

**OPERATOR'S, UNIT AND DIRECT SUPPORT
MAINTENANCE MANUAL**

**SATELLITE COMMUNICATIONS SET
AN/USC-28(V)
(NSN 5895-01-089-7518) (EIC: LAF)**

DEPARTMENTS OF THE ARMY, THE NAVY, AND THE AIR FORCE

1 MAY 1994



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

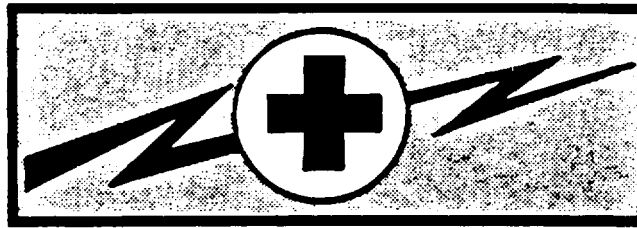
IF YOU CANNOT TURN OFF THE ELECTRICAL POWER, PULL, PUSH OR LIFT THE PERSON TO SAFETY USING A DRY WOODEN POLE OR A DRY ROPE OR SOME OTHER INSULATING MATERIAL

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 the technician is aided by operators, he must warn them about dangerous areas.

Whenever possible, the power supply to the equipment must be shut off before beginning work on the equipment. Take particular care to ground every capacitor likely to hold a dangerous potential. When working inside the equipment, after 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 Artificial Respiration, refer to FM 21-11.

B

Technical Manual
 No. 11-5895-808-13-5
 Technical Manual
 NAVELEX 0967-LP-640-9050
 Technical Order
 No. 31R2-2USC28-1-5

DEPARTMENTS OF THE ARMY,
 THE NAVY, AND THE AIR FORCE

Washington, DC, 1 May 1994

**Operator's, Unit and Direct Support Maintenance Manual
 SATELLITE COMMUNICATIONS SET ANIUSC-28(V)
 (NSN 5895-01-089-7518) (EIC: LAF)**

This series consists of nine manuals; each manual has a separate content. This manual contains appendixes A through F, the glossary and the index. TM 11-5895-808-13-1 contains chapters 1, 2 and 3. TM 11-5895-808-13-2 contains chapter 4. TM 11-5895-808-13-3 contains chapter 5. TM 11-5895-808-13-4 contains classified information. TM 11-5895-808-13-6 contains appendixes G and H, and TM 11-5895-808-13-7 contains appendixes I through K. TM 11-5895-808-13-9 contains chapters 6 through 10. The entire table of contents is in table 1.

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, TO 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.

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

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APPENDIX A

REFERENCES

This appendix contains a consolidated listing of all documents referenced in this series of manuals.

Document type	Identification number	Title
DA Pamphlet Air Force Publication Technical Manual	DA Pam 738-750 AFR 66-1 TM 750-244-2	The Army Maintenance Management System (TAMMS) Maintenance Reporting (no title) Procedures for Destruction of Electronics Materiel to Prevent Enemy Use (Electronic-Command)
Air Force Publication	AFTO FORM 22	Technical Order System Publication Improvement Report and Reply
Form	DA FORM 2028	Recommended Changes to Publications and Blank Forms
Form	DA FORM 2028-2	Recommended Changes to Equipment Technical Publications
Technical Order	TO-00-35D54	Unsatisfactory Equipment Reporting
Form	SF 361	Discrepancy in Shipment Report
Form	MCO 4610.19C	
Form	DLAR 4500.15	
Form	SF 368	Product Quality Deficiency Report
Form	SF 364	Report of Discrepancy (ROD)

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APPENDIX B

COMPONENTS OF END ITEM LIST

Section I. INTRODUCTION

B-1. Scope

This appendix lists integral components of and basic issue items for the AN/USC-28(V) to help you inventory items required for safe and efficient operation.

B-2. General

This Components of End Item List is divided into the following sections:

a. Section II *Integral Components of End Item.*

These items, when assembled, comprise the AN/USC-28(V) and must accompany it whenever it is transferred or turned in. The illustrations will help you identify these items.

b. Section III *Basic Issue Items.* These are the minimum essential items required to place the AN/USC-28(V) in operation, to operate it, and to perform emergency repairs. Although shipped separately packed they must accompany the AN/USC-28(V) during operation and whenever it is transferred between accountable officers. The illustrations will assist you with hard-to-identify items. This manual is your authority to requisition replacement BII, based on TOE/MTOE authorization of the end item.

B-3. Explanation of Columns

a. *Illustration.* This column is divided as follows:

(1) *Figure number.* Indicates the figure number of the illustration on which the item is shown.

(2) *Item number.* The number used to identify item called out in the illustration.

b. *National Stock Number.* Indicates the National stock number assigned to the item and which will be used for requisitioning.

c. *Part Number.* Indicates the primary number used by the manufacturer, 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. Following the part number, the Federal

Supply Code for Manufacturers (FSCM) is shown in parentheses.

d. *Description.* Indicates the Federal item name and, if required, a minimum description to identify the item.

e. *Location.* The physical location of each item listed is given in this column. The lists are designed to inventory all items in one area of the major item before moving on to an adjacent area.

f. *Usable on Code.* "USABLE ON" codes are included to help you identify which component items are used on the different models. Identification of the codes used in these lists are:

Code	Used On
DV8	AN/USC-28(V)1
DV9	AN/USC-28(V)2
DWA	AN/USC-28(V)3
DWB	AN/USC-28(V)4
DWC	AN/USC-28(V)5
DWD	AN/USC-28(V)6
DWE	AN/USC-28(V)7
DWF	AN/USC-28(V)8
DWG	AN/USC-28(V)9
DWH	AN/USC-28(V)10
DWJ	AN/USC-28(V)11
DWK	AN/USC-28(V)12
DWL	AN/USC-28(V)13
DWM	AN/USC-28(V)14
DWN	AN/USC-28(V)15
DWP	AN/USC-28(V)16
DWQ	AN/USC-28(V)17

g. *Quantity Required (Qty Reqd).* This column lists the quantity of each item required for a complete major item. When the entry in this column is "V" for a component of end item, the quantity required for your end item is as follows:

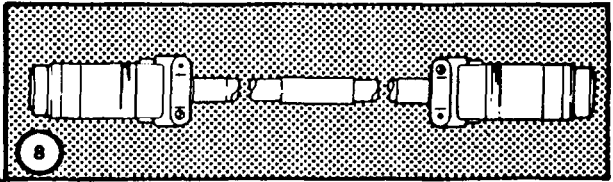
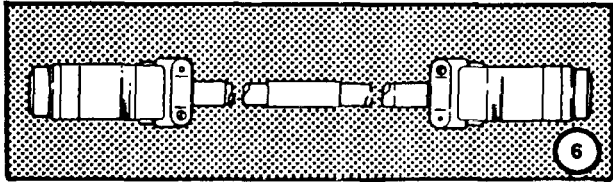
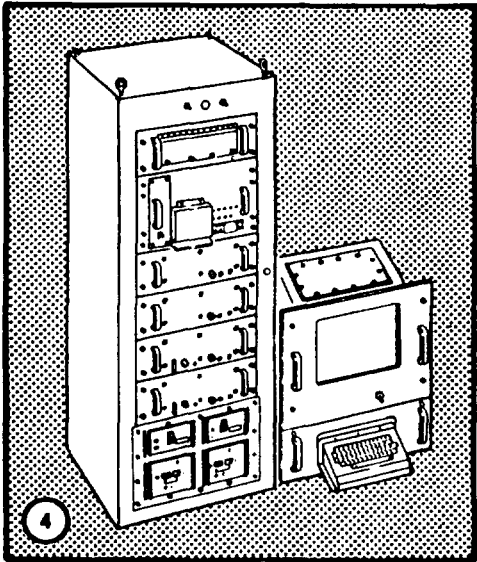
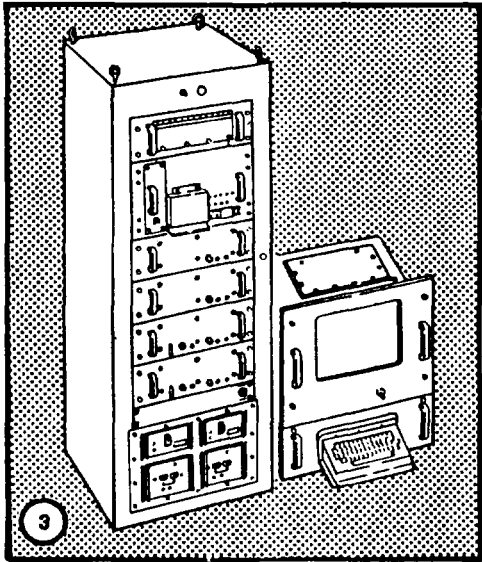
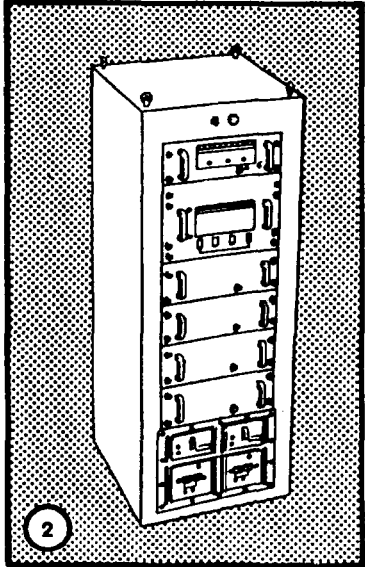
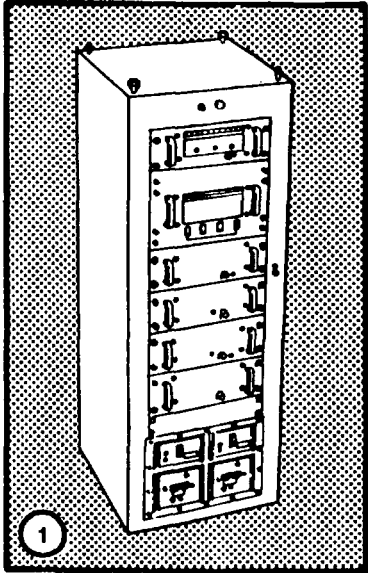
Usable On Code	Qty rqr
DV8	1
DV9	1
DVA	1

*Usable On
Code*

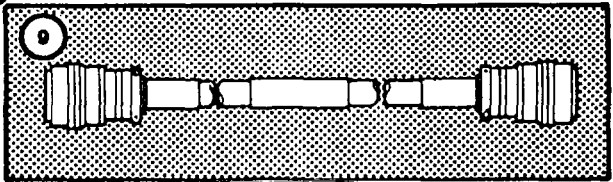
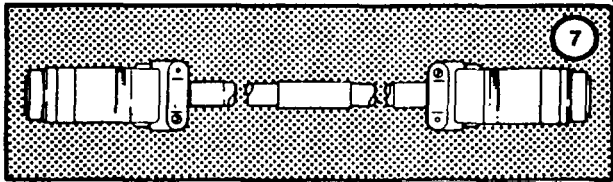
Qty rqr

DWB	1
DWC	2
DWD	2
DWE	2
DWF	2
DWG	3
DWH	3
DWJ	3
DWK	3
DWL	4
DWM	4
DWN	4
DWP	4
DWQ	1

h. Quantity. This column is left blank for use during an inventory. Under the Rcvd column, list the quantity you actually receive on your major item. The Date columns are for your use when you inventory the major item at a later date; such as for shipment to another site



5

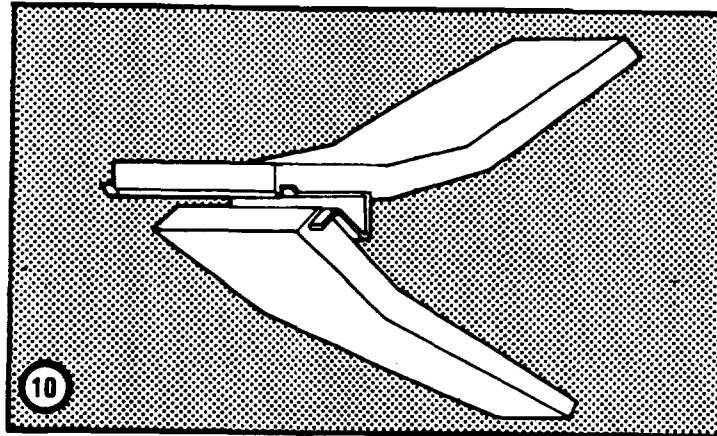


EL70U001

Section II. COMPONENTS OF END ITEM

(1) Illus Number	(2) National Stock Number	(3) Description FSCM and Part Number	Usable On Code	(4) U/M	(5) Qty rqr
1	5895-01-108-9272	COMM R/T UNIT (12813) 767638	DV8-DWN	EA	V
2	5895-01-108-9272	COMM R/T UNIT: Airborne (12813) 767638	DWQ	EA	1
3	5895-01-108-9326	CONTROL SYNCHRONIZATION UNIT (12813) 767637	DV8-DWP	EA	1
4	5895-01-108-9326	CONTROL SYNCHRONIZATION UNIT: Airborne (12813) 76737	DWQ	EA	1
5		INTERCONNECTION CABLE GROUP: Includes W3100, W4100, W5100, and W5101 (12813) 767760	DV8-DWN		
6		ELECTRONIC CABLE ASSEMBLY: W4100 (12813) 768110	DV8-DWN, DWQ	EA	V
7		ELECTRONIC CABLE ASSEMBLY: W5100 (12813) 768210	DV8-DWN, DWQ	EA	V
8		ELECTRONIC CABLE ASSEMBLY: W5101 (12813) 768214	DV8-DWN, DWQ	EA	V
9		RF Cable Assembly: W3100 (12813)768010	DV8-DWN, DWQ	EA	V

Section III. BASIC ISSUE ITEMS



EL70U002

(1) Illus	(2) National Stock Number	(3) Description FSCM and Part Number	Usable On Code	(4) U/M	(5) Qty rqr
10		CLIP TOOL: Flex Circuit (07241) 50200847 TECHNICAL MANUAL: Operation and Maintenance Instructions TM 11-5895-808-13-1 TECHNICAL MANUAL: Operation and Maintenance Instructions TM 11-5895-808-13-2 TECHNICAL MANUAL: Operation and Maintenance Instructions TM 11-5895-808-13-3 TECHNICAL MANUAL: Operation and Maintenance Instructions TM 11-5895-808-13-4 TECHNICAL MANUAL: Operation and Maintenance Instructions TM 11-5895-808-13-5	DV8-DWq DV8-DWQ DV8-DWQ DV8-DWQ DV8-DWQ DV8-DWQ	EA EA EA EA EA	1 1 1 1 1 1

Section III. BASIC ISSUE ITEMS - CONTINUED

(1) Illus	(2) National Stock Number	(3) Description FSCM and Part Number	Usable On Code	(4) U/M	(5) Qty rqr
		TECHNICAL MANUAL: Operation and Maintenance Instructions TM 11-5895-808-13-6	DV8-DWQ	EA	1
		TECHNICAL MANUAL: Operation and Maintenance Instructions TM 11-5895-808-13-7	DV8-DWQ	EA	1
		TECHNICAL MANUAL: Operation and Maintenance Instructions TM 11-5895-808-13-8	DV8-DWQ	EA	1
		TECHNICAL MANUAL: Operation and Maintenance Instructions (Airborne) TM 11-5895-808-13-9	DMQ	EA	1
		TECHNICAL MANUAL: Repair Parts and Special Tools List TM 11-5895-808-23P		EA	1

APPENDIX D

MAINTENANCE ALLOCATION CHART

D-1. General

This appendix provides a summary of the maintenance operations for AN/USC-28(V). 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.

D-2. Maintenance Function

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. Align. 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 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, align, 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 a part, subassembly, module (component or assembly), end item, or system.

J. Overhaul. That maintenance effort (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.

D-3. Column Entries

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 of complexity of the tasks within the listed maintenance function vary 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. Sub-columns of column 4 are as follows:

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

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.

D-4. Tool and 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 to 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.

D-5. Remarks (Sect. 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 I.

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
00	Satellite Communications Set AN/USC-28(V)	Inspect		0.1	0.1				A, N
		Service		0.4				1	B
		Test		0.1					
		Repair		0.2				1,16-48	C
		Test			0.4			1-14,56	L
		Repair			0.2			1-49	D
01	Control Synchronization Group OK-500(V)/ USC28(V) 76737	Inspect		0.1	0.1				A, N
		Service		0.4				1	B
		Test		0.1					
		Repair		0.2				1,16-48	C
		Test			0.4			1-14	
		Repair			0.2			1-49	D
0101	Control Synchronization Group OK-500(V)/ USC-28(V) 767637-813	Inspect		0.1	0.1			1	A, N
		Service		0.4				1	B
		Test		0.1					
		Repair		0.2				1-16,48	C
		Test			0.4			1-14	
		Repair			0.2			1-49	D
010101	Cabinet Electrical CY-7829/USC-28(V) 932030-810	Inspect			0.1				A, N
		Replace			1.0			1, 39	
		Repair					X		F
01010101	Harness Assy 466989-801	Inspect			0.1				
		Test			1.0			2, 39	
		Repair			0.5			16-43	
		Replace					X		F
010102	Converter-Panel Patching CV-3401(V)/USC-28(V) 767639-210	Inspect			0.1			1	A, N
		Test			0.3			1, 7-14	
		Repair			0.1			1, 53	C
		Repair			0.2				D
		Repair					X		E
01010201	Transmit IF Amplifier Module 767827-810	Inspect			0.1			1, 15	
		Replace			0.1			1, 15	
		Test					X		F
		Repair					X		F
		D-3							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
010102	Transmit IF Amplifier Module	Same as 01010201							
02 01010203	Transmit IF Amplifier Module	Same as 01010201							
01010204	Transmit IF Amplifier Module	Same as 01010201							
01010205	Receive IF Amplifier Module 767828-810	Inspect Test Replace Repair			0.1 0.1		X X	1, 15 1, 15	
01010206	Receive IF Amplifier Module	Same as 01010205							
01010207	Receive IF Amplifier Module	Same as 01010205							
01010208	Receive IF Amplifier Module	Same as 01010205							
01010209	Distribution Amplifier 4 Module 767826-810	Inspect Test Replace Repair			0.1 0.1		X X	1, 15	
01010210	Fan Assembly 900552-801	Inspect Replace Repair			0.1 0.1 0.1			1 1	
010102 11	Chassis Assembly 914126-801	Inspect Replace Repair Repair			0.1 0.2 0.2		X	1,15,39 1,17,20 22, 29, 34, 40, 43, 51	E H
		D-4							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
010103	Processor, Computer CP-1 275/U	Inspect			0.1			1	A, N
		Service		0.2				1	B
		Test			0.5				
		Test					X		F
		Repair		0.1				1, 53	C
		Repair			0.4			1, 53	
		Repair					x		
01010301	Cassette Transport Assembly 767646-811	Inspect			0.1				
		Service		0.2					
		Test					X		F
		Replace			0.1			1	
01010302	Shift Gates Board (CCA) 916487-811	Repair					X		F
		Inspect			0.1				
		Test					X		F
01010302	Shift Gates Board (CCA) 916487-811	Replace			0.1			1, 56	
		Repair					X		F
		Inspect			0.1				
01010103	CPU Board (CCA) 916476-811	Test					X		F
		Replace			0.1			1, 56	
		Repair					X		F
		Inspect			0.1				
01010304	CPU Board (CCA) 916476-811	Same as 01010303							
01010305	Memory Gating Board (CCA) 916474-812	Inspect			0.1				
		Test					X		F
		Replace			0.1			1, 56	
		Repair					X		
		D-5							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010306	Skip Logic Board (CCA) 916480-812	Inspect			0.1				F
		Test					X	1, 56	
		Replace			0.1				
01010307	Accumulator Gating Board (CCA) 916475-812	Repair					X		F
		Inspect			0.1			1, 56	
		Test					X		
01010308	Timing Logic Board (CCA) 916483-811	Replace			0.1				F
		Repair					X	1, 56	
		Inspect			0.1				
01010309	Decoder 2 Board (CCA) 916485-812	Test			0.1				F
		Replace					X	1, 56	
		Repair			0.1				
01010310	Register Clock Board (CCA) 916477-811	Inspect			0.1				F
		Test					X	1, 56	
		Replace			0.1				
01010311	Long Instruction Counter Bd (CCA) 916478-812	Repair					X		F
		Inspect			0.1			1, 56	
		Test					X		
01010312	Control Flip-Flop Board (CCA) 916482-812	Replace			0.1				F
		Repair					X	1, 56	
		Inspect			0.1				
		D-6							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010313	Control Panel Logic Board (CCA) 916486-812	Inspect			0.1				F
		Test				X			
		Replace			0.1			1, 56	
01010314	I/O Data Board (CCA) 916481-811	Repair					X		F
		Inspect			0.1				
		Test				X		1, 56	
01010315	Interrupt Scanner Board 916479-811	Replace			0.1				F
		Repair					X		
		Inspect			0.1				
01010316	Status Logic Board (CCA) 916489-811	Test					X		F
		Replace			0.1			1, 56	
		Repair					X		
01010317	I/O Buffer Board (CCA) 916488-811	Inspect			0.1				F
		Test					X		
		Replace			0.1			1, 56	
01010318	Cassette Controller Board (CCA) 768002-810	Repair					X		F
		Inspect			0.1				
		Test					X	1, 56	
01010319	IU/TTY Interface Board 767649-810	Replace			0.1				F
		Repair					X		
		Inspect			0.1			1, 56	
		D-7							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010320	IU/TTY Interface Board (CCA)	Same as 01010319							
01010321	IU/TTY Interface Board (CCA)	Same as 01010319							
01010322	Computer Memory Module (CCA) 626453-21	Inspect Test Replace Repair			0.1 0.1		X X	1	F F
01010323	Computer Memory Module (CCA)	Same as 01010322							
01010324	Computer Memory Module (CCA)	Same as 01010322							
01010325	Computer Memory Module (CCA)	Same as 01010322							
01010326	Cooling Unit Assembly 768392-811	Inspect Test Replace Repair			0.1 0.1 0.1 0.2			1 1	
01010327	Power Supply Assembly 535164-811	Inspect Test Adjust Replace Repair			0.1 0.1		X X X		F F F
01010328	Chassis Assembly 916467-811	Inspect Replace Repair Repair D-8		0.2	0.1		X X	1,16,18, 21, 46, 52, 55	E H

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010329	Decoder 1 Board 916484-811	Inspect Replace Test Repair			0.1 0.1			1, 56	F F
010104	Receiver-Synthesizer R-2027(V)1/USC-28(V)	Inspect Test Repair Repair Repair			0.1 0.4 0.1 0.2		X	1 1,14,10 1, 53	A, N C D
01010401	Coder 1 Board (CCA) 767463-810	Inspect Test Replace Repair			0.1 0.1		X X	1, 15	F F
01010402	Clock IPM Board (CCA) 767681-810	Inspect Test Replace Repair			0.1 0.1		X X	1, 15	F F
01010403	Clock IPM Board (CCA)	Same as 01010402							
01010404	Clock IPM Board (CCA)	Same as 01010402							
01010405	AFI Interface 1 Board (CCA) 767503-810	Inspect Test Replace Repair			0.1 0.1		X X	1, 15	F F
01010406	AFI Interface 1 Board (CCA)	Same as 01010405 D-9							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET ANIUSC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010407	Carrier IPM Board (CCA) 767685-810	Inspect			0.1				
		Test				X			
		Replace			0.1			1, 15	F
		Repair					X		F
01010408	Data Director 1 Board (CCA) 767535-810	Inspect			0.1				
		Test				X			F
		Replace			0.1			1, 15	F
		Repair					X		F
01010409	Data Director 2 Board (CCA) 767539-810	Inspect			0.1				
		Test				X			F
		Replace			0.1			1, 15	F
		Repair					X		F
01010410	Data Director 3 Board (CCA) 767543-810	Inspect			0.1				
		Test				X			F
		Replace			0.1			1, 15	F
		Repair					X		F
01010411	Frequency Synthesizer 1 Bd (CCA) 767555-810	Inspect			0.1				
		Test				X			F
		Replace			0.1			1, 15	
		Repair					X		
01010412	Orderwire Demod 5 Board (CCA) 814120-801	Inspect			0.1				
		Test				X			
		Replace			0.1			1, 15	
		Repair					X		
01010413	Orderwire Demod 6 Board Z14121-801	Inspect			0.1				
		Test				X			
		Replace			0.1			1, 15	
		Repair					X		
		D-10							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010422	Harness Assembly	Inspect			0.1			1	E
		Test			0.5			1, 2	
		Replace					X		
		Repair					X		
01010423	Key Generator KGV-9	Repair			0.2			1,20,29 34, 40 43, 51	J
		Repair						1, 15	
01010424	Carrier IPM Board (CCA) 767685-810	Same as 01010407							
01010425	Time/Data Initializer Board	Inspect			0.1			1, 15	F
		Replace			0.1				
		Test					X		
010105	Fault Locator-Receiver TS-3612(V)1/USC-28(V)	Inspect			0.1			1	C D
		Test			0.5			1, 4, 7 10	
		Repair			0.1			1, 53	
		Repair			0.2				
01010501	AFI 1 Board (CCA) 767587-810	Repair							
		Inspect			0.1				
		Test					X		
01010502	AFI 2 Board (CCA) 767591-810	Replace			0.1			1, 15	F F
		Repair					X		
		Repair			0.1			1, 15	
		D-12							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010513	Time Generator 1 Board 767499-810	Inspect			0.1			1, 15	F
		Test				X			F
		Replace		0.1			X		
01010514	Time Generator 2 Board (CCA) 767689-810	Inspect			0.1			1, 15	F
		Test				X			F
		Replace		0.1			X		
01010515	Distribution Amplifier 1 BD (CCA) 767571-810	Inspect			0.1			1, 15	F
		Test				X			F
		Replace		0.1			X		
01010516	Distribution Amplifier 2 BD (CCA) 767575-810	Inspect			0.1			1, 15	F
		Test				X			F
		Replace		0.1			X		
01010517	Antenna Tracking Board (CCA) 767625-810	Inspect			0.1			1, 15	F
		Test				X			F
		Replace		0.1			X		
01010518	AFI 4 Board (CCA) 767599-810	Inspect			0.1			1, 15	F
		Test				X			F
		Replace		0.1			X		
01010519	AFI 5 Board (CCA) 767583-810	Inspect			0.1			1, 15	F
		Test				X			F
		Replace		0.1			X		
		D-14							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010520	AFI 6 Board (CCA) 767567-810	Inspect			0.1			1, 15	F
		Test				X			
		Replace			0.1				
		Repair				X			F
01010521	Fan Assembly	Same as 01010210							
01010522	Coder 2 Board (CCA)	Same as 01010416							
01010523	Local Reference Module (CCA)	Same as 01010415							
01010524	Orderwire Demod 2 Board (CCA)	Same as 01010413							
01010525	Orderwire Demod Board (CCA)	Same as 01010412							
01010526	Beacon Logic Board (CCA) 919528-801	Inspect			0.1			1, 15	F
		Test				X			
		Replace			0.1		X		
		Repair							F
01010527	Beacon Timing Board (CCA)	Inspect			0.1			1, 15	F
		Test				X			
		Replace			0.1		X		
		Repair							F
01010528	Beacon RF Board (CCA)	Inspect			0.1			1, 15	F
		Test				X			
		Replace			0.1		X		
		Repair							F
		D-15							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010529	Coder 3 Board (CCA)	Same as 01010414							
01010530	Chassis Assembly 914128-801	Inspect Replace Repair Repair			0.1 0.4 0.2			1 1, 15 X 1,20,29 34, 40, 43, 51	E H
01010531	Harness Assembly 466984-801	Inspect Test Replace Repair Repair			0.1 0.5 0.2			1 1, 2 X X 1,20,29 34, 40, 43, 51	E E H
01010532	Key Generator	Same as 01010423							
010106	Receiver-Transmitter, Dig Data RT-1207(V)1/ USC-28(V)	Inspect Test			0.1 0.4			1 1,4, 5, 7-14	A,H
01010601	Coder 1 Board (CCA)	Same as 01010401							
01010602	Coder 1 Board (CCA)	Same as 01010401							
01010603	Clock IPM Board (CCA)	Same as 01010402 D-16							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010604	AFI Interface 1 Board (CCA)	Same as 01010405							
01010605	AFI Interface 1 Board (CCA)	Same as 01010405							
01010606	Carrier IPM Board (CCA)	Same as 01010407							
01010607	Orderwire Interface Board 767664-810	Inspect Test Replace Repair			0.1 0.1		X X	1, 15	F F
01010608	Data Director 3 Board (CCA)	Same as 01010410							
01010609	Fan Assembly	Same as 01010210							
01010610	Orderwire Demod 1 Board (CCA)	Same as 01010412							
01010611	Orderwire Demod 2 Board (CCA)	Same as 01010413							
01010612	Orderwire 2 Board (CCA)	Same as 01010416							
01010613	Coder 2 Board (CCA)	Same as 01010416							
01010614	Modulator/Attenuator Module 767851-810	Inspect Test Replace Repair D-17			0.1 0.1		X X	1, 15	G F F

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010615	Local Reference Module (CCA)	Same as 01010415							
01010616	Coder 3 Board (CCA)	Same as 01010414							
01010617	Chassis Assembly 91429-801	Inspect Replace Repair Repair			0.1 0.4 0.2		X	1,15,39 1,20,29, 34, 40- 43, 51	E H
01010618	Harness Assembly 5/466985-801	Inspect Test Replace Repair Repair			0.1 0.5 0.2		X X	1 1, 2 1,20,29, 34, 40- 43, 51	E E
01010619	Key Generator	Same as 01010423							
01010620	Key Generator	Same as 01010423							
010107	Receiver-Transmitter, Dig Data RT-1207(V)2/	Inspect Test Repair Repair Repair			0.1 0.4 0.1 0.2			1 1,4, 7- 1, 53	A, N C D E
01010701	Coder 1 Board (CCA)	Same as 01010401 D-18							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010702	Coder 1 Board (CCA)	Same as 01010401							
01010703	Clock IPM Board (CCA)	Same as 01010402							
01010704	AFI Interface 1 Board (CCA)	Same as 01010405							
01010705	AFI Interface 1 Board (CCA)	Same as 01010405							
01010706	Carrier IPM Board (CCA)	Same as 01010407							
01010707	Orderwire Interface Board (CCA)	Same as 01010607							
01010708	Data Director 3 Board (CCA)	Same as 01010410							
01010709	Data IPM Board (CCA) 767527-810	Inspect Test Replace Repair			0.1 0.1		X X	1,15	F
01010710	Data IPM Board (CCA) Same as 01010709								
01010711	Orderwire Demod 1 Board (CCA)	Same as 01010412							
01010712	Orderwire Demod 2 Board (CCA)	Same as 01010413							
		D-19							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010713	Coder 2 Board (CCA)	Same as 01010416							
01010714	Order 2 Board (CCA)	Same as 01010416							
01010715	Modulator/Attenuator Module	Same as 01010614							
01010716	Local Reference Module (CCA)	Same as 01010415							
01010717	Coder 3 Board (CCA) 01010414	Same as							
01010718	Receiver Processor 1 (CCA) 767519-810	Inspect Test Replace Repair			0.1 0.1		X X	 1,15	 F F
01010719	Receiver Processor 2 Board (CCA) 767523-810	Inspect Test Replace Repair			0.1 0.1		X X	 1,15	 F F
01010720	Receiver Processor 3 Board (CCA) 76762-810	Inspect Test Replace Repair			0.1 0.1		X X	 1,15	 F F
01010721	Receiver Processor 4 Board (CCA) 7678050-810 Replace	Inspect Test			0.1 0.1		X X	 1,15	 F F
		D-20							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010722	Data Encoder Board (CCA) 767547-810	Inspect			0.1				
		Test					X		F
		Replace			0.1			1,15	F
		Repair					X		
01010723	Baseband I/O Interface Bd (CCA) 767551-810	Inspect			0.1				
		Test					X		F
		Replace			0.1			1,15	F
		Repair					X		
01010724	Fan Assembly	Same as 01010210							
01010725	Chassis Assembly	Same as 01010617							
01010726	Harness Assembly	Same as 01010618							
01010727	Key Generator	Same as 01010423							
01010728	Key Generator	Same as 01010423							
010108	Control Indicator C-1 0738/USC-28(V)	Inspect			0.1			1	A,N
		Service		0.2				1	B
		Test			0.1				
		Test					X		F
		Adjust		0.1				3	
		Replace		0.2				1	
		Repair		0.2				1,44- 50	D,O
Repair					X		F		
		D-21							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010801	Plasma Panel Assembly 70510700-801	Inspect			0.1				A
		Service		0.2					B
		Test			0.1				
		Adjust			0.1			1,3	
		Replace			0.2			1	
		Repair			0.2			1,44-50, 54	
01010108 01	Fan Assembly 7051733	Repair				X		F	
		Inspect			0.1		0.1		
		Replace			0.2				
01010801 02	Cable Assembly, Power 4595077	Replace			0.2				
		Inspect			0.1				
		Test			0.2			1,2	
		Replace			0.1			1	
01010801 03	Serial Port Cable Adapter 4596077	Repair			0.2			1,16,21, 31,44, 47	
		Inspect			0.1				
		Test			0.2			1,2	
		Replace			0.1			1,32,46	
01010801 04	Keyboard Cable 4597077	Repair			0.2			16,21, 32,45, 46	
		Inspect			0.1				
		Test			0.2			1,2	
		Replace			0.1			1,39	
					0.3		16,21, 32,44, 47		
		D-22							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010801 05	Cable Assembly 4602077	Inspect			0.1				
		Test			0.1			1,2	
		Replace			0.3			1,39	
		Repair			0.3			1	
01010801 06	Plasma Display Assembly 7051800	Inspect			0.1				
		Test			0.1				D
		Replace			0.3			1	
		Repair			0.3			1,49,50, 54	D
		Repair					X		F
01010801 061	Wiring Harness 7051863	Inspect			0.1				
		Test			0.5			1,2	
		Replace					X		
		Repair					X		F
		Repair			0.2			1	F
01010801 062	Wiring Harness 7051863-501	Inspect			0.1				
		Test			0.5			1,2	
		Replace					X		F
		Repair			0.2			1	F
01010801 063	Display Subassembly 7052200	Inspect			0.1				
		Test					X		F
		Replace			0.5			1	
		Repair					X		F
		Repair			0.5			1,49,50, 54	
01010801 0631	X-Driver Board 6959700-505	Inspect			0.1				
		Test					X		F
		Replace					X		F
		Repair			0.5			1,49	O
		Repair					X		F
		D-23							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010801 0632	Y-Driver Board 6954900-505	Inspect Test Replace Repair Repair				X X 0.5 X		1,49	F F O F
01010802 02	Keyboard Assembly 7052500	Inspect Test Replace Repair			0.1 0.1 0.1			1,2 1 X	F
01010802 03	Harness Assembly 7052563	Inspect Test Replace Repair			0.1 0.3 0.5 0.3			1,2 1 1	
010109	Power Supply PP-7594/USC-28(V) Replace Repair	Inspect Test 0.1			0.1 0.1		X X		A,H F C F
0101011	Power Supply	Same as 010109							
01010111	Power Supply PP-7268/USC-28(V)	Inspect Test Replace Repair			0.1 0.1 0.1		X		A,N F C
010112	Power Supply	Same as 010111							
01010113	Cable Assembly (CSU-IU) 466997-801 Replace Repair	Inspect Test		0.1 0.1	0.2 0.2			2 39 16,21, 31,32	R
		D-24							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
010114	Battery Assembly 900571-801	Inspect Test Test Replace Repair			0.1 0.1			1,3 1 1	S F F
0102	Control Synchronization Group OK-500(V)2/USC- 28(V) (Mitigated) 767637-816	Inspect Service Test Test Repair Repair		0.1 0.4 0.1 0.2	0.1 0.4 0.2			1 1,14 1,16,48 1,49	A,N B D
01021	Cabinet Electrical	Same as 010101							
01020101	Harness Assembly	Same as 01010101							
010202	Converter-Panel, Patching	Same as 010102							
01020201	Transmit IF Amplifier Module	Same as 01010201							
01010202	Transmit IF Amplifier Module	Same as 01010201							
01010203	Transmit IF Amplifier Module	Same as 01010201							
01020204	Transmit IF Amplifier Module	Same as 01010201							
01010205	Receive IF Amplifier Module	Same as 01010205							
		D-25							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01010206	Receive IF Amplifier Module	Same as 01010205							
01010207	Receive IF Amplifier Module	Same as 01010205							
01010208	Receive IF Amplifier Module	Same as 01010205							
01010209	Distribution Amplifier 4 Module	Same as 01010209							
01010210	Fan Assembly	Same as 01010210							
01010211	Chassis Assembly	Same as 01010211							
01010212	Harness Assembly	Same as 01010212							
01203	Processor Computer	Same as 01010103							
01020301	Cassette Transport Assembly	Same as 101010301							
01020302	Swift Gates Board (CCA) 01010302	Same as							
01020303	CPU Board (CCA)	Same as 01010303							
01020304	CPU Board (CCA)	Same as 01010303							
		D-26							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020305	Memory Gating Board (CCA)	Same as 01010305							
01020306	Skip Logic Board (CCA) 01010306	Same as							
01020307	Accumulator Gating Board (CCA)	Same as 01010307							
01020308	Timing Logic Board (CCA)	Same as 01010308							
01020309	Decoder 2 Board (CCA)	Same as 01010309							
01020310	Register Clock Board (CCA)	Same as 01010310							
01020311	Long Instruction Counter Bd(CCA)	Same as 01010311							
01020312	Control Flip-Flop Board (CCA)	Same as 01010312							
01020313	Control Panel Logic Board (CCA)	Same as 01010313							
01020314	VO Data Board (CCA)	Same as 01010314							
01010315	Interrupt Scanner Board (CCA)	Same as 01010315							
01010316	Status Logic Board (CCA)	Same as 01010316							
		D-27							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020317	I/O Buffer Board (CCA)	Same as 01010317							
01020318	Cassette Controller Board (CCA)	Same as 01010318							
01010319	IU/TTY Interface Board (CCA)	Same as 01010319							
01020320	IU/TTY Interface Board (CCA)	Same as 01010319							
01020321 (CCA)	IU/TY Interface Board	Same as 01010319							
01020322	Computer Memory Module (CCA)	Same as 01010322							
01020323	Computer Memory Module (CCA)	Same as 01010322							
01020324	Computer Memory Module (CCA)	Same as 01010322							
01020325	Computer Memory Module (CCA)	Same as 01010322							
01020326	Cooling Unit Assembly	Same as 01010326							
01020327	Power Supply Assembly	Same as 01010327							
01020328	Chassis Assembly	Same as 01010328 D-28							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
010204	Receiver-Transmitter R-2027/(V)2/USC-28(V)	Inspect Test Replace Repair Repair			0.1 0.4 0.1 0.2			1 1,4-10 1,53	A,H C D E
01020401	Coder 1 Board (CCA)	Same as 01010401							
01020402	Clock IPM Board (CCA)	Same as 01010402							
01020403	Clock IPM Board (CCA)	Same as 01010402							
01020404	Clock IPM Board (CCA)	Same as 01010402							
01020405	AFI Interface 1 Board (CCA)	Same as 01010405							
01020406	AFI Interface 1 Board (CCA)	Same as 01010405							
01020407	Carrier IPM Board (CCA)	Same as 01010407							
01020408	Data Director 1 Board (CCA)	Same as 01010408							
01020409	Data Director 2 Board (CCA)	Same as 01010409							
01020410	Data Director 3 Board (CCA)	Same as 01010410							
		D-29							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020411	Frequency Synthesizer 1 BD (CCA)	Same as 01010411							
01020412	Orderwire Demod 5 Board (CCA) 814120-801	Inspect			0.1				
		Test					X		F
		Replace			0.1				
	Repair					X		F	
01020413	Orderwire Demod 6 Board (CCA) 814121-801	Inspect			0.1				
		Test					X		F
		Replace			0.1				
	Repair					X		F	
01020414	Coder 3 Board (CCA) 767471-811	Inspect			0.1				
		Test					X		F
		Replace			0.1				
	Repair					X		F	
0120415	Local Reference Module 814116-801	Inspect			0.1				
		Test					X		F
		Replace			0.1				
	Repair					X		F	
01020416	Coder 5 Board (CCA) 814113-801	Inspect			0.1				
		Test					X		G
		Replace			0.1				F
	Repair					X		F	
01020417	Time Date Initializer Board (CCA) 819662-801	Inspect			0.1				
		Test					X		F
		Replace			0.1				
	Repair					X		F	
01020418	Frequency Synthesizer 2 Bd (CCA)	Same as 01010417 D-30							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020419	Frequency Synthesizer 3 Bd (CCA)	Same as 01010418							
01020420	Distribution Amplifier 3 Bd (CCA)	Same as 01010419							
01020421	Fan Assembly	Same as 01010420							
01020422	Chassis Assembly 914127-803	Inspect Test Replace Repair			0.1 0.5 0.2		X	1,15,39 1,20,29, 34,40- 43,51	E H
01020423	Harness Assembly 466983-802	Same as 01010422							
01020424	Key Generator	Same as 01010423							
010205	Fault Locator-Receiver TS-3612(V)2JU5C-28(V)	Inspect Test Replace Repair Repair			0.1 0.5 0.1 0.2		1 X 1,53	1,4,7,10	A,H E C D
01020501	AFI 1 Board (CCA)	Same as 01010501							
01020502	AFI 2 Board (CCA)	Same as 01010502							
01020503	AFI 3 Board (CCA)	Same as 01010503							
		D-31							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020504	Coder 1 Board (CCA)	Same as 01010401							
01020505	Clock IPM Board (CCA)	Same as 01010402							
01020506	Clock IPM Board (CCA)	Same as 01010402							
01020507	AFI Interface 1 Board (CCA)	Same as 01010405							
01020508	AFI Interface 1 Board (CCA)	Same as 01010405							
01020509	Carrier IPM Board (CCA)	Same as 01010407							
01020510	AFI Interface 2 Board (CCA)	Same as 01010510							
01020511	AFI Interface 2 Board (CCA)	Same as 01010510							
01020512	Data Director 3 Board (CCA)	Same as 01010410							
01020513	Time Generator 1 Board (CCA)	Same as 01010513							
01020514	Time Generator 2 Board (CCA)	Same as 01010514							
01020515	Distribution Amplifier 1 BD (CCA)	Same as 01010515							
		D-32							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020516	Distribution Amplifier 2 Bd (CCA)	Same as 01010516							
01020517	Antenna Tracking Board (CCA)	Same as 01010517							
01020518	AFI 4 Board (CCA)	Same as 01010518							
01020519	AFI 5 Board (CCA)	Same as 01010519							
01020520	AFI 6 Board (CCA)	Same as 01010520							
01020521	Fan Assembly	Same as 01010210							
01020522	Orderwire Demod 5 Board (CCA)	Same as 01020412							
01020523	Orderwire Demod 6 Board (CCA)	Same as 01020413							
01020524	Coder 5 Board (CCA)	Same as 01020416							
01020525	Local Reference Module (CCA) 814116-801)	Inspect Test Replace Repair			0.1 0.1		X X	1,15	F
01020526	Beacon Timing Board (CCA)	Same as 01010527 D-33							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020527	Beacon RF Board (CCA)	Same as 01010528							
01020528	Coder 3 Board (CCA)	Same as 01020414							
01020529	Beacon Logic Board (CCA) 919528-802	Inspect Test Replace Repair			0.1 0.1		X X	1,15	F
01020530	Chassis Assembly 914128-802	Inspect Replace Repair Repair			0.1 0.4 0.2		X	1 1,15 1,20,29, 34,40- 43,51	E
01020531	Harness Assembly 466984-802	Inspect Test Replace Repair Repair			0.1 0.5 0.2		X X	1 1,2 1,20,29, 34,40- 43,51	E E
01020532	Key Generator	Same as 01010423							
010206	Receiver-Transmitter, Dig Data RT-1207(V)3/ USC-28(V)	Inspect Test Replace Repair Repair D-34	0.1 0.4 0.1 0.2				X	1 1,4,5, 7-14 1,53 1,15	A,H E C D

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020601	Coder 1 Board (CCA)	Same as 01010401							
01020602	Coder 1 Board (CCA)	Same as 01010401							
01020603	Clock IPM Board (CCA)	Same as 01010402							
01020604	AFI Interface 1 Board (CCA)	Same as 01010405							
01020605	AFI Interface 1 Board (CCA)	Same as							
01010405									
01020606	Carrier IPM Board (CCA)	Same as 01010407							
01020607	Orderwire Interface Board (CCA)	Same as 01010607							
01020608	Data Director 3 Board (CCA)	Same as 01010410							
01020609	Fan Assembly	Same as 01010210							
01020610	Orderwire Demod 5 Board (CCA)	Same as 01020412							
01020611	Orderwire Demod 6 Board (CCA)	Same as 01020413							
01020612	Coder 5 Board (CCA)	Same as 01020416							
		D-35							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020613	Coder 5 Board (CCA)	Same as 010204616							
01020614	Modulator/Attenuator Module (CCA) 814114-801	Inspect Test Replace Repair			0.1 0.1		X X	1,15	G F F
01020615	Local Reference Module (CCA)	Same as 01020525							
01020616	Coder 3 Board (CCA)	Same as 01020414							
01020617	Coder 4 Board (CCA) 814118-801	Inspect Test Replace Repair			0.1 0.1		X X	1,15	F F
01020618	Chassis Assembly 914129-802	Inspect Replace Repair Repair			0.1 0.4 0.2		X X	1,15,39 1,20,29, 34,40- 43,51	E H
01020619	Harness Assembly 466985-802	Inspect Test Replace Repair Repair			0.1 0.5 0.2		X X X	1 1,2 1,20,29, 34, 40- 43,51	E E H
01020620	Key Generator	Same as 01010423 D-36							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020621	Key Generator	Same as 01010423							
010207	Receiver-Transmitter, Dig Data RT-1207(V)/	Inspect Test Repair Repair			0.1 0.4 0.1 0.2			1 1,4 7,14 1,53	A,N C D E
01020701	Coder 1 Board (CCA)	Same as 01010401							
01020702	Coder 1 Board (CCA)	Same as 01010401							
01020703	Clock IPM Board (CCA)	Same as 01010402							
01020704	AFI Interface 1 Board (CCA)	Same as 01010405							
01020705	AFI Interface 1 Board (CCA)	Same as 01010405							
01020706	Carrier IPM Board (CCA) 01010407	Same as							
01020707	Orderwire Interface Board (CCA)	Same as 01010607							
01020708	Data Director 3 Board (CCA)	Same as 01010410							
01020709	Data IPM Board (CCA)	Same as 01010709 D-37							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020710	Data IPM Board (CCA)	Same as 010410709							
01020711	Orderwire Demod 5 Board (CCA)	Same as 01020412							
01020712 (CCA)	Orderwire Demod 6 Board	Same as 01020413							
01020713	Coder 5 Board (CCA)	Same as 01020416							
01020714	Coder 5 Board (CCA)	Same as 01020416							
01020615	Modulator/Attenuator Module (CCA)	Same as 01020614							
01020716	Local Reference Module (CCA)	Same as 01020515							
01020717	Coder 3 Board (CCA)	Same as 01020414							
01020718	Coder 4 Board (CCA)	Same as 01020617							
01020719	User Data Processor 1 Board (CCA) 814122-801	Inspect Test Replace Repair			0.1 0.1		X X	 1,15	F F
01020720	User Data Processor 2 Board (CCA) 814124-801	Inspect Test Replace Repair			0.1 0.1		X X	 1,15	F F
		D-38							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020721	User Data Processor 4 (CCA) 814123-801	Inspect			0.1				
		Test					X		F
		Replace			0.1			1,15	
		Repair					X		F
01020722	User Data Processor 3 (CCA) 814125-801	Inspect			0.1				
		Test					X		F
		Replace			0.1			1,15	
		Repair					X		F
01020723	Data Interleaver Board (CCA) 814126-801	Inspect			0.1				
		Test					X		F
		Replace			0.1			1,15	
		Repair					X		F
01020724	Voice Conf Digital Data Bd (CCA) 819676-801	Inspect			0.1				
		Test					X		F
		Replace			0.1			1,15	
		Repair					X		F
01020725	Baseband 1/O0 Interface Bd (CCA)	Same as 01010723							
01020726	Fan Assembly	Same as 01010210							
01020727	Chassis Assembly	Same as 01020618							
01020728	Harness Assembly	Same as 01020619							
01020729	Key Generator	Same as 01010423							
		D-39							

**SECTION II. FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020730	Key Generator	Same as 01010423							
010208	Control Indicator	Same as 010108							
01020801	Plasma Panel Assembly	Same as 01010801							
01020801 01	Fan Assembly	Same as 0101080101							
01020801 02	Cable Assembly, Power Adapter	Same as 0101080102							
01020801 03	Serial Port Cable Adapter	Same as 0101080103							
01020801 04	Keyboard Cable	Same as 0101080104							
01020801 05	Cable Assembly	Same as 0101080105							
01020801 06	Plasma Display Assembly	Same as 0101080106							
01020801 061	Wiring Harness	Same as 01010801061							
01020801 062	Wiring Harness	Same as 01010801062							
01020801 063	Display Subassembly	Same as 01010801063							
		D-40							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01020801 064	SLC Network Board	Same as 01010801064							
01020801 065	Power Supply Assembly	Same as 01010801065							
01020801 066	Display Processor Board	Same as 01010801066							
01020801 067	Voltage Suppressor Board	Same as 01010801067							
01020802	Keyboard Enclosure Assembly	Same as 01010802							
01020802 01	Cable Assembly, Keyboard Ext	Same as 0101080201							
01020802 02	Keyboard Assembly	Same as 0101080202							
01020802 03	Harness Assembly	Same as 0101080203							
010209	Power Supply	Same as 010109							
010210	Power Supply	Same as 010109							
010211	Power Supply	Same as 010111							
010212	Power Supply	Same as 010111							
		D-41							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
010213	Cable Assembly (CSU-IU)	Same as 010113							
010214	Battery Assembly	Same as 010114							
0103	Control Synchronization Group OK-500(V)3/ USC-28(V)(Airborne) 767637-815	Inspect Service Test Test Repair Repair		0.1 0.4 0.1 0.2	0.1 0.4 0.2			1 1,14 1,16,48 1,49	A,H B C D
010301	Cabinet Electrical CY-7874/USC-28(V)	Inspect Replace Repair			0.1 1.0			1, 39	A,H F
01030101	Harness Assembly 466989-802	Inspect Test Replace Repair			0.1 1.0 0.5	1, 2 X		1,39 16,43	F
010302	Converter-Panel, Patching CV-3401 (V)2/USC-28(V)	Inspect Test Repair Repair Repair			0.1 0.3 0.1 0.2			1 1,17-14 1,53	A,N C D E
01030201	Transmit IF Amplifier Module	Same as 01010201							
01030202	Transmit IF Amplifier Module	Same as 01010201							
01030203	Receive IF Amplifier Module	Same as 01010205							
		D-42							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030204	Receive IF Amplifier Module	Same as 01010205							
01030205	Distribution Amplifier 4 Module	Same as 01010209							
01030206	Fan Assembly	Same as 01010210							
01030207	Chassis Assembly	Same as 01010211							
01030208	Harness Assembly	Same as 01010212							
010303	Processor Computer	Same as 010103							
01030301	Cassette Transport Assembly	Same as 01010301							
01030302	Shift Gates Board (CCA)	Same as 01010302							
01030303	CPU Board (CCA)	Same as 01010303							
01030304	CPU Board (CCA)	Same as 01010303							
01030305	Memory Gating Board (CCA)	Same as 01010305							
01030306	Skip Logic Board (CCA)	Same as 01010307							
		D-43							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030307	Accumulator Gating Board (CCA)	Same as 01010307							
01010308	Timing Logic Board (CCA)	Same as 01010308							
01030309	Decoder 2 Board (CCA)	Same as 01010309							
01030310	Register Clock Board (CCA)	Same as 01010310							
01030311	Long Instruction Counter Bd (CCA)	Same as 01010311							
01030312	Control Flip-Flop Board (CCA)	Same as 01010312							
01030313	Control Panel Logic Board (CCA)	Same as 01010313							
01030314	I/O Data Board (CCA)	Same as 01010314							
01030315	Interrupt Scanner Board (CCA)	Same as 01010315							
01030316	Status Logic Board (CCA)	Same as 01010316							
01030317	I/O Buffer Board (CCA)	Same as 01010317							
01010318	Cassette Controller Board (CCA)	Same as 01010318 D-44							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030319	IU/TTY Interface Board (CCA)	Same as 01010319							
01030320	IU/TTY Interface Board (CCA)	Same as 01010319							
01030321	IU/TTY Interface Board (CCA)	Same as 01010319							
01030322	Computer Memory Module (CCA)	Same as 01010322							
01030323	Computer Memory Module (CCA)	Same as 01010322							
01030324	Computer Memory Module (CCA)	Same as 01010322							
01030325	Computer Memory Module (CCA)	Same as 01010322							
01030326	Cooling Unit Assembly	Same as 01010326							
01030327	Power Supply Assembly	Same as 01010327							
01030328	Chassis Assembly	Same as 01010328							
010304	Receiver-Synthesizer R-2027(V)3/USC-28(V)	Inspect Test Repair Repair Repair D-45			0.1 0.4 0.1 0.2			1 1,4,10 1,53	A,N C D E
							X		

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030401	Coder 1 Board (CCA)	Same as 01010401							
01030402	Clock IPM Board (CCA)	Same as 01010402							
01030403	Clock IPM Board (CCA)	Same as 01010402							
01030404 01010402	Clock IPM Board (CCA)	Same as							
01030405	AFI Interface 1 Board (CCA)	Same as 01010405							
01030406	AFI Interface 1 Board (CCA)	Same as 01010405							
01030407	Carrier IPM Board (CCA)	Same as 01010407							
01030408	Carrier IPM Board (CCA)	Same as 01010407							
01030409	Data Director 1 Board (CCA)	Same as 01010408							
01030410	Data Director 2 Board (CCA)	Same as 01010409							
01030411	Data Director 3 Board (CCA)	Same as 01010410							
01030412	Frequency Synthesizer 1 Bd (CCA)	Same as 01010411 D-46							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030413	Local Reference Module (CCA)	Same as 01010415							
01030414	Coder 3 Board (CCA)	Same as 01010414							
01030415	Beacon Interface Board (CCA) 768046-801	Inspect Test Replace Repair			0.1 0.1		X X		K F F
01030416	Coder 2 Board (CCA)	Same as 01010416							
01030417	Frequency Synthesizer 2 Bd (CCA)	Same as 01010417							
01030418	Frequency Synthesizer 3 Bd (CCA)	Same as 01010418							
01030419	Distribution Amplifier 3 Bd (CCA)	Same as 01010419							
01030420	Chassis Assembly	Same as 01010421							
01030421	Harness Assembly	Same as 01010422							
01030422	Key 'Generator	Same as 01010423							
010305	Fault Locator-Receiver TS-3612(V)31USC-28(V)	Inspect Test Repair Repair Repair D-47			0.1 0.3 0.1 0.2			1 1,4,7-10 1,53	A,N C D E

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030501	AFI 1 Board (CCA)	Same as 01010501							
01030502	AFI 2 Board (CCA)	Same as 01010502							
01030503	AFI 3 Board (CCA)	Same as 01010503							
01030504	Coder 1 Board (CCA)	Same as 01010401							
01030505	Clock IPM Board (CCA)	Same as 01010402							
01030506	Clock IPM Board (CCA)	Same as 01010402							
01030507	AFI Interface 1 Board (CCA)	Same as 01010405							
01030508	AFI Interface 1 Board (CCA)	Same as 01010405							
01030509	Carrier IPM Board (CCA)	Same as 01010407							
01030510	AFI Interface 2 Board (CCA)	Same as 01010510							
01030511	AFI Interface 2 Board (CCA)	Same as 01010510							
01030512	Data Director 3 Board (CCA)	Same as 01010410							
		D-48							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030513	Time Generator 1 Board (CCA)	Same as 01010513							
01030514	Time Generator 2 Board (CCA)	Same as 01010514							
01030515	Distribution Amplifier 1 Bd (CCA)	Same as 01010515							
01030516	Distribution Amplifier 2 Bd (CCA)	Same as 01010516							
01030517	Antenna Tracking Board (CCA)	Same as 01010517							
01030518	AFI 4 Board (CCA)	Same as 01010518							
01030519	AFI 5 Board (CCA)	Same as 01010519							
01030520	AFI 6 Board (CCA)	Same as 01010520							
01030521	Fan Assembly	Same as 01010210							
01030522	Orderwire Demod 5 Board (CCA)	Same as 01020412							
01030523	Orderwire Demo 6 Board (CCA)	Same as 01020413							
01030524	Coder 5 Board (CCA)	Same as 01020416							
		D-49							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030525	Local Reference Module (CCA)	Same as 01020525							
01030526	Beacon Timing Board (CCA)	Same as 01010527							
01030527	Beacon RF Board (CCA)	Same as 01010528							
01030528	Coder 3 Board (CCA)	Same as 01020414							
01030529	Beacon Logic Board (CCA)	Same as 01020529							
01030530	Chassis Assembly	Same as 01020530							
01030531	Harness Assembly	Same as 01020531							
01030532	Key Generator	Same as 01010423							
010306	Receiver-Transmitter, Dig Data RT-1207(V)5/	Inspect Test			0.1 0.4	1		1,4,5 7-14	A,N
		Repair Repair Repair	0.1 0.2				X	1,53 1,15	C D E
01030601	Coder 1 Board (CCA)	Same as 01010401							
01030602	Coder 1 Board (CCA)	Same as 01010401							
		D-50							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030603	Clock IPM Board (CCA)	Same as 01010402							
01030604	AFI Interface 1 Board (CCA)	Same as 01010405							
01030605	AFI Interface 1 Board (CCA)	Same as 01010405							
01030606	Carrier IPM Board (CCA)	Same as 01010407							
01030607	Orderwire Interface Board (CCA)	Same as 01010607							
01030608	Data Director 3 Board (CCA)	Same as 01010410							
01030609	Fan Assembly	Same as 01010210							
01030610	Orderwire Demod 5 Board (CCA)	Same as 01020412							
01030611	Orderwire Demod 6 Board (CCA)	Same as 01020413							
01030612	Coder 5 Board (CCA)	Same as 01020416							
01030613	Coder 5 Board (CCA)	Same as 01020416							
01030614	Modulator/Attenuator (CCA)	Same as 01020614 D-51							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030615	Local Reference Module (CCA)	Same as 01020525							
01030616	Coder 3 Board (CCA)	Same as 01020414							
01030617	Coder 4 Board (CCA)	Same as 01020617							
01030618	Chassis Assembly	Same as 01020618							
01030619	Harness Assembly	Same as 01020619							
01030620	Key Generator	Same as 01010423							
01030621	Key Generator	Same as 01010423							
010307	Receiver-Transmitter, Dig Data RT-1207(V)6/ USC-28(V)	Inspect Test Repair Repair Repair			0.1 0.4 0.1 0.2			1 1,4,7-14 1,53	A,N C D E
01030701	Coder 1 Board (CCA)	Same as 01010401							
01030702	Coder 1 Board (CCA)	Same as 01010401							
02030703	Clock IPM Board (CCA)	Same as 01010402							
		D-52							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030704	AFI Interface 1 Board (CCA)	Same as 01010405							
01030705	AFI Interface 1 Board (CCA)	Same as 01010405							
01030706	Carrier IPM Board (CCA)	Same as 01010407							
01030707	Orderwire Interface Board (CCA)	Same as 01010607							
01030708	Data Director 3 Board (CCA)	Same as 01010410							
01030709	Data IPM Board (CCA)	Same as 01010709							
01030710	Data IPM Board (CCA)	Same as 01010709							
01030711	Orderwire Demod 5 Board (CCA)	Same as 01020412							
01030712	Orderwire Demod 6 Board (CCA)	Same as 01020413							
01030713	Coder 5 Board (CCA)	Same as 01020416							
01030714	Coder 5 Board (CCA)	Same as 01020416							
01030715	Modulator Module (CCA)	Same as 01020614							
		D-53							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030716	Local Reference Module (CCA)	Same as 01020525							
01030717	Coder 3 Board (CCA)	Same as 01020414							
01030718	Coder 4 Board (CCA)	Same as 01020617							
01030719	User Data Processor 1 Board (CCA)	Same as 01020719							
01030720	User Data Processor 2 Board (CCA)	Same as 01020720							
01030721	User Data Processor 4 Board (CCA)	Same as 01020721							
01030722	User Data Processor 3 Board (CCA)	Same as 01020722							
01030723	Data Interleave Board	Same as 01020723							
01030724	Voice Conf Digital Data Bd (CCA)	Same as 01020724							
01030725	Baseband I/O Interface Bd (CCA)	Same as 01010723							
01030726	Fan Assembly	Same as 01010210							
01030727	Chassis Assembly	Same as 01020618							
		D-54							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030728	Harness Assembly	Same as 01020619							
01030729	Key Generator	Same as 01010423							
01030730	Key Generator 01010423	Same as							
010308	Control Indicator	Same as 010108							
01030801	Plasma Panel Assembly	Same as 01010801							
01030801 01	Fan Assembly	Same as 0101080101							
01030801 02	Cable Assembly, Power Adapter	Same as 0101080102							
01030801 03	Serial Port Cable Adapter	Same as 0101080103							
01030801 04	Keyboard Cable	Same as 010180104							
01030801 05	Cable Assembly	Same as 0101080105							
01030801 06	Plasma Display Assembly	Same as 0101080106							
01030801 061	Wiring Harness	Same as 01010801061 D-55							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
01030801 062	Wiring Harness	Same as 01010801062							
01030801 63	Display Subassembly	Same as 01010801063							
01030801 064	SLC Network Board	Same as 01010801064							
01030801 065	Power Supply Assembly	Same as 01010801065							
01030801 066	Display Processor Board	Same as 01010801066							
01030801 067	Voltage Suppressor Board	Same as 01010801067							
01030802	Keyboard Enclosure Assembly	Same as 01010802							
01030802 01	Cable Assembly, Keyboard Ext	Same as 0101080201							
01030802 02	Keyboard Assembly	Same as 0101080202							
01030802 03	Harness Assembly	Same as 0101080203							
010309	Power Supply	Same as 010109							
010310	Power Supply	Same as 010109							
		D-56							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
010311	Power Supply	Same as 010111							
010312	Power Supply	Same as 010111							
010313	Cable Assembly (CSU-IU)	Same as 010113							
010314	Battery Assembly	Same as 010114							
02	Comm Receiver Transmitter Group OZ-55(P)(V)/ USC-28(fs24 V)	Inspect Service Test Test Repair Repair		0.1 0.4 0.1	0.1			1 1,4,5, 7,13 1,16-43 1-43	A,N B C D
0201	Comm Receiver Transmitter Group OZ-55(P)(V)1/ USC-28(V)	Inspect Service Test Test Repair Repair		0.1 0.4 0.1	0.1			1 1,4,5, 7,13 1,16-43 1-43	A,N B C D
020101	Cabinet Electrical CY-7828/USC-28(V)	Inspect Replace Repair D-57		0.1 1.0				X 1,39	A,N F

SECTION II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
02010209	Clock IPM Board (CCA)	Same as 01010402							
02010211	Chassis Assembly 914130-801	Inspect Replace Repair Repair			0.1 0.3 0.2			1,15 1,20,29, 34,40- 43,51	E H
02010211 01	Harness Assembly 466986-801	Inspect Test Replace Repair Repair			0.1 0.5 0.2			1 1,2 1,20,29 34,40- 43,51	E E H
02010212	Key Generator	Same as 01010423							
020103	Amplifier-Modulator MD-1012(P)(V)1/ USC-28(V)	Inspect Test Repair Repair Repair	0.1 0.1 0.2		0.3			1,4,5, 8-12 1,53 1,15	AGN C D E
02010301	AFI Interface 1 Board (CCA)	Same as 01010405							
02010302	AFI Interface 2 Board (CCA)	Same as 01010510							
02010303	Data Director 3 Board (CCA)	Same as 01010410							
		D-59							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
02010304	Distribution Amplifier 1 Bd (CCA)	Same as 01010515							
02010305	Orderwire Interleaver 814119-801	Inspect Test Replace Repair			0.1 0.1		X X	1,15	F F
02010306	Harness Assembly 466987-801	Inspect Test Replace Repair Repair	0.1 0.5				X X	1 1,2 1,20,29, 34,40- 43,51	E E
02010307	Fan Assembly	Same as 01010420							
02010308	Chassis Assembly 914131-801	Inspect Replace Repair Repair			0.1 0.3 0.2		X	1,15,39 1,20,29 34,40- 43,51	E H
020104	Power Supply	Same as 010109							
020105	Power Supply	Same as 010109							
020106	Power Supply	Same as 010111							
		D-60							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-CONTINUED**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
020107	Power Supply	Same as 010111							
020108	Battery Assembly	Same as 010114							
0202	Comm Receiver Trans- mitter Group 02-55(P)(V)2/	Inspect Service Test Test Repair Repair		0.1 0.4 0.1 0.2	0.1 0.4 0.2			A,N B C D	
020201	Cabinet Electrical	Same as 020101							
02020101	Harness Assembly	Same as 02010101							
020202	Amplifier Generator	Same as 020102							
02020201	Coder 1 Board (CCA)	Same as 01010401							
02020202	AFI Interface 1 Board (CCA)	Same as 01010405							
02020203	AFI Interface 2 Board (CCA)	Same as 01010510							
02020204	Data Director 1 Board (CCA)	Same as 01010408							
02020205	Data Director 2 Board (CCA)	Same as 01010409							
		D-61							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
02020206	Data Director 3 Board (CCA)	Same as 01010410							
02020207	Distribution Amplifier 1 Bd (CCA)	Same as 01010515							
02020208	Distribution Amplifier 2 Bd (CCA)	Same as 01010516							
02020209	Clock IPM Board (CCA)	Same as 01010402							
02020210	Fan Assembly	Same as 01010210							
02020211	Chassis Assembly	Same as 02010211							
02020211 01	Harness Assembly	Same as 0201021101							
02020212	Key Generator	Same as 01010423							
020203	Amplifier-Modulator MD-1012(P)(V)2/	Inspect			0.1	1			A,N
		Test			0.3			1,4,5, 8-12	
		Repair			0.1			1,53	C
		Repair			0.2			1,15	D
		Repair					X		
02020301	AFI Interface 1 Board (CCA)	Same as 01010405							
02020302	AFI Interface 2 Board (CCA)	Same as 01010510							
		D-62							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
02020303	Data Director 3 Board (CCA)	Same as 01010410							
02020304	Distribution Amplifier 1 Bd (CCA)	Same as 01010515							
02020305	Orderwire Interleaver	Same as 02010305							
02020306	Harness Assembly 466987-802	Inspect Test Replace Repair Repair		X X	0.1 0.5 0.2			1 1,2 1,20,29, 34,40- 43, 51	E E
02020307	Fan Assembly	Same as 01010420							
02020308	Chassis Assembly 914131-802	Inspect Replace Repair Repair			0.1 0.3 0.2		1,15,39 X	1,20,29, 34,40- 43,51	E H
020204	Power Supply	Same as 010109							
020205	Power Supply	Same as 010109							
020206	Power Supply	Same as 010111							
		D-63							

**SECTION II. MAINTENANCE ALLOCATION CHART
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
020207	Power Supply	Same as 010111							
020208	Battery Assembly	Same as 010114							
0203	Comm Receiver Trans- mitter Group 02-55(P)(V)3/	Inspect Service Test Test		0.1 0.4 0.1	0.1			1	A,N B
Repair 0.2 Repair				0.2	0.4			1,4,5, 7,13 1,16-43 1-43	C D
020301	Cabinet Electrical CY-8279/USC-28(V)	Inspect Replace Repair			0.1 1.0			1,39	A,N F
02030101	Harness Assembly	Same as 02010101							
020302	Amplifier Generator	Same as 020102							
02030201	Coder 1 Board (CCA)	Same as 01010401							
02030202	AFI Interface 1 Board (CCA)	Same as 01010405							
02030203	AFI Interface 2 Board (CCA)	Same as 01010510							
02030204	Data Director 1 Board (CCA)	Same as 01010408							
		D-64							

**Section II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET ANJUSC-28(V) - Continued**

SECTION II. MAINTENANCE ALLOCATION CHART

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
02030205	Data Director 2 Board (CCA)	Same as 01010409						1,2,3,4,5	
02030206	Data Director 3 Board (CCA)	Same as 01010410							
02030207	Distribution Amplifier 1 Bd (CCA)	Same as 01010515							
02030208	Distribution Amplifier 2 Bd (CCA)	Same as 01010516							
02030209	Clock IPM Board (CCA)	Same as 01010402							
02030210	Fan Assembly	Same as 01010210							
02030211	Chassis Assembly	Same as 02010211							
02030211 01	Harness Assembly	Same as 0201021101							
02030212	Key Generator	Same as 01010423							
020303	Amplifier-Modulator	Same as 020203							
02030301	AFI Interface 1 Bd (CCA)	Same as 01010405							
02030302	AFI Interface 2 Board (CCA)	Same as 01010510							
		D-65							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
02030303	Data Director 3 Board (CCA)	Same as 01010410						1,2,3,4,5	
02030304	Distribution Amplifier 1 Bd (CCA)	Same as 01010515							
02030305	Orderwire Interleaver	Same as 02010305							
02030306	Harness Assembly	Same as 02020306							
02030307	Fan Assembly	Same as 01010420							
02030308	Chassis Assembly	Same as 02020308							
020304	Power Supply	Same as 010109							
020305	Power Supply	Same as 010109							
020306	Power Supply	Same as 010111							
020307	Power Supply	Same as 010111							
020308	Battery Assembly	Same as 010114							
		D-66							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
03	Receiver-Transmitter, Dig Data RT-1208(V)/ USC-28(V)	Inspect Test Repair 0.1 Repair 0.2 Repair			0.1 0.4			1 1,4,5, 9-13 1,53 1,15	A,N C D E
0301	Receiver-Transmitter, Dig Data RT-1208(V)1/ USC-28(V)	Inspect Test Repair Repair Repair		0.1 0.4 0.1 0.2				1 1,4,5, 1,53 1,15	C D E
030101	Coder 1 Board (CCA)	Same as 01010401							
030102	Clock IPM Board (CCA)	Same as 01010402							
030103	AFI Interface 1 Board (CCA)	Same as 01010405							
030104	AFI Interface 1 Board (CCA)	Same as 01010405							
030105	Carrier IPM Board (CCA) 767695-810	Same as 01010407							
030106	Orderwire Interface Board (CCA)	Same as 01010607							
030107	Data Director 3 Board (CCA)	Same as 01010410							
030108	Data IPM Board (CCA)	Same as 01010709 D-67							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/SET-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
030109	Data IPM Board (CCA)	Same as 01010709							
030110	Baseband I/O Interface Bd (CCA)	Same as 01010723							
030111	User Data Processor 1 Board (CCA)	Same as 01020719							
030112	Orderwire Demod 1 Board (CCA)	Same as 01010412							
030113	Orderwire Demod 2 Board (CCA)	Same as 01010413							
030114	Coder 2 Board (CCA)	Same as 01010416							
030115	Coder 3 Board (CCA)	Same as 01010414							
030116	Receiver Processor 1 Board (CCA)	Same as 01010718							
030117	Receiver Processor 2 Board (CCA)	Same as 01010719							
030118	Receiver Processor 3 Board (CCA)	Same as 01010720							
030119	Receiver Processor 4 Board (CCA)	Same as 01010721							
030120	Data Encoder Board (CCA)	Same as 01010722							
		D-68							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V)-Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
030121	Local Reference Module (CCA)	Same as 01010415							
030122	Key Generator	Same as 01010423							
030123	Fan Assembly	Same as 01010210							
030124	Chassis Assembly 914132-801	Inspect Replace Repair Repair			0.1 0.4 0.2			1,15,39 X 1,20,29, 34,40- 43,51	 E H
03012401	Harness Assembly 466988-801	Inspect Test Replace Repair Repair			0.1 0.5 0.2			1 1,2 X X 1,20,29, 34,40- 43,51	 E E H
0302	Receiver-Transmitter, Dig Data RT-1208(V)2/	Inspect Test Repair Repair Repair			0.1 0.4 0.1 0.2			1 1,4,5, 9-13 1,53 1,15	A,N C D E
030201	Orderwire Demod 5 Board (CCA)	Same as 01020412							
030202	Orderwire Demod 6 Board (CCA)	Same as 01020413 D-69							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/28(V) -Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
030203	Coder 1 Board (CCA)	Same as 01010401							
030204	Coder 5 Board (CCA)	Same as 0102416							
030205	Coder 3 Board (CCA)	Same as 01020414							
030206	Clock IPM Board (CCA)	Same as 01010402							
030207	AFI Interface 1 Board (CCA)	Same as 01010405							
030208	Carrier IPM Board (CCA)	Same as 01010407							
030209	Orderwire Interface Board (CCA)	Same as 01010607							
030210	Data Director 3 Board (CCA)	Same as 01010410							
030211	User Data Processor 2 Board (CCA)	Same as 01020720							
030212	User Data Processor 4 Board (CCA)	Same as 01020721							
030213	User Data Processor 3 Board (CCA)	Same as 01020722							
030214	Data Interleaver Board (CCA)	Same as 01020723							
		D-70							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
030215	Local Reference Module (CCA)	Same as 01020525							
030216	Voice Conf Digital Data Bd (CCA)	Same as 01020724							
030217	Key Generator	Same as 01010423							
030218	Fan Assembly	Same as 01010210							
030219	Chassis Assembly 914132-802	Inspect Replace Repair Repair			0.1 0.4 0.2			1,15,39 1,20,29, 34,40- 43,51	E H
03021901	Harness Assembly 466988-802	Inspect Test Replace Repair Repair			0.1 0.5 0.2			1 1,2 1,20,29, 34, 40- 43, 51	E E
0303	Receiver-Transmitter, Dig Data RT-1208(V)3/ USC-28(V)	Inspect Test Repair Repair Repair			0.1 0.4 0.1 0.2			1 1,4,5, 9-13 1,53 1,15	A,N C D E
030301	Ord3rwire Demod 1 Board (CCA)	Same as 01010412 D-71							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
030302	Orderwire Demod 2 Board (CCA)	Same as 01010413							
030303	Coder 1 Board (CCA)	Same as 01010401							
030304	Coder 2 Board (CCA)	Same as 01010416							
030305	Coder 3 Board (CCA)	Same as 01010414							
030306	Clock IPM Board (CCA)	Same as 01010402							
030307	AFI Interface Board (CCA)	Same as 01010405							
030308	Carrier IPM Board (CCA)	Same as 01010407							
030309	Orderwire Interface Board (CCA)	Same as 01010607							
030310	Data Director 3 Board (CCA)	Same as 01010410							
030311	Receiver Processor 1 Board (CCA)	Same as 01010718							
030312	User Data Processor 1 Board (CCA)	Same as 01020719							
030313	Receiver Processor 2 Board (CCA)	Same as 01010719							
		D-72							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
030314	Receiver Processor 3 Board (CCA)	Same as 01010720							
030315	Receiver Processor 4 Board (CCA)	Same as 01010721							
030316	Data IPM Board (CCA) 01010709	Same as							
030317	Data Encoder Board (CCA)	Same as 01010722							
030318	Baseband I/O Interface Bd (CCA)	Same as 01010723							
030319	Local Reference Module (CCA)	Same as 01010415							
030320	LPM Buffer Board (CCA) 819696	Inspect Test Replace Repair			0.1 0.1		X X	1,15	M F F
030321	LPM Interface Board (CCA) 819695	Inspect Test Replace Repair			0.1 0.1		X X	1,15	M F F
030322	Key Generator	Same as 01010423							
030323	Fan Assembly	Same as 01010210							
030324	Chassis Assembly	Same as 030124 D-73							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
03032401	Harness Assembly	Same as 03012401							
0304	Receiver-Transmitter, Dig Data RT-1208(V)4/ USC-28(V)	Inspect Test Repair Repair Repair			0.1 0.4 0.1 0.2			1 1,4,5, 9-13 1,53 1,15	A,N C D E
030401	Orderwire Demod 5 Board (CCA)	Same as 01020412							
030402	Orderwire Demod 6 Board (CCA)	Same as 0102413							
030403	Coder 1 Board (CCA)	Same as 01010401							
030404	Coder 5 Board (CCA)	Same as 9192416							
030405	Coder 3 Board (CCA)	Same as 01020414							
030406	Clock IPM Board (CCA)	Same as 01010402							
030407	AFI Interface 1 Board (CCA)	Same as 01010405							
030408	Carrier IPM Board (CCA)	Same as 01010407							
030409	Orderwire Interface Board (CCA)	Same as 01010607 D-74							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
030410	Data Director 3 Board (CCA)	Same as 01010410							
030411	User Data Processor 2 Board (CCA)	Same as 01020720							
030412	User Data Processor 4 Board (CCA)	Same as 01020721							
030413	User Data Processor 3 Board (CCA)	Same as Same as 01020722							
030414	Data Interleaver Board (CCA)	Same as 01020723							
030415	Local Reference Module (CCA)	Sanme as 01020525							
030416	Voice Conf Digital Data Bd (CCA)	Same as 01020724							
030417	LPM Buffer Board (CCA)	Same as 030320							
030418	LPM Interface Board (CCA)	Same as 030321							
030419	Key Generator Same as 01010423								
030420	Fan Assembly Same as 01010210								
030421	Chassis Assembly	Same as 030219							
		D-75							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
03042101	Harness Assembly	Same as 03021901							
04	Coder 2 Board (CCA)	Same as 01010416							
05	Modulator/Attenuator Module	Same as 01010614							
06	Coder 5 Board (CCA)	Same as P 01020416							
07	Modulator/Attenuator Module	Same as 01020614							
08	Storage Drawer 767647-810	Inspect Replace Repair			0.1 0.2			1	Q,N F
09	Link Simulator, Test Adapter 811789-801	Inspect 0.1 Test X Replace Repair X			0.1			1,15	A,N F,L F
0901	Cable Assembly A3047287	Inspect Test Replace Repair			0.1 0.1 0.1 0.5			2 1	A D
10	Interconnect Cable Assy Group X1	Inspect Test Replace Repair			0.1 0.5 0.1 0.5			1 1,2 1,20,29, 34,40- 48,51	N H
		D-76							

**SECTION II. MAINTENANCE ALLOCATION CHART
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

(1) GROUP NUMBER	(2) COMPONENT/ASSEMBLY	(3) MAINTENANCE FUNCTION	(4) MAINTENANCE CATEGORY					(5) TOOLS AND EQPT	(6) REMARKS
			C	O	F	H	D		
1001	Cable Assembly (W4100) 768110-811	Inspect			0.1			1	H
		Test			0.5			1,2	
		Replace			0.1				
		Repair			0.5			1,20,29, 34,40- 48,51	
1002	Cable Assembly (W3100) 768010-811	Inspect			0.1			1	H
		Test			0.5			1,2	
		Replace			0.1				
		Repair			0.5			1,20,29, 34,40- 48,51	
1003	Cable Assembly (W5100) 768210-801	Inspect			0.1			1	H
		Test			0.5			1,2	
		Replace			0.1				
		Repair			0.5			1,20,29, 34,40- 48,51	
1004	Cable assembly (W5101) X2	Inspect			0.1			1	H
		Test			0.5			1,2	
		Replace			0.1				
		Repair			0.5			1,20,29, 34,40- 48,51	
		D-77							

**SECTION III TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/NATO STOCK NUMBER	TOOL NUMBER
1	C,O,F,D	Tool Kit,Electronic Equipment TK-105/G	5180-00-610-8177	TK-105/G (80058)
2	F,D	Multimeter, AN/PSM-45A	6625-01-265-6000	27FM (89536)
3	F,D	Multimeter, Digital AN/USM-486	6625-01-145-2430	8050A-01 (89536)
4	F,D	Oscilloscope OS-288/G	6625-01-272-8054	TEK 24658 (80009)
5	F,D	Counter, Electronic Digital AN/USM-459A	6625-01-271-3012	HP-5328A (28480)
6	F,D	Converter,Frequency Electronic CV-2002/U	6625-00-226-3483	HP-5253B (28480)
7	F,D	Oscilloscope Probe, iX, 10X Selectable Attenuation	6635-01-049-7947	TEK P60638 (80009)
8	F,D	Analyzer, Spectrum AN/USM-489A	6625-01-272-2797	HP-8562A (28480)
9	F,D	Plug-In Unit, Electronic Test PL-1 388/U	6625-00-431-9339	HP-8552B (28480)
10	F,D	Plug-In Unit, Electronic Test Equipment PL-1400/U	6625-00-422-4314	HP-8555A (28480)
11	F,D	Adapter, BNC Jack to Type N Plug	5935-01-074-6496	3288 (05276)
12	F,D	Adapter, Kwick Connect Jack to BNC Jack	5935-01-016-2444	53-072-6801-91 (98291)
13	F,D	Adapter, Type N Jack to 5935-01-104-7366 BNC Plug		3535 (71468)
14	F,D	Test Lead, Male Type N Connector Both Ends	5995-01-156-0680	1658-T-36 (05276)
*Equivalent Test Equipment may be substituted.				
D-78				

**SECTION III TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/ NATO STOCK NUMBER	TOOL NUMBER
15	F, D	Board Extractor		1650 (12813)
16	F, D, O	Crimping Tool M22520/1-01	5120-00-165-3912	M22520/1-01 (81349)
17	F, D, O	Crimping Tool M22520/5-01	5120-00-132-6913	M22520/5-01 (81349)
18	F, D, O	Crimping Tool M22520/2-01	5120-00-165-3910	M22520/2-01 (81349)
19	F, D, O	Crimping Tool	5120-01-162-6765	613873 (89020)
20	F, D, O	Crimping Tool	5120-00-877-6869	M100S-1 (09922)
21	F, D, O	Positioner/Locator M22520/1 -02	5120-00-016-6382	M22520/1-02 (81349)
22	F, D, O	Positioner/Locator M22520/5-11	5120-01-184-0131	M22520/5-11 (81349)
23	F, D, O	Positioner/Locator M22520/2-06	5120-00-017-3809	M22520/2-06 (81349)
24	F, D, O	Positioner/Locator	5120-01-464-1460	TP-567 (71468)
25	F, D, O	Positioner/Locator M22520/5-19	5120-00-116-3159	M22520/5-19 (81349)
26	F, D, O	Positioner/Locator		TH70-1 (71468)
27	F, D, O	Insertion Tool MS27495A22-M	5120-00-251-9503	MS274495A22-M (96906)
28	F, D, O	Insertion Tool	5120-01-113-3901	CIT-12 (71468)
*Equivalent Test Equipment may be substituted.				
D-79				

**SECTION III TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/ NATO STOCK NUMBER	TOOL NUMBER
29	F, D, O	Insertion Tool	5120-00-156-9210	RTM 12-4 (09922)
30	F, D, O	Insertion Tool	5120-00-941-5472	CIT-16 (71468)
31	F, D, O	Insertion/Extraction Tool MS3447-16	5120-00-915-4588	MS3447-16 (96906)
32	F, D, O	Insertion/Extraction Tool MS3447-20	5120-00-915-4587	MS3447-20 (96906)
33	F, D, O	Extraction Tool MS27495R22-M	5120-00-146-6558	MS27495R22-M (96906)
34	F, D, O	Extraction Tool	5120-00-079-9461	RX12-7 (09922)
35	F, D, O	Extraction Tool	5120-00-406-6548	CET-12-2 (71468)
36	F, D, O	Extraction Tool	5120-00-981-7156	CET-16-9 (71468)
37	F, D, O	Wire Strippers		.016 NO-NIK (71827)
38	F, D, P	Wire Strippers		.014 NO-NIK (71827)
39	F, D, O	Connector Pliers	5120-00-942-3928	10153979 (18876)
40	F, D, O	Die Set (Used with crimping tool M1 OS-1)	5120-00-150-7315	S-30 (09922)
41	F, D, O	Die Set (Used with crimping tool M1OS-1)	5120-00-150-7316	S-35 (09922)
42	F, D, O	Stop Bushing (Used with crimping tool M1 OS-1)	5120-00-150-7317	SL-58 (09922)
43	F, D, O	Stop Bushing (Used with crimping tool M1 OS-1)	5120-00-150-7318	SL-72 (09922)

*Equivalent Test Equipment may be substituted.

**SECTION III TOOL AND TEST EQUIPMENT REQUIREMENTS
FOR
SATELLITE COMMUNICATIONS SET AN/USC-28(V) - Continued**

TOOL OR TEST EQUIPMENT REF CODE	MAINTENANCE CATEGORY	NOMENCLATURE	NATIONAL/ NATO STOCK NUMBER	TOOL NUMBER
44	F, D, O	Extraction Tool MS24256R16	5120-00-079-4602	MS24256R16 (96906)
45	F, D, O	Positioner/Locator		TH185 (71468)
46	F, D, O	Inserter Electronic Tool MS1 8278-1	5120-00-132-0396	MS18278-1 (96906)
47	F, D, O	Insertion Tool MS24256A16	5120-00-079-4599	MS24256A16 (96906)
48	F, D, O	Extraction Tool	5120-00-941-5470	CT-16-4 (71468)
49	F, D, O	DIP/IC Extractor		620 (78976)
50	F, D, O	Insertion/Removal Tool, Flex Circuit Clip	7045-01-091-7475	50200847 (07421)
51	F, D, O	Wire Wrap Tool	5120-00-978-3493	CT16363 (96463)
52	F, D, O	Termi-Point Tool	5120-00-113-3668	69535 (00779)
53	F, D, O	Tumlock Fastener Tool	5120-01-097-2414	CA1825-T1 (29372)
54	F, D, O	Torque Wrench	5120-00-648-0404	FSOI (26848)
55	F, D, O	Positioner/Locator M22520/2-08	5120-00-017-3921	M22520/2-08 (81349)
56	F, D	Logic Card Extractor		813891-801 (12813)
57	F, D	Link Simulator, Test Adapter	6125-01-164-6703	811789-801 (12813)
*Equivalent Test Equipment may be substituted.				
D-81				

SECTION IV. REMARKS
SATELLITE COMMUNICATION SET AN/USC-28(V) - Continued

REFERENCE	REMARKS
A	Inspection Includes inter cabinet/drawer cabling, connector seating, and connector pin condition and seating.
B	Servicing at the operator/crew and organizational level of maintenance is limited to cleaning and painting external portions of cabinets and drawers, cleaning the cassette transport head, inspecting cables for fraying or damaged insulation, and cleaning and replacing air filters.
C	Limited to replacement of external hardware, lamps (indicators), and other front panel components that require minor soldering.
D	Limited to identification and replacement of drawer/cabinet mounted components; replacement of defective connectors/connector pins; isolation, identification and replacement of printed circuit boards, subassemblies, power supplies, and modular items; and repair and replacement of cables, and performance of continuity checks on cable assemblies.
E	Depot level function performed on site with contractor technical assistance.
F	Maintenance function performed by vendor.
G	Quantity of Coder and Modulator/Attenuator Printed Circuit Boards for the MD1012(P)(V) are dependent upon number of RT-1208(V)s used. Refer to group numbers 01010416, 01010614, 01020416, 01020614 for maintenance allocation information for coder and modulator/attenuator printed circuit boards. A minimum of one (1) RT-1208(V) must be used to allow the OZ-555(V) to function.
H	Solder or crimp type connectors only. Wiring on wire wrap and wire clip connectors are replaceable one time only. Coaxial, wire wrap, and wire clip connectors are not field replaceable or repairable.
I	Used only in unmitigated/ground AN/USC-28(V) configurations. Separate group numbered to accommodate variable application of coder #2 and modulator/attenuator printed circuit boards used in the MO-1012(P)(V)1, P/N 767661-814. Refer also to reference code G.
J	Refer to separate manual for maintenance of this equipment.
K	Used only in AN/USC-28(V) Airborne configuration.
L	Used when periodic system performance check is required or when system failure was caused major down time.
M	Used only in AN/USC-28(V) configuration employing DECS operations.
N	See AN/USC-28(V) System Matrix Chart.

SECTION IV. REMARKS
SATELLITE COMMUNICATION SET AN/USC-28(V) - Continued

• REFERENCE	REMARKS
O	Driver integrated circuits (IC) on X-Y driver boards are field replaceable. The transient protection assembly P/N 7052300 and associated harness assembly are field repairable.
P	Used only in mitigated and Airborne AN/USC-28(V) configurations. Separately group numbered to accommodate variable application of coder 5 and modulator/attenuator printed circuit boards used in MD-101 2(P)(V)2, P/N 767661-815. Also see ref code G.
Q	Required only when less than four (4) RT-1208(V)s are used.
R	Fabricated on site; not supplied with the AN/USC-28(V).
S	Some battery components are field replaceable.
	D-83/(D-84 blank)

APPENDIX E

EXPENDABLE SUPPLIES AND MATERIALS LIST

E-1. SCOPE

This appendix lists expendable supplies and materials you will need to operate and maintain the AN/USC-28(V). These items are authorized to you by CTA 50-970, Expendable Items (Except Medical Class V, Repair Parts, and Heraldic Items).

E-2. Explanation of Columns

- a. *Column 1 - Item number.* This number is assigned to the entry in the listing and is referenced in the narrative instructions to identify the material (e.g. "Use cleaning compound, item 5, App. D").
- b. *Column 2 - Level.* This column identifies the lowest level of maintenance that requires the listed item.
 - C - Operator/Crew
 - O - Organizational Maintenance/Aviation Unit Maintenance.

F - Direct Support Maintenance/Aviation Intermediate 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 a 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 unit of issue that will satisfy your requirements.

Section 11. EXPENDABLE SUPPLIES AND MATERIALS LIST

(1) ITEM NUMBER	(2) LEVEL	(3) NATIONAL STOCK NUMBER	(4) DESCRIPTION	(5) U/M
1	C		Detergent, MIL-D-16791	OZ
2	C	8305-00-222-2423	Cloth, cleaning (48035) 724426	YD
3	C		Lens Cleaner (50076) 1463728	OZ
4	C		Lens Cleaning Paper EA (50076)1546027	
5	O		Alcohol, denatured	OZ
6	O		Swab, cotton-tipped	EA
7	F		Sandpaper, 150-250 grit	EA
8	F	8040-01-016-9962	Adhesive (07700) 72-00039	OZ
9	O		Paint, enamel: color 26250 IAW MIL-F-14072	PT

APPENDIX F

LIST OF ABBREVIATIONS

F-1. Introduction

This appendix contains a listing of all abbreviations used in this manual and/or displayed on the equipment.

<i>ABBREVIATIONS</i>	<i>DESCRIPTION</i>	<i>ABBREVIATIONS</i>	<i>DESCRIPTION</i>
A	Amperes	DPSK	Differentially encoded (also delta) phase shift keying
ADJ	Adjust	DSCS	Defense Satellite Communications System
ADRS	Address	E/LI(I E/L)	Early-late in-phase signal
AGC	Automatic gain control	E/LQ(Q E/L)	Early-late 900 phase shifted signal
ALT NCT	Alternate net control terminal	EBDIC	Extended Binary Coded Decimal Interchange Code
ANA	Analog	ECCM	Electronic Counter Countermeasure
APROX	Approximate	ECL	Emitter coupled logic
AR	Auxiliary receiver	EIRP	Effective Incident Radiated Power
ASCII	American Standard Code for Information Interchange	EMI	Electromagnetic interference
ASMT	Assignment	ER	Emergency receiver
asyn	Asynchronous	EXT	External
ATTEN	Attenuator	FH	Fault history
AUTO TKVR	Automatic takeover	FREQ	Frequency
AUX	Auxiliary	FRM	Frame
b/s	Bits per second	Ga	Gage
BPS	Bits per second	GHz	Gigahertz
BW	Bandwidth	Hz	Hertz
CAB	Cabinet	I	In-phase signal component
CCC	Critical Control Circuit	1/O	Input/output
CH	Channel	IF	Intermediate frequency
CI	Code incidence	INV	Inversion
CLK	Clock	IPM	Incremental phase modulator
Clr	Color	IT	Initial entry transmitter
COD	Code of the day	IU	Interface unit
Comm R/T	Communications receiver/transmitter	IU/TTY	Interface unit/teletypewriter
CR	Control receiver	J	Code correlation signal, tracking mode lock
CR CI	Control receiver code incidence	JRSC	Jam resistant secure communications
CR CLK	Control receiver clock	K	Carrier phase lock
CSU	Control synchronization unit	KBPS	Kilobits per second
CT	Control transmitter	km	Kilometers
CT CI	Control transmitter code incidence	LIR	Long loop initial entry receiver
CT CLK	Control transmitter clock	LOC	Local
D/M/Y	Day, month, year	LOW	Link orderwire
dB	Decibels	LPM	Link Power Monitor
dBm	Decibels referenced to 1 milliwatt		
DDB	Digital data buffer		
DECS	DSCS ECCM Control Subsystem		

APPENDIX F

LIST OF ABBREVIATIONS (Continued)

<i>ABBREVIATIONS</i>	<i>DESCRIPTION</i>	<i>ABBREVIATIONS</i>	<i>DESCRIPTION</i>
LPR	Long loop polling receiver	RWND	Rewind
LSB	Least significant bit	RX	Receive, receiver
LT	Long loop control transmitter	SCHED	Schedule-setup procedure
MAR	Mitigated auxiliary receiver	SERCH	Search
Mbps, MBPS	Megabits per second	SHF	Super high frequency, 3-30 Gigahertz
MCT	Mitigated control transmitter	SPEC INVT	Spectrum inverted
MER	Mitigated emergency receiver	SRCH	Search
MHz	Megahertz	SRG	Shift register generator
MSB	Most significant bit	STD	Standard
MUX	Multiplexer	TDATA	Transmit data
MWO	Maintenance work order	TDI	Time/date initializer
NCT	Net control terminal	TDM	Time division multiplexed
NET	Network	TDMA	Time division multiple access
NRZ	Non-return to zero	TGCDMA	Time gated code division multiple access
NSN	National stock number	TP	Test point
NT	Net terminal	TR	Test receiver
OM-55	Navy modem group interoperable with AN/USC-28(V)	TRANS ERROR	Translation error
OW	Orderwire	TTL	Transistor transistor logic
PC	Programmable controller drawer	TTY	Teletypewriter 'r l
PISO	Parallel input, serial output	TX	Transmit
PMCS	Preventive maintenance checks and services	To	System time counter start time
PN	Pseudonoise	UART	Universal asynchronous receiver/transmitter
PPM	Parts per million	UD	User data
PPS	Pulses per second	UTC	Universal Coordinated Time
PSK	Phase shift keying	V	Variable
PWR	Power	Vac	Volts, alternating current
Q	900 phase-shifted signal component	VC	Voice conferencing
R/T	Receiver/Transmitter	Vdc	Volts, direct current
RACO	Range correction	Vrms	Volts, root-mean square
RAM	Random access memory	VSWR	Voltage standing wave ratio
RCVR	Receiver	WPM	Words per minute
RDATA	Receiver data	WWMCCS	Worldwide military command and control system
RF	Radio frequency	XMTR	Transmitter
RFI	Radio frequency interface	z	Zulu, (Universal Coordinated Time)
RM	Rate multiplier	1PPS	1 pulse per second.
ROM	Read-only memory		
RTN	Return		

GLOSSARY

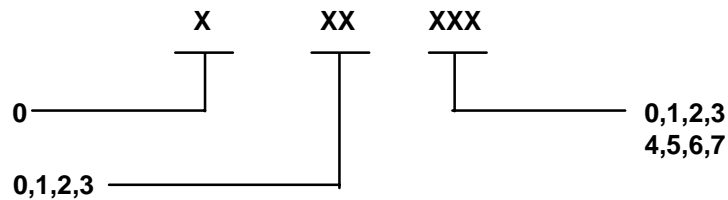
The glossary contains a brief explanation of terms used in this manual peculiar to the AN/USC-28(V) or satellite communications equipment.

ABORT	Terminates net operation. Equipment returns to standby condition.
AFI	Automatic fault isolation system which incorporates sensing multiplexers and controls, voltmeter, frequency counter, and data test set.
AR ADRS	The 5 digital octal number assigned to the auxiliary receiver to monitor local loop transmissions of net terminals. The options and limits are the same as the NCT address.
ASCII	Baseband teletype, character format using the American Standard Code for Information Interchange x3.4 1967. ASCII is asynchronous, 10-unit interval operating at 75 Baud. The ASCII format has 1 start bit, 7 character bits, 1 stop bit and a parity bit.
ATTEN	Displays attenuation, status and data rate for each transmitter and allows changes to attenuation settings.
Autocorrelation	The demodulation process of mixing the received signal with itself or an exact replica.
Baudot	Baseband teletype character format consisting of 1 start bit, 5 character bits, and 1.42 stop bits per character. Baudot is asynchronous teletype operating at 75 Baud.
Beacon Epoch	A state of the satellite beacon shift register states during which specific registers are all ones. Recurs at regular intervals.
BIG SRCH	Increases the code search aperture for conditions of long periods of signal outage.
Biphase Modulation	The carrier is phase shifted 180° each time the state of the binary waveform is changed.
Bit	A bit is a signal digit of a data word.
Bit Error Rate	Data error rate detected by manually patching the output carrier of the AFI Data Test Set back as a received signal.
Byte	A data word formed from bits. The length of the word may vary in number of bits depending on format.

Glossary 1

GLOSSARY - Continued

Centering	The process performed to achieve coincidence of the NCT code epoch arrival at the satellite and system time epoch occurring on the ground. Centering is generating the transmit code epoch early by an amount equal to propagation time and the control receiver code epoch later by an amount equal to propagation time.
Code Address	The five-digit octal number that signifies a unique code sequence assigned to an individual transmitter and receiver so that the receiver may duplicate the code and synchronize to the transmitter.
C/kT	Carrier-to-noise density expression used as measure of receiver performance.
COD	Displays Code of the Day table and allows changes to table.
Code Epoch	A pulse that occurs once each repetition of the 2N bit code sequence. The code epoch is used to relate coder time to real time and therefore for coder starting.
Code Interval (CI)	The time period of the code sequence. The code interval is maintained by the time generator subsystem independent of the coders.
Code of the Day (CODE/DAY)	The daily assigned code sequence modifier. The code of the day varies the sequence. Each station in the net must use the identical code. The first digit is zero. The second digit can be 0, 1, 2, or 3. The third, fourth, and fifth digits can be any octal digits (0 through 7).



CONF	Displays conferencing parameters and allows data entry or change.
Continuous Orderwire	A mode of operation in which only orderwire is transmitted and no user data.

GLOSSARY - Continued

Correlation	The process of mixing (demodulating) the received signal with an exact replica of the pseudorandom code sequence to extract the intelligence.
Costas	A phase Locked Loop A phase-locked loop that tracks the suppressed carrier of a biphase signal and demodulates the data that caused the phase changes.
Critical Control Circuit (CCC)	Orderwire communications between the control terminal (NCT) and net terminals (NT) in a communications network for scheduling and operating directives.
Control Synchronization Unit (CSU)	Displays CSU data parameters and allows data entry or changes.
CT ATTEN	Attenuator settings (0 to 63 dB) for the control transmitter to regulate the relative RF power output from each transmitter.
DATA OK?	Entered data may be stored and printed on the backup teletypewriter or changed. YES indicates the entered parameters have been reviewed and are accurate. The data is stored in memory.
Data Test Set	Part of the AFI circuitry that compares a simulated data word with the recovered data word to determine the bit error count.
Demodulation	The process of mixing the received signal with an exact replica of the pseudorandom code sequence to extract the intelligence.
Differential Encoding	A voltage transition occurs only when a binary 1 exists. A binary 0 is identified by the absence of a voltage transition.
Differential Phase Shift Keying (DPSK)	Differential encoded phase shift keying is used to resolve the phase ambiguity inherent in sending binary data. DPSK sends a binary 1 as a change in state from the previous bit sent and binary 0 as no change in state.
Digital Data Buffer (DDB)	The circuit card assembly that provides a buffer for RX User Data between an AN/USC-28(V) Comm R/T Unit and external equipment. The DDB is enabled through the SCHED display. The DDB board is located in the A35 position in Comm R/Ts and in the A41 position in CSU R/Ts.
Diplex	Two similarly functioning entities operating in parallel at different values of output parameters.

Glossary 3

GLOSSARY - Continued

Doppler	Phase difference due to relative motion. Also correction performed to compensate for this phase difference.
DOWN FREQ	The center frequency of the signal transmitted from the satellite (down converter frequency), between 7.25 and 7.75 GHz.
Down Link Frequency	The center frequency of the signal transmitted from the satellite for CSU receivers to compute doppler corrections.
Dual Waveform	The ability to concurrently support or operate in both a normal and a mitigated network.
END TIME	The time of day to end the schedule in universal coordinated time (UTC). The letter z (zulu) is used in field 1 to denote the current universal time.
ENTER	The enter sequence is performed by the Programmable Controller to establish or enter the net. In the enter sequence, the coders are started, coder timing is corrected to compensate for range to the satellite, and the control receiver searches for and synchronizes to the control transmitter signal.
Ephemeris Tables	Published tables predicting the position of a satellite at various times. The position (range) of a satellite must be known to synchronize a receiver to the transmitter. The tolerance of the range date is 20 km.
ER ADRS	The 5-digit octal number assigned to the emergency receiver. The emergency receiver is used to receive initial requests from NT terminals to communicate with the NCT. The options and limits are the same as the NCT address.
EXT Code	External coding permits the use of an external error correction encoder/decoder to improve error rate performance.
Fault Signature Code	An eight digit number indicating the signal points that were found to be out of tolerance during the diagnostic test.
Frequency Hopping	Rapid pseudorandom changing of transmitter frequency.
Frequency Synthesis	The method of deriving all timing and synchronizing signals from one extremely precise standard frequency. Combinations of multipliers, dividers, and mixers are utilized to generate the various frequencies required in the equipment.

Glossary 4

GLOSSARY - Continued

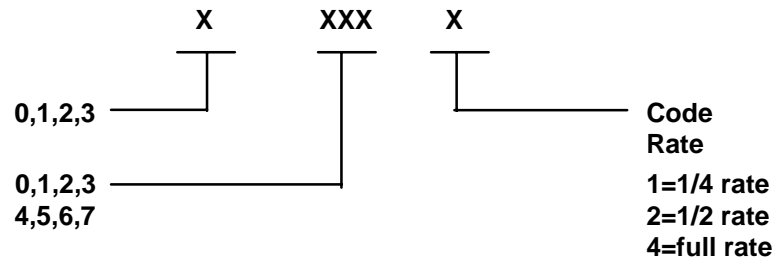
Hamming Code		An error detecting and correcting encode/decode process.
Hard (data signal)		Refers to signal value determined by logic state (one, zero, minus one).
Hybrid System		An AN/USC-28(V) modem configuration consisting of a mitigated CSU and a combination of mitigated and nonmitigated Comm R/T units.
I-Channel		The in-phase component of the received signal separated by the local reference.
Incremental Phase Modulator (IPM)		A digital device that shifts phase or frequency under digital control. In the AN/USC-28(V), the IPM functions as a programmable frequency divider. Two types of IPM are used: clock and carrier. A clock IPM is used with each transmit and receive coder for code phase control. A carrier IPM is used with each receiver for carrier phase control. A rate multiplier provides the digital control.
Interleaver	Normal Mode	Incorporated in the clock IPM to ensure that if both fine and coarse steps arrive at the up/down counter simultaneously, both are combined to cause the IPM output to move the appropriate amount in phase and direction.
	Mitigation Mode	A device that increases that resistance of a communication link to burst errors by spreading the transmission of a data symbol out in time and by interleaving parts of other data symbols with the first symbol.
Interoperability Mode		The capability of an AN/USC-28(V) NCT to communicate with the Navy OM-55 modem by monitoring the OM-55 net orderwire with the auxiliary receiver. The OM-55 can call the AN/USC-28(V) on the NCT emergency receiver address.

Glossary 5

GLOSSARY - Continued

IT ADRS

The 5-digit octal number assigned to the initial entry transmitter. The initial entry transmitter continuously transmits a late-entry signal to permit NT terminals to enter the net in the APROX time entry. The first digit may be 0, 1, 2, or 3. The second, third, and fourth digits may be 0, 1, 2, 3, 4, 5, 6, or 7. The fifth digit determines the code rate. A 2 sets the code rate at 1/2 and 4 sets the code rate at full.



IT ATTEN

Initial entry transmitter attenuation value (0 to 62 dB).

IU

Initiates Interface Unit checker board test and keyboard test.

IZAP

Displays the content of up to eight memory locations of the Programmable Controller in octal notation, using the READ option. Displays the drawer location, test point type (voltmeter or frequency counter), and number of the eight most recently failed test points, using the fault FH (fault history) option. Displays the status of the TDI board and its interfaces, using the TDI option.

Keyword

An acronym or word recognized by the Programmable Controller to initiate data inputs or revisions to data in memory. Keywords are entered by the operator on the Interface Unit keyboard.

KGV-9

Displays KGV9 selections and allows updating of KGV-9 status in accordance with selections made.

Link Orderwire

A simultaneous communication channel with each communications receiver/transmitter channel for operator-to-operator communications. The link orderwire can also be patched and made available for users. The Baudot, ASCII, or 75 bits/second serial data modes may be used.

LIST

Prints displayed information on backup teletypewriter.

Glossary 6

GLOSSARY - Continued

LOAD FROM	The source of information for the schedule parameters. The keyboard must be used to enter the first schedule; thereafter another channel may be copied. Enter KYBD for the cabinet number, a comma and channel (drawer) number of the channel to be used for source information.
LOC	After ER keyword has been used and before the 5-minute automatic readdressing, returns control transmitter to local loop address.
Local Reference	Generates a spread-spectrum local oscillator signal to add or subtract from the incoming modulated signal containing the code and intelligence.
Long Loop	A method of phase correction for systems such as the OM-55 that cannot listen to their own local loop. The NCT supplies the necessary phase correction to the long loop NTs.
Loop Back Capability	Through manual patching at the transmit and receive IF patch panels, an output carrier from the AFI data test set can be recovered in the receiver and checked for errors.
Long Bandwidth (Loop BW)	The bandwidth of carrier tracking loop of all receivers in the equipment. The loop bandwidth can be set to 2, 4, 8, 16, 32, and 64 Hz.
MAINT	Provides means to remove CSU receivers from NET operation for maintenance.
MEASURE	Displays measured range, range rate, translation error, and time offset data.
Manchester Coding	Coding in which the data undergoes modulo-2 addition with its clock.
Margin-to-Threshold	An indication in dB of receiver relative performance calculated by the programmable controller from bit error rate measurements.
Master Configuration	The master configuration contains a CSU and from one to four Comm R/T Units. The master configuration uses all four receivers in the CSU for network functions.
Mitigation	A process for modifying an AN/USC-28(V) to reduce or mitigate the disruptive effects on RF propagation caused by a high altitude nuclear detonation.

Glossary 7

GLOSSARY - Continued

Modulation The process of modifying some characteristics of a carrier so it varies in step with the instantaneous value of another signal.

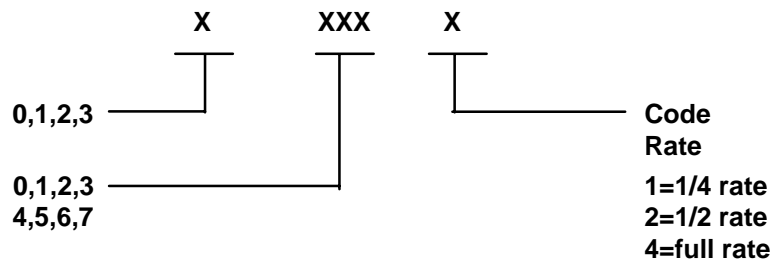
Modulo-2 addition Mathematical equivalent of EXCLUSIVE OR

I ₁	I ₂	R
0	0	0
1	0	1
0	1	1
1	1	0

Multiple Access More than one nonsynchronous communications network operating in the same RF spectra.

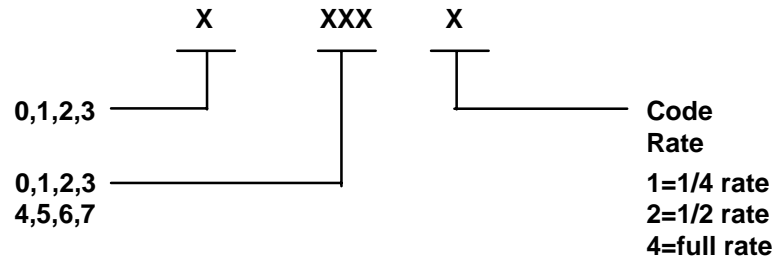
Multiplexer Device which selects a defined number of output from a greater number of inputs.

NAVY ER ADRS The 5-digit octal number assigned as the. Emergency receiver address for interoperability with the Navy. The first digit may be 0, 1, 2, or 3. The second, third, and fourth digits determine the code rates. The fifth digit determines the code rate. A 1 sets the 1/4 code rate; 2 sets the 1/2 rate; and 4 sets the full rate.



NCT ADRS The 5-digit octal number assigned as the NCT control transmitter corresponding to a unique code sequence. The first digit may be 0, 1, 2, or 3. The second, third, and fourth digits may be 0, 1,2, 3, 4, 5, 6, or 7. The fifth digit determines the code rate. A 1 sets the 1/4 code rate; 2 sets the 1/2 rate; and 4 sets the full rate.

GLOSSARY - Continued



NCT Timing Loop

The stable time reference maintained through a closed clock loop from the transmitter, through the satellite, to the control receiver.

NET MODE

The operating mode of the terminal. Only one terminal in the net is an NCT. One or more terminals can be ALT NCT. The NCT and ALT NCT may have the AN/USC-28(V) master or slave equipment configurations but the NT must have the slave configuration. The net control terminal (NCT) supplies the timing reference for all other terminals. The alternate net control terminal (ALT NCT) assumes control of the net timing in the absence of the NCT. All other terminals are NT.

NT Timing Loop

The NCT transmission is continuously tracked at the NT by the control receiver. The control receiver coder clock frequency is doppler corrected and the NT transmit code clock also includes a correction for the local standard. The NT auxiliary receiver monitors its own control transmitter transmission.

Orderwire

Special communications channel for use by station operators and maintenance personnel for housekeeping and circuit maintenance functions. The orderwire is time shared with user data.

Orderwire Modes (OW MODE)

The characters format of the interfacing teletypewriters on both ends of the orderwire circuit. (Baudot - start/stop 7.42 unit interval 75 baud; ASCII - 10 unit code at 75 baud; or Serial - 75 bps.) The three modes used are:

1. 7.42 Baudot (75 Baud)
2. ASCII (75 Baud) 10 bit character interval
3. 75 bps serial

Parallel Data

Data available in word format with one bit per input line per gating pulse.

GLOSSARY.- Continued

Phase-Shift Keying (PSK)	A modulation process that produces a 180° phase shift in the carrier each time the state of the binary waveform is changed.
Platform Dynamics	The stresses applied to the receiver code and carrier tracking loops because of velocity or acceleration variables.
POLL	Displays polling parameters and allows data entry or changes.
Power Combiner	See Power Divider.
Power Divider	Device which provides multiple outputs at equal power levels from a single input or when used as a combiner provides an individual output equal in power to the sum of its inputs.
Processing Gain	The ratio of the spread-spectrum bandwidth to the information bandwidth. The processing gain determines the signal-to-interference enhancement achieved by the receiver.
Propagation Time	The period of time for the transmitted signal to travel to the satellite. The round trip time is approximately ¼ second. The propagation time is measured to determine range to the satellite and with periodic measurements the range change per unit of time may be computed.
Pseudonoise	An apparently random sequence of binary digits having statistical properties closely approximating those of random thermal noise and appearing as a wideband noise-like signal.
Pulse Jamming	Jamming initiated by in-phase transmission of a pulse at the carrier frequency.
Q-Channel	The 90° displaced component of the received signal. The error voltage for the carrier tracking phase-locked loop is generated from the Q-channel data.
RANGE	The distance, in kilometers, between the AN/USC-28(V) and the satellite. The range is directly proportional to the propagation delay and is used to correct the phasing of the transmit and receive coders. Range data must be entered when initially entering the net or when reentering after an absence of more than 24 hours.
Rate Multiplier	Provides set pulses (frequency) and direction signals to control an IPM as directed by an input binary command.

Glossary 10

GLOSSARY - Continued

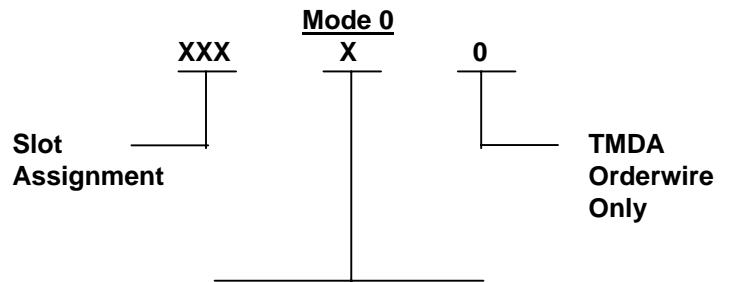
R Clock	The clock signal that is at the symbol rate.
R/2 Clock	The clock signal that is one-half of the symbol rate.
REF CLK	The reference clock generated in the Comm transmitter. The reference clock frequency is doppler corrected.
	00-75 Hz 08-19.2 kHz
	01-150 Hz 09-38.4 kHz
	02-300 Hz 10-75.8 kHz
	03-600 Hz 11-153.6 kHz
	04-1200 Hz 12-307.2 kHz
	05-2400 Hz 13-614.4 kHz
	06-4800 Hz 14-1.2288 MHz
	06-9600 Hz 15-2.4576 MHz
RT	Displays selected R/T Drawer schedule parameters.
RX ADRS	The 5-digit octal number assigned to the receiver that corresponds to a unique code sequence. The options and limits are the same as the transmitter address.
RX RATE	User data receive rate.
SCHED	Keyword for user channel setup.
Scintillation	Variations in attenuation and distortion affected by ionization and the introduction of particles into the line-of-sight propagation paths.
Search Aperture	The amount that a receiver shifts the phase of the locally generated replica code sequence to achieve synchronization with the transmitted code.
Search Rate (SRCH RATE)	The number of code bits per second searched by the CSU receivers to synchronize with the incoming code stream. (25, 100, m or 400 bps).
Serial Data	Baseband format where changes of state are equally spaced in time.
Slave Configuration	The equipment configuration required to operate as a Net terminal. The slave configuration consists of a CSU cabinet, an Interface Unit, and zero to four Comm R/T units.

GLOSSARY - Continued

Slot Assignment per Frame

The 5-digit octal number that determines number of (SLOT ASMT/FRAME) slots per frame, the assignment, and modulation mode. The slot assignment determines the time(s) within the TDMA frame when orderwire data is present. User data is present whenever orderwire data is not present. The first three digits determine the slot assignment; the fourth digit determines the number of slots per frame; and the fifth digit determines the mode of operation.

- Mode 0 = TDMA orderwire only.
- Mode 1 = TDMA orderwire and user data.
- Mode 2 = TDM switching signal derived from TDMA slot generation circuitry.
- Mode 3 = TDM switching signal derived by sampling the PN code.
- Mode 4 = Continuous orderwire. Orderwire only; no user data is transmitted.

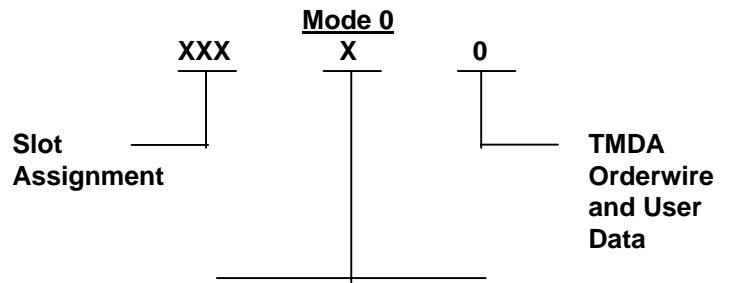


Slots/Frame

- 0 = 1
- 1 = 2
- 2 = 4
- 3 = 8
- 4 = 16
- 5 = 32
- 6 = 64
- 7 = 128

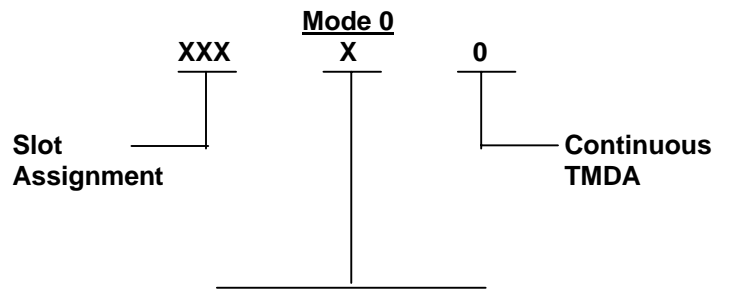
GLOSSARY - Continued

(SLOT ASMT/FRAME) (cont.)



Slots/Frame

- 0 = 1
- 1 = 2
- 2 = 4
- 3 = 8
- 4 = 16
- 5 = 32
- 6 = 64
- 7 = 128

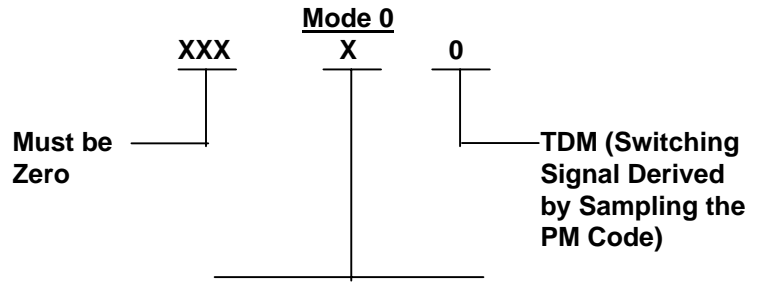


- 0 = 1 slots orderwire, 255 data
- 1 = 2 slots orderwire, 254 data
- 2 = 4 slots orderwire, 252 data
- 3 = 8 slots orderwire, 248 data
- 4 = 16 slots orderwire, 240 data
- 5 = 32 slots orderwire, 224 data
- 6 = 64 slots orderwire, 192 data
- 7 = 128 slots orderwire, 128 data

The switching signal is derived by sampling the PN code in Mode 3

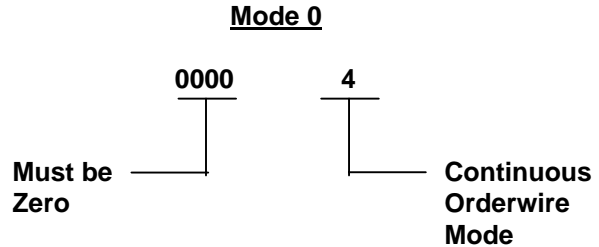
GLOSSARY - Continued

SLOT ASMT/FRAME
(Cont.)



01-1/32	14-12/32	26-22/32
02-2/32	15-13/32	27-23/32
03-3/32	16-14/32	30-24/32
04-4/32	17-15/32	31-25/32
05-5/32	20-16/32	32-26/32
06-6/32	21-17/32	33-27/32
07-7/32	22-18/32	34-28/32
10-8/32	23-19/32	35-29/32
11-9/32	24-30/32	36-30/32
12-10/32	25-21/32	37/31/32
13-11/32		

No user data is transmitted in Mode 4.



Soft (data signal)

Refers to signal value that receives a multibit digital value dependent on its analog level.

Spectrum Inversion (SPEC INVT)

Compensation for spectrum inversion in satellite terminals wherein a mixer injection frequency higher than the signal being processed is used.

GLOSSARY - Continued

Spread Spectrum	A type of transmission in which the communications bandwidth is much larger than the information (baseband) bandwidth. The spread spectrum signal has the appearance of random noise to provide maximum jam resistance.
START TIME	The time of day to start the schedule in universal coordinated time (UTC). The letter z (zulu) is used in field 1 to denote the current universal time.
Symbol Error Rate	Measurement of orderwire data error rate, displayed following OW status.
Synchronization	Alignment of the locally generated pseudonoise sequence with the received pseudonoise sequence to allow recovery of the data contained in the received signal. Alignment is accomplished by phase shifting the code replica in both directions until a matchup occurs.
T1 Counter	Generates the 1 PPS (1 pulse per second) signal from the 75-Hz signal to maintain real time and to transfer real time to the external frequency standard.
TERM TE OFFSET	The frequency offset introduced by the inaccuracy of the oscillator in the satellite.
TEST	Normal signal propagation time is proportional to the satellite slant range. In the test mode, propagation time is that associated with a few feet of coaxial cable.
TIME	Sets UTC time on the display and initializes timekeeping circuits.
Time/Date Initializer (TDI)	A circuit card assembly that maintains network time independently of the programmable controller. The circuits also retain network time during power down of the modem.
Time Division Multiplex (TDM)	A mode of operation in which a single continuous transmitted RF signal is time shared between the user data and the orderwire data. The time share duty factor (ratio) is operator selected.
Time Division Multiple Access (TDMA)	A mode of operation in which the RF transmission is divided into time slots and frames and the output is not necessarily continuous. Each frame has 256 time slots and 4800 frames occur each second.

Glossary 15

GLOSSARY - Continued

Time Gated Code Division Multiple Access (TGCDMA)

A mode of operation compatible with the Navy OM-55. The RF output is continuous at 4800 frames per second. The orderwire signal occupies 8 slots in each frame and user data the remaining 248 slots.

Time Generator

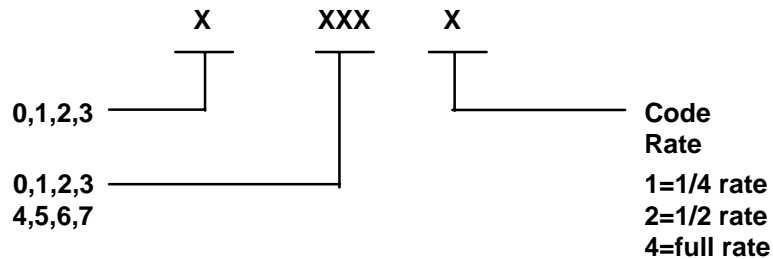
Maintains the real time reference for the net to initialize local transmit and receive doers when entering the net.

Translation Error

The frequency offset introduced into the satellite retransmission by the inaccuracy of the oscillator in the satellite. The satellite translation error has been specified at ± 725 Hz per 30 days. The translation error is corrected to less than 20 Hz.

TX ADRSt

The 5-digit octal number assigned the transmitter that corresponds to a unique sequence. The first digit may be 0, 1, 2, or 3. The second, third, and fourth digits may be 0, 1, 2, 3, 4, 5, 6, or 7. The fifth digit determines the code rate. A 1 sets the 1/4 code rate; 2 sets the 1/2 code rate; and 4 sets the full rate.



TX ATTEN

The relative IF power output from each transmitter. The attenuator setting range is between 0 and -63 in units of dB.

TX RATE

User data transmit rate. The entry can be as many as 5 decimal digits in units of bits per second. Leading zeros will automatically enter if the entry is less than 5 digits. The entry may also include K or M for kilo or Mega bits per second with a decimal point anywhere after the most significant digit. The minimum data rate is 75 bps and the maximum data rate is 2.5 Mbps.

UART

Universal synchronous receiver/transmitter. Simultaneously transmits and receives asynchronous data.

GLOSSARY - Continued

VCON	Displays the channel designator and transmitter drive status of any COMM R/T drawers which are CONF READY.
2R Clock	The clock signal that is twice the symbol rate.
4R Clock	The clock signal that is four times the symbol rate.
VERIFY	Initiates AFI verification of selected functions.
XFER	Transfers display and control from Interface Unit to backup teletypewriter and vice versa.

Glossary 17 (Glossary 18 blank)

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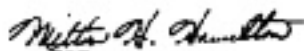
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