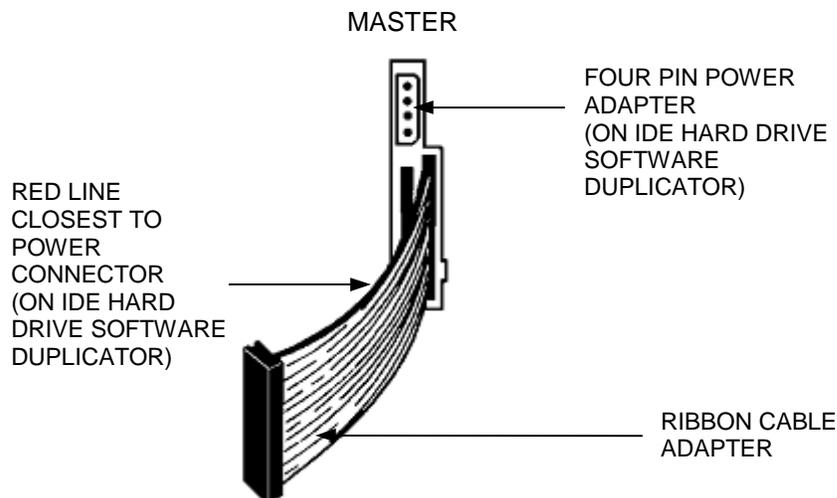


Figure 2-5. IDE Hard Drive Software Duplicator Ribbon Cable Hookup

2-7.3 PERFORM SOFTWARE LOAD PER PROCEDURE IN TABLE 2-6

CAUTION

Once disk duplication is started, do not remove RHDDC(s) or ribbon cable(s) during the duplication process until monitor screen reads "Safe to Remove Drives Now". After software load is completed, wait at least 10 seconds to allow the disks to stop spinning, before removing the RHDDC(s). Failure to comply will cause equipment damage.

CAUTION

Keep the Removable Hard Disk Drive Cartridge (RHDDC) away from strong magnetic fields and never bang or drop a RHDDC on any hard surface to prevent damage to stored data or the RHDDC. Failure to comply will cause equipment damage.

NOTE

When loading Removable Hard Disk Drive Cartridges ensure that the Source Removable Hard Disk Drive Cartridges NSN is the same as Target Removable Hard Disk Drive Cartridge NSN.

NOTE

The following monitor display is representative and actual display will differ. Table 2-6 display is shown with one Target Removable Hard Disk Drive Cartridge connected. NSN 7025-01-474-5753 Removable Hard Disk Drive Cartridge will display IBM DCXA-210000 or DJSA 210 as source drive and 9590 for capacity. NSN 7025-01-474-3789 or NSN 7025-01-487-0580 Removable Hard Disk Drive Cartridges will display IBM DBCA-206480 as source drive and 6194 or 6495 for capacity. Capacity of drives may differ from those indicated here.

NOTE

Ensure software Master RHDDC and Target RHDDC(s) have the same NSN when performing the software load procedure. Different Master and Target RHDDC NSN will prevent proper software loading. Also ensure proper ribbon cable adapter is used with RHDDC(s) being copied (refer to Table 2-5).

NOTE

When connecting or disconnecting RHDDC(s) follow ESD procedures (i.e., wearing of wrist ground straps, etc.)

Table 2-6. Software Loading Procedure

STEP	OPERATOR ACTION	INDICATION OR CONDITION
1	Press power button on video monitor to turn monitor ON.	
2	Insert IDE Software Disk into floppy disk drive.	

Table 2-6. Software Loading Procedure (Continued)

STEP	OPERATOR ACTION	INDICATION OR CONDITION														
3	Press POWER button on IDE Hard Drive Software Duplicator to turn unit ON.	<p>IDE Hard Drive Software Duplicator powers up and loads software.</p> <p>Monitor displays: (After software is loaded)</p> <p style="padding-left: 40px;">Greystone D-105 software version 5.20</p> <p>Press <F1> to execute job immediately, <Enter> to review job setup. <Tab> to select list of user defined jobs, <F2> to copy job to user list.</p> <p style="padding-left: 40px;">Press <Alt-F4> to edit program.</p> <p>Greystone Standard Jobs:</p> <p style="padding-left: 20px;">Smart Copy</p> <p style="padding-left: 20px;">Mirror Copy</p> <p style="padding-left: 20px;">Disk Test</p> <p style="padding-left: 20px;">DOD Wipeout</p>														
4	After software is loaded, connect MASTER RHDDC to MASTER slot ribbon cable adapter connector on top of IDE Hard Drive Software Duplicator.															
5	Connect RHDDC(s) to be loaded to TARGET slot(s) ribbon cable adapter connector(s) on top of IDE Hard Drive Software Duplicator.															
6	Scroll down the option list until Mirror Copy is highlighted.	<p>Monitor displays:</p> <p style="padding-left: 20px;">Smart Copy</p> <p style="padding-left: 20px;">Mirror Copy</p> <p style="padding-left: 20px;">Disk Test</p> <p style="padding-left: 20px;">DOD Wipeout</p>														
7	Press F1 to execute job immediately.	<p>Monitor Displays: (When copying starts)</p> <p style="padding-left: 40px;">Mirror Copy</p> <p style="padding-left: 40px;">Common P10 mode = 4</p> <p style="padding-left: 40px;">Common R/W multiple block size = 1</p> <table style="margin-left: 20px; border-collapse: collapse;"> <tr> <td style="padding-right: 20px;">Source Drive</td> <td>Capacity Status</td> </tr> <tr> <td>IBM – DBCA – 206480</td> <td>6194 <---></td> </tr> </table> <p style="padding-left: 20px;">Target Drives</p> <table style="margin-left: 20px; border-collapse: collapse;"> <tr> <td style="padding-right: 20px;">1 IBM – DBCA – 206480</td> <td>6194> ___%</td> </tr> <tr> <td>2 ?</td> <td>0 Drive not responding</td> </tr> <tr> <td>3 ?</td> <td>0 Drive not responding</td> </tr> <tr> <td>4 ?</td> <td>0 Drive not responding</td> </tr> <tr> <td>5 ?</td> <td>0 Drive not responding</td> </tr> </table>	Source Drive	Capacity Status	IBM – DBCA – 206480	6194 <--->	1 IBM – DBCA – 206480	6194> ___%	2 ?	0 Drive not responding	3 ?	0 Drive not responding	4 ?	0 Drive not responding	5 ?	0 Drive not responding
Source Drive	Capacity Status															
IBM – DBCA – 206480	6194 <--->															
1 IBM – DBCA – 206480	6194> ___%															
2 ?	0 Drive not responding															
3 ?	0 Drive not responding															
4 ?	0 Drive not responding															
5 ?	0 Drive not responding															

Table 2-6. Software Loading Procedure (Continued)

STEP	OPERATOR ACTION	INDICATION OR CONDITION
12	<p style="text-align: center;">NOTE</p> <p>Ensure when labeling RHDDC(s) that the data (i.e., version of software, date, platform specifics, etc) is included from the Master Disk.</p> <p>Label RHDDC(s) that loaded 100% with proper version and date obtained from Master RHDDC.</p>	
13	Press Alt F4 keys to exit if no further RHDDC(s) disk duplicating is to be performed.	<p>Monitor displays:</p> <p>A:\>_</p>
14	Press POWER button on IDE Hard Drive Software Duplicator to power it OFF.	
15	Press power button on video monitor to power it OFF.	

2-7.4 REMOVABLE HARD DISK DRIVE CARTRIDGE WIPE DISK (DOD WIPEOUT)

Table 2-7 procedure is used to clear data and FBCB2 software load from a Removable Hard Disk Drive Cartridge prior to shipment, storage, or disposal.

CAUTION

Once disk duplication is started, do not remove RHDDC(s) or ribbon cable(s) during the duplication process until monitor screen reads "Safe to Remove Drives Now". Wait at least 10 seconds after software load is completed, to allow the disks to stop spinning, before removing the RHDDC(s).

CAUTION

Keep the Removable Hard Disk Drive Cartridge (RHDDC) away from strong magnetic fields and never bang or drop a RHDDC on any hard surface to prevent damage to stored data or the RHDDC. Failure to comply will cause equipment damage.

NOTE

The following monitor display is representative and actual display will differ. Monitor display shows one Removable Hard Disk Drive Cartridge connected. NSN 7025-01-474-5753 Removable Hard Disk Drive Cartridge will display IBM DCXA-210000 or DJSA 210 as source drive and 9590 for capacity. NSN 7025-01-474-3789 or NSN 7025-01-487-0580 Removable Hard Disk Drive Cartridges will display IBM DBCA-206480 as source drive and 6194 or 6495 for capacity. Capacity of drives may differ from those indicated here.

NOTE

Ensure proper ribbon cable adapter is used with RHDDC(s) being erased (refer to Table 2-5).

NOTE

When connecting or disconnecting RHDDC(s) follow ESD procedures (i.e., wearing of wrist ground straps, etc.)

Table 2-7. Wipe Disk Procedure

STEP	OPERATOR ACTION	INDICATION OR CONDITION
1	Press power button on video monitor to turn monitor ON.	
2	Insert IDE Software Disk into floppy disk drive.	

Table 2-7. Wipe Disk Procedure (Continued)

STEP	OPERATOR ACTION	INDICATION OR CONDITION																
3	Press POWER button on IDE Hard Drive Software Duplicator to turn unit ON.	<p>IDE Hard Drive Software Duplicator powers up and loads software.</p> <p>Monitor displays: (After software is loaded)</p> <p style="padding-left: 40px;">Greystone D-105 software version 5.20</p> <p>Press <F1> to execute job immediately, <Enter> to review job setup. <Tab> to select list of user defined jobs, <F2> to copy job to user list.</p> <p style="padding-left: 40px;">Press <Alt-F4> to edit program.</p> <p>Greystone Standard Jobs:</p> <p>Monitor displays:</p> <p>Smart Copy</p> <p>Mirror Copy</p> <p>Disk Test</p> <p>DOD Wipeout</p>																
4	After software is loaded, connect RHDDC(s) to be erased to TARGET slot(s) ribbon cable adapter connector(s) on top of IDE Hard Drive Software Duplicator.																	
5	Scroll down until DOD Wipeout is highlighted.	<p>Monitor displays:</p> <p>Smart Copy</p> <p>Mirror Copy</p> <p>Disk Test</p> <p>DOD Wipeout</p>																
6	Press Enter to view the Standby/Drive Status screen.	<p>Monitor displays:</p> <p style="padding-left: 40px;">DOD Wipeout</p> <p><F1> = Start copy <F7> = Edit CHS trans <F10> = Set system options <F5> = Smart Options <Enter> = Edit options for selected Target</p> <p><V> = Verify previous copy <Delete> = Disable target</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Source Drive</td> <td style="width: 50%;">Capacity Status</td> </tr> <tr> <td style="padding-left: 20px;">?</td> <td>0 Drive not responding!</td> </tr> <tr> <td colspan="2">Target Drives</td> </tr> <tr> <td>1 IBM-DBCA-9590</td> <td>9590 Drive Ready</td> </tr> <tr> <td>2 ?</td> <td>0 Drive not responding!</td> </tr> <tr> <td>3 ?</td> <td>0 Drive not responding!</td> </tr> <tr> <td>4 ?</td> <td>0 Drive not responding!</td> </tr> <tr> <td>5 ?</td> <td>0 Drive not responding!</td> </tr> </table>	Source Drive	Capacity Status	?	0 Drive not responding!	Target Drives		1 IBM-DBCA-9590	9590 Drive Ready	2 ?	0 Drive not responding!	3 ?	0 Drive not responding!	4 ?	0 Drive not responding!	5 ?	0 Drive not responding!
Source Drive	Capacity Status																	
?	0 Drive not responding!																	
Target Drives																		
1 IBM-DBCA-9590	9590 Drive Ready																	
2 ?	0 Drive not responding!																	
3 ?	0 Drive not responding!																	
4 ?	0 Drive not responding!																	
5 ?	0 Drive not responding!																	

Table 2-7. Wipe Disk Procedure (Continued)

STEP	OPERATOR ACTION	INDICATION OR CONDITION
7	Press F1 to begin DOD wipeout operation.	<p>Monitor displays:</p> <p style="text-align: center;">DOD Wipeout</p> <p style="text-align: center;">Common P10 mode = 0</p> <p style="text-align: center;">Common R/W multiple block size = 1</p> <p>Source Drive Capacity Status</p> <p> ? 0 ---</p> <p>Target Drives</p> <p>1 IBM-DBCA- 9590 9590> ___%</p> <p>2 ? 0 Drive not responding!</p> <p>3 ? 0 Drive not responding!</p> <p>4 ? 0 Drive not responding!</p> <p>5 ? 0 Drive not responding!</p>
8	<p>When DOD wipeout is completed, view monitor and check each Target Drive to ensure 100% of RHDDC(s) capacity was erased in Job Results pane.</p> <p style="text-align: center;">NOTE</p> <p>Screen saver will cause the monitor to go blank. Pressing the space bar will return monitor to normal operation.</p>	<p>Monitor displays:</p> <p style="text-align: center;">DOD Wipeout</p> <div style="border: 1px solid black; padding: 5px; margin: 10px auto; width: 80%;"> <p style="text-align: center;">Job Results</p> <p>Target 1: Operation complete. 9590 erased</p> <p>Target 2: Bad drive (if no drive or defective)</p> <p>Target 3: Bad drive (if no drive or defective)</p> <p>Target 4: Bad drive (if no drive or defective)</p> <p>Target 5: Bad drive (if no drive or defective)</p> <p style="text-align: center;">Elapsed time = _:_ _</p> <p style="text-align: center;">Press <Esc> to return to job selection screen.</p> </div> <p style="text-align: center; background-color: #cccccc; border: 1px solid black; padding: 2px;">Safe to Remove Drives Now</p>
9	Press ESC key on keyboard.	<p>Monitor displays:</p> <p style="text-align: center;">Greystone D-105 software version 5.20</p> <p>Press <F1> to execute job immediately, <Enter> to review job setup. <Tab> to select list of user defined jobs, <F2> to copy job to user list.</p> <p style="text-align: center;">Press <Alt-F4> to edit program.</p> <p>Greystone Standard Jobs:</p> <p>Smart Copy</p> <p>Mirror Copy</p> <p>Disk Test</p> <p style="background-color: #cccccc;">DOD Wipeout</p>
10	Remove RHDDC(s) from Target connector(s).	

Table 2-7. Wipe Disk Procedure (Continued)

STEP	OPERATOR ACTION	INDICATION OR CONDITION
11	Press Alt F4 keys to exit if no further RHDDC(s) are to have data cleared.	Monitor displays: A:\>_
12	Press POWER button on IDE Hard Drive Software Duplicator.	
13	Press power button on video monitor to power it OFF.	

2-8 CLEANING INSTRUCTIONS

2-8.1 EXTERIOR OF EQUIPMENT

Use a damp, lint-free cloth to remove dirt and fingerprints. Follow this with a dry lint-free cloth to remove moisture.

2-8.2 CONNECTORS

Use a clean paint brush to remove dirt from connector.

APPENDIX A

REFERENCES

A-1 SCOPE

This appendix lists all forms, field manuals, technical manuals, and miscellaneous publication references in this manual.

A-2 MAINTENANCE FORMS AND RECORDS

AR 380-5	Department of the Army Information Security Program
AR 380-19	Information System Security
AR 735-11-2	Reporting of Item and Packaging Discrepancies
DA Form 2028	Recommended Changes to Publications and Blank Forms
DA Form 2028-2	Recommended Changes to Equipment Technical Publications
DA Form 2407	Maintenance Request Form
DA Form 2408-9	Equipment Control Record
DA Pam 25-30	Consolidated Index of Army Publications and Blank Forms
DA Pam 738-750	The Army Maintenance Measurement System (TAMMS)
SF 361	Transportation Discrepancy Report (TDR)
SF 364	Report of Discrepancy (ROD)

A-3 FIELD MANUALS

FM-21-11	First Aid For Soldiers
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A-4 TECHNICAL MANUALS

TB 11-7010-326-30	Warranty Program For Computer Set, Digital AN/UYK - 128(V)1 NSN 7010-01-475-5277 and AN/UYK - 128(V)2 NSN 7010-01- 475-5275
TB 385-4	Safety Precautions During The Maintenance of Electrical/ Electronic Equipment
TM 11-7010-326-10	Operator's Manual Computer Set, Digital AN/UYK-128(V)
TM 11-7010-326-20&P	Unit Maintenance Manual Computer Set, Digital AN/UYK-128(V)
TM 43-0158	Care And Handling of Electronic Equipment
TM 750-244-2	Procedures for Destruction of Equipment to Prevent Enemy Use

A-5 MISCELLANEOUS PUBLICATIONS

AR 55-38	Reporting of Transportation Discrepancies in Shipment
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APPENDIX B

REPAIR PARTS AND SPECIAL TOOLS LIST

There are no requirements for repair parts at this time. No special tools have been identified.

APPENDIX C

EXPENDABLE AND DURABLE ITEMS LIST

SECTION I. EXPENDABLE SUPPLIES AND DURABLE SUPPLIES

C-1 SCOPE

This listing is for information purposes only. It does not give the authority to requisition the listed items below.

C-2 EXPLANATION OF COLUMNS

- a. Column (1)-Item Number. This number is assigned to the entry in the listing.
- b. Column (2)-Level. This column identifies the lowest level of maintenance that requires the listed item.
 - C – Operator/Crew
 - O – Unit 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 and requisition the item.
- d. Column (4)-Description. Indicates the Federal Item name. The line for each item indicates the part number.
- e. Column (5)-Unit of Measure (U/M). Indicates the measure used in performing the actual maintenance function. If the unit of measure differs from the unit of issue, requisition the lowest unit of issue that will satisfy your requirements.

SECTION II. EXPENDABLE SUPPLIES AND DURABLE SUPPLIES

(1) Item Number	(2) Level	(3) National Stock Number	(4) DESCRIPTION	(5) (U/M)/ (U/I)
1	C	7920-00-205-1711	Rag, Wiping, Cotton and Cotton Synthetic (81348) DDD-R-30, Grade B (58536) A-A-531	LB

APPENDIX D

TOOL LIST

D-1 SCOPE

This appendix lists all common tool and supplements and special tools/fixtures needed to maintain the AN/UYK-129(V) computer.

D-2 EXPLANATION OF COLUMNS

- a. Column (1)-Item Number. This number is assigned to the entry in the list and is referenced in the initial setup to identify the item.
- b. Column (2)-Item Name. This column lists the item by noun nomenclature and other descriptive features.
- c. Column (3)-National Stock Number. This is the National Stock Number assigned to the item; use it to request and requisition the item.
- d. Column (4)-Part Number. Indicates the primary number used by the manufacturer (individual, company, firm, corporation, or Government activity) which controls the design and characteristics of the item by means of its engineering drawings, specifications, standards, and inspection requirements to identify an item or range of items.
- e. Column (5)-Reference. This column identifies the authorizing supply catalog or RPSTL for items listed in this appendix.

Table D-1. Tool List

(1) ITEM NO.	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) REFERENCE
1	CTX Video Monitor		MD935A	TM 11-7010-326-30&P
2	Keyboard		ACK500	TM 11-7010-326-30&P
3	Ribbon Cable Adapter		8900-0732- 0000	TM 11-7010-326-30&P
4	Ribbon Cable Adapter		59399-1	TM 11-7010-326-30&P
5	IDE Hard Drive Software Duplicator		D105	TM 11-7010-326-30&P
6	IDE Software Disk		IDE Datafast	TM 11-7010-326-30&P
7	Power Cable			TM 11-7010-326-30&P
8	Ribbon Cable			TM 11-7010-326-30&P
9	Processor Unit	7021-01-474-3793 or 7021-01-487-0578	881292-1 881292-2	TM 11-7010-326-30&P

Table D-1. Tool List (Continued)

(1) ITEM NO.	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) REFERENCE
10	RHDDC (with FBCB2 software Installed)	7025-01-474-3789 or 7025-01-487-0580	881297-1 881297-2	TM 11-7010-326-30&P
11	Display Unit	7025-01-475-0280	881299-1,-2	TM 11-7010-326-30&P
12	Keyboard Unit	7025-01-474-3792	881298-1	TM 11-7010-326-30&P
13	Processor Unit	7021-01-475-0217 or 7021-01-487-0579	881291-1 881291-3	TM 11-7010-326-30&P
14	RHDDC (with FBCB2 software Installed)	7025-01-474-5753	881296-1	TM 11-7010-326-30&P
15	Display Unit	7025-01-475-0229	881293-1,-2	TM 11-7010-326-30&P
16	Keyboard Unit	7025-01-474-3791 or 7025-01-487-0581	881295-1 881295-3	TM 11-7010-326-30&P
17	Touchscreen stylus and Tether	7520-01-484-1219	59848-1	TM 11-7010-326-30&P
18	Cable Assembly, W1	5995-01-478-4908	866004-1	TM 11-7010-326-30&P
19	Cable Assembly, W2	5995-01-478-4876	881327-1	TM 11-7010-326-30&P
20	Cable Assembly, W3	4920-01-478-3722	881331-1	TM 11-7010-326-30&P
21	Cable Assembly, W3P	5995-01-478-4891	881335-1	TM 11-7010-326-30&P
22	Cable Assembly, W3N	5995-01-478-4913	881336-1	TM 11-7010-326-30&P
23	PLGR	5825-01-395-3513	AN/PSN-11	TM 11-7010-326-30&P
24	External Antenna	5985-01-375-4660	013-1925-030	TM 11-7010-326-30&P
25	Antenna Cable	6150-01-375-8661	426-0140-050	TM 11-7010-326-30&P
26	Power Cable	6150-01-375-8661	9728558-10	TM 11-7010-326-30&P
27	VAA	5895-01-464-6017	AM-7239E	TM 11-7010-326-30&P
28	Receiver - Transmitter	5820-01-444-1219	RT-1523E	TM 11-7010-326-30&P
29	Mounting Base		MT-6352A	TM 11-7010-326-30&P
30	Antenna Cable		A3014031-8	TM 11-7010-326-30&P
31	Antenna		AS-3900/VRC	TM 11-7010-326-30&P
32	EPLRS	5820-01-457-0012	RT-1720C	TM 11-7010-326-30&P
33	Power Adapter	6130-01-461-9310		TM 11-7010-326-30&P
34	URU	5895-01-452-1222		TM 11-7010-326-30&P
35	URU	7021-01-177-0789		TM 11-7010-326-30&P
36	URU Cable	5995-01-417-8085		TM 11-7010-326-30&P

Table D-1. Tool List (Continued)

(1) ITEM NO.	(2) ITEM NAME	(3) NATIONAL STOCK NUMBER	(4) PART NUMBER	(5) REFERENCE
37	Power Cable		A3004939	TM 11-7010-326-30&P
38	INC Cable		A3279383-3	TM 11-7010-326-30&P
39	Base Antenna	5985-01-166-9128	A3005067-1	TM 11-7010-326-30&P
40	Antenna Element	5985-01-288-9873	A3005068-1	TM 11-7010-326-30&P
41	Antenna Cable		SM-C-911480	TM 11-7010-326-30&P

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SOMETHING WRONG WITH THIS PUBLICATION?

THEN...JOT DOWN THE INFO ABOUT IT ON THIS FORM. CAREFULLY TEAR IT OUT. FOLD IT AND DROP IT IN THE MAIL.

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

Co. B, 1st BN, 2nd Brigade
Ft. Hood, TX 76445

DATE SENT 16 July 2001

PUBLICATION NUMBER
TM 11-7010-326-30&P

PUBLICATION DATE
07 September 2001

PUBLICATION TITLE
Direct Support Maintenance Manual
Computer Set, Digital AN/UYP-128(V)

BE EXACT PIN-POINT WHERE IT IS

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

PAGE NO	PARA-GRAPH	FIGURE NO	TABLE NO
2-7		2-1	
2-5	2-5.2		
2-26		2-4	

Item 14. The NSN and P/N are not listed in the RPSTL. Request correct NSN and P/N be furnished.

Step a should be changed to read: "Visually inspect outer surface of PU for dents, gouges, or cracks."

Title does not list NSN for current fielded hardware.

SAMPLE

TEAR ALONG DOTTED LINE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

John Doe SGT 532-8321

SIGN HERE

John Doe

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Ft. Hood, TX 76445

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Commander
US Army Communications-Electronics Command and Fort Monmouth
ATTN: AMSEL-LC-LEO-D-CS-CFO
Fort Monmouth, New Jersey 07703-5006

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		DATE SENT	
PUBLICATION NUMBER TM 11-7010-326-30&P	PUBLICATION DATE 07 September 2001	PUBLICATION TITLE Direct Support Maintenance Manual Computer Set, Digital AN/UYK-128(V)	
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PAGE NO	PARA-GRAPH		FIGURE NO
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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

1 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

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

WEIGHTS

1 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

CUBIC MEASURE

1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches
 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

LIQUID MEASURE

1 Millimeter = 0.001 Liters = 0.0338 Fluid Ounces
 1 Liter = 1000 Milliliters = 32.82 Fluid Ounces

TEMPERATURE

$5/9(^{\circ}\text{F}-32) = ^{\circ}\text{C}$
 212° Fahrenheit is equivalent to 100° Celsius
 90° Fahrenheit is equivalent to 32.2° Celsius
 32° Fahrenheit is equivalent to 0° Celsius
 $9/5\ ^{\circ}\text{C} + 32 = ^{\circ}\text{F}$

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
Pints.....	Liters.....	0.473
Quarts.....	Liters.....	0.946
Gallons.....	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
Liters.....	Gallons.....	0.264
Grams.....	Ounces.....	0.035
Kilograms.....	Pounds.....	2.205
Metric Tons.....	Short Tons.....	1.102
Newton-Meters.....	Pound-Feet.....	0.738
Kilopascals.....	Pounds per Square Inch.....	0.145
Kilometers per Liter.....	Miles per Gallon.....	2.354
Kilometers per Hour.....	Miles per Hour.....	0.621

