

TM 2000-OD/2C

U.S. MARINE CORPS TECHNICAL MANUAL

**PRINCIPAL TECHNICAL
CHARACTERISTICS OF
U.S. MARINE CORPS
COMMUNICATION-ELECTRONICS
EQUIPMENT**



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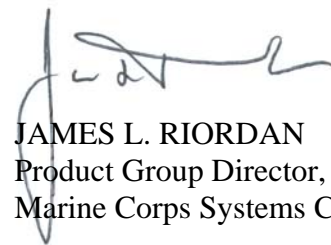
1. This Technical Manual (TM), authenticated for Marine Corps use and effective upon receipt, provides technical characteristics information for Marine Corps Communication-Electronics Equipment.
2. This manual supersedes TM 2000-15/2B dated April 1993.
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TM 2000-OD/2C DATA SHEET LEGEND

The following information is meant as a legend for information presented on TM 2000-OD/2C data sheets. As a quick search option, a Model Number Index I and TAMCN Index II are provided at the end of this manual.

NOMENCLATURE (LONG TITLE, ACRONYM, MODEL NUMBER)

<u>TAMCN</u> (Table of Authorized Material Control Number)	<u>NSN</u> (National Stock Number)	<u>ID</u> (Identification Number)
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Digital Photo or No Illustration Available

DESCRIPTION AND FUNCTION

(One or more paragraphs which provides the systems basic information.)

Manufacturer: (System integrator or fabricator)

Marine Corps Systems Command: MC2I Product Group 11 or CINS Product Group 12

TECHNICAL CHARACTERISTICS

(Lists system specifics by columns, the first column should designate a function (i.e., power requirement, installation, and size and weight). The second column represents a value corresponding to the first column (i.e., 28 VDC, fixed or manpackable, and weight, length, width and height)).

MAJOR COMPONENTS

This section should only list the major components of the end item. These items are in a table with the first column designating a quantity and the second column representing the specific name of the component.

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Section I
Equipment Systems/Principal End Items

ADVANCED AIR DELIVERED SENSOR (AADS)

TAMCN A00017G NSN 5865-01-527-3746 ID 11096A



DESCRIPTION AND FUNCTION

The Advanced Air Delivered Sensor (AADS) is a fixed wing aircraft deliverable, passive seismic acoustic ground sensor used to classify active targets within specified ranges. The AADS collects target data that is then transmitted over Radio Frequency (RF) links to Tactical Remote Sensor System (TRSS) sensor data and reported to supported units.

Manufacturer: Textron

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	83 lb.
Length	72 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Aft Assembly (Electronics)	1	Battery Assembly
1	Housing Nose Assembly		

ADVANCED FIELD ARTILLERY TACTICAL DATA SYSTEM (AFATDS), AN/GYK-60

TAMCN A25557G NSN 1220-01-525-6305 ID 11069A



DESCRIPTION AND FUNCTION

The Advanced Field Artillery Tactical Data System (AFATDS), AN/GYK-60 is an automated Command and Control (C2) system for fire support operations. The AFATDS is comprised of hardware devices, AFATDS software, and necessary communications equipment configured to provide command, control, and coordination of all supporting arms, i.e., artillery, mortars, air, and naval surface fire support. The AFATDS is intended for use at all levels of the fire support C2 architecture. The AFATDS will operate within the existing and planned communication architecture over wire or field radios and will assist the commander in the delivery of and coordination of supporting arms. The AFATDS provides the capability to integrate all fire support assets into the planning and execution of the battle plan, while prioritizing every target in the system to ensure high payoff targets are attacked. Further, the AFATDS increases the flexibility of fire support C2 structure and enhances Concept of Operations alternatives. The AFATDS is the designated hardware platform for the AFATDS operational software package. It primarily consists of a ruggedized laptop computer with a “QWERTY” keyboard, touch pad mouse, Random Access Memory (RAM), color display panel, and high-speed communications interface capability. The AFATDS provides a functional workstation within an Operation Facility (OPFAC) that performs computations and provides control and storage of system software, application programs, and data. These workstations contain a real-time clock and internal data interface controls for operation with other OPFAC components. The fielded AFATDS is comprised of ruggedized common hardware and software components procured via the Army Common Hardware/Software CHS-3 contract.

Manufacturer: General Dynamics

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Power Requirements	100/200 VAC at 50/60 Hz or 22-32 VDC	
Size and Weight	Operating	Shipping/Storage
Weight	51 lb.	111 lb.
Length	45 in.	28 in.
Width	39 in.	24 in.
Height	15 in.	25 in.
Square	12.2 sq. ft.	4.2 sq. ft.
Cube	15.2 cu. ft.	8.7 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	V2 Unix Laptop 650 MHz Ultra SPARC Lie, 15 in. LCD and Solaris 8 (02-2781609-2AA)	1	V1/V2 30 GB 2.5 in. RHDD (02-2777324-4)

AIR DEFENSE COMMUNICATIONS PLATFORM (ADCP), AN/MSQ-124

TAMCN

A00257G

NSN

1430-01-407-9647

ID

10200A



DESCRIPTION AND FUNCTION

The Air Defense Communications Platform (ADCP), AN/MSQ-124 consists of radio and computer equipment housed in a Lightweight Multipurpose Shelter (LMS), mounted on a Heavy Variant - High Mobility Multipurpose Wheeled Vehicle (H-HMMWV). A towed diesel generator provides electric power for the ADCP. The ADCP interfaces with the AN/TYQ-23(V)4 Tactical Air Operations Module (TAOM) and provides the TAOM necessary radio equipment to access the Joint Tactical Information Distribution System (JTIDS) network. The ADCP system receives, processes, transmits, and distributes Tactical Data Link (TDL) information within the Marine Air Command and Control Systems (MACCS) and external to the MACCS. It provides a JTIDS interface and a TDL-Joint (TDL-J) capability to the TAOM. This is referred to as Multi-Channel Interface Unit (MCIU) mode. The ADCP also has a limited voice communications capability. In basic ADCP mode, the software has a TDL-J capability, enabling the ADCP to conduct a Reporting Responsibility (R2) function for Tactical Ballistic Missile (TBM) target data originating from the AN/TPS-59(V)3 Radar Set via Point to Point Data Link (PPDL). The basic ADCP software has the capability to simultaneously receive Air Breathing Threat (ABT) data from select sensors (i.e., Tactical Defense Alert Radar (TDAR)) and transmits this data via Ground Based Data Link (GBDL) to Short Range Air Defense (SHORAD) units. The ADCP operates in one of three modes; stand alone, integrated TAOM (TAMCN A25257G), and integrated enhancement package (TAMCN A00487G).

Manufacturer:

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Mobility	Sheltered Transportable by truck, rail, ship, aircraft, or helicopter	Data Links Type Transmission Radio Wireline	PPDL, TADIL-J, GBDL UHF, VHF, HF Data Links
Power Requirements	120/208 VAC, 50-60 Hz, 3-phase "WYE"		
Size and Weight	Shelter Only	Trailer	
Weight	3,523 lb.	3,220 lb.	
Length	140 in.	146 in.	
Width	88 in.	84 in.	
Height	73 in.	66 in.	
Cube	521 cu. ft.	469 cu. ft.	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	JTIDS Radio Set (URC-107(V)10)	1	Shelter Suite (S-788/G LMS)
1	Multi-Channel Interface Unit	1	Environmental Suite (ECU)
1	Computer Suite	1	Fire Control Set Group, Trailer Assembly
1	Communications Suite	1	Power Suite (MEP 803)
3	Internal Radio Unit (IRU)	1	Truck, Utility (M1097A2)
1	Crypto Device, KY-99A	1	Power Distribution Panel (PDP)
1	Crypto Device, KY-68	1	Printer Unit (PRU)
1	Crypto Device, KGV-8C	1	Navigation Set (PSN-11)

AIR DEFENSE COMMUNICATIONS PLATFORM (ADCP) ENHANCEMENT PACKAGE (EP)

TAMCN

A00487G

NSN

TBD

ID

TBD



DESCRIPTION AND FUNCTION

The Air Defense Communications Platform (ADCP) Enhancement Package (EP) provides the means to exchange data link messages between the Complementary Low Altitude Weapons System (CLAWS) Section Leader-Remote Terminal Unit (SL-RTU), the AN/MPQ-64 Sentinel Radar, and an associated higher Command and Control (C2) node. The architecture incorporating the CLAWS SL-RTU (with associated Firing Units), Sentinel Radar, and a higher C2 node has been labeled as the Marine Air Command and Control System Capability Set I (MACCS CapSet I). The ADCP is the host platform, not part of the EP, nor is the CLAWS.

Manufacturer:

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Tent (Base-X)	2	RF-390 Antenna
1	Boot, S-788 Vehicle	1	AN/MPQ-64 Sentinel Radar
2	Light Kit w/Case	4	Tables
2	AN/PRC-117F Radio Set	8	Chairs

AMPHIBIOUS ASSAULT VEHICLE, FULL TRACKED, AAVC7A1

TAMCN

E07967K

NSN

2350-01-080-9087

ID

07268B



DESCRIPTION AND FUNCTION

The Amphibious Assault Vehicle, Full Tracked, AAVC7A1 is a vehicle which gives you a mobile task force communication center in water operations from ship to shore and to inland objectives after ashore. The communication center consists of five radio operator stations, three staff stations, and two master stations. The command communication system contains equipment to provide external secure radio transmission between each AAVC7A1 vehicle and other vehicles and radios. Internal communication between each crew station is provided.

Manufacturer: FMC Corporation

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Crew	3	Maximum Speed Forward	
Fuel Capacity	171 gal.	Land	45 mph
Fuel Type	Multi-fuel	Water	8.2 mph
Cruising Range		Maximum Speed Reverse	
Land at 25 mph	300 mi.	Land	12 mph
Water at 2,600 rpm	7 hr	Water	4.5 mph
Cruising Speed		Armament/Ammunition	7.62 mm Machine Gun
Land	20 to 30 mph		
Water	6 mph		
Size and Weight	Unloaded	Combat Equipped	Cargo Compartment
Weight	46,314 lb.	50,758 lb.	
Length			13.5 ft.
Width			6.0 ft.
Height			5.5 ft.
Cube			445.5 cu. ft.
Capacity			21 combat equipped troops

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	AN/VIC-2	1	AN/PRC-104
1	AN/MSQ-115	1	EPLRS
1	AN/VRC-89	1	KY-57
5	AN/VRC-92	1	KY-65
1	AN/VRC-83		

ANTENNA GROUP, OE-254/GRC

TAMCN H20472G

NSN 5985-01-063-1574

ID 00266B



DESCRIPTION AND FUNCTION

The Antenna Group, OE-254/GRC is an omni-directional, bi-conical antenna designed for broadband operation without field adjustment from 30 to 88 MHz, up to 350 watts. The OE-254/GRC is intended for use with the Single Channel Ground and Airborne Radio System (SINCGARS) family of radios.

Manufacturer: Communications Electronics Command (CECOM)

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Frequency Range	30 to 88 MHz	Antenna Erection Time	15 min. (1 person)
RF Power Capacity	350W	Input Impedance to radio	50 ohms
Distance Range		Type of Radiation	
Between two Antenna		Pattern	Non-directional
Group OE-254/GRC		Voltage-Standing Wave	
Average Terrain	36 mi.	Ratio (VSWR)	
Difficult Terrain	30 mi.	30 to 35 MHz	3:5:1 (max.)
Between Antenna		35 to 88 MHz	3:0:1 (max.)
Group OE-254/GRC and		Size and Weight	
Vehicular Whip Antenna		Weight	42 lb. 10 oz.
Average Terrain	30 mi.		
Difficult Terrain	25 mi.		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Feedcone Assembly		Clamp, Electrical Connector, Strain, PF-211/G
	Cable Assembly, RF, CG-1889C/U		Mast and Base Assembly
	Transit Bag		Mast Sections, MS116A
	Connectors, Adapter, TRU-2064		Adapter Assembly, Lower
	Guy Assemblies		Adapter Assembly, Upper
	Hand Hammer		Insulating Extension
	Base Plate		Antenna Tip Assembly
	Guy Plates (Blue), (Red)		Mast Section Assembly, Lower
	Insulating Tape		Mast Section Assembly, Upper
	Silicone Compound		Mast Sections, MS117A
	Stakes		Stake Assembly

BLACKJACK FACSIMILE SET, AN/UXC-10

TAMCN A08927G

NSN 5815-01-478-7095

ID 10852A



DESCRIPTION AND FUNCTION

The Blackjack Facsimile Set, AN/UXC-10 is a self-contained, portable, rugged tactical multifunctional system for use in harsh field environments. It withstands the toughest military applications, allowing installation in tracked and wheeled vehicles, aircraft and ships. AN/UXC-10 receives/sends data at 64 kbps-transmission rate and provides photographic quality imagery far superior to typical half tones dithered technology. The AN/UXC-10 is a North Atlantic Treaty Organization/Military (NATO/MIL) standard digital facsimile, scanner, printer, and copier. It is also an upgradeable platform that allows users to expand the capability as associated electronics are fielded. This built-in growth capacity ensures the continued application of AN/UXC-10 in the digital architecture of future forces structures. The AN/UXC-10 allows the transmission and reception of classified material using a variety of secure military communications means (i.e., STU-III, KG-84, DSVT, SINCGARS, etc.) and is compatible with the AN/UXC-7 and AN/UXC-4. The AN/UXC-10 will operate in both an encrypted and unencrypted manner and provide a universal means of communications for operating in a coalition and joint forces environment.

Manufacturer: Cryptek

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Technology	Digital	Operational Mode	Modified Huffman
Mobility	Manportable		Algorithm: Transmits up to 64 kbps synchronous,
Power	110/240 VAC, 46/64 Hz		with automatic adjust to data rate, 2.4 to 19.2 kbps
Encryption	12/28 VDC, 200W (max.)		asynchronous
	None		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

BLUE FORCE TRACKER (BFT), BACKPACK VARIANT

TAMCN TBD

NSN TBD

ID TBD



DESCRIPTION AND FUNCTION

The Blue Force Tracker (BFT), Backpack Variant is a satellite-based tracking/communication system. The Marine Corps has procured two versions of the BFT system, the V-4 variant and the USMC CF-28/29 “backpack” variant. The V-4 was developed by the U.S. Army and is mounted in U.S. Army vehicles. The USMC has mounted the V-4 only on the High Mobility Multipurpose Wheeled Vehicle (HMMWV). The USMC “backpack” variant was designed for installation in a HMMWV and for use in the Combat Operations Centers (COC)s. Both variants contain the computer hardware and software, interconnecting cables, a MT2011 L-Band satellite transceiver, a Precision Lightweight GPS Receiver (PLGR), and an installation kit appropriate to the host vehicle type. The computer hardware for the USMC backpack variant is the Panasonic CF-28 laptop and the Panasonic docking station. For the V-4, it is the militarized U.S. Army Force XXI Battle Command, Brigade-and-Below (FBCB2) computer system developed by the U.S. Army. Both systems utilize the same FBCB2 software.

Manufacturer: Northrop Grumman

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Technology	Digital
Orientation	Omni Directional
Mobility	HMMWV mounted (can be ground mounted)
Power	4W (max.)
Distance	Beyond Line of Sight
Operational Mode	Data
Encryption	Unclassified

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	CF-28/29 Laptop	1	MT2011 L-Band Satellite Transceiver
1	Precision Lightweight GPS Receiver (PLGR)	1	Panasonic Docking Station
1	Cable Kit	1	FBCB2 Software Suite
1	Backpack Assembly		

BLUE FORCE TRACKER (BFT), V-4 VARIANT

TAMCN HL243

NSN 7010-01-513-8459

ID 11180A



DESCRIPTION AND FUNCTION

The Blue Force Tracker (BFT), V-4 Variant is a satellite-based tracking/communication system. The Marine Corps has procured two versions of the BFT system, the V-4 variant and the USMC CF-28/29 “backpack” variant. The V-4 was developed by the U.S. Army and is mounted in U.S. Army vehicles. The USMC has mounted the V-4 only on the High Mobility Multipurpose Wheeled Vehicle (HMMWV). The USMC “backpack” variant was designed for installation in a HMMWV and for use in the Combat Operations Centers (COC)s. Both variants contain the computer hardware and software, interconnecting cables, a MT2011 L-Band satellite transceiver, a Precision Lightweight GPS Receiver (PLGR), and an installation kit appropriate to the host vehicle type. The computer hardware for the USMC backpack variant is the Panasonic CF-28 laptop and the Panasonic docking station. For the V-4, it is the militarized U.S. Army Force XXI Battle Command, Brigade-and-Below (FBCB2) computer system developed by the U.S. Army. Both systems utilize the same FBCB2 software.

Manufacturer: Northrop Grumman

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Technology	Digital
Orientation	Omni Directional
Mobility	HMMWV mounted (can be ground mounted)
Power	4W (max.)
Distance	Beyond Line of Sight
Operational Mode	Data
Encryption	Unclassified

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	FBCB2 Computer Suite	1	MT2011 L-Band Satellite Transceiver
1	Precision Lightweight GPS Receiver (PLGR)	1	Vehicle mounting Kit
1	Cable Kit	1	FBCB2 Software Suite

CENTRAL OFFICE, TELEPHONE, AUTOMATIC, AN/TTC-42(V)

TAMCN A02487G NSN 5805-01-188-3993 ID 08440A



DESCRIPTION AND FUNCTION

The Central Office, Telephone, Automatic, AN/TTC-42(V) is a sheltered telephone central office that provides automatic switching service and subscriber service functions to the TRI-TAC family of four-wire, Digital Secure and Non-Secure Voice Terminal telephone instruments (DSVT)s and four-wire digital trunks, including both single channels and Time Division Multiplex (TDM) groups. The AN/TTC-42(V) allows automatic and semi-automatic switching for selected analog loops and trunks and is sized so as to provide switching among 150 channels.

Manufacturer: ITT Industries, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Termination Capacity		Power Requirements	3-phase, 120/208 VAC,
Analog Single Channels	96		17 kW 50/60 or 400 Hz
Digital Single Channels	100		24 VDC, 1,600W internal
Time-Division Multiplex			standby battery for full
Channels	180 (over 7 groups)		operation of switch for
Switch Capacity			1 hour (less heating, air-
Switched Circuits	150		conditioning soldering, etc.)
Loops	120 (up to 24 analog)	Size and Weight	Operating/Shipping
Multiplexed Groups	7	Weight	5,700 lb.
Trunks	90 (up to 24 analog)	Length	181.0 in.
Trunk Groups	16	Width	88.375 in.
Conversion Capacity	32 kb/s to 16 kb/s	Height	87.0 in.
Installation	Mounted in Shelter	Cube	806 cu. ft.
	S-280; air or vehicular		
	transportable		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
2	Automatic Key Distribution Center (AKDC)	1	Shelter, Electrical Equipment S-280
	TSEC/KGX-93	1	Power Cabinet
6	Trunk Encryption Devices (TED)	1	COMSEC Cabinet
	TSEC/KG-194	1	Call Service Position Console
16	Loop Key Generators, TSEC/KG-82	1	Maintenance-Supervisor Position Console
1	Fault Assistant Module (FAM) Kit	1	Red Switch Cabinet
1	Configuration Kit	1	Black Switch Cabinet
1	KY-57	1	Voice-Orderwire Control Unit
		2	Air Conditioner, Horizontal Compact 18,000 BTU

COMBAT OPERATIONS CENTER (COC), TACTICAL COMMAND SYSTEM, AN/TSQ-XXX(V)3

TAMCN

A02547G

NSN

5895-01-520-4341

ID

11032A



DESCRIPTION AND FUNCTION

The Combat Operations Center (COC), Tactical Command System, AN/TSQ-XXX(V)3 is a set of Commercial-Off-The-Shelf (COTS) equipment configured as a Capability Set III (CapSet III) tailored to the Regiment/Group level and is designed to provide a self-contained Command and Control (C²) operational facility to collect, process, and disseminate tactical data for the Marine Air Ground Task Force (MAGTF) commander and staff. The illustrations depict a CapSet III AN/TSQ-XXX(V)3 deployed for operation and stowed ready for movement. COC displacement relies on three (3) owning unit M1123 High Mobility Multipurpose Wheeled Vehicle (HMMWV)-A2s as the prime mover. Up to 24 owning unit provided external radios may be connected to the COC voice communication system. Antennas can be located up to 2 km away using supplied fiber optic cable.

Manufacturer: General Dynamics Decision Systems

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Transport	Truck, rail, ship, aircraft, trailers (external for rotary wing)		
Power Requirements	120/208 VAC, 60 Hz, 3-phase		
Size and Weight		Operational Trailer (OT)	Supplemental Equipment (SEII)
Weight	(GETT) 4,165 lb.	4,196 lb.	5,642 lb.
Weight (Tongue)	348 lb.	376 lb.	N/A
Length	160 in.	132 in.	N/A
Width	86 in.	86 in.	N/A
Height	72 in.	86 in.	N/A
Square	95.6 sq. ft.	78.8 sq. ft.	N/A
Cube	573.4 cu. ft.	565 cu. ft.	518.7 cu. ft.

NOTE

“SE” denotes “supplemental equipment”: components not transported on either the OT or GETT, but are transported in the HMMWV, or other vehicle, at unit discretion.

Tactical Data Systems (TDS): AFATDS, GCCS, IOSV1, IOSV2, SIPRNET Workstation (GCCS client, IOW client, C2PC, DMS, LOG AIS (MAGTF II and MDSSII), JFRG II, others), NIPRNET Workstation (IOW client, C2PC, LOG AIS (CAEMS, MAGTF II, MDSSII, TC-AIMSII), PC-MIMMS, ROLMS, others)

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
2	20 kW Generator, 96K BTU ECU, Tent (GETT) Trailer	1	Plotter, Graphics
1	Operational Trailer (OT) with Transit Cased Electronics	4	Medium Format Printer
15	Workstations	2	Large Screen Display System
2	LAN (SIPR and NIPR)	2	Digital Switching Unit (DSU)
1	MEP531A 2 kW Generator	2	Uninterruptible Power Supply (UPS)
2	Interactive Whiteboard	4	Crypto Device, KIV-7
		1	Voice/Data Communication System

NOTE

A CapSet III COC consists of all of the major components of a CapSet IV COC.

COMBAT OPERATIONS CENTER (COC), TACTICAL COMMAND SYSTEM, AN/TSQ-XXX(V)4

TAMCN

A02557G

NSN

5895-01-520-4360

ID

11031A



DESCRIPTION AND FUNCTION

The Combat Operations Center (COC), Tactical Command System, AN/TSQ-XXX(V)4 is Commercial-Off-The-Shelf (COTS) equipment configured as a Capability Set IV (CapSet IV) tailored to the Battalion/Squadron level. It provides a self-contained Command and Control (C²) operational facility to collect, process, and disseminate tactical data for the CE, GCE, CSSE, and ACE commanders and their staff. The picture depicts a CapSet IV deployed for operation. CapSet IV COC displacement relies on two (2) owning unit M1123 High Mobility Multipurpose Wheeled Vehicle (HMMWV)-A2s as the prime movers. Up to 24 external radios may be connected using the two Digital Switching Units (DSU); antennas can be located up to 2 km away using fiber optic cable.

Manufacturer: General Dynamics Decision Systems

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

	Truck, rail, ship, aircraft or helicopter	Operational Trailer (OT)	Supplemental Equipment (SEII)
Power Requirements	120/208 VAC, 60 Hz, 3-phase		
Size and Weight	(GETT)		
Weight	4,165 lb.	4,196 lb.	3,620 lb.
Weight (Tongue)	348 lb.	376 lb.	N/A
Length	160 in.	132 in.	N/A
Width	86 in.	86 in.	N/A
Height	72 in.	86 in.	N/A
Square	95.6 sq. ft.	78.8 sq. ft.	N/A
Cube	573.4 cu. ft.	565 cu. ft.	331 cu. ft.

NOTE

“SE” denotes “supplemental equipment”: components not transported on either the OT or GETT, but are transported in the HMMWV, or other vehicle, at unit discretion.

Representative sample of Tactical Data Systems (TDS): AFATDS, GCCS, IOSV1, IOSV2, SIPRNET Workstation (GCCS client, IOW client, C2PC, DMS, LOG AIS (MAGTF II and MDSSII), JFRG II, others), NIPRNET Workstation (IOW client, C2PC, LOG AIS (CAEMS, MAGTF II, MDSSII, TC-AIMSII), PC-MIMMS, ROLMS, others)

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	20 kW COTS Generator, 96K BTU COTS Environmental Control Unit, and COTS “quick-erect” Tent integrated on a modified M1102 Trailer (GETT)	1	MEP531A 2 kW
		1	Interactive Whiteboard
		1	COTS Medium Format Printer
		1	Large Screen Display System
1	Electronics Equipment and Peripherals Suite for COC Functionality (OT)	2	Digital Switching Unit (DSU)
		3	Uninterruptible Power Supply (UPS)
8	Notebook PC/workstations	4	Crypto Device, KIV-7
1	SIPR/NIPR LAN	1	Intercom System

COMMAND COMMUNICATION SYSTEM, AN/MSQ-115

TAMCN

A02607G

NSN

5895-01-170-6462

ID

08463A



DESCRIPTION AND FUNCTION

The Command Communications System, AN/MSQ-115 provides interior communications between two commander positions, three staff members, and five radio operators. It also provides command communication and (when interfaced with the AN/VIC-2) provides intercommunication with vehicle crew members. It is used in the AAVC7A1 command vehicle and provides control of secure and non-secure radio equipment High Frequency (HF), Very High Frequency (VHF), and Ultra High Frequency (UHF).

Manufacturer: Rockwell Collins, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Modulation	AM, FM	Installation	Vehicular system
Compatible Interfaces		Standard Power Source	22-32 VDC, 95A (max.)
Intercom	AN/VIC-2		
Crypto	KY-57, KY-65, KY-67		
Handset	H-250/U		
Headset	H-161F/U		
Radio	SINCGARS, AN/PRC-104, AN/VRC-83		
Size and Weight	Operating/Shipping		
	C-10879	CN-1549	AN/MIQ-1
Weight	68 lb.	5 lb. each	17 lb. each
Cube	2.5 cu. ft.	0.25 cu. ft.	1 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Controller, Communication System, C-10879/MSQ-115	2	Intercommunication Set, AN/MIQ-1(V)1
3	Intercommunication Set, AN/MIQ-1(V)2	5	Intercommunication Set, AN/MIQ-1(V)3
5	Regulator, Current, CN-1549/MSQ-115		

COMMAND AND CONTROL ON-THE-MOVE NETWORK, DIGITAL OVER-THE-HORIZON RELAY (CONDOR)

TAMCN TBD

NSN TBD

ID TBD



DESCRIPTION AND FUNCTION

The Command and Control On-The-Move Network, Digital Over-The-Horizon Relay (CONDOR) Capability Set will enable forces to maintain data network connectivity beyond line of sight, allow various radio systems to enter the tactical data network and allow tactical data network servers to maintain connectivity while moving. CONDOR will have three capabilities: the Gateway - providing a link between two Enhanced Position and Location Reporting System (EPLRS), a point of presence vehicle - allows forces to enter the tactical data network via any available radio, a jump command and control vehicle - which allows forces equipped with track management servers to maintain state on those servers and support access to the tactical picture while on the move.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Transport	Transportable by truck, rail, ship, aircraft or helicopter	Size and Weight	Operating/Shipping Packed in various size and weight transit cases
Technology	Digital		
Spectrum	L-Band INMARSAT/Tactical Radios		
Orientation	Omni-Directional		
Range	LOS to OTH		
Operational Mode	Low to Medium Rate Data		
Encryption	NSA Approved TYPE-1		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Radio Set (vehicle mounted)		INMARSAT M4 Mobile/Vehicular Telephone System
	Laptop Computer		In-line Network Encryptor
	GPS		Power Distribution Units
	EPLRS Radio Set		

**COMMAND TACTICAL TERMINAL THREE (CTT/H3),
INTELLIGENCE BROADCAST RECEIVER (IBR), AN/USC-55A**

TAMCN

A25517G

NSN

5895-01-443-9072

ID

10389A



DESCRIPTION AND FUNCTION

The Command Tactical Terminal Three (CTT/H3), Intelligence Broadcast Receiver (IBR), AN/USC-55A is a three-channel Ultra High Frequency (UHF) Satellite Communications (SATCOM)/Line of Sight (LOS) IBR. The AN/USC-55A operates one full-duplex and two receive-only channels to provide intelligence data from the Tactical Intelligence Broadcast Service (TIBS), the Tactical Reconnaissance Intelligence Exchange System (TRIXS), the Tactical Data Dissemination System (TDDS), and the Tactical Data Information Exchange System Broadcast (TADIXS B).

The AN/USC-55A is capable of receiving three-channels of intelligence broadcasts simultaneously to deliver dedicated, critical, time-sensitive battlefield targeting information to tactical commanders and intelligence nodes at all maintenance levels, in near-real-time, at collateral or system-high security levels. The AN/USC-55A is ruggedized for use in combat and is required to provide direct sensor-to-shooter connectivity for rapid targeting, threat avoidance, battle management, and mission planning.

The AN/USC-55A consists of the RT-1714A/USC-55A Radio Receiver Transmitter and the CD-81A/USC-55A Signal Data Processor.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	110 VAC, 60 Hz	
Size and Weight	Operating	Shipping
Weight	69.0 lb.	92.0 lb.
Length	22.8 in.	32.0 in.
Width	10.2 in.	20.0 in.
Height	10.6 in.	22.0 in.
Square	1.6 sq. ft.	4.5 sq. ft.
Cube	1.43 cu. ft.	8.2 cu. ft.
Stowage	1.43 cu. ft.	8.2 cu. ft.
Operational	Receive Integrated Broadcast Service (IBS) Operates at Sensitive Compartmented Information (SCI) or Secret General Service (GENSER) Compatible with user's host platform	
Communication Hardware	Ultra High Frequency (UHF) TEMPEST Design, field upgradeable	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	RT-1714A/USC-55A, Radio Receiver-Transmitter	1	AS-3439/G Hemispherical SATCOM Antenna
1	CD-81A/USC-55A, Signal Data Processor	1	AS-3567/G Directional SATCOM Antenna
	Power and Interface Cables	2	2 ft. RF Cables
1	RF Splitter	3	100 ft. RF Cables
3	SATCOM Low Noise Amplifiers (LNA)	2	Software Download Cables
1	AS-3566/G UHF LOS Antenna	3	Transit Cases

COMMON AVIATION COMMAND AND CONTROL SYSTEM (CAC2S)

TAMCN

A00307G

NSN

TBD

ID

TBD



DESCRIPTION AND FUNCTION

NOTE

The CAC2S is currently under development. Initial Operating Capability (IOC) is planned for early FY-08.

The Common Aviation Command and Control System (CAC2S) will provide planning and execution capabilities for aviation operations that will interface legacy Marine Air Command and Control System (MACCS) equipment with Marine Air Ground Task Force (MAGTF) Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) systems. The CAC2S will replace existing legacy MACCS equipment Tactical Air Command Center (TACC), Tactical Air Operations Center (TAOC), Direct Air Support Center (DASC), Marine Air Traffic Control Detachment (MATCD), and Low Altitude Air Defense Battalion (LAAD Bn) and integrate aviation Command and Control (C2) functions into an interoperable system that supports the core competencies of Marine Corps war fighting. The CAC2S will consist of three Subsystems, a Processing and Display Subsystem (PDS), Communication Subsystem (CS), a Sensor/Data Subsystem (SDS) with each containing tactical shelters, hardware, and software with the overarching objective of significantly reducing the logistical footprint of the existing MACCS equipment suites. The hardware components will be modular and man portable and may be either free standing or rack mounted in a shelter integrated into and transported by a High Mobility Multipurpose Wheeled Vehicle (HMMWV).

The Processing and Display Subsystem (PDS) will support all information processing, storage, organization, and display requirements for the operation of CAC2S.

The Communication Subsystem (CS) will provide the capability to interface with both organic internal and external communication assets and the means to control their operation.

The Sensor/Data Subsystem (SDS) will provide a non-proprietary open capability of integrating emerging active and passive sensor technology for future MACCS sensors.

Manufacturer: Raytheon IDS

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

COMMUNICATION EMITTER SENSING AND ATTACKING SYSTEM (CESAS), AN/USQ-146(V)3

TAMCN TBD

NSN TBD

ID TBD



DESCRIPTION AND FUNCTION

The Communication Emitter Sensing and Attacking System (CESAS), AN/USQ-146(V)3 is an advanced Electronic Attack System that can be mounted in a variety of platforms including the High Mobility Multipurpose Wheeled Vehicle (HMMWV). The CESAS will provide Marine Air Ground Task Force (MAGTF) with the capability to detect, deny, and disrupt enemy radio communications during amphibious assaults and subsequent operations ashore.

Manufacturer: SPAWAR, Charleston

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Technology	Digital
Spectrum	Ultra High Frequency 20-2,500 MHz
Orientation	Directional/Omni
Mobility	HMMWV mounted
Distance	30+ mi.
Operational Mode	Voice/Data
Encryption	TBD

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	AN/USQ-146(V)3 - EA System		PLGR GPS Receiver (AN/PSN-11(V)1)
	SAS-230/C2934 Antennas		CF-28, Ruggedized Laptop Computers
	Astron FM-2012F Antennas		HMMWV Hardtop Shelters and Doors
	SINCGARS Radios		HMR-3300, Digital Compass

COMMUNICATION EQUIPMENT INTERFACE DEVICE, J-6333/U

TAMCN A32637G NSN 5995-01-429-8604 ID 10270A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Communication Interface Set, J-6333/U provides external hardware interfaces to support the United States Marine Corps Ground Base Data Link (GBDL). The GBDL interface is a unidirectional link using High Frequency (HF), Very High Frequency (VHF), or Ultra High Frequency (UHF) radio transmitter or receiver. The 2,400 baud link will transmit or receive stand alone Continuous Wave Acquisition Radar (CWAR), Tactical Defense Alert Radar (TDAR) and local Automatic Data Processor (ADP) sensor track, command and scenario to subordinate units. The J-6333/U supports either analog or digital radios.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

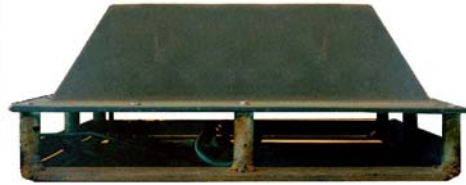
Power Requirements	28 VDC 110-120 VAC, 60 Hz single phase
Size and Weight	
Length	19 in.
Width	25 in.
Height	12 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Antenna		Remote Terminal Unit
	Electronic Components Assembly		Data Processing Terminal (Remote Unit)

COMMUNICATION GROUP, SATELLITE, OS-302/U

TAMCN A09207G NSN 5895-01-468-1938 ID 10661A



DESCRIPTION AND FUNCTION

The Communication Group, Satellite, OS-302/U supports Ultra High Frequency (UHF) Line of Sight (LOS), Satellite Communications (SATCOM) and SATCOM Demand Assigned Multiple Access (DAMA) in an On-The-Move (OTM) configuration. It provides low-speed data rate communication through the UHF Flow-On (UFO) military constellation and through commercial satellites used by the military. It consists of components needed to install and use the AN/PSC-5 or AN/PRC-117F on select High Mobility Multipurpose Wheeled Vehicle (HMMWV) to achieve satellite communications while the vehicle is stationary or moving.

Manufacturer: Ball Aerospace

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	24 VDC				
Battery	BB-490/U				
Size and Weight					
Operating	Antenna Mount and Antenna, Installed		Radio Rack, Installed		
Weight	N/A		N/A		
Length	49.0 in.		22.7 in.		
Width	80.0 in.		14.4 in.		
Height	30.5 in.		14.4 in.		
Square	27.2 sq. ft.		2.3 sq. ft.		
Cube	69.2 cu. ft.		2.7 cu. ft.		
Size and Weight	Vehicle	Satellite/LOS	Satellite/LOS	Power	Loudspeaker
Storage/Shipping	Install Kit	Antenna	Amplifier	Adapter	Unit
Weight	80 lb.	25 lb.	25 lb.	5 lb.	3 lb.
Length	48.0 in.	28.0 in.	22.0 in.	14.0 in.	10.0 in.
Width	26.0 in.	28.0 in.	12.0 in.	14.0 in.	8.0 in.
Height	26.0 in.	12.0 in.	10.0 in.	10.0 in.	8.0 in.
Square	8.7 sq. ft.	5.4 sq. ft.	1.8 sq. ft.	1.4 sq. ft.	0.56 sq. ft.
Cube	18.8 cu. ft.	5.4 cu. ft.	1.5 cu. ft.	1.2 cu. ft.	0.37 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Vehicle Installation Kit, MIK1-1000	1	SATCOM/LOS Antenna, 307227-500
1	Power Adapter, MRC-50 or MRC-99	1	Loudspeaker/Control Unit, LS-671/VRC or MRC-67A
1	HPA/LNA Amplifier, 307241-500		

COMMUNICATIONS DATA LINK SYSTEM (CDLS), AN/TYQ-101A

TAMCN A00217G NSN 5895-01-512-8683 ID 10987A



DESCRIPTION AND FUNCTION

The Communications Data Link System (CDLS), AN/TYQ-101A is an automated interface system, which provides ground and correlated air situation display using information received from multiple intelligence (Rivet Joint, Senior Scout, Deployable Common Ground Station, etc.) and operation (E-3A, E-2C, Air Operations Center, Control and Reporting Center, etc.) sources. The system interfaces with both direct-link and broadcast communications equipment. The system incorporates both two-way (receive and transmit) and one-way (receive only) interfaces. Two-way interfaces include TDL A, TDL B, TDL J, and Tactical Information Broadcast Service (TIBS). Additionally, the system incorporates Joint Range Extension (JRE) Gateway software (used for Joint Tactical Information Distribution System (JTIDS) terminal control and S-TDL J). Receive only protocols include Tactical Data Dissemination System (TDDS), Tactical Data/Digital Information Exchange System (TADIXS) B, North Atlantic Treaty Organization (NATO) Link 1, and United States Message Text Format Tactical Report, Tactical Electronic Intelligence, Operation Support Command, Initial Programmed Interpretation Report, Reconnaissance Exploitation Report, and RADARXREP. The system software is capable of controlling a TIBS Data Interface (TDI) processor, a Commanders Tactical Terminal-Hybrid/Receive Only (CTT-H/R), and a CTT-H/3. In addition to interfacing with tactical data links, the system is capable of interfacing with the Situation Awareness and Analysis (SAA) module of the Theater Battle Management Core System (TBMCS) and the Global Command and Control System (GCCS) via Ethernet connection.

Manufacturer:

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Transport	Sheltered; Transportable by truck, rail, ship, aircraft, or helicopter	Data Links	TADIL-A, TADIL-B, TADIL-J, NATO Link-1, TIBS, TBMCS, GCCS, TADIXS, RADARXREP
Power Requirements	120/208 VAC, 50-60 Hz, 3-phase "WYE"; 28 VDC	Size and Weight	Shelter Only
Type Transmission		Weight	2,460 lb.
Radio	UHF, HF	Length	102 in.
Wireline	Data Links	Width	84 in.
		Height	67 in.
		Cube	521 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Truck, Utility (M1097A2)	1	Crypto Device, KY-68
1	Shelter Suite (S-788/G LMS)	1	Crypto Device, KG-40A
1	Computer Workstation	1	Crypto Device, KIV-7
1	JTIDS Radio Set (URC-107(V)10)	1	Data Terminal Set (DTS)
1	Digital Data Group Processor (DDGP)	1	User Control Device (UCD)
1	Harris HF Radio Group	1	Internal Radio Unit (IRU)
1	Modem (Link-1/TDL B)	1	Secondary Processor

COMMUNICATIONS DISTRIBUTION SYSTEM (CDS) (V)1

TAMCN A00237G NSN 5895-01-477-3614 ID 10723A



DESCRIPTION AND FUNCTION

The Communications Distribution System (CDS) (V)1 is a distributed, digital network with integrated interfaces for telephone, inter-communications and voice and data radio communications. CDS provides an integrated communications infrastructure to facilitate the timely and efficient exchange of voice communications. The CDS network devices can be configured into Local Area Network (LAN) and Local Distribution Network (LDN) sub-systems. The CDS enhances communications distribution in various Marine Corps Air Defense Systems. The CDS (V)1 is used in support of the Communication Interface System (CIS) (V)1 and (V)2 systems. Additionally, select CDS components are integrated with the Air Defense Communications Platform (ADCP) and the newly fielded Direct Air Support Central, Airborne System (DASC, AS).

Manufacturer: General Dynamics, Canada

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Transport	Transportable by truck, rail, ship, aircraft, or helicopter	Size and Weight	Operating/Shipping
Power Requirements	120/208 VAC, 50-60 Hz, 3-phase; 28 VDC		Packed in various size and weight transit cases

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
10	Network Access Unit (NAU)	12	KY-99 Interface Box (KIB2)
26	User Control Device (UCD)	6	SINCGARS Control Device (SCD)
9	UCD Distribution Box (UDB)	4	Stand Alone Signal Entry Panel (SSEP)
27	Binaural Headset	4	NAU Power Supply (NPS)
2	MESHnet Ethernet Unit (MEU)	3	Transit Cases
18	KY-58 Interface Box (KIB1)	2	Laptop, GP (FCT, TAMCN A91002B)

COMMUNICATIONS DISTRIBUTION SYSTEM (CDS) (V)2

TAMCN A00247G NSN 5895-01-477-3619 ID 10724A



DESCRIPTION AND FUNCTION

The Communications Distribution System (CDS) (V)2 is a distributed, digital network with integrated interfaces for telephone, inter-communications and voice and data radio communications. CDS provides an integrated communications infrastructure to facilitate the timely and efficient exchange of voice communications. The CDS network devices can be configured into Local Area Network (LAN) and Local Distribution Network (LDN) sub-systems. The CDS enhances communications distribution in various Marine Corps Air Defense Systems. The CDS (V)2 is used in support of the Communication Interface System (CIS) (V)1 and (V)2 systems. Additionally, select CDS components are integrated with the Air Defense Communications Platform (ADCP) and the newly fielded Direct Air Support Central, Airborne System (DASC, AS).

Manufacturer: General Dynamics, Canada

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

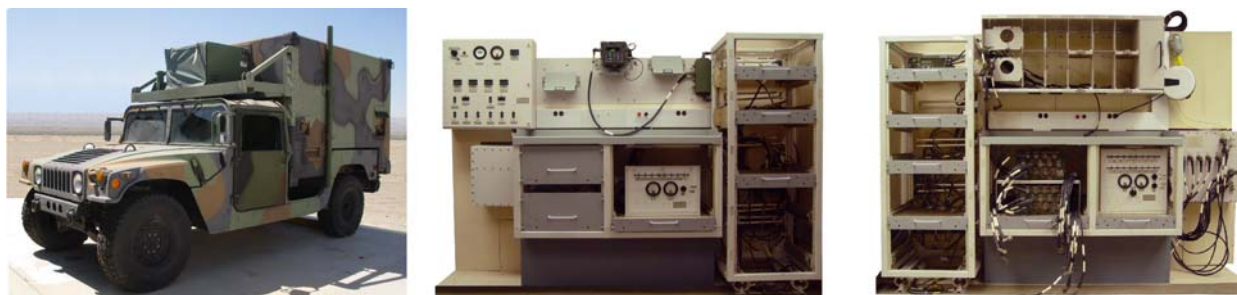
Transport	Transportable by truck, rail, ship, aircraft, or helicopter	Size and Weight	Operating/Shipping
Power Requirements	120/208 VAC, 50-60 Hz, 3-phase; 28 VDC		Packed in various size and weight transit cases

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
7	Network Access Unit (NAU)	12	KY-99 Interface Box (KIB2)
20	User Control Device (UCD)	2	Stand Alone Signal Entry Panel (SSEP)
11	UCD Distribution Box (UDB)	2	NAU Power Supply (NPS)
20	Binaural Headset	6	SINGARS Control Device (SCD)
4	MESHnet Ethernet Unit (MEU)	5	Transit Cases
18	KY-58 Interface Box (KIB1)	2	Laptop, GP (FCT, TAMCN A91002B)

COMMUNICATIONS INTERFACE SYSTEM (CIS), AN/MRQ-12(V)1

TAMCN A32707G NSN 5895-01-460-2551 ID 10576A



DESCRIPTION AND FUNCTION

The Communications Interface System (CIS), AN/MRQ-12(V)1 consists of an M1097A2 Heavy Variant-High Mobility Multipurpose Wheeled Vehicle (H-HMMWV) mounted with a Lightweight Multipurpose Shelter (LMS) model S-788/G, with internal cabling and internally mounted storage racks. Each AN/MRQ-12 provides rack space, antennas, signal and power distribution for Digital Non-secure Voice Terminal (DNVT) telephone circuits, Very High Frequency (VHF), Ultra High Frequency (UHF), and High Frequency (HF) radios, Satellite Communications (SATCOM) and Communications Distribution System (CDS) components.

The AN/MRQ-12(V)1 was initially fielded as part of the Tactical Air Control/Command Center (TACC) and Direct Air Support Center (DASC) system architectures. The AN/MRQ-12(V)1 tows a trailer with its associated equipment. The AN/MRQ-12(V)1 is used in the TACC as communications trailers containing a portion of CDS components mounted within its shelters and a remote (dismounted) portion that may be dispersed within the AN/MRQ-12(V)1 shelter suite or other facility. The CDS provides operator interface to the radio, telephone, and intercom nets of both system variants.

System architecture contains CDS equipment, which may be connected to different shelters by use of fiber optic or copper cables to provide a modular increase in capabilities. The shelters are selectively populated, at the user's discretion, with radio, cryptographic, CDS, and computer components to accomplish assigned mission functions.

Manufacturer: NSWC Crane, Inc.

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

	Sheltered;	Size and Weight	Shelter Only	Trailer
Transport	Transportable by truck, rail, ship, aircraft, or helicopter	Weight	2,460 lb.	800 lb.
		Length	102 in.	146 in.
Power Requirements	120/208 VAC, 50-60 Hz, 3-phase, 24 VDC	Width	84 in.	87 in.
		Height	67 in.	35 in.
Type Transmission		Cube	332 cu. ft.	257 cu. ft.
Radio	UHF, VHF, HF, SATCOM			
Wireline	DNVT			

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	P/O Communications Distribution System (V)1	4	Crypto Device, KY-99
3	Internal Radio Unit (AN/GRC-171B(V)4)	6	Crypto Device, KY-58
2	Internal Radio Unit (AN/VRC-90A)	1	Environmental Control Unit (ECU) B0002
2	Internal Radio Unit (AN/VRC-83)	1	Power Suite (MEP-803A)
2	Internal Radio Unit (AN/VRC-102)	1	Trailer Assembly
1	Truck, Utility (M1097A2)	1	Shelter Suite (LMS S-788/G)

COMMUNICATIONS INTERFACE SYSTEM (CIS), AN/MRQ-12(V)2

TAMCN A08217G NSN 5895-01-514-7015 ID 10576B



DESCRIPTION AND FUNCTION

The Communications Interface System (CIS), AN/MRQ-12(V)2 consists of an M1097A2 Heavy Variant-High Mobility Multipurpose Wheeled Vehicle (H-HMMWV) mounted with a Lightweight Multipurpose Shelter (LMS) model S-788/G, with internal cabling and internally mounted storage racks. Each AN/MRQ-12 provides rack space, antennas, and signal and power distribution for Digital Non-secure Voice Terminal (DNVT) telephone circuits, Very High Frequency (VHF), Ultra High Frequency (UHF), and High Frequency (HF) radios, Satellite Communications (SATCOM) and Communications Distribution System (CDS) components.

The AN/MRQ-12(V)2 systems were initially fielded as part of the Tactical Air Control/Command Center (TACC) and Direct Air Support Center (DASC) system architectures. System architecture contains CDS equipment, which may be connected to different shelters by use of fiber optic or copper cables to provide a modular increase in capabilities. The shelters are selectively populated, at the users discretion, with radio, cryptographic, CDS, and computer components to accomplish assigned mission functions.

Manufacturer:

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Transport	Sheltered; Transportable by truck, rail, ship, aircraft, or helicopter	Size and Weight	Shelter Only	Trailer
		Weight	2,460 lb.	800 lb.
		Length	102 in.	146 in.
Power Requirements	120/208 VAC, 50-60 Hz, 3-phase, 24 VDC	Width	84 in.	87 in.
		Height	67 in.	35 in.
Type Transmission		Cube	332 cu. ft.	257 cu. ft.
Radio	UHF, VHF, HF, SATCOM			
Wireline	DNVT			

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	P/O Communications Distribution System (V)2	3	Internal Radio Unit (AN/GRC-171B(V)4)
4	Crypto Device, KY-99	2	Internal Radio Unit (AN/VRC-90A)
6	Crypto Device, KY-58	2	Internal Radio Unit (AN/VRC-83)
2	Internal Radio Unit (AN/VRC-102)	1	Environmental Control Unit (ECU) B0002
1	Shelter Suite (LMS S-788/G)	1	Power Suite (MEP-803A)
1	Truck, Utility (M1097A2)	1	Trailer Assembly

COMMUNICATIONS TERMINAL, AN/UGC-74C(V)3

TAMCN

A02847G

NSN

5815-01-211-4122

ID

08008C



DESCRIPTION AND FUNCTION

The Communications Terminal, AN/UGC-74C(V)3 is a bit serial, multi-speed page teleprinter designed to operate in the most severe tactical situations. The terminal can store 56,000 characters in the message memory and an additional 120,000 characters in the Auxiliary Memory Module (AMM) which maintains message storage integrity during power-down and self-test conditions. The AMM may be removed, transported to a different terminal anywhere, installed, and fully utilized with all previously stored messages in the AMM remaining intact and accessible. The terminal can be used in secure locations where radio frequency interference and undesired electrical emissions must be suppressed.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Installation	Fixed, vehicular, or aircraft	Size and Weight	Operating/Shipping
Power Requirements	115 VAC/230 VAC ($\pm 15\%$); 50, 60 or 400 Hz ($\pm 5\%$); 135W (max.)-steady state single phase or 26 (± 4) VDC; 2A (max.)	Weight	88 lb.
		Length	21.75 in.
		Width	17.5 in.
		Height	9.5 in.
		Cube	3 cu. ft.
Operating Temperature	+32°F to +131°F		
Storage Temperature	-40°F to +131°F		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Teleprinter Assembly	1	Chassis Assembly
1	Filter Assembly	1	Interface Assembly
1	Keyboard Assembly	1	Circuit Card Assembly, Auxiliary Interface
1	Memory Unit, Auxiliary MU-856/UGC-74	1	Circuit Card Assembly, Auxiliary Memory/Relay Controller (AM/RC)

CONTROL MONITOR SET (CMS), AN/PTW-1

TAMCN A26307G NSN 5895-01-383-0240 ID 09872A



DESCRIPTION AND FUNCTION

The Control Monitor Set (CMS), AN/PTW-1 provides the communications personnel of the command elements of the Marine Expeditionary Forces (MEF) and their major subordinate commands with an analog line conditioner capable of transmission testing and channel patching for twelve 26 pair cable connections. This shall provide communications personnel with the ability to install, monitor, test, troubleshoot, and restore analog circuits to enhance the overall command and control of operating forces.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120/208 VAC, 50/60 Hz, also 28 VDC
Size and Weight	Operating/Shipping
Weight	250 lb.
Length	37 in.
Width	27 in.
Height	33 in.
Square	6.93 sq. ft.
Cube	19.08 cu. ft.
Stowage	19.08 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
4	Signal and Terminating Units (STU) STU-5M	1	A/C Power Cable
1	Transmission Test Set	1	28 VDC DC/DC Converter Power Supply
18	VF Amplifiers		
2	Equalizers		

COUNTERINTELLIGENCE AND HUMAN INTELLIGENCE (CI/HUMINT) EQUIPMENT PROGRAM (CIHEP)

TAMCN A12807G NSN 5865-01-477-8653 ID 10728A



DESCRIPTION AND FUNCTION

The Counterintelligence and Human Intelligence (CI/HUMINT) Equipment Program (CIHEP) supports full spectrum controlled, surreptitious, and tactical CI/Force Protection, HUMINT, and technical collection operations in accordance with (IAW) applicable national oversight directives with equipment dedicated to Marine Air Ground Task Force (MAGTF) CI/HUMINT support with integrated, standardized, and interoperable equipment. CIHEP consists of 6 suites, integrating Automatic Data Processing (ADP), imagery, communications, audio, technical surveillance, and miscellaneous equipment into lightweight, modular, deployable packages, implementing appropriate protocols and standards, ensuring interoperability between Marine Expeditionary Force (MEF)s, MarForRes, other service agencies, and national agencies. CIHEP communications capabilities include 310 AN/PRC-148(V)2C Tactical Hand Held Radio (THHR)s, 46 Iridium cell phones, and 67 AN/PRC-117F.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Technology	Includes computer, imagery, communications, audio, fixed and mobile surveillance, installation, camera, lenses, accessories, and miscellaneous equipment
Mobility	Vehicle mountable and manpackable
Operational Mode	Voice/Data
Encryption	KY-57/58/99/99A; KG-84A/C; fascinator

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	PRC-117F with Wireless Messaging Terminal Data Transfer		Personal Computer
	PRC-148 THHR		

DATA DISTRIBUTION SYSTEM (DDS), AN/TSQ-228(V)1, -228A(V)1

<u>TAMCN</u>	A25387G	AN/TSQ-228(V)1	<u>NSN</u>	5895-01-467-6942	<u>ID</u>	10665A
<u>TAMCN</u>	A25387G	AN/TSQ-228A(V)1	<u>NSN</u>	5895-01-504-0650	<u>ID</u>	10665B



DESCRIPTION AND FUNCTION

The Data Distribution System (DDS), AN/TSQ-228(V)1, -228A(V)1 referred to as the Tactical Data Network (TDN) Server, will augment the existing Marine Air Ground Task Force (MAGTF) tactical communications infrastructure to provide the MAGTF Commander an integrated data network. This data network will support MAGTF Tactical Data Systems (TDS)s and the Defense Message System (DMS) by providing a network of communication nodes (gateways and servers) interconnected with one another and their subscribers via a combination of common user long haul transmission systems, Local Area Networks (LAN)s, the Enhanced Position Location Reporting System (EPLRS), and switch telephone systems. The AN/TSQ-228(V)1, -228A(V)1 will support both unclassified and secret data communications. This system will provide up to 96 subscribers with basic data transfer and switching services; access to strategic, supporting base, joint, and other service component data networks; network management capabilities; and value-added services, such as message handling, directory services, file sharing, and terminal emulation support. In addition, the TDN system will provide Marine Corps tactical users the infrastructure to support the transition from the Automated Digital Network (AUTODIN) to the mandated replacement system, DMS.

The TDN Servers will be deployed at the Marine Expeditionary Force (MEF), Major Subordinate Command (MSC), and units down to the Battalion/Squadron level. It will provide access to other TDN Servers, the TDN Gateway, and will act as a gateway to other service networks, when required.

Manufacturer: General Dynamics C4S

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	110/120 VAC, 60 Hz, 13A
LAN Connections	Up to 96 Network Subscribers
Installation	HMMWV mounted gateway transit cased DDS
Encryption	KIV-7HS, KIV-19, STE, KY-68, KG-175

Size and Weight	Network Access Case	UPS Storage Case	User Access Case	LAN Service Case
Weight	200 lb.	173 lb.	178 lb.	200 lb.
Length	36.5 in.	36.0 in.	36.0 in.	36.5 in.
Width	23.62 in.	30.5 in.	30.5 in.	23.62 in.
Height	27.25 in.	20.5 in.	20.5 in.	27.25 in.
Square	5.99 sq. ft.	7.62 sq. ft.	7.62 sq. ft.	5.99 sq. ft.
Cube	13.59 cu. ft.	13.02 cu. ft.	13.02 cu. ft.	13.59 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Server, LAN	5	Ethernet Switch
1	Router, LAN	1	1.5 KVA UPS
1	15 inch Monitor	4	TFOCA Junction Boxes
1	UPS Storage Case	3	Media Converter
1	Network Access Case	1	User Access Case
1	LAN Service Case	1	Hand Tool Kit
3	Sand and Dust Kits	4	Loop Encryption, TSEC/KIV-7HS
2	Patch Panel, Data Communications	2	Signal Data Converter

DATA DISTRIBUTION SYSTEM (DDS), AN/TSQ-228(V)2

TAMCN A25347G NSN 5895-01-474-0355 ID 10708A



DESCRIPTION AND FUNCTION

The Data Distribution System (DDS), AN/TSQ-228(V)2 referred to as the Tactical Data Network (TDN) Server, will augment the existing Marine Air Ground Task Force (MAGTF) tactical communications infrastructure to provide the MAGTF Commander an integrated data network. This data network will support MAGTF Tactical Data Systems (TDS)s and the Defense Message System (DMS) by providing a network of communication nodes (gateways and servers) interconnected with one another and their subscribers via a combination of common user long haul transmission systems, Local Area Networks (LAN)s, the Enhanced Position Location Reporting System (EPLRS), and switch telephone systems. The AN/TSQ-228(V)2 will support secret, and with the KG-175 TACLANE, top secret data communications. This system will provide up to 96 subscribers with basic data transfer and switching services; access to strategic, supporting base, joint, and other service component data networks; network management capabilities; and value-added services, such as message handling, directory services, file sharing, and terminal emulation support. In addition, the TDN system will provide Marine Corps tactical users the infrastructure to support the transition from the Automated Digital Network (AUTODIN) to the mandated replacement system, DMS.

Manufacturer: General Dynamics C4S

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	110/120 VAC, 60 Hz, 13A			
LAN Connections	Up to 96 Network Subscribers			
Size and Weight	Network Access Case	UPS Storage Case	User Access Case	LAN Service Case
Weight	200 lb.	173 lb.	178 lb.	200 lb.
Length	36.5 in.	36.0 in.	36.0 in.	36.5 in.
Width	23.62 in.	30.5 in.	30.5 in.	23.62 in.
Height	27.25 in.	20.5 in.	20.5 in.	27.25 in.
Square	5.99 sq. ft.	7.62 sq. ft.	7.62 sq. ft.	5.99 sq. ft.
Cube	13.59 cu. ft.	13.02 cu. ft.	13.02 cu. ft.	13.59 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Server, LAN	5	Ethernet Switch
1	Router, LAN	1	1.5 KVA UPS
1	15 inch Monitor	5	TFOCA Junction Boxes
1	UPS Storage Case	3	Media Converter
1	Network Access Case	1	User Access Case
1	LAN Service Case	1	Hand Tool Kit
3	Sand and Dust Kits	4	Loop Encryption, TSEC/KIV-7HSB
2	Patch Panel, Data Communications	2	Signal Data Converter
1	Encryption/Decryption, TSEC/KG-175 TACLANE		

DATA DISTRIBUTION SYSTEM (DDS), AN/TSQ-228(V)3, -228A(V)3

<u>TAMCN</u>	A25337G	AN/TSQ-228(V)3	<u>NSN</u>	5895-01-505-4724	<u>ID</u>	10928A
<u>TAMCN</u>	A25337G	AN/TSQ-228A(V)3	<u>NSN</u>	5895-01-506-7370	<u>ID</u>	10928B



DESCRIPTION AND FUNCTION

The Data Distribution System, AN/TSQ-228A(V)3, -228A(V)3 referred to as the Tactical Data Network (TDN) Server, will augment the existing Marine Air Ground Task Force (MAGTF) tactical communications infrastructure to provide the MAGTF Commander an integrated data network. This data network will support MAGTF Tactical Data Systems (TDS)s and the Defense Message System (DMS) by providing a network of communication nodes (gateways and servers) interconnected with one another and their subscribers via a combination of common user long haul transmission systems, Local Area Networks (LAN)s, the Enhanced Position Location Reporting System (EPLRS), and switch telephone systems. The AN/TSQ-228(V)3, -228A(V)3 will support both unclassified and secret data communications. This system will provide up to 96 subscribers with basic data transfer and switching services; access to strategic, supporting base, joint, and other service component data networks; network management capabilities; and value-added services, such as message handling, directory services, file sharing, and terminal emulation support. In addition, the TDN system will provide Marine Corps tactical users the infrastructure to support the transition from the Automated Digital Network (AUTODIN) to the mandated replacement system, DMS.

The TDN Servers will be deployed at the Marine Expeditionary Force (MEF), Major Subordinate Command (MSC), and units down to the Battalion/Squadron level. It will provide access to other TDN Servers, the TDN Gateway, and will act as a gateway to other service networks, when required.

Manufacturer: General Dynamics C4S

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Network Access	UPS Storage	User Access	LAN Service	Data Distribution
	Case	Case	Case	Case	Server Case
Weight	200 lb.	173 lb.	178 lb.	200 lb.	180 lb.
Length	36.5 in.	36.0 in.	36.0 in.	36.5 in.	36.5 in.
Width	23.62 in.	30.5 in.	30.5 in.	23.62 in.	22.5 in.
Height	27.25 in.	20.5 in.	20.5 in.	27.25 in.	18.0 in.
Square	5.99 sq. ft.	7.62 sq. ft.	7.62 sq. ft.	5.99 sq. ft.	5.70 in.
Cube	13.59 cu. ft.	13.02 cu. ft.	13.02 cu. ft.	13.59 cu. ft.	8.55 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
3	Server, LAN	5	Ethernet Switch
1	Router, LAN	1	1.5 KVA UPS
1	15 inch Monitor	4	TFOCA Junction Boxes
1	UPS Storage Case	3	Media Converter
1	Network Access Case	1	User Access Case
1	LAN Service Case	1	Hand Tool Kit
3	Sand and Dust Kits	4	Loop Encryption, TSEC/KIV-7HSB
2	Patch Panel, Data Communications	10	Signal Data Converter
1	Data Distribution Server Case	1	15 inch Rackmount Monitor

DAY/NIGHT IMAGER (V)2, (IMAGER 2), AN/PSQ-21

TAMCN A00037G NSN 5855-01-521-8616 ID 11046A



DESCRIPTION AND FUNCTION

The Day/Night Imager (V)2, (IMAGER 2), AN/PSQ-21 is a hand emplaced, passive thermal infrared electro-optical imaging sensor used to classify and identify active targets within its field of view. The image collected on detected targets is then either transmitted over Radio Frequency (RF) links to sensor monitoring systems, or stored for retrieval at a later date.

Manufacturer: Nova Engineering, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	BA-5390/U, BA-5590/U, BA-390/U	Rated Output	VHF	2W (min.)	
			UHF	5W (min.)	
Size and Weight	RICC w/battery	EO Camera	IR Camera	Camera Cable	Dual Band Antenna
Weight	8.12 lb.	1.3 lb.	1.0 lb.	1.0 lb.	0.16 lb.
Length	14.0 in.	4.5 in.	3.0 in.	120.0 in.	12.0 in.
Width	7.0 in.	2.5 in.	2.5 in.	N/A	N/A
Height	3.0 in.	1.3 in.	1.3 in.	N/A	N/A
Cube	0.12 cu. ft.	0.02 cu. ft.	0.01 cu. ft.	0.03 cu. ft.	0.002 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Antenna, Dual Band	2	Stake, Camera
2	Cable, Camera	1	Battery, Lithium Sulfur Dioxide, JETDS BA-5590/U
1	Camera, Electro-Optical, SU-227/PSQ-21	1	Battery, Lithium Sulfur Dioxide, JETDS BA-5390/U
1	Camera, Infrared, SU-228/PSQ-21		
1	Receiver-Transmitter (RICC), RT-1899/PSQ-21		

DEPLOYED KU-BAND EARTH TERMINAL (DKET)

TAMCN TBD NSN TBD ID TBD

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Deployed Ku-Band Earth Terminal (DKET) is a 6.3m antenna and certified for operation according to space segment provider's standards and requirements. The DKET supports an integrated satellite modem. The DKET antenna is mounted on one skid. The equipment shelter is on a separate skid. One generator (60 kW) is separate from both skids. The DKET includes a terrestrial voice/data orderwire to the designated local military technical control for operational coordination. This is used to access the Monitor and Control (M and C) application provided with the DKET. The M and C system provides terminal component visibility to the Technical Control and Systems Control (TCSC) activities to monitoring the system's performance, as well as enables Data Path Interface (DPI) to monitor and remotely access the terminal for troubleshooting. The DKET is equipped with an appropriate commercial grade fiber interface system to connect the terminal with the local Government Patch and Test Facility (GPTF), or Technical Control Facility (TCF).

Manufacturer: Data Path, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

Qty Item Qty Item

DIGITAL TECHNICAL CONTROL (DTC) FACILITY, AN/TSQ-227

TAMCN A04997G NSN 5895-01-467-7213 ID 10664A



DESCRIPTION AND FUNCTION

The Digital Technical Control (DTC) Facility, AN/TSQ-227 provides a technical control function for the Marine Air Ground Task Force (MAGTF) Commander. The DTC Facility performs control and management functions over expanding digital communications systems integrating the communications assets of a node into an efficient system that provides the MAGTF commander with seamless communications while making efficient use of limited bandwidth and equipment. The DTC Facility is the central management facility, terminating all terrestrial links and switch circuits for major commands. Data circuits and miscellaneous subscriber circuits are interconnected as required.

Manufacturer: General Dynamics C4S

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120/208 VAC, 3-phase, five-wire, 50/60 Hz or a 30 kW mobile tactical generator	
Size and Weight	Operating	Storage/Shipping
Weight	9,662 lb.	9,662 lb.
Length	180 in.	180 in.
Width	87.50 in.	87.50 in.
Height	87.20 in.	87.20 in.
Square	109.38 sq. ft.	109.38 sq. ft.
Cube	794.79 cu. ft.	794.79 cu. ft.
Stowage	794.79 cu. ft.	794.79 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	S-280C/U	1	Catwalk
2	Transition Unit Nest Assembly (TUNA), HGF-93	2	Air Conditioner, Vertical, F18T-MPI
16	Loop Key Generator, TSEC/KG-82	1	Oscilloscope, Digital
4	Loop Encryption Device (LED), KIV-7HS	1	Data Communications Analyzer FIREBERD 6000N
24	Trunk, Encryption Device, TSEC/KY-57	1	Remote Workstation
2	Automatic Key Distribution Center, TSEC/KGX-93	1	Test Set, Telecommunications, CRX 5200-17
1	Speech Security Equipment, TSEC/KY-57	1	Digital Multimeter, Fluke 77/BN
1	Vehicle Power Adapter, HYP-57	1	Modular Command Post Shelter (MCPS) Tent
4	Digital Subscriber Voice Terminal (DSVT), TSEC/KY-68	2	Processors, Network

TM 2000-OD/2C

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Fault Assistance Module (FAM) Kit, Compact Digital Switch (CDS)	1	Processor, Administrative
1	Compact Digital Switch (CDS)	1	Single Row Nest (SRN)
8	REDCOM IGX Switch Shelf	1	ISO Bed Shelter Tie-down
1	Configuration Kit	1	Remote Call Service Position
1	Single Row Nest (SRN) Power Supply	4	Promina 800 Shelf
4	Multiplexer, AN/FCC-100(V)9	2	Promina 800 Power Supply
3	3.0 KVA UPS	1	Laser Printer
2	Monitor, 18 inch	3	KVA UPS Battery Assembly
1	TUNA Power Supply	1	Monitor, 15 inch
1	GPS Receiver Assembly	1	Voice Card Assembly
4	Signal Data Converter, CV-2048M	1	Ethernet Switch
1	Dial-in Modem	2	Line Conditioner
9	Group Patch Panel	1	Short Haul Modem
3	Coaxial Patch Panel	30	Loop Patch Panel
		6	Data Communications Patch Panel

DIGITAL TERRAIN ANALYSIS MAPPING SYSTEM (DTAMS), AN/PYQ-1

TAMCN A05047G NSN 6675-01-386-2679 ID 10077A



DESCRIPTION AND FUNCTION

The Digital Terrain Analysis Mapping System (DTAMS), AN/PYQ-1 provides functional support for terrain analysis detachments assigned to the Marine Air Ground Task Force (MAGTF) command element. The DTAMS modular design allows it the flexibility to be used in either stand-alone mode, in unison with other DTAMS, or to augment the Geographic Information System (GIS) shelters of the Topographic Set AN/TSQ-204. The DTAMS is capable of printing, plotting, digitizing an/or displaying on a color monitor, a range of maps, mapping data, and map by-products. These map by-products include, but are not limited to; map substitute, overlays, overprints, photo mosaics, map revisions, and multi-color products. Multi-source terrain information can be analyzed and photography annotated. Terrain studies as well as their related products can also be executed with the DTAMS.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Plotter Case	CPU Case	Monitor Case	Printer Case	Document Case	UPS Case
Weight	132 lb.	188 lb.	192 lb.	80 lb.	73 lb.	60 lb.
Length	48 ft.	27 ft.	22 ft.	37 ft.	37 ft.	16 ft.
Width	24 ft.	27 ft.	27 ft.	28 ft.	28 ft.	14 ft.
Height	22 ft.	33 ft.	33 ft.	17.5 ft.	17.5 ft.	22.5 ft.
Cube	14.6 cu. ft.	13.9 cu. ft.	13.9 cu. ft.	10.5 cu. ft.	10.5 cu. ft.	2.75 cu. ft.
Power Requirements	115 VAC, 60 Hz, 1,625W, single phase			Print Capability	HP Printjet XL	
Processing Capability	SPARC Workstation 28.5 MIPS 3.069 GB hard disk memory			Resolution	0.025 mm addressable 0.0125 mm mechanical	
Communications Capability	Local Area Network (LAN) IEEE 802.3 thin-ethernet 10.2 Mbps, TCP/IP Protocol			Media Size	A through D (ANSI)	
Plotting Capability	HP DraftPro XL			Color Pen	8 per carousel	
	Resolution			Pen Velocity	80 cm/s (max.)	
	Media Size			Digitizing Capability	Calcomp 33240	
	Colors			Accuracy	(+/-) 0.005, std. (+/-) 0.002, opt.	
				Data Rate	200 coord./sec	
				Baud Rate	300 - 19.2 Kbps	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Adapter, Connector	1	Keyboard
	Transit Cases	1	Data Entry Mouse
1	Digitizers Drawingboard	1	Plotter, Graphics
1	Disk Drive Unit, 0.25 in. format, 150 MB	1	Power Supply, Uninterruptible
1	Disk Drive Unit, CD-ROM Reader	1	Printer, Automatic
1	19 in. Ruggedized Display Unit	1	Transmitter, Digital Data
1	Dummy Load, Electrical	1	Transport, Magnetic
1	Dummy Load, Electrical Adapter	1	SPARC Workstation, Ruggedized

DIRECT AIR SUPPORT CENTRAL, AIRBORNE SYSTEM (DASC, AS), AN/UYQ-3B

TAMCN A00207G NSN 5895-01-495-0943 ID 10842A



DESCRIPTION AND FUNCTION

The Direct Air Support Central, Airborne System (DASC, AS), AN/UYQ-3B compliments the AN/MRQ-12 Communications Interface System (CIS) by performing the air mission for the DASC. The DASC, AS can also be used as a forward element of the DASC and, when necessary, can assume the functions of a Deep Battle Management cell. The DASC, AS consists of one shelter which can be mounted in a specially modified KC-130F/R, and T aircraft. The DASC, AS provides the capability for seven operators to select from seven radios (3 Ultra High Frequency (UHF), 2 High Frequency (HF), 1 Very High Frequency (VHF), 1 Satellite Communications (SATCOM)) while in an operational configuration from within the shelter. The system is capable of interfacing with current and planned Command and Control (C2) systems. The DASC, AS provides air support functionality for the Marine Air Ground Task Force (MAGTF) from a KC-130 (F, R or T) but not a KC 130J due to interface incompatibilities.

Manufacturer: NSWC Crane, Inc.

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Transport	Sheltered; Transportable by truck, rail, ship, aircraft, or helicopter	Size and Weight	
		Weight	6,698 lb.
		Length	178 in.
Power Requirements	120/208 VAC, 400 Hz, 3-phase	Width	87 in.
Type Transmission		Height	86 in.
Radio	UHF, VHF, HF, SATCOM	Cube	772 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	P/O Communications Distribution System(V)1	3	Internal Radio Unit (AN/GRC-171B(V)4)
1	Shelter Suite	1	Internal Radio Unit (AN/VRC-90A)
4	Crypto Device, KY-99	2	Internal Radio Unit (AN/VRC-102)
5	Crypto Device, KY-58	1	Internal Radio Unit (AN/PSC-5)
1	Environmental Control Unit (ECU) B0004	1	Generator Set (MEP 815)

DISMOUNTED-DATA AUTOMATED COMMUNICATIONS TERMINAL (D-DACT), AN/PSC-13

TAMCN

A02857G

NSN

7010-01-522-1228

ID

11014A



DESCRIPTION AND FUNCTION

The Dismounted-Data Automated Communications Terminal (D-DACT), AN/PSC-13 consists of the Rugged-Personal Digital Assistant (R-PDA), which is a small, light handheld device, having greater battery life, carried by the individual Marine. The D-DACT software consists of Windows Command and Control Compact Edition (C2CE) software. The C2CE application adapts key components of the C2PC application. C2CE is a Windows CE based Command and Control (C2) software application that aids in the display of the CTP/COP. The intent of the D-DACT is to provide increased situational awareness and C2 to leaders at the platoon and section levels.

Manufacturer: Talla-Tech

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Size and Weight	Operating	Shipping/Storage
Weight	7.5 lb.	10 lb.
Length	9.0 in.	12.7 in.
Width	8.8 in.	16.2 in.
Height	3.0 in.	6.6 in.
Square	0.55 sq. ft.	1.43 sq. ft.
Cube	0.14 cu. ft.	0.786 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Hardware: Rugged-Personal Digital Assistant (R-PDA)	1	Touch Sensitive Reflective Thin Film Transistor (TFT) LCD (16 Bit) and Stylus
1	TacLink 3000 Modem w/Dongle and MM Connector	1	1,400 mAh Internal Lithium Polymer Battery, External Battery Adapter
1	INTEL R XSCALE, 400 Megahertz Processor		(BA 5800 Battery/or 8 AAs)
1	3.6.5.1 (Pocket PC 2003 and C2CE 6.0)	1	SD Card Slot , Embedded SAASM GPS
1	32 Megabyte RAM/64 Megabyte SDRAM	1	Software: Win CE Operating System (Pocket PC 2003)

**ENHANCED POSITION LOCATING AND REPORTING SYSTEM NETWORK MANAGER
(EPLRS) ENM, AN/TSQ-158B**

TAMCN A12257G

NSN 5895-09-000-2382

ID 10901A



DESCRIPTION AND FUNCTION

The Enhanced Position Locating and Reporting System Network Manager ((EPLRS) ENM), AN/TSQ-158B is a ruggedized laptop based software program used to establish, monitor and maintain the EPLRS network. The ENM replaces the Enhanced Downsized Net Control Station that was initially fielded with the EPLRS. The ENM offers increased capability and significantly reduces the system footprint, taking the network management functionality from a High Mobility Multipurpose Wheeled Vehicle (HMMWV) mounted system to a laptop. The AN/VSQ-2C(V)2 is a Data Net Radio that provides secure, jam-resistant radio frequency connectivity and positional location capabilities to the user. The main components of the Radio Set are a Receiver-Transmitter (RT) (RT-1720C(C)/G), an Enhanced Dual Power Adapter (EDPA), a Users Read Out (URO) device for entering and receiving messages, and the appropriate installation kit for the platform from which it is to be operated.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Transport	Transportable by truck, rail, ship, aircraft or helicopter	Power Requirements	NCS 4 Settings; 100, 20, 3, 0.4W Man-pack RT;
Technology	Digital		16W single phase,
Spectrum	UHF 20-450 MHz frequency hopping	Power Consumption	100-240 VAC, 47-63 Hz
Orientation	Omni-directional	Mobility	105W
Range	Line-of-sight 6 mi., ground-ground 62 mi., ground-air	Size and Weight	On-The-Move
Operational Mode	Data	Weight	Stowed Dimensions
Encryption	Terminal Electronics Unit Transec Module	Length	20.5 lb.
		Width	19 in.
		Height	14.5 in.
		Square	7.5 in.
		Cube	275.5 sq. in.
			1.24 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	CF-28 Panasonic Toughbook Laptop Computer w/30 GB hard drive, CD read/write drive, and external floppy drive	1	General Purpose Interface Controller (GPIC) (Used for interfacing with KOK-13A)
1	Cannon Bubble Jet Printer	1	AC Power Adapter w/Cord
		1	AC Power Adapter w/Cord
		1	Transit Case

ENTERPRISE-LAND MOBILE RADIO (E-LMR)

TAMCN

TBD

NSN

TBD

ID

TBD



DESCRIPTION AND FUNCTION

The Enterprise-Land Mobile Radio (E-LMR) operates on numerous different public safety Land Mobile Radio (LMR) frequency bands (e.g. 150-174 MHz, 800 MHz, 900 MHz) and few radio systems, if any, are narrowband compliant. Area coverage is insufficient and there is limited in-building coverage. Currently, there is not a common system as all Base, Post, and Stations (BPS) have had procurement control of the equipment to suit their needs. Due to the disparity of existing equipment, BPS does not have the ability to communicate within itself or with Local, State, and Federal Emergency Management agencies.

Manufacturer: Motorola, MACOM, and Raytheon (JPS Communications)

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Transport	Transportable by truck, rail, ship, aircraft or helicopter	Size and Weight	Operating/Shipping Packed in various size and weight transit cases
Technology	Mixed mode Analog/Digital		
Spectrum	VHF, UHF 380 - 400 MHz		
Orientation	Infrastructure 380 - 470 MHz handheld		
Range	Base, post, station		
Operational Mode	Line of Sight, unknown		
Encryption	Voice with potential for low data rate		
	Commercial, unclassified		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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GENERAL FIELD ARTILLERY COMPUTER SET, AN/GYK-47(V)6

TAMCN A25427G NSN 1220-01-470-6584 ID 10690A



DESCRIPTION AND FUNCTION

The General Field Artillery Computer Set, AN/GYK-47(V)6 is a workstation when fully configured, provides a horizontal operating platform/table for the operator and gives the capability to operate on the move. The AN/GYK-47(V)6 is planned to be replaced by the AN/GYK-60 in early FY-07.

Manufacturer:

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Power Requirements	110/220 VAC, 50/60 Hz 22-32 VDC, 10 min. battery backup	
Size and Weight	Operating	Storage/Shipping
Weight	200 lb.	200 lb.
Length	34 in.	34 in.
Width	27 in.	27 in.
Height	44 in.	27 in.
Square	6.4 sq. ft.	6.4 sq. ft.
Cube	23.2 cu. ft.	14.3 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Cable, Adapter Power DC-DC	1	Case, Transit
1	Cable, DC Power 10 ft.	1	Computer Digital
2	Cable, Dual SINCGARS 5 ft.	1	Converter, Signal Data, Power
4	Cable, Extension 15 ft.	1	Display, Color Flat Panel
1	Cable, Extension EPLRS 15 ft.	2	Modem, Communications, SP-TCIM
1	Cable, Shielded Twist 20 ft. RJ-45	1	Printer, Automatic Data Processing, HP-6L
1	Cable, Shielded Twist 20 ft. RJ-45	1	Printer, Automatic Data Processing
1	Cable, SINCGARS/EPLRS 5 ft.	1	Projector, Media, Epson Power Lite 7200
1	Cable, SINCGARS/Wireline Adapter 5 ft.	1	Rod, Ground
1	Cable, UPS Input-115 VAC 10 ft. w/Plug	1	Switch, Electronic, Autosense
1	Case, Electronics Communications, Media	1	Trackball, Data Entry
1	Case, Transit, CCU	2	Unit, Disk Drive, Ultrawide

GENERAL FIELD ARTILLERY COMPUTER SET, AN/GYK-47(V)7

TAMCN A25457G NSN 1220-01-470-5969 ID 10691A



DESCRIPTION AND FUNCTION

The General Field Artillery Computer Set, AN/GYK-47(V)7 is a workstation when fully configured, provides a horizontal operating platform/table for the operator. The AN/GYK-47(V)7 is planned to be replaced by the AN/GYK-60 in early FY-07.

Manufacturer:

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

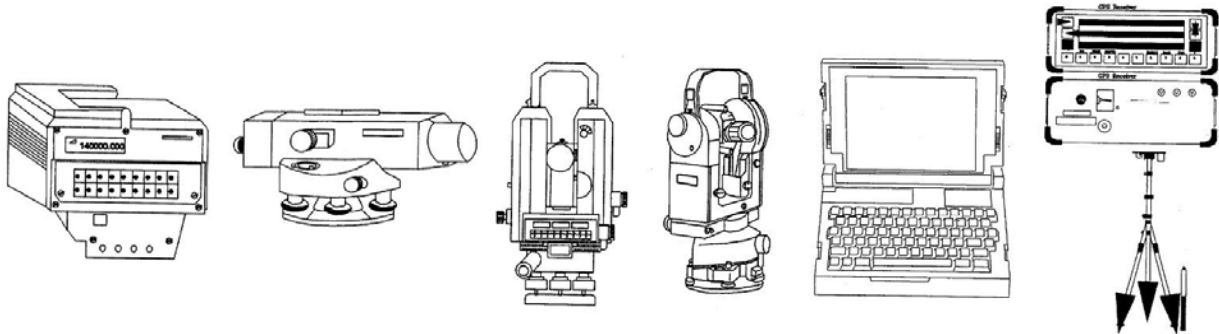
Power Requirements	110/220 VAC, 50/60 Hz 22-32 VDC, 10 min. battery backup	
Size and Weight	Operating	Storage/Shipping
Weight	129 lb.	129 lb.
Length	28 in.	28 in.
Width	17 in.	17 in.
Height	44 in.	27 in.
Square	3.3 sq. ft.	3.3 sq. ft.
Cube	12.1 cu. ft.	7.4 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Cable, Adapter Power DC-DC	1	Case, Transit
1	Cable, DC Power 10 ft.	1	Computer Digital
2	Cable, Dual SINCGARS 5 ft.	1	Converter, Signal Data, Power
4	Cable, Extension 15 ft.	1	Display, Color Flat Panel
1	Cable, Extension EPLRS 15 ft.	2	Modem, Communications, SP-TCIM
1	Cable, Shielded Twist 20 ft. RJ-45	1	Printer, Automatic Data Processing, HP-6L
1	Cable, Shielded Twist 20 ft. RJ-45	1	Printer, Automatic Data Processing
1	Cable, SINCGARS/EPLRS 5 ft.	1	Projector, Media, Epson Power Lite 7200
1	Cable, SINCGARS/Wireline Adapter 5 ft.	1	Rod, Ground
1	Cable, UPS Input-115 VAC 10 ft. w/Plug	1	Switch, Electronic, Autosense
1	Case, Electronics Communications, Media	1	Trackball, Data Entry
1	Case, Transit, CCU	2	Unit, Disk Drive, Ultrawide

GEODETIC SURVEY SET

TAMCN A24767G NSN 6675-01-361-1355 ID 09729A



DESCRIPTION AND FUNCTION

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating Weight	Length	Width	Height		
DI3000S	3.7 lb.	7.5 in.	4.5 in.	4.5 in.		
NAK-2	5.3 lb.	10.0 in.	5.5 in.	6.0 in.		
T2002	15.5 lb.	8.0 in.	8.5 in.	13.5 in.		
T2	13.2 lb.	5.5 in.	5.5 in.	12.5 in.		
Gridcase 1550 SX	12.0 lb.	15.0 in.	11.5 in.	2.5 in.		
GPS Receiver w/Antenna	8.2 lb.	8.0 in.	8.5 in.	3.5 in.		
	14.45 lb.	-	-	9.0 in.		

Size and Weight	Shipping Weight	Length	Width	Height	Square	Cube
DI3000S	7.4 lb.	12.0 in.	8.0 in.	13.5 in.	0.66 sq. ft.	0.75 cu. ft.
NAK-2	8.43 lb.	12.0 in.	8.0 in.	13.5 in.	0.66 sq. ft.	0.75 cu. ft.
T2002	27.6 lb.	11.5 in.	14.0 in.	18.0 in.	1.11 sq. ft.	1.67 cu. ft.
T2	20.0 lb.	14.5 in.	10.0 in.	18.5 in.	1.00 sq. ft.	1.55 cu. ft.
Gridcase 1550 SX	-	-	-	-	1.20 sq. ft.	0.25 cu. ft.
GPS Receiver w/Antenna	-	-	-	-	-	-
	48.5 lb.	19.5 in.	23.5 in.	9.0 in.	3.18 sq. ft.	2.38 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Electronic Distance Surveying Instrument (DI3000S)	2	Computer Sets, Gridcase 1550 SX
1	Geodetic Leveling Set (NAK-2) Surveying Instrument	4	GPS Receiver Sets
1	Azimuth (T2)		
2	Azimuth (T2002)		

GEOGRAPHIC INFORMATION SYSTEM-1 (GIS-1), PT-560/TSQ

TAMCN

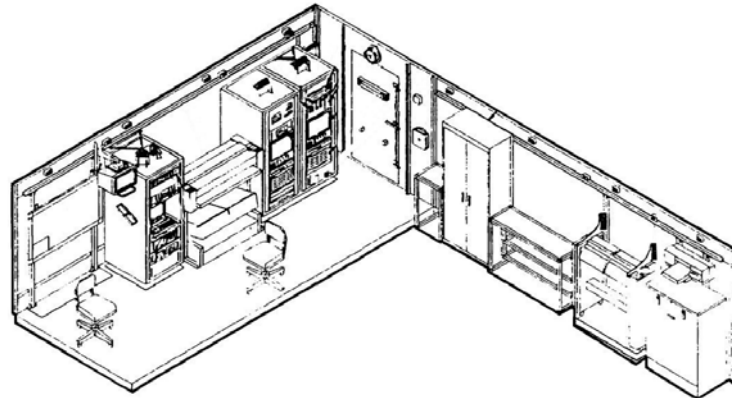
A08097G

NSN

6675-01-386-1031

ID

10078A



DESCRIPTION AND FUNCTION

The Geographic Information System-1 (GIS-1), PT-560/TSQ shelter acts primarily as a multi-source automated fusion center for the receipt and manipulation of topographic data from all available sources. The GIS-1's secondary function is to provide a backup capability for the remaining components of the AN/TSQ-204. GIS-1 is capable of printing, plotting, copying, displaying and recording mapping data. Inputs to the GIS-1 may include hydrographic, topographic and cartographic data and locally produced maps as well as maps from the Defense Mapping Agency (DMA). The GIS-1's primary output is to the remaining components of the AN/TSQ-204 for further analysis or production.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

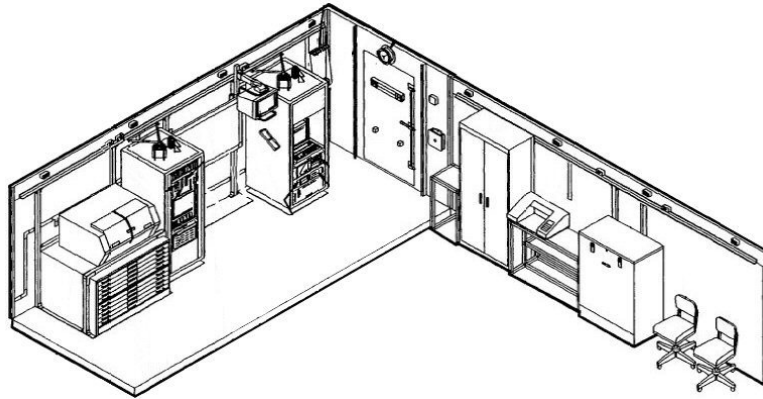
Power Requirements	120/208 VAC, 3-phase "WYE", 60 Hz	Plotting Capability	HP Draftmaster
Size and Weight		Resolution	0.025 mm addressable 0.00625 mm mechanical
Weight	9,144 lb.	Media Size	A through E (ANSI)
Length	20 ft.	Color/Pen	8 per carousel
Width	8 ft.	Pen Velocity	110 cm/s (max.)
Height	8 ft.	Copy Capability	
Square	160 sq. ft.	Magnification	1% (+/-)
Cube	1,280 cu. ft.	Speed	10 fpm
Processing Capability		Size	Up to 36 in. wide sheet by manageable length
SPARC Workstation	28.5 MIPS		16.54 in. to 36 in. roll
Communications Capability			
Local Area Network (LAN)	IEEE 802.3 thin-ethernet 10.2 Mbps, TCP/IP protocol		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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GEOGRAPHIC INFORMATION SYSTEM-2 (GIS-2), PT-561/TSQ

TAMCN A08107G NSN 6675-01-386-2659 ID 19973A



DESCRIPTION AND FUNCTION

The Geographic Information System-2 (GIS-2), PT-561/TSQ acts primarily as an analysis and input center for topographic data received from the GIS-1 component and provides a scanner for inputting hard copy maps and imagery. The GIS-2's secondary function is to provide a backup capability for the remaining components of the AN/TSQ-204. GIS-2 is capable of printing, scanning, displaying and recording mapping data.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120/208 VAC, 3-phase "WYE", 60 Hz	Printing Capability	
Size and Weight		HP Paintjet XL	
Weight	7,760 lb.	Resolution	180 x 180 dpi
Length	20 ft.	Media Size	A4/A, A3/B
Width	8 ft.	Colors	16.7 million
Height	8 ft.	Digitizing Capability	
Square	160 sq. ft.	Calcomp 9500	(+/-) 0.005 in., std.
Cube	1,280 cu. ft.	Accuracy	(+/-) 0.002 in., opt.
Processing Capability		Data Rate	200 coord./sec
SPARC Workstation	28.5 MIPS	Baud Rate	300 - 19,200 bps
Communications Capability		Scanning Capability	
Local Area Network (LAN)	IEEE 802.3 thin-ethernet 10.2 Mbps, TCP/IP protocol	Tangent CCS 500 34TF	
		Resolution	256 increments
		Scan Rate	6 megapixels/sec
		Scan Time	7.5 min.
		Media Size	30 in. x 36 in.

MAJOR COMPONENTS

Qty Item Qty Item

**GLOBAL BROADCAST SERVICE (GBS), TRANSPORTABLE GROUND RECEIVE SUITE (TGRS)
ENHANCED, AN/TRS-9**

TAMCN A00907G

NSN 5820-01-530-6497

ID 11132A



DESCRIPTION AND FUNCTION

The Global Broadcast Service (GBS), Transportable Ground Receive Suite (TGRS) Enhanced, AN/TRS-9 is a ground station that receives one-way satellite transmission of video, data, imagery, theater, and national level intelligence for support of joint forces. The TGRS can be operated in a stand-alone mode or it can be connected to Classified and Unclassified Local Area Networks (LAN)s to distribute products to numerous end users. The TGRS receives Ku-band and Ka-band satellite broadcasts from the GBS satellite broadcasting system. GBS broadcast services include Immediate File Delivery (IFD), Internet Protocol (IP) video, mirrored File Transfer Service (FTS), web content, and black packet.

The TGRS can process Classified and Unclassified products. All broadcast products are encrypted. Products sent over the Unclassified enclave are encrypted using Type 2 (commercial) Conditional Access System (CAS) encryption and a “smart card” is provided to enable decryption of these products. Products sent over Classified enclave are encrypted using Type 1 (military) encryption. The TGRS Classified Receive Broadcast Manager (RBM) requires Crypto Unit KG-250 for decryption.

The TGRS is also an IP based system. IP video products can be viewed directly on a RBM server display or they can be converted to National Television System Committee (NTSC) format for viewing on a standard television. Video Converters, which are supplied with the RBM, convert IP video signals into NTSC format. Each Video Converter can be located up to 300 feet from the RBM and comes with a remote control. The TGRS operates from 115 VAC 60 Hz or 220 VAC 50 Hz site power. The Power Controller Units in the RBM automatically sense the input voltage. The Receive Terminal’s A/C Power Interface Cable W3 is equipped with a Ground-Fault Circuit Interrupt (GFCI) for prevention of over current situations.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Transport	Transportable by truck, rail, ship, aircraft or helicopter	Orientation	Satellite
Technology	IP-based, COTS architecture for fielded systems	Range	Receive only
Spectrum	Ka-Band 20.2-21.2 GHz	Power Requirements	105-130 VAC, 60 Hz or 210-260 VAC, 50 Hz 120W (max.)
Encryption	Ku-Band 12.0-14.0 GHz	NGRT	115 VAC, 60 Hz single phase or 230 VAC, 50 Hz single phase
	KG-250	RBM	
		Size and Weight	
		Weight	280 lb.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Receive Terminal (including a 1m Parabolic Dish Antenna)		Crypto Unit, KG-250
2	Receive Broadcast Manager Servers (Type 1 and Type 2)		Integrated Receiver-Decoder, (for NTSC video)
	Uninterruptible Power Supply		Transportation Cases
			MK-2551A/U Grounding Kit
			Associated Equipment

GLOBAL COMMAND AND CONTROL SYSTEM (GCCS), AN/GYQ-92(V)1, -92(V)2

<u>TAMCN</u>	A08197G	AN/GYQ-92(V)1	<u>NSN</u>	7010-09-000-4281	<u>ID</u>	10718B
<u>TAMCN</u>	A08197G	AN/GYQ-92(V)2	<u>NSN</u>	7010-09-000-4282	<u>ID</u>	10718C



DESCRIPTION AND FUNCTION

The Global Command and Control System (GCCS), AN/GYQ-92(V)1, -92(V)2 is a joint mandated Command and Control (C2) automated data processing “system-of-systems” providing Command and Control, Communications, Computers and Intelligence (C4I) capabilities for Marine Corps commands participating in joint planning and execution. GCCS consists of common hardware, a common operating system, common software and C2 applications. The C2 applications or segments include joint segments, which are developed and maintained by the Defense Information Systems Agency under the sponsorship of the Joint Staff. Executive Agents segments are developed and maintained by one of the military services under the sponsorship of the Joint Staff such as the Joint Force Requirements Generator-II (JFRG-II).

Manufacturer:

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Power Requirements	90-264 VAC, 47-63 Hz, dual-phase, 6.1/15A	Cache	64 KB data on chip, 32 KB instruction and 1 MB level 2
Processor	Dual 1.28 GHz, 64 bit, 4-way superscalar UltraSPARC IIIi	Media	2 - 73 GB, Ultra 160 SCSI, 15K RPM, hot-swappable disk drives, 4 mm DDS-3 or DDS-4 tape drive, DVD ROM/CD-R/CD-RW slim-line combination drive
Memory	8 GB DDR-1 SDRAM (PC2100) 128 bit plus ECC		
Network	4 - built-in Gigabit Ethernet (RJ45)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Computer, NETRA 240 Server	1	Transit Case, Server, P/N 00110632
1	Monitor/Keyboard 1U Assembly	1	Computer, POWEREDGE 2650 Server (V)2 variant only)
1	Land-based UPS, SU1500 APC		
1	Computer, Laptop	1	Computer, Desktop: Model Dimension 8300 (V)2 variant only)
1	DDS4/DAT72 1U Data Tray		
1	ETHERNET Switch, 1GB, SMC, 8 port		

**GLOBAL COMMAND AND CONTROL SYSTEM-INTEGRATED IMAGERY AND INTELLIGENCE
(GCCS-I³)**

TAMCN TBD

NSN TBD

ID TBD



DESCRIPTION AND FUNCTION

The Global Command and Control System-Integrated Imagery and Intelligence (GCCS-I³) initiative is a joint software program designed to enhance the operational commander's intelligence situation awareness and track management through the use of a standard set of integrated, linked, software tools and services that maximize commonality and interoperability across the tactical, theater, and national communities. The GCCS-I³ software baseline is designed to operate in joint and service-specific battle spaces and is interoperable, transportable, and compliant with the Common Operating Environment (COE). In FY06, this program will migrate to the Net-Centric Enterprise Services (N-CES) and software baseline in support of the migration to the Global Information Grid (GIG). The GCCS-I³ is the baseline software for the Marine Expeditionary Force (MEF) Intelligence Analysis System (IAS).

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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HORN OF AFRICA-SUPPORT WIDE AREA NETWORK (HOA-SWAN)

TAMCN TBD NSN TBD ID TBD

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Horn of Africa-Support Wide Area Network (HOA-SWAN) is an integrated communications systems consisting of Commercial-Off-The-Shelf (COTS) Very Small Aperture Terminal (VSAT) and Internet Protocol (IP)-based COTS networking equipment. HOA-SWAN provides Non-secure Internet Protocol Router (NIPR), Secure Internet Protocol Router (SIPR), and Combined Enterprise Regional Information Exchange System (CENTRIXS) connectivity, web server functions, local area network management, administration functions, and data backup, storage, and retrieval functions. Additional capability includes HOA-WAN interfaces to the Combined Joint Task Force-Horn of Africa (CJTF-HOA) local and wide area networks for NIPRNET, SIPRNET, and CENTRIXS services.

Manufacturer: Data Path, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>		<u>Qty</u>	<u>Item</u>
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IMPROVED AIR DELIVERED SENSOR II (IADS II)

TAMCN

A00027G

NSN

6350-01-521-5507

ID

11043A



DESCRIPTION AND FUNCTION

The Improved Air Delivered Sensor II (IADS II) is an enhancement to an earlier device employed as a part of the Tactical Remote Sensor System. IADS II detects and evaluates acoustic and seismic signals to monitor remote and denied areas of interest, providing real-time intelligence of ground and air vehicle movements and heavy weapons fire. IADS II incorporates improved algorithms to discriminate and identify specific types of targets contacted. IADS II contains a Global Positioning System (GPS) receiver for auto-location, and an upgraded Very High Frequency (VHF) transceiver allowing for changing modes of operation, target selectivity, and power conservation.

Manufacturer: Northrop Grumman Systems Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

Qty

Item

Qty

Item

INTERCOMMUNICATIONS SYSTEM, AN/VIC-2(V)

TAMCN H23012B

NSN 5830-01-137-7986

ID 08636A



DESCRIPTION AND FUNCTION

The Intercommunications System, AN/VIC-2(V) is an improved version of the AN/VIC-1 system. Also known as Switch Matrix Intercom (SMI), the AN/VIC-2(V) provides added capabilities, flexibilities, and increased performance over Intercommunication Set AN/VIC-1. The SMI system uses modified AN/VIC-1 component cases (modified internally) and retains the use of all existing vehicle cables without change. The AN/VIC-2(V) is a direct replacement for AN/VIC-1 in vehicles, but components are not interchangeable. The AN/VIC-2(V) is in use in Assault Amphibious Vehicles (AAV) and Light Armored Vehicles (LAV).

Manufacturer: L-3 Communications Cincinnati Electronics

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Distortion	2% at mid-volume setting	Intercom S/N	40 dB
Audio Output	600 mW into 600 ohm at each control set	Installation	Vehicular
Transient Protection	MIL-STD-1275A	Power Requirements	20 to 32 VDC, 300 mA
Size and Weight	AM-7162/VIC	C-11133/VIC	C-11135/VIC
Weight	7 lb. 1 oz.	2 lb. 7 oz.	2 lb. 13 oz.
Length	6.10 in.	4.53 in.	4.53 in.
Width	11.22 in.	6.00 in.	6.00 in.
Height	3.64 in.	3.54 in.	3.54 in.
Cube	1 cu. ft.	1 cu. ft.	1 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier, AM-7162/VRC	0-5	Cable Assembly, CX-7060()/U
2-5	CMDR/Crew Control Set, C-11133/VIC	0-5	Cable, CX-4723/U
0-1	Troop CMDR Control Set, C-11135/VIC	0-1	Cable, CX-4720()/U

NOTE

Quantities will vary according to type of application.

INTERCONNECTING GROUP, ON-373B/GRC

TAMCN H23022B NSN 5895-01-459-8523 ID 09865C



DESCRIPTION AND FUNCTION

The Interconnecting Group, ON-373B/GRC and the Radio Test Set TS 4317 with J4843A are used to test and troubleshoot Single Channel Ground to Air Radio System (SINCGARS) Lowest Replaceable Units (LRU)s. The Interconnecting Group is contained in a transit case comprised of items required to connect Units Under Test (UUT) to the Radio Test Set for maintenance and repair.

Manufacturer: Communications Electronics Command (CECOM)

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	50 lb.
Length	23 in.
Width	14 in.
Height	17 in.
Cube	3 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Parts Kit		
2	Tool Kit		

INTERFACE DEVICE, J-6334/U

TAMCN A32647G NSN 5895-01-446-3339 ID 10418A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Interface Device, J-6334/U is a set of equipment hardware interfaces that support the United States Marine Corps Ground Base Data Link (USMC GBDL). The GBDL interface is a unidirectional link using High Frequency (HF), Very High Frequency (VHF), or Ultra High Frequency (UHF) radio transmitter or receiver. This baud link will receive or relay GBDL sensor track, command, and scenario to air defense units. The J-6334/U interface supports either analog or digital radios.

Manufacturer: Raytheon Technical Services Co.

Marine Corps Systems Command: CINS Product Group 12

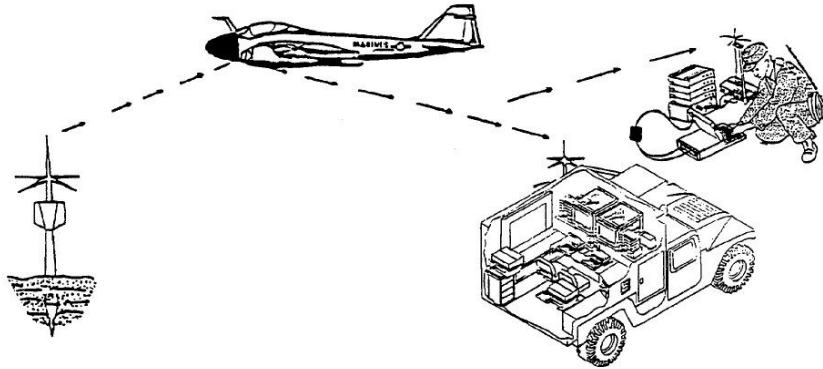
TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Terminal, Data Processing (Remote Unit)		

INTERROGATOR-TRANSPONDER SET, FORWARD PASS, AN/USQ-80A

TAMCN A04477G NSN TBD ID TBD



DESCRIPTION AND FUNCTION

The Interrogator-Transponder Set, Forward Pass, AN/USQ-80A is a system of electronic equipment comprised of hand and air-emplaced sensor data storage units, airborne storage unit interrogators, and display units. The system provides the capability of recording pre-D-day sensor intelligence, by-passing the need for real-time monitoring, thus reducing aircraft and personnel exposure. The sensor field with Forward Pass Storage is emplaced in enemy area prior to combat operations/D-day. Forward Pass equipped aircraft then fly over and interrogate the storage unit(s). Data is quickly transmitted to interrogator and relayed to a sensor monitoring facility for read-out, analysis and dissemination. Storage of sensor data is done by the Tactical Remote Sensor System V (TRSS V) relay assembly (TAMCN A23047G). Command and Recovery is done by the TRSS V signal data recorder (TAMCN A22757G).

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Data Transmission Rates		Size and Weight	Operating, POD
UHF	1,600 bps	Weight	300 lb.
VHF	1,200 bps	Length	72 in.
Type Data	Digital	Width	18 in. dia.
Power Requirements	28 VDC	Height	30 in.
RF Power Output	15-20W	Cube	23 cu. ft.
Operating Frequency	UHF = 311-313 MHz		
	VHF = 138-153 MHz		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Data Analysis Control Group, NAC Unit 1	1	Interrogator, NAC Unit 2
1	Interrogator - Transponder NAC Unit 4	1	Control, Interrogator - Transponder NAC Unit 3
1	Case, NAC Unit 5	1	Transponder, NAC Unit 6
1	Transponder, NAC Unit 7	1	Receiver, Digital Data, NAC Unit 8
1	Miscellaneous Kit, NAC Unit 9	1	Interrogator-Transponder POD
1	Aircraft Mission Software Package		

INTRA SQUAD RADIO (ISR), IC-4008M

TAMCN H23732G NSN 5965-09-000-0008 ID TBD



DESCRIPTION AND FUNCTION

The Intra Squad Radio (ISR), IC-4008M is used at the infantry squad level to supplement hand and arm signals. The IC-4008M is a small, lightweight transceiver which is easy to operate and held in a custom case that is worn on the uniform.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	3 - AA (R6) dry, alkaline; or optional BP-202	Size and Weight	
Power Output	Less than 500 mW ERP	Weight	7.8 oz. w/batteries
Number of Channels	14	Length	2.313 in.
	Simplex 396.875 - 399.975 MHz	Width	1.031 in.
Type of Modulation	FM	Height	7.125 in. w/antenna
Communication Range	Up to 2 mi.		
Operating Temperature	+14°F to 122°F		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

JOINT ENHANCED CORE COMMUNICATIONS SYSTEM (JECCS), AN/TSQ-231, -231A

<u>TAMCN</u>	A08867G	AN/TSQ-231	<u>NSN</u>	5895-01-494-2008	<u>ID</u>	10834A
<u>TAMCN</u>	A08867G	AN/TSQ-231A	<u>NSN</u>	5895-01-531-6021	<u>ID</u>	10834B



DESCRIPTION AND FUNCTION

The Joint Enhanced Core Communications System (JECCS), AN/TSQ-231, -231A is designed to support the seamless transition to the Digital Technical Control (DTC) and the Tactical Data Network (TDN) Gateway, or other systems in support of larger follow on forces; the command system, tactical is an integrated, processor-controlled communications and management system, housed in a lightweight multipurpose S-788 shelter mounted on a Heavy-Variant High Mobility Multipurpose Wheeled Vehicle (H-HMMWV).

The JECCS fulfills the Network Technical Control requirements of the First In Command and Control System (FICCS) concept. JECCS provides: Telecommunications Services (Including bandwidth management), Local Area Network (SIPR and NIPR), INMARSAT and UHF-TACSAT capabilities, Timing Distribution (GPS disciplined, P(Y) Code capable, high stability rubidium (1x10⁻¹¹) timing source).

JECCS is designed for employment as the initial Command, Control, Communications, Computers, and Intelligence (C4I) connectivity means for a Special Joint Task Force (SJTF), Marine Expeditionary Unit (MEU) and Marine Expeditionary Force (MEF) Forward headquarters. The system will facilitate a robust communications node by providing a “first-in” and “quick-connect” capability for Joint Task Force (JTF) Enabler communications network requirements. The system complements and augments current and planned communication systems and it supports the seamless transition from a small force's command and control element to that of a larger force.

Manufacturer: Darlington Corp. (EDO Corp.)

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Transport	Transportable by truck, rail, ship, aircraft or helicopter	Orientation	Voice/Data
Technology	Digital	Encryption	KGX-93, KG-82, KIV-7HS, KIV-19, STE
Mobility	HMMWV Mounted, stationary for use	Size and Weight	Operating/Shipping Packed in various size and weight transit cases

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
AN/TSQ-231			
1	REDCOM IGX-C Switch	2	Device Server
1	Capsat Messenger INMARSAT M4 w/STU-III Option	2	Router
2	LAN Ethernet Switch	2	Multiplexer, AN/FCC-100(V)9
2	Multimedia Converter	3	Signal Data Converter, CV-2048M
2	CSU/DSU Assembly	1	Laser Printer
2	3.0 KVA UPS	1	Deskjet Printer
1	1.5 KVA UPS	2	Compaq DL-360 Server
2	Compaq DL-380 Server	2	UNIX Server
1	Compact Digital Switch (CDS)	1	CDS Power Supply
1	Promina 400	1	Video Teleconference (VTC) System
1	GPS Receiver	2	Network Firewall
1	S-788 Type I Shelter	8	Trunk Encryption, TSEC/KIV-19
8	Loop Encryption, TSEC/KIV-7HS	1	Digital Subscriber Voice Terminal (DSVT) TSEC/KY-68
1	Automatic Key Distribution Center, TSEC/KGX-93	8	Loop Key Generator, TSEC/KG-82
1	Transition Unit Nest Assembly (TUNA), HGF-93	1	Secure Telephone Equipment (STE)
1	Encryption/Decryption, TSEC/KG-175 TACLANE	1	Data Communications Analyzer FIREBERD 6000N
1	Local Area Network Analyzer, 686/AN	1	Modular Command Post Shelter (MCPS) Tent
1	Digital Multimeter, Fluke 77/BN		
1	Truck, Utility, M1097A1		
AN/TSQ-231A			
5	Processors, Laptop	10	Signal Data Converter
8	Trunk Encryption, TSEC/KIV-19	9	Loop Encryption, TSEC/KIV-7HSB
2	Encryption/Decryption Equipment, E-100	7	Telephone Patch Panel
2	Media Conversion Center, 16 Bay	8	Communications Modem Assembly
1	Communications Modem Assembly, Basehand Node	2	Fiber Optic Modem
1	Digital Multimeter, Fluke 77/BN	1	Multiplexer, AN/FCC-100(V)9
1	Multiplexer, Digital	2	Multiplexer, Digital, ISU-512
1	GPS Receiver	3	Network Protection Security System
1	Optoelectronic Display	1	Patch Panel, Communication
4	Patch Panel, Data Communications	3	Patch Panel, Telephone
2	Router, Network	5	Servers, Network
4	Router, Network	2	Server
2	Power Supply, DC UPS	1	Server, Automatic Data Processing
1	S-788 Type I Shelter	1	Truck, Utility, M1097A2
1	REDCOM HDX Switch	2	Ethernet Switch
1	Teleconference System	1	SHOUT900AD Telephone Circuit Trunk
1	Secure Telephone Equipment (STE)	1	Satellite Telephone
1	Data Processing Terminal	1	Data Transmission Line Test Set, FST2310
1	Promina 800	1	Data Transmission Line Test Set, HST3000
2	Turbo IP	1	Video Teleconference (VTC) System
1	Modular Command Post Shelter (MCPS) Tent	1	Trailer
1	15 kW Generator	1	36K BTU ECU

JOINT NETWORK MANAGEMENT SYSTEM (JNMS), AN/USQ-176A(V)1, -176A(V)2

<u>TAMCN</u>	A24907G	AN/USQ-176A(V)1	<u>NSN</u>	5895-01-514-1400	<u>ID</u>	TBD
<u>TAMCN</u>	A24907G	AN/USQ-176A(V)2	<u>NSN</u>	5895-01-514-1402	<u>ID</u>	TBD



DESCRIPTION AND FUNCTION

The Joint Network Management System (JNMS), AN/USQ-176A(V)1, -176A(V)2 is a mandated communications planning and network management tool for Combatant Commands, Commander Joint Task Force (CJTF), and Joint Task Force (JTF) Service Components. It is for high level communications planning (war planning); detailed planning and engineering, spectrum planning, and network management, monitoring, control and reconfiguration, and security. JNMS includes the Marine Corps System Planning Engineering Evaluation Device (SPEED) for spectrum planning.

Manufacturer: Science Applications International Corporation (SAIC)

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Transport	Transportable by truck, rail, ship, aircraft or helicopter	Size and Weight	Operating/Shipping
Technology	Windows 2000		Packed in transit case, stationary for use
Platform	Client/Server		
Data Transport	Tactical Data Network (TDN) LAN		
Operational Mode	Ethernet, Data Packet		
Security	Siprnet, Niprnet		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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JOINT SERVICES WORKSTATION (JSWS), AN/TSQ-220(V)

TAMCN A00607G NSN 5985-01-449-7518 ID 10444A

**DESCRIPTION AND FUNCTION**

The Joint Services Workstation (JSWS), AN/TSQ-220(V) is a real-time, multi-sensor Command, Control, Communications, Computers, and Intelligence (C4I) system. The JSWS was designed to provide the U.S. Joint Surveillance Target Attack Radar System (JSTARS) radar picture. When equipped with the required peripherals and communication hardware, JSWS provides near real-time connectivity with multiple Intelligence Surveillance and Reconnaissance (ISR) platforms. The JSWS allows operators to correlate data from multiple ISR sensors and nominate time critical targets to the Joint Forces Air Component Commander in near real-time. The JSWS near real-time feed can be provided simultaneously to intelligence systems for intelligence preparation of the battlespace and in support of the collection management plan.

Manufacturer: General Dynamics

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Mobility Transportable via all modes of transportation
Power Mobile Electric Power (MEP) generators, shipboard
 electrical power providing 120/208 VAC, single
 3-phase, 60 Hz

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	SINGARS AN/VRC-92A VHF Radio	1	STE Secure Phone 5DGT1706XA
1	HAVE QUICK II AN/VRC-83(V)3 UHF Radio	1	Secure FAX 5DGF8686AA
1	Spitfire AN/PSC-5 UHF SATCOM	1	KIV-7 Cryptography
1	Joint Tactical Terminal (JTT) AN/USC-62(V)1C	1	Router Cisco 4700
1	GPS PLGR AN/PSN-11	1	MILAN 10 Base T to 10 Base FL HUB
1	IDM MD-1295/A Modem	1	Sun Enterprise 4000, Solaris 2.5.1 (8 CPUs, 1GB RAM, 84GB RAID)
1	KG-84A COMSEC	1	Sun Ultra II Workstations (2 CPUs, 768MB RAM)
1	Secure Data Unit KGV-8C	1	Flat Panel Display Unit
1	TSEC/KY-68 Encrypter MSE Wireline	1	Canon Printer, Automatic Data (Text) BJ-30
1	TSEC/KY-57 Encrypter	1	RAID Disk Array
		1	Laptop Linux OS

**JOINT SURVEILLANCE TARGET ATTACK RADAR SYSTEM (JSTARS),
COMMON GROUND STATION (CGS), AN/TSQ-179B(V)2**

TAMCN

A15207G

NSN

5865-01-437-4914

ID

10588A



DESCRIPTION AND FUNCTION

The Joint Surveillance Target Attack Radar System (JSTARS), Common Ground Station (CGS), AN/TSQ-179B(V)2 is a multi-service, multi-mode radar system that provides a detailed image of the battlefield in the form of Moving Target Indicator (MTI) and Fixed Target Indicator (FTI) data, and Synthetic Aperture Radar (SAR) imagery. JSTARS CGS is a product improvement of the Light Ground Station Module (LGSM). It includes all the functionality of the LGSM plus extensive technological improvements. It incorporates additional mission functionality into a fully mobile targeting, battlefield management, and surveillance system. It receives, manipulates, displays, stores, and disseminates Joint STARS, Unmanned Aerial Vehicle (UAV), Army AVN, Signals Intelligence (SIGINT), broadcast intelligence and secondary imagery from tactical, theater and national systems. The CGS is designed to operate on the move and at a secret collateral level. It interfaces with Air Combat Element (ACE), Tactical Operations Center (TOC), aviation and artillery nodes. The CGS has a robust suite of modern communications which include Satellite Communication (SATCOM) and Commanders Tactical Terminal (CTT). CGS facilitates intelligence, surveillance, targeting and other battle management operations. It provides the force with a fully scalable, tailorable, mobile, and responsive sensor data processing capability to satisfy operational and tactical requirements. The system's open architecture allows performance improvements and physical downsizing through insertion of evolving communications and computer technology.

Manufacturer: General Dynamics

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Mobility	Transportable via all modes of transportation
Power	Mobile Electric Power (MEP) generators, shipboard electrical power providing 120/208 VAC, single 3-phase, 60 Hz

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
2	HMMWV HVY M 10097A2, (Mission vehicle w/shelter)	1	Remote Cab Workstation (RCW) (ruggedized Compaq Laptop)
2	MEP-803A Generator	1	Remote Workstation (RWS) (composed of a Sun Ultra Computer, display, etc.)
2	Trailer, Cargo, M-1116A3	1	Enterprise 4500 (E-4500) Server
1	Surveillance Control Data Link (SCDL) Ground Data Link (GDL) and Antenna	1	Tactical Communications Interface Module (TCIM)
1	Joint Tactical Terminal (JTT)	2	Sun Ultra Workstations
1	AN/PSN-11		
2	AN/VRC-92D		
1	AN/PSC-5		
1	Secure Telephone (STE) 5DGT1706XA		
1	TSEC/KY-57		
1	TSEC/KY-68		

JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS), AN/URC-107(V)10

TAMCN

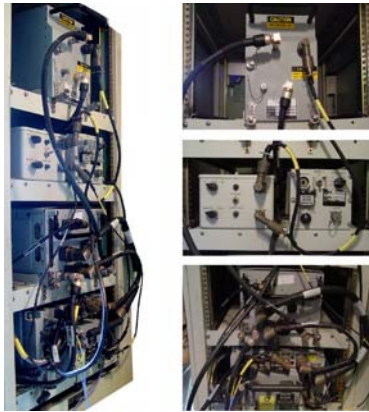
A08827G

NSN

5820-01-442-1073

ID

10370A



DESCRIPTION AND FUNCTION

The Joint Tactical Information Distribution System (JTIDS), AN/URC-107(V)10 radio terminal is a multi-processor controlled system combining radio, modem, message processor, and message switching system. The JTIDS terminal operates between 960 and 1,215 MHz, frequency hopping 77,000 times per second. The JTIDS employs direct sequence frequency spreading as a further anti-jamming measure. The terminal is capable of data transfer at a rate of 115,000 bps and transmit power of 200 watts.

Manufacturer: BAE Systems

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Frequency Range	960-1,215 MHz	Size and Weight	
		Weight	83 lb.
		Length	21 in.
		Width	13 in.
		Height	25 in.
		Cube	1.25 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Processor, Signal Data Group	1	Battery Assembly, BB-721/URC
1	Interface Unit, Communication	2	Battery, Non-rechargeable, BA-5567A/U
1	Processor, Signal Data	1	Cell, Battery, MAR-9326
1	Receiver-Transmitter, Radio, RT-1611	1	Extractor, Electrical Card
1	Control, Interface, C-11992	1	Battery Box
1	Filter-Amplifier, Radio Frequency, F-1639	1	KGV-8C

JOINT TACTICAL RADIO SYSTEM (JTRS)

TAMCN TBD

NSN TBD

ID TBD



DESCRIPTION AND FUNCTION

The Joint Tactical Radio System (JTRS) is a family of joint multi-channel/multi-mode, software-defined, reprogrammable tactical radio systems. JTRS provides high capacity Line of Sight (LOS) and Beyond Line of Sight (BLOS) plain and secure voice, data, and video while operating in frequency bands from 2 MHz to 2 GHz. JTRS provides network connectivity across the Radio Frequency (RF) spectrum and supports tactical digital information exchanges. JTRS includes the Wideband Networking Waveform (WNW) to support the communication requirements of the warfighter not achievable with today's systems.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Transport	Transportable by truck, rail, ship, aircraft or helicopter	Mobility Size and Weight	Man-pack, Vehicular Operating/Shipping
Spectrum	SINGARS, HQ II, UHF, SATCOM, EPLRS, WNW Link 16		Packed in various size and weight transit cases

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

JOINT TACTICAL TERMINAL (JTT), AN/USC-62(V)1

TAMCN

A26897G

NSN

5895-01-459-0534

ID

10585A



DESCRIPTION AND FUNCTION

The Joint Tactical Terminal (JTT), AN/USC-62(V)1 is a special application Ultra High Frequency (UHF) tactical intelligence terminal which provides the capability to disseminate time sensitive Command, Control, Communications, Computer, and Intelligence (C4I), and battlefield targeting information to tactical commanders and intelligence nodes. This information is provided in near-real-time and allows selected collection managers at all echelons a full-duplex capability to dynamically adjust pre-planned tasking. The terminal supplies the critical data link to battle managers, intelligence centers, air defense, fire support and aviation nodes across all services. The JTT is integrated into other weapon system and is transported with the host system/platform.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>		<u>Qty</u>	<u>Item</u>
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JOINT TACTICAL TERMINAL-RECEIVE (JTT-R), AN/USC-62(V)11

<u>TAMCN</u>	A26987G	<u>NSN</u>	5820-01-459-0535	<u>ID</u>	10586A
<u>TAMCN</u>	A26987G	<u>NSN</u>	5895-01-467-6164	<u>ID</u>	10686A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Joint Tactical Terminal-Receive (JTT-R), AN/USC-62(V)11 is a special application Ultra High Frequency (UHF) tactical intelligence terminal which provides the capability to disseminate time sensitive Command, Control, Communications, Computer, and Intelligence (C4I), and battlefield targeting information to tactical commanders and intelligence nodes. This information is provided in near-real-time and allows selected collection managers at all echelons a full-duplex capability to dynamically adjust pre-planned tasking. The terminal supplies the critical data link to battle managers, intelligence centers, air defense, fire support and aviation nodes across all services. The JTT is integrated into other weapon system and is transported with the host system/platform. The basic JTT-R is an 8 channel receiver (8R) which can be expanded to a 12 receiver (12R) configuration with additional Common Integrated Broadcast Service-Modules (CIBS-M) hardware modules. The CIBS-M software modules are the same in all terminal configurations.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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LIGHT ARMORED VEHICLE, LAV-C2A1

TAMCN E09467B

NSN 2320-01-494-7611

ID 08650B



DESCRIPTION AND FUNCTION

The Light Armored Vehicle, LAV-C2A1 is an all-terrain, all-weather vehicle with night capabilities. The LAV-C2A1 is a Type I raised roof chassis outfitted with communication stations that allows the Unit Commander the capability to Command, Control, and Communicate (C3) the activities of his forces under full armored protection. This mobile command station provides field commanders with all necessary resources to control and coordinate light armored units in all assigned roles. The command and control version is used as a mobile command post in the field. It carries an array of High Frequency (HF), Very High Frequency (VHF), and Ultra High Frequency (UHF) radios and other communication equipment and can accommodate a unit commander, two staff members and two radio operators in addition to the driver and vehicle commander.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Crew	7	Size and Weight	
Range	410 mph	Weight	24,840 lb.
Speed	62 mph	Weight/Combat	27,060 lb.
Swim Speed	6 mph	Length	253.5 in.
Armament	7.62 mm machine gun (200 rds ready/800 stowed)	Width	98.4 in.
	Smoke Grenades (8 ready/8 stowed)	Height	110.0 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
4	SINGARS AN/VRC-92 radio	1	HF AN/GRC-213 radio
1	VHF/UHF AN/VRC-83(V)2 radio	1	AN/VIC-2
1	UHF Position Location Reporting System		

LIGHTWEIGHT DIGITAL FACSIMILE SET, AN/UXC-7

TAMCN A08907G NSN 5815-01-187-7844 ID 09955A



DESCRIPTION AND FUNCTION

The Lightweight Digital Facsimile Set, AN/UXC-7 incorporates the capability to transmit or receive and record facsimile data with a single unit. The unit will operate over any tactical channel that will carry normal voice communications. Maps, overlays, drawings, photographs, typed or handwritten letters containing black and white or up to seven shades of gray on ordinary paper or transparencies can be transmitted or received. The set is ruggedized and militarized with appropriate connecting cables to operate over tactical circuits to include military radios in vehicles or shelters.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Transmit Time	30 seconds digital, 2-6 minutes analog	Size and Weight	Operating/Shipping
Power Requirements	22-32 VDC or 115/230 VAC 47-420 Hz	Weight	57 lb.
Installation	19 in. rack vehicle table, portable	Length	18 in.
Seven shades of gray or black or white		Width	21 in.
Automatic Sync Over Voice or Digital Circuits		Height	8 in.
Up to 5 copies		Cube	2 cu. ft.
		Type Transmission	Wire, MUX, VHF/FM radio, HF/SSB, 2,400/4,800 bps digital

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Jumper Plug Assembly (NSN 5935-01-079-8296)	1	A/C Power Cable (NSN 5995-01-090-6101)

LIGHTWEIGHT MULTI-BAND SATELLITE TERMINAL (LMST), AN/USC-65(V)1

TAMCN A08067G NSN 5895-01-495-9105 ID 10877A



DESCRIPTION AND FUNCTION

The Lightweight Multi-band Satellite Terminal (LMST), AN/USC-65(V)1 is a Super High Frequency (SHF), transportable, multi-band satellite ground terminal consisting of a 2.5 meter antenna and a group of transit cases that contain and protect the electronic equipment. The AN/USC-65(V)1 Hub provides up to 7 simultaneous communication paths using two antenna. The system can be configured as either a hub or a mini-hub terminal in a satellite communications network. The LMST provides full-duplex communications in the SHF spectrum in the military X-band, and commercial C and Ku-bands. Simplex receive only in the Ka-band is also supported. The LMST provides two complete communications paths for support of a single antenna with redundant operations or dual antennas with no redundancy.

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120 VAC, 50/60 Hz, 10 kW, rated at 100A	
Size and Weight	Operating	Storage/Shipping
		463L Pallet System
Weight	N/A	9,735 lb. or less
Length	60 ft.	104 in.
Width	50 ft.	88 in.
Height	N/A	95 in.
Square	20.83 sq. ft.	N/A
Cube	N/A	503.148 cu. ft.

	Vehicle Storage Configuration	
Size and Weight	Transit Case HMMWV	Antenna HMMWV
Weight	7,109 lb.	7,482 lb.
Length	190.5 in.	190.5 in.
Width	86 in.	86 in.
Height	95.4 in.	85.3 in.
Square	113.77 sq. ft.	113.77 sq. ft.
Cube	904.478 cu. ft.	808.72 cu. ft.
Stowage	Square	Square

Transport	Transportable by truck, rail, ship, aircraft or helicopter as netted cargo	Orientation Range Operational Mode Encryption	Satellite SATCOM Voice, Data KY-57 (Order Wire only)
Technology Spectrum	Digital Super High Frequency C-band (3.625-6.425 GHz) X-band (7.25-8.4 GHz) Ku-band (10.95-14.5 GHz) Ka-band rcv (20.2-21.2 GHz)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	2.5m Antenna Assembly	2	TSEC/KY-57 (UURI)
1	Antenna Transit Case	2	HYP-57 (UURI)
1	MUX/Control Transit Case	1	HP-8652 (or equivalent) (UURI)
2	IF Transit Case	1	FIREBERD 6000 (UURI)
1	Power Distribution Unit		

LIGHTWEIGHT MULTI-BAND SATELLITE TERMINAL (LMST), AN/USC-65(V)2

TAMCN A08077G

NSN 5895-01-495-9106

ID 10878A



DESCRIPTION AND FUNCTION

The Lightweight Multi-band Satellite Terminal (LMST), AN/USC-65(V)2 is a Super High Frequency (SHF), transportable, multi-band satellite ground terminal consisting of a 2.5 meter antenna and a group of transit cases that contain and protect the electronic equipment. The AN/USC-65(V)2 Mini-Hub provides the minimum set of communication interfaces, allowing up to 4 simultaneous communication paths using one antenna. The system can be configured as either a hub or a mini-hub terminal in a satellite communications network. The LMST provides full-duplex communications in the SHF spectrum in the military X-band, and commercial C and Ku-bands. Simplex receive only in the Ka-band is also supported.

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120 VAC, 50/60 Hz, 10 kW, rated at 100A	
Size and Weight	Operating	Storage/Shipping 463L Pallet System
Weight	N/A	N/A
Length	60 ft.	104 in.
Width	50 ft.	88 in.
Height	N/A	95 in.
Square	20.83 sq. ft.	N/A
Cube	N/A	503.148 cu. ft.

	Vehicle Storage Configuration	
Size and Weight	Transit Case HMMWV	Antenna HMMWV
Weight	6,935 lb.	7,482 lb.
Length	190.5 in.	190.5 in.
Width	86 in.	86 in.
Height	95.4 in.	85.3 in.
Square	113.77 sq. ft.	113.77 sq. ft.
Cube	904.478 cu. ft.	808.72 cu. ft.
Stowage	Square	Square

Transport	Transportable by truck, rail, ship, aircraft or helicopter	Orientation	Satellite
Technology	Digital	Range	SATCOM
Spectrum	Super High Frequency C-band (3.625-6.425 GHz) X-band (7.25-8.4 GHz) Ku-band (10.95-14.5 GHz) Ka-band rcv (20.2-21.2 GHz)	Operational Mode Encryption	Voice, Data KY-57 (Order Wire only)

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	2.5m Antenna Assembly	2	TSEC/KY-57 (UURI)
1	Antenna Transit Case	2	HYP-57 (UURI)
1	MUX/Control Transit Case	1	HP-8652 (or equivalent) (UURI)
2	IF Transit Case	1	FIREBERD 6000 (UURI)
1	Power Distribution Unit		

MARINE EXPEDITIONARY FORCE-INTELLIGENCE ANALYSIS SYSTEM (MEF-IAS), AN/MYQ-7

TAMCN A10107G NSN 7010-01-391-0168 ID 10145A



DESCRIPTION AND FUNCTION

The Marine Expeditionary Force-Intelligence Analysis System (MEF-IAS), AN/MYQ-7 is a shelterized, mobile system that provides semi-automated intelligence analysis support to the Marine Expeditionary Force Command Element (MEF CE). The MEF-IAS system consists of two S-788/G Lightweight Multipurpose Shelters (LMS) with a mounted Environmental Control Unit (ECU). Each shelter is mounted on a M1097 High Mobility Multipurpose Wheeled Vehicle (HMMWV), and each HMMWV tows an M101A3 trailer. The system also consists of two Quick Erect Tactical Soft Shelters, or TVI tents.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120/208 VAC, 4-wire, 3-phase, 60 Hz, "WYE"
Size and Weight	
Weight	12,050.0 lb.
Length	345.2 in.
Width	85.0 in.
Height	100.0 in.
Square	412.9 sq. ft.
Cube	3,439.0 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
2	HMMWV	2	TVI Tent
2	S-788/G, Shelter	2	M101A3 Trailer
2	Environment Control Unit (ECU)		

MINIATURE INTRUSION DETECTION SYSTEM (MIDS), AN/GSQ-259

TAMCN TBD NSN TBD ID TBD

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Miniature Intrusion Detection System (MIDS), AN/GSQ-259 is a complete attended ground sensor system capable of providing all weather, continuous, early warning and force protection surveillance missions. The AN/GSQ-259 uses seismic, infrared and magnetic fixed frequency sensors.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Frequency	143.60-143.75 MHz	Receiver Sensitivity	-120 dBm
Available Channels	3	Message Data Rate	1,200 bps
Power Source	BA-90/U (12)	Battery Life (Sensors)	90 days
RF Power Output	1W	Battery Life (Monitor)	10 days
Size and Weight	MPDM	MSID	MXT
Weight	11.24 oz.	8.0 oz.	9.00 oz.
Length	1.50 in.	3.2 in.	4.00 in.
Width	3.20 in.	3.3 in.	4.25 in.
Height	5.30 in.	1.5 in.	1.50 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Monitor (MPDM)	1	Earphone Assembly
3	Detector, Seismic (MSID)	10	Antenna, Whip
2	Transmitter (MXT)	1	Antenna, Stub
1	Detector, Magnetic	1	Bag, Carrying
1	Detector, Infrared		

MOBILE ELECTRONIC WARFARE SUPPORT SYSTEM (MEWSS), AN/MLQ-36B

TAMCN A09667G

NSN 5865-01-236-4235

ID 09999B



DESCRIPTION AND FUNCTION

The Mobile Electronic Warfare Support System (MEWSS), AN/MLQ-36B is able to detect, locate, intercept, collect, and exploit enemy communications across a broad frequency range. The AN/MLQ-36B is an Electronic Warfare (EW) system integrated into a Light Armored Vehicle (LAV). It provides the Marine Air Ground Task Force (MAGTF) Commander an organic Electronic warfare Support (ES) system capable of operating in a wide variety of tactical situations. The system can establish automated tasking and reporting wide area network with other MAGTF assets such as the Technical Control and Analysis Center (TCAC), the Team Portable Collection System (TPCS), and the Radio Reconnaissance Team (RRT).

Manufacturer: General Dynamics (LAV), Space and Naval Warfare System Center, Charleston, SC (Integration)

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	22-32 VDC, 120 VAC	Distance	Line of Sight, Skywave, (HF), SATCOM (UHF)
Operating Power	250W (Electronic Attack)		
Technology	Automated EA, ES	Size and Weight	
Spectrum	High - Ultra High Vertical	Weight	27,600 lb.
Orientation	Omni Directional	Length	259 in.
Mobility	LAV Mounted	Width	98.4 in.
Power	220A Vehicle Alternator	Height	105 in.
Operational Mode	EA, ES	Cube	1,645 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	LAV	1	Telescoping Antenna Mast
1	Special Signals Receiver	1	USQ-146(V)3
2	AR-5000 Receivers	2	Antenna Switch Unit
1	Intercom (TOCNET)	3	CF-28 Computer (Laptop)
1	AN/VRC-102 HF Radio	3	Communications Antennas (HF Whip/SINCGARS/SATCOM)
1	AN/VRC-103 SATCOM Radio	1	Spectrum Analyzer (AGILENT E4403B)
1	AN/VRC-92 VHF Radio	1	VHF Antenna (FM-2012-F)
1	Global Position System (PLGR) +96	1	VHF/UHF Antenna (SAS-230)
1	RF Distribution Unit	1	System Server (Netra 240)
1	DF-25B Direction Finder w/Antenna	1	VDC-500 Modem
1	EA Control Computer	1	Audio Distribution Unit
1	North Finding Module (Smith Aerospace)	2	Communications Interface Unit

MOUNTED-DATA COMMUNICATIONS TERMINAL (M-DACT), AN/GSC-68

TAMCN A04257G NSN 5895-01-522-0639 ID 10887A



DESCRIPTION AND FUNCTION

The Mounted-Data Communications Terminal (M-DACT), AN/GSC-68 is the Marine Corps Blue Force Tracking Program of Record. The M-DACT is a tactical input/output battlefield situational awareness system and communication terminal acquired to provide Marine Air Ground Task Force Command, Control, Communications, Computers, and Intelligence (MAGTF C4I) digitized Position Location Information (PLI) capability below the battalion level. The M-DACT solution consists of the ruggedized handheld computer and operates on the Command and Control Personal Computer software application.

Manufacturer: Computer – Tadirah; Mount - Raytheon Co.

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Power Requirements

Internal	BA-5600/U, 9 VDC battery
Battery Life	8 hr
External	115 VAC MEP Generator 80-265 VAC, 50-60 Hz, single phase power converter Vehicle 28 VDC, 8-36 VDC range

Size and Weight

	Operating	Shipping/Storage
Weight	7.5 lb.	7.5 lb.
Length	9.0 in.	9.0 in.
Width	8.8 in.	6.5 in.
Height	3.0 in.	3.0 in.
Square	0.55 sq. ft.	0.40 sq. ft.
Cube	0.14 cu. ft.	0.10 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Vehicle Mount Plate	1	GPS Antenna Cable
1	DC/DC Converter Mount	1	GPS Antenna Mount
1	Vehicle Power Cable	1	Enhanced Position Location Reporting Radios System (EPLRS) Local Area Network (LAN) Cable
1	AC/DC Power Cable	1	Single Channel Ground and Airborne Radio System (SINCGARS) Cable

NAVIGATION SET, SATELLITE SIGNALS, AN/PSN-11, -11(V)1, -13, 13A

<u>TAMCN</u>	A12607G	AN/PSN-11	<u>NSN</u>	5825-01-374-6643	<u>ID</u>	09880A
<u>TAMCN</u>	A12607G	AN/PSN-11(V)1	<u>NSN</u>	5825-01-395-3513	<u>ID</u>	09880B
<u>TAMCN</u>	A12607G	AN/PSN-13	<u>NSN</u>	5825-01-516-8038	<u>ID</u>	09880C
<u>TAMCN</u>	A12607G	AN/PSN-13A	<u>NSN</u>	5825-01-526-4783	<u>ID</u>	09880D



DESCRIPTION AND FUNCTION

The Navigation Set, Satellite Signals, AN/PSN-11, -11(V)1 is commonly called the Precision Lightweight Global Positioning System (PLGR). The PLGR is a highly accurate, durable, miniaturized handheld receiver that provides position location information as well as other navigation functions. The PLGR is a timing source for the Single Channel Ground Airborne Radio Systems (SINCGARS) and HAVE QUICK frequency hopping radios and will interface with the Positioning Location Reporting System (PLRS) via the Global Positioning System Interface Unit. The PLGR also provides the Marine Air Ground Task Force (MAGTF) with a significant enhancement over manual navigation methods (maps and compass).

The Navigation Set, Satellite Signals, AN/PSN-13, -13A or commonly referred to as the Defense Advanced Global Positioning System (GPS) Receiver (DAGR) is a self-contained handheld receiver that processes GPS signals and provides position, velocity and time information after receiving signals from GPS satellites. It will receive spread spectrum signals from an antenna and demodulate these signals to provide processed data to the user. It is Selective Availability Anti-Spoofing Module (SAASM) compliant, provides for dual frequency, contains a Graphical User Interface (GUI) display, allowing for a greater anti-jam resistance, and is backward compatible with PLGR.

Manufacturer: Rockwell Collins, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	110/220 VAC BA-5800/U, WB101, L-91 batteries	Receiver Frequency Rating	1,227.6 MHz (min.) 1,575.4 MHz (max.)
DC Voltage Rating	12.0V nominal	Storage/Shipping	
Size and Weight	Operating		
AN/PSN-11, -11(V)1			AN/PSN-13, -13A
Weight	2.7 lb.	2.7 lb.	0.94 lb.
Length	12.0 in.	8.0 in.	6.37 in.
Width	4.0 in.	4.0 in.	3.48 in.
Height	3.0 in.	3.0 in.	1.6 in.
Square	0.33 sq. ft.	0.22 sq. ft.	
Cube	0.08 cu. ft.	0.06 cu. ft.	0.02 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
AN/PSN-11, -11(V)1			
	Battery		Power Supply
	Cable Assembly, (PLGR to SINCGARS)		Tray, Battery
	Case, Electronic Communications Equipment		
AN/PSN-13, -13A			
1	Remote Antenna RA-1	1	Personal Case
1	DAGR to RA-1 Cable	1	Battery Primary
1	DAGR to DC Power Cable	1	Battery Lithium Memory
1	Installation Mount		

PERSONAL ROLE RADIO (SINGLE VERSION), AN/PRC-343(V)1

TAMCN H23712E NSN 5820-01-531-1752 ID 11091B



DESCRIPTION AND FUNCTION

The Personal Role Radio (Single Version), AN/PRC-343(V)1 significantly enhances combat effectiveness across each of the five criteria used by North Atlantic Treaty Organization (NATO), e.g. Command and Control, Communications, Computers and Intelligence (C4I), Survivability, Sustainability, Lethality and Maneuverability, by providing all informed communications to front line soldiers; replacing traditional methods based on hand signals and shouting. The modularity of the AN/PRC-343(V)1 design leads to flexibility and its use in many scenarios and has been integrated into vehicle platforms, intercoms and field telephone systems.

The AN/PRC-343(V)1 uses advanced 2.4 GHz spread spectrum technology innovatively packaged to meet the demanding needs of the soldier. The standard product provides Low Probability of Interception and Detection (LPI/LPD) and can be further enhanced with an optional encryption module to provide increased levels of security. The AN/PRC-343(V)1 is easy to operate through its ergonomically designed interface; it's unobtrusive and rugged enough to sustain the harshest environments presented by active front line operations. It includes a unique wireless Press-to-Talk (PTT) switch, which enables the soldier to operate the radio without moving his hands from his weapon.

Manufacturer: Selenia Communications, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Radio Body	1	Headset
1	Pouch		

PORTABLE AUTONOMOUS REPORTS COLLECTION SYSTEM (PARCS), 2000R

TAMCN A00827G

NSN 5895-01-411-8466

ID 10213A



DESCRIPTION AND FUNCTION

The Portable Autonomous Reports Collection System (PARCS), 2000R is a stand-alone test tool, which allows Radar technical personnel to collect, analyze, and play back Radar data. PARCS supports Marine Air Control Squadron Radar and Tactical Data Systems. PARCS interfaces with the AN/TPS-63 Radar, the AN/TPS-59(V)3 Radar, and the Tactical Air Operations Module (TAOM). The PARCS is capable of interfacing at the following Radar data stream locations: At the Multiscan Correlator of the AN/TPS-59(V)3, between the Radar and TAOM Interface Unit (TIU), between the TIU and the Radar Electro-Optical Converter (REOC) and at an available TAOM Computer Unit (CU) Bus Interface Controller (BIC).

Manufacturer: Sensis Corp.

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Dolch Portable Computer		Cables
	PC TIU Interface Board		W1, PARCS J6 to TIU J1
	Serial Data Record and Playback Board		W2, PARCS J1 to TIU J5
	Naval Tactical Data Systems Board		W3, PARCS J2 to the existing TIU-to-REOC Cable
	CP1 NTDS Loopback Connector for the		W4, PARCS J3 and J4 to TAOM BIC J5
	NTDS Board		Null Modem Cable, PARCS Serial Port to PLGR
	XIRCOM Ethernet Adapter Module		Ethernet Coaxial Cable

RADAR SET, AN/PPS-15(V)2, -15A(V)2

<u>TAMCN</u>	A14157G	AN/PPS-15(V)2	<u>NSN</u>	5840-00-575-7205	<u>ID</u>	07581A
<u>TAMCN</u>	A14157G	AN/PPS-15A(V)2	<u>NSN</u>	5840-01-055-8967	<u>ID</u>	07581B



DESCRIPTION AND FUNCTION

The Radar Set, AN/PPS-15(V)2 is an advanced day or night, all-weather, lightweight, ground surveillance radar set. It is capable of detecting, locating, and identifying moving targets (personnel, vehicles, boats), under conditions of limited or no visibility. The set can be operated in a hand-held position, on a tripod, or by remote control.

The Radar Set, AN/PPS-15A(V)2 is a ground surveillance radar set which is electrically and mechanically compatible in all respects with the AN/PPS-15(V)2 with only minor differences. In the AN/PPS-15A(V)2, the Azimuth Drive Unit (ADU) is operationally quieter. The transport case has a revised equipment layout that optimizes the load balance, more ruggedized latches, and a more heavily sewn canvas carrying case. The AN/PPS-15A(V)2 will not select an external power source until the internal battery has been discharged below 12.5 volts. The battery should be removed if external power is desired. A planned phase-out is set to commence for early FY-07.

Manufacturer: BAE Systems

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Operating Frequency	X-Band	Scan Center Control Unit	3,200 mils adjustable
Automatic Sector Scan	± 400, ± 800 or 1,600 mils	Manual Scan Pedestal	0 to 6,400 mils
Scan Rate	90 mils/s	Transmit Power	50 mW (min.), 60 mW
Detection Range		Installation	Portable
Crawling Personnel	50 to 500m	Power Requirements	Battery BA-4386/PRC-25
Walking Personnel	50 to 1,500m	Size and Weight	Operating/Shipping
Vehicles	50 to 3,000m	Weight	
Target Speed	0.5 to 35 mph	Hand	11.3 lb.
Target Detection	Aural and visual	Tripod	15.9 lb.
Range Accuracy	10m	Remote	18.0 lb.
Range Resolution	35m	Length	37.0 in.
Azimuth Accuracy	10 mils probable error	Width	22.0 in.
		Height	12.0 in.
		Cube	6.0 cu. ft.

MAJOR COMPONENTS

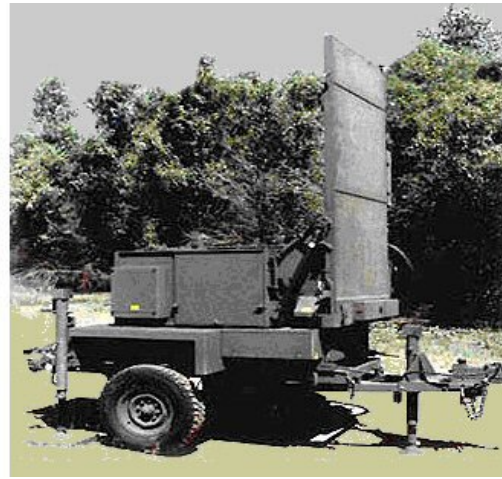
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Antenna Assembly AS-2906/PPS-15(V)	1	Case, Carrying CY-7339/PPS-15(V)
1	Case, Transport CY-7338/PPS-15(V)	1	Headset, Electrical H-251/U
1	Tripod, Radar MT-4800/PPS-15(V)		

RADAR SET, FIREFINDER, AN/TPQ-46A

TAMCN A14407G

NSN 5840-01-450-6708

ID 08211D



DESCRIPTION AND FUNCTION

The Radar Set, Firefinder, AN/TPQ-46A is an upgrade to the AN/TPQ-36 Firefinder radar. The initial upgrade replaced the two 5-ton AN/TPQ-36 configuration with the four High Mobility Multipurpose Wheeled Vehicle (HMMWV) AN/TPQ-46 configuration. The subsequent AN/TPQ-46A is a shelter/electronics upgrade that enhances target detection, survivability, and interoperability while reducing maintenance and logistics requirements. The AN/TPQ-46A is the Marine Corps only hostile fire locating radar system. It provides target location of enemy mortars, rockets, and artillery as well as registration of friendly indirect fire. Firefinder moves frequently to provide adequate battlefield coverage and to avoid physical and electronics countermeasures. The system completed upgrade to its current configuration in July 2000 with an electronics control shelter upgrade. The present system consists of four HMMWVs, one Operations Control Group (shelter), one Antenna Transceiver Group, and two Generator Trailers. A replacement for the AN/TPQ-46A is in the early stages of procurement and has been labeled Ground Weapons Locating Radar (GWLRL).

Manufacturer: Raytheon and Northrop Grumman

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

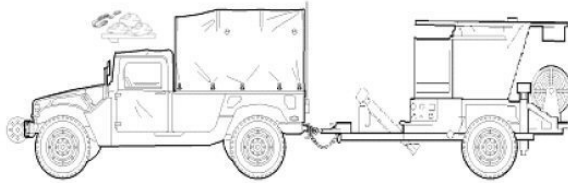
Transport	Transportable by truck, rail, ship, aircraft or helicopter	Operational Mode	Friendly fire registration and hostile weapon location and impact prediction
Technology	Slotted wave-guide phased array traveling wave tube	Encryption	SINCGARS radio
Spectrum	9.37-9.99 GHz	Size and Weight	Operating/Shipping
Orientation	Support Division counterfires		Packed in various size and weight transit cases
Instrumented Range	750m (min.) 24 km (max.)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
2	HMMWV M1097A2	1	Maintenance Kit MK-2902/TPQ
1	HMMWV M1123	1	HMMWV M1043A2
1	Antenna Transceiver Group OY-112A/TPQ	1	Operational control Group OK-650A/TPQ
2	Generator Trailer Group OV-103U		

Planned 2005 thru 2012 AN/TPQ-46A (V)1 Firefinder Radar Configuration

ANTENNA TRANSCEIVER GROUP



M1097A2

OY-112A/TPQ

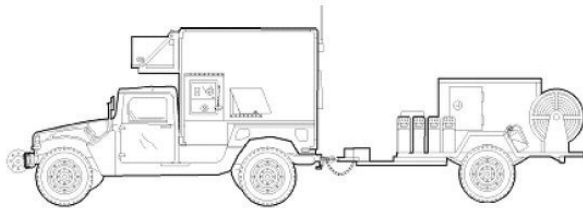
LOGISTICS VEHICLE



M1123

OV/103U

OPERATIONS CONTROL GROUP



M1097A2

OV/103U

SECURITY VEHICLE



M1043A2

RADAR SET, AN/TPS-59(V)3

TAMCN A15037G

NSN 5840-01-412-9653

ID 07751B



DESCRIPTION AND FUNCTION

The Radar Set, AN/TPS-59(V)3 is a transportable, long-range surveillance radar that operates at L-band frequencies. The radar set can be deployed to a land-based site in an amphibious assault, conventional land warfare, or counterinsurgency operation. It is used to control air operations, provide long-range surveillance of an assigned airspace, and provide a Tactical Ballistic Missile (TBM) defense capability to the Marine Air Ground Task Force (MAGTF).

The AN/TPS-59(V)3 radar system is the Marine Corps' only long-range, 3-D, air surveillance, TBM capable radar. The AN/TPS-59(V)3 radar system is a transportable, solid-state, L-band radar. It is the MAGTF's principal air surveillance radar and is integrated into the AN/TYQ-23(V)4 Tactical Air Operations Module (TAOM). It may also be configured for operation with the AN/MSQ-124 Air Defense Communications Platform (ADCP) to provide TBM track data to the Joint Tactical Information Distribution System. The radar has become a key component in the employment of the Navy's Cooperative Engagement Capability (CEC), and is the Marine Corps' lead sensor in the development of the Composite Tracking Network (CTN). The AN/TPS-59(V)3 is optimized to detect and track TBMs and Air-Breathing Targets (ABT)s, either of which can be a serious threat to MAGTF operations. The AN/TPS-59(V)3 will primarily be used to support MAGTF aviation during sustained operations ashore, as part of a joint theater air and missile defense architecture. The radar supports the MAGTF commander in Anti-Air Warfare (AAW) operations with en route traffic control to a distance of 300 nautical miles and TBM surveillance to 400 nautical miles.

Manufacturer: Lockheed Martin

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

System Power	90 kW, 115/208, 3-phase, 400 Hz	Range	4 to 300 n. mi. (TBM) (ABT at 6 rpm)
Frequency	1,215 to 1,400 MHz (radar)		4 to 200 n. mi. (ABT at 12 rpm)
	1,030 MHz IFF (transmit)		4 to 400 n. mi. (TBM at 12 rpm)
	1,090 MHz IFF (receive)		4 to 200 n. mi. (IFF at 6/12 rpm)
Coverage		Elevation	100K ft. (0 to 19° for ABT)
Azimuth			1,000K ft. (0 to 38° for TBM)
Resolution	3.4° ABT and TBM (max.)	Resolution	1.7° ABT (max.)
			1.85° TBM (max.)

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	"A" Trailer (P/O OE-340/TPS-59)		IFF Antenna, Data Processor Control Group
	"B-Upper" Trailer (P/O OE-340/TPS-59)		Equipment Transport Shelter, S-675/TPS-59
	"B-Lower" Trailer (P/O OE-340/TPS-59)		SET- 15 Ant-Xmtr, OE-442/TPS-59
	Power Distribution Box SB-4171/TPS-59		

RADAR SET, LIGHTWEIGHT AIR SURVEILLANCE, AN/TPS-63B

TAMCN A15007G NSN 5840-01-355-0092 ID 07736C



DESCRIPTION AND FUNCTION

The Radar Set, Lightweight Air Surveillance, AN/TPS-63B is highly transportable by air or ground vehicle. The set propagates electromagnetic waves into space and utilizes reflection for purposes of detection and ranging evaluation of distant aircraft. The AN/TPS-63B includes a coherent CFA Transmitter (Double Sideband Transmission), digital Moving Target Indicator (MTI), digital pulse compression and integration, digital Constant False Alarm Rate (CFAR), Coded Pulse Anti-clutter System (CPAS), and integrated Radar/Identification Friend or Foe (IFF) Antenna.

Manufacturer: Northrop Grumman

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

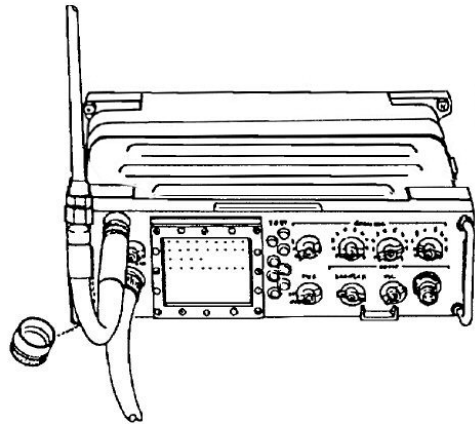
Size and Weight	Radar Set	Antenna (Stored within Shelter)	Shelter and Antenna
Weight	7,500 lb.	N/A	N/A
Length	10 ft.	8 ft.	18 ft.
Width	8 ft.	2.54 ft.	18 ft.
Height (w/o Antenna)	8.33 ft.	4.50 ft.	24.33 ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Antenna Subassembly	1	Shelter Assembly Equipment Modified
1	Antenna/IFF		

RADIO FREQUENCY MONITOR SET, AN/USQ-46A

TAMCN A16957G NSN 5820-00-168-8382 ID 07726A



DESCRIPTION AND FUNCTION

The Radio Frequency Monitor Set, AN/USQ-46A is a portable Very High Frequency (VHF) receiver designed to receive, decode, and display Phase III sensor identification and audio transmission. Its secondary purpose is to provide signal data and power to ancillary Phase III devices. It can be operated by ground forces from a Line of Sight (LOS) vantage point. Power may be provided by a battery or may originate from an external source. The unit can be used as a single monitoring device or it can be included in the terminal configuration of monitoring and display equipment incorporated in a sensor system.

Manufacturer: Whittaker Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Frequency range (VHF-FM)	160-176 MHz	Installation	Portable
Channels	640	Power Requirements	100-132 VAC, 50-60W, 400 Hz, Battery BA-4386/PRC-25; Power Supply OP-63/USQ-46
Channel Spacing	18.75 kHz	Size and Weight	Operating
Sensitivity	-115 dBm	Weight (w/battery)	17.5 lb.
Alarm	Audio Headset output of received audio signals	Length	13 in.
Visual (Light Displays)	64	Width	10.25 in.
Capacity (Per Channel)	64 sensor IDs	Height	4 in.
		Cube	1 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Antenna, Flex	1	Harness, Electric ST-158/USQ-42
1	Connector, Electrical UG-27 D/U	1	Battery, Dry BA-4386
1	Monitor Radio Frequency, R-1617A/USQ		

RADIO RECONNAISSANCE EQUIPMENT PROGRAM SIGNAL INTELLIGENCE SUITE-3 (RREP SS-3)

TAMCN A12207G

NSN 5820-01-524-9479

ID 11063A



DESCRIPTION AND FUNCTION

The Radio Reconnaissance Equipment Program Signal Intelligence Suite-3 (RREP SS-3) is the fourth generation of Radio Reconnaissance Equipment. The RREP SS-3 focuses on the use of the technology and equipment necessary to prosecute advanced wireless communications devices. RREP SS-3 program supports the Radio Reconnaissance Teams (RRT) within the Marine Corps Radio Battalions. RREP SS-3 is comprised of a flexible suite of communication receivers, computers and jammers that provide the Radio Reconnaissance Teams the ability to target, monitor, and jam enemy communications in support of Marine Air Ground Task Force (MAGTF) operations. RREP SS-3 is designed to be flexible and support a manpack mission in reconnaissance operations or in low profile urban operations.

Manufacturer: American Systems Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Frequency Range	500 kHz to 3.2 GHz
Capabilities	AM, FM USB, LSB, 1st and 2nd generation wireless communications, with upgradeable software defined receivers

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
3	CF-M34 Panasonic Toughbook Computer	3	AR-8200 Mark 3 Receiver
2	Sony Mini Disc Recorder	2	XR-2000 Environmental Characterization Receiver
2	Linksys Auto-Sensing Switch	2	DVD/CD-RW Drive
1	Mini-Jam 08 Electronic Attack (EA) System	1	Special Purpose Receiver
1	Log Periodic EA Antenna	1	Omni-directional Fractal EA Antenna

RADIO REPEATER SET, AN/GRQ-32

TAMCN A23007G NSN 5820-01-486-3797 ID 10789A



DESCRIPTION AND FUNCTION

The Radio Repeater Set, AN/GRQ-32 is a sensor communications relay that enables communication between deployed sensors and monitoring sites when radio Line of Sight (LOS) is precluded by terrain. This system provides the capability to transmit real-time sensor activation data to the Sensor Mobile Monitor System (SMMS), the Signal Data Recorder (SDR), and the Portable Monitor (PM); or to receive, store, and upon command from the monitoring site, re-transmit the stored sensor data.

Manufacturer: Nova Manufacturing, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	1/BA-5590/U battery (12 VDC) extended power sources can be attached for additional battery life	
Size and Weight	Operating	Storage/Shipping
Weight	8.20 lb.	12.00 lb.
Length	7.83 in.	24.00 in.
Width	5.73 in.	12.00 in.
Height	5.50 in.	12.00 in.
Square	0.311 sq. ft.	2.00 sq. ft.
Cube	0.143 cu. ft.	2.00 cu. ft.
Stowage	N/A	N/A

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Battery Box	1	Relay Antenna and Accessory Pack
1	Radio Receiver-Transmitter	1	Antenna, Dual-Band
1	Transport Bag	1	Cable Assembly, RF 60 in.
1	Antenna Mast	1	Cable Assembly, RF 25 ft.

RADIO SET, AN/GRC-171B(V)4

TAMCN A18187G

NSN 5820-01-326-8947

ID 09780A



DESCRIPTION AND FUNCTION

The Radio Set, AN/GRC-171B(V)4 is the tactical, long-range, shelterized, ground-to-air/ground-to-ground Ultra High Frequency (UHF) radio used by Marine Air Command and Control System (MACCS) agency. It provides the user with AM and FM voice and data transmission and reception. Available operating modes include AM wideband, AM narrowband, FM narrowband, TADIL A and TADIL C. The 243 MHz guard receiver operates in all modes. Receiver-Transmitter operation can be local through the use of front panel controls or remote through use of the radio set control. The AN/GRC-171B(V)4 is HAVE QUICK II capable. HAVE QUICK II is the anti-jam, frequency hopping capability for UHF radios. The AN/GRC-171B(V)4 contains Built-in Test (BIT) features.

Manufacturer: Rockwell Collins, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Modes of Operation	Anti-Jam (HAVE QUICK II) AM Wideband AM Narrowband FM Narrowband TADIL A TADIL C	Installation	Rack-mounted in shelter using standard 19 in. rack mount
Type Modulation	AM, FM	Power Requirements	108 to 132 VAC or 216 to 264 VAC, 47 to 420 Hz single phase
Frequency Range	225.000 to 399.975 MHz	Size and Weight	
Type Transmission	Voice, data	Weight	95 lb.
Power Output	20W AM, 55W FM	Length	21.5 in.
Number of Channels	7,000	Width	19 in.
Channel Spacing	25 kHz	Height	8.7 in.
Antenna Impedance	50 ohms	Cube	2 cu. ft.
Guard Receiver	243.0 MHz		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Receiver-Transmitter, RT-1272D/GRC-171	1	Radio Set Control, 1167/GRC-171

RADIO SET, AN/GRC-193, -193B

<u>TAMCN</u>	A17957G	AN/GRC-193	<u>NSN</u>	5820-01-067-8359	<u>ID</u>	07749A
<u>TAMCN</u>	A17957G	AN/GRC-193B	<u>NSN</u>	5820-01-270-5103	<u>ID</u>	09213A



DESCRIPTION AND FUNCTION

The Radio Set, AN/GRC-193 provides half duplex High Frequency (HF) tactical radio communications. It operates in the voice, Continuous Wave (CW) and Teletype (TTY) modes using Single Side Band (SSB) modulation selectable for either Upper Side Band (USB) or Lower Side Band (LSB). Radio Frequency (RF) power output is provided by a separate RF power amplifier which is selectable for either 100 watts or 400 watts Peak Envelope Power (PEP). Audio channel bandwidth for voice and TTY is 2.8 kHz and 6.0 kHz for CW. TTY operations are provided by the amplifier-converter. The amp converter requires a 20 mA or 60 mA 75 baud DC loop current input and converts this signal to an audio Frequency Shift Keyed (FSK) signal which is applied to the receiver/exciter. Power for the AN/GRC-193 is provided by a 24 VDC vehicular power source or an AC to DC power converter such as the PP-8474. The AN/GRC-193 can be configured for ground mobile operations in a variety of standard tactical vehicles such as the High Mobility Multipurpose Wheeled Vehicle (HMMWV) (i.e., AN/MRC-138A) or for stationary/fixed station operations.

The Radio Set, AN/GRC-193B is equivalent to the AN/GRC-193. The primary difference between the AN/GRC-193 and AN/GRC-193B is the receiver/exciter RT-1209. The AN/GRC-193B uses the RT-1209A Short Term Anti-Jam (STAJ) compatible receiver/exciter while the AN/GRC-193 uses the non-STAJ RT-1209. The two radio sets are 100% operationally compatible.

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type of Modulation	AM SSB (USB, LSB)	Data Transmission Rate	75 Baud
Modes of Transmission	Voice, Data CW, and TTY	Installation	Fixed or Vehicle mounted
Frequency Range	2.0000-29.9999 MHz (HF)	Power Requirements	22-32 VDC
Power Output	400W	Size and Weight	Operating/Shipping
Number of Channels	280,000	Weight	172 lb.
Channel Spacing	100 Hz	Length	15.25 in.
Bands	8	Width	23.5 in.
Tuning	Automatic	Height	16.1 in.
		Cube	4 cu. ft.

MAJOR COMPONENTS

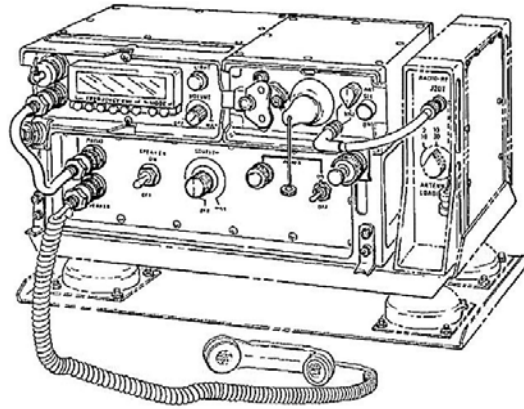
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
AN/GRC-193			
1	Amplifier, Radio Frequency AM-6545A/GRC-193	1	Coupler, Antenna CU-2064/GRC-193
1	Electric Equipment Rack, MT-6014/GRC-193	1	Receiver-Transmitter, Radio RT-1209
1	Amplifier-Converter, AM-6879		
AN/GRC-193B			
1	Receiver-Transmitter, Radio RT-1209A	1	Amplifier, Radio Frequency AM-6545A/GRC-193
1	Electric Equipment Rack MT-6014/GRC-193	1	Coupler, Antenna CU-2064A/GRC-193

RADIO SET, AN/GRC-213B

TAMCN A20717G

NSN 5820-01-343-1637

ID 09179B



DESCRIPTION AND FUNCTION

The Radio Set, AN/GRC-213B is a new 20-watt lightweight, battlefield, vehicular radio which is used in the Marine Corps Light Armored Vehicle (LAV) program. It integrates the AN/PRC-104's Receiver-Transmitter RT-1209 and an amplifier/antenna tuner into a vehicle mount. The mount provides an additional radio capability while preserving the manpack as a pull-out unit for extra-vehicular radio operations.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type Modulation	SSB, Suppressed Carrier	Size and Weight	Operating/Shipping
Type Transmission	Voice, CW, data	Weight	43 lb.
Operating Modes	USB, LSB, FSK, DPSK	Length	14.5 in.
Channel Spacing	100 Hz	Width	22 in.
Frequency Range	2 to 29.9999 MHz (HF)	Height	22 in.
RF Power Output	20W	Cube	5 cu. ft.
Number of Channels	280,000	Power Requirements	22-32 VDC
Installation	Light armored vehicle		

MAJOR COMPONENTS

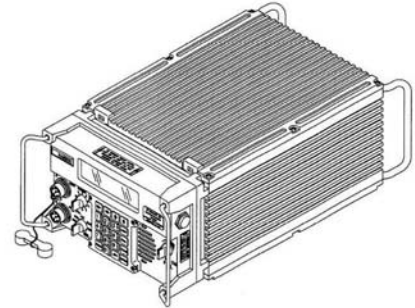
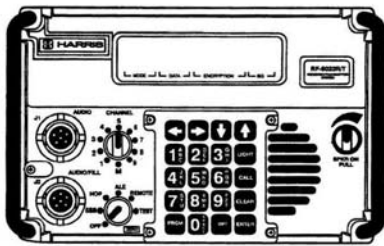
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Receiver-Transmitter RT-1209	1	Vehicle Mount AM-7152
1	Amplifier, Radio Frequency AM-6874/PRC-104		

RADIO SET, AN/GRC-231A(V)2

TAMCN A20727G

NSN 5820-01-382-2689

ID 10255A



DESCRIPTION AND FUNCTION

The Radio Set, AN/GRC-231A(V)2 is a digital signal processing receiver-transmitter system providing tactical voice or data communications. The AN/GRC-231A(V)2 is mainly used in the Light Armored Vehicle (LAV-C2) and Mobile Electronic Warfare Support System (MEWSS).

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	26.4 VDC nominal	Channels	Up to 100 preset
Power Dissipation	125.0W (max.)	Impedance	50 ohm Input/Output
Frequency		Mobility	Vehicular or base station mounted
Receiver-Transmitter	1.600 MHz (min.) 30.000 MHz (max.)	Size and Weight	
Modes of Operation	LSB, USB, AME and CW	Weight	27.8 lb.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Receiver-Transmitter, RF-5022R/T	1	Coupler, RF-382A-02
1	Amplifier, RF, RF-5032PA-125		

RADIO SET, AN/MRC-138A, -138B

<u>TAMCN</u>	A19357G	AN/MRC-138A	<u>NSN</u>	5820-01-234-7129	<u>ID</u>	07743B
<u>TAMCN</u>	A19357G	AN/MRC-138B	<u>NSN</u>	5820-01-337-5294	<u>ID</u>	09613A



DESCRIPTION AND FUNCTION

The Radio Set, AN/MRC-138A, -138B are Single Side Band (SSB) radio sets designed for vehicular installation. They provide transmission and reception in Upper Sideband (USB), Lower Sideband (LSB), Continuous Wave (CW), and compatible Amplitude Modulation (AM).

NOTE

This set is a vehicular-mounted AN/GRC-193.

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type Modulation	SSB, suppressed carrier	Channel Spacing	100 Hz
Type Transmission	Voice, teletype, data	Bands	8
Supplementary Characteristics	USB, LSB	Tuning	Automatic
Frequency Range	2 to 29.999 MHz (HF)	Power Output	400W (max.)
Channels	280,000	Installation	Vehicular mounted in truck, utility, M998 HMMWV
		Power Requirements	22-32 VDC
Size and Weight	(w/o vehicle)	(w/vehicle)	
Weight	172 lb.	5,190 lb.	
Length	24.0 in.	185 in.	
Width	36.75 in.	85 in.	
Height	24 in.	82.8 in.	
Cube	13 cu. ft.	754 cu. ft.	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
AN/MRC-138A			
1	Amplifier, Radio Frequency AM-6545A/GRC-193	1	Antenna AT-1011/U
1	Electrical Equipment Rack MT-6014/GRC-193	1	Coupler, Antenna CU-2064/GRC-193
1	Receiver-Transmitter, Radio RT-1209/URC	1	Amplifier Converter AM-6879/URC
1	Truck, Utility, HMMWV		
AN/MRC-138B			
1	Amplifier, Radio Frequency AM-6545B/GRC-193	1	Antenna AT-1011/U
1	Electrical Equipment Rack MT-6014/GRC-193	1	Coupler, Antenna CU-2064A/GRC-193
1	Receiver-Transmitter, Radio RT-1209A/URC	1	Amplifier Converter AM-6879/URC
1	Truck, Utility, HMMWV		

RADIO SET, AN/MRC-145A

TAMCN A19577G

NSN 5820-01-431-8931

ID 09730B



DESCRIPTION AND FUNCTION

The Radio Set, AN/MRC-145A is an AN/VRC-92D Radio Set mounted in a 1 1/4 ton HMMWV, M1123A2. It provides a mobile two-way Frequency Modulation (FM) transmitting and receiving facility in the Very High Frequency (VHF) band. Two Integrated Communications Security (COMSEC) Integrated Communications (ICOM) Single Channel Ground and Airborne Radio System (SINCGARS) RT-1523C(C)/U receiver transmitters provide the user with the capability to monitor two channels simultaneously, transmit on two channels simultaneously, and monitor one channel while transmitting on another. The system also provides radio signal retransmission with a maximum of 50 watts, eight non-volatile preset single channels, and six non-volatile frequency hopping preset channels that operate over the 30 to 87.975 MHz frequency range in 25 kHz channels.

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

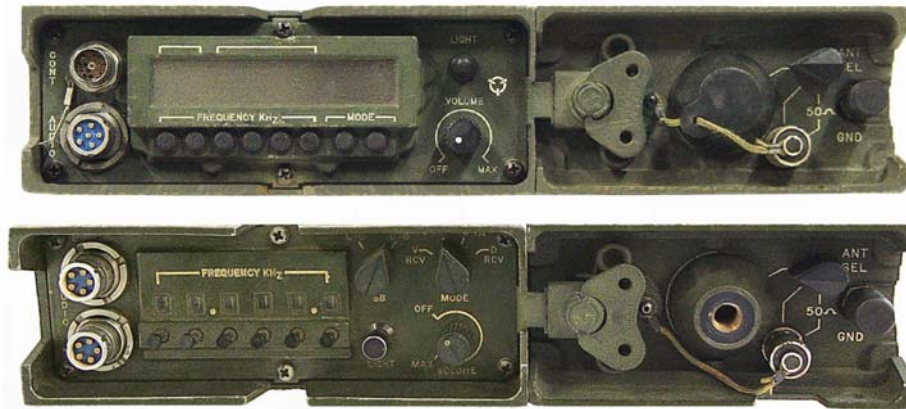
Receiver/Transmitter		Operating Modes	Single channel frequency hopping (ECCM), secure (COMSEC), secure hopping, retransmission
Number of Channels	2,320		
Single Channel Spacing	25 kHz		
Frequency Stability	Better than ± 5 PPM		
Frequency Tuning Range	30 MHz to 87.975 MHz		
Transmitter Power	Selectable	Communications Security	Embedded to unit level
Low	500 μW	Built-in Test (BIT)	
Medium	160 mW		
High	4W		
PA	50W		
Offset Tuning Capability	±5 kHz and ±10 kHz		
Receiver Sensitivity	-116 dBm		
Set Channels	6		
Type	RT-1523C(C)/U		
Type of Modulation	Carrier Modulation (FM)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Cover, Fitted, Vehicular Body		Radio Set, AN/VRC-92D
1	Installation Kit, Electronic Equipment		Truck, Utility (HMMWV)

RADIO SET, AN/PRC-104, -104B(V)

<u>TAMCN</u>	A20657G	AN/PRC-104	<u>NSN</u>	5820-01-027-9071	<u>ID</u>	07748A
<u>TAMCN</u>	A20657G	AN/PRC-104B(V)	<u>NSN</u>	5820-01-269-5603	<u>ID</u>	09214A



DESCRIPTION AND FUNCTION

The Radio Set, AN/PRC-104, -104B(V) is a tactical manpack 20 watt High Frequency (HF) radio. It is a single-channel set used by ground maneuver elements for voice, Continuous Wave (CW), and encrypted voice communications. The AN/PRC-104B(V) upgraded system is equipped with Short Term Anti-Jamming (STAJ) capabilities.

NOTE

The AN/PRC-104, -104B(V) is being replaced by the AN/PRC-150C.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type Modulation	SSB, suppressed	Power Requirements	22-32 VDC
Carrier		Size and Weight	Operating/Shipping
Type Transmission	Voice, CW, data	Weight	28 lb.
Operating Modes	USB, LSB, FSK, DPSK	Length	15.25 in.
Channel Spacing	100 Hz	Width	22 in.
Frequency Range	2 to 29.9999 MHz (HF)	Height	14.5 in.
RF Power Output	20W	Cube	3 cu. ft.
Number of Channels	280,000		
Installation	Portable		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Receiver-Transmitter, Radio RT-1209/URC or RT-12094/ORC	1	Amplifier, Radio frequency AM-6874 /PRC-104
		2	Case, Battery CY-7541/PRC-104

RADIO SET, AN/PRC-113(V)3

<u>TAMCN</u>	A20697G	AN/PRC-113(V)3	<u>NSN</u>	5820-01-136-1519	<u>ID</u>	08573B
<u>TAMCN</u>	A20697G	AN/PRC-113(V)3	<u>NSN</u>	5820-01-291-5416	<u>ID</u>	08573C



DESCRIPTION AND FUNCTION

The Radio Set, AN/PRC-113(V)3 is a tactical, short range, manpack, ground-to-air/ground-to-ground radio for the Field Air Command (FAC) teams and Marine Air Command and Control System (MACCS) agency. The radio set uses the RT-1319B as the basic element. The AN/PRC-113(V)3 is HAVE QUICK II capable. HAVE QUICK II is the anti-jam, frequency hopping capability for Ultra High Frequency (UHF) radios. Some features include single connector to interface with the handset on encryption device, automatic narrowband/wideband switching; keyboard control and Liquid Crystal Display (LCD) frequency/mode display.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type Modulation	AM	Guard Receiver	243.000 MHz
Type Transmission	Voice, secure voice	Installation	Manpack
Power Output	2W or 10W (operator selectable)	Power Requirements	24 VDC, Battery (Lithium) BA-5590 or BB-590
Frequency Range	116 to 149.975 MHz (VHF) and 225.000 to 399.975 MHz (UHF)	Size and Weight	Operating/Shipping
Control Modes	Local, local mode/remote frequency, full remote	Weight	16.7 lb. with BB-590/U batteries
Number of Channels	VHF 1,360, UHF 7,000	Length	12.7 in.
Channel Spacing	25 kHz	Width	9.73 in.
Present Channels	8 (using nonvolatile, electronic memory)	Height	3 in.
		Cube	1 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Receiver-Transmitter, RT-1319B/VRC P/N 914858-803 or P/N 914858-804	1	Antenna, VHF
1	Antenna, UHF	1	Case Battery
1	Cable, KY Interconnect	1	Handset, H-250

RADIO SET, AN/PRC-119A

TAMCN A20707G NSN 5820-01-267-9482 ID 09669A



DESCRIPTION AND FUNCTION

The Radio Set, AN/PRC-119A is designed to produce a family of lightweight combat radios for infantry, fighting vehicles and aircraft which will provide high security against surveillance and jamming by using either single channel offset or frequency hopping. The Receiver/Transmitter, RT-1523B(C)/U with Integrated Communication (ICOM) provides the user with cypher text capability without the use of an external Communications Security (COMSEC) device. The AN/PRC-119A serves as the initial building block. Additional configurations are as follows: AN/VRC-88A (vehicle, dismountable, short-range), AN/VRC-89A (vehicle, short-range, long-range), AN/VRC-90A (vehicle, long-range), AN/VRC-91A (vehicle, short-range, long-range, dismountable), AN/VRC-92A (vehicle, dual long-range, retransmit).

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

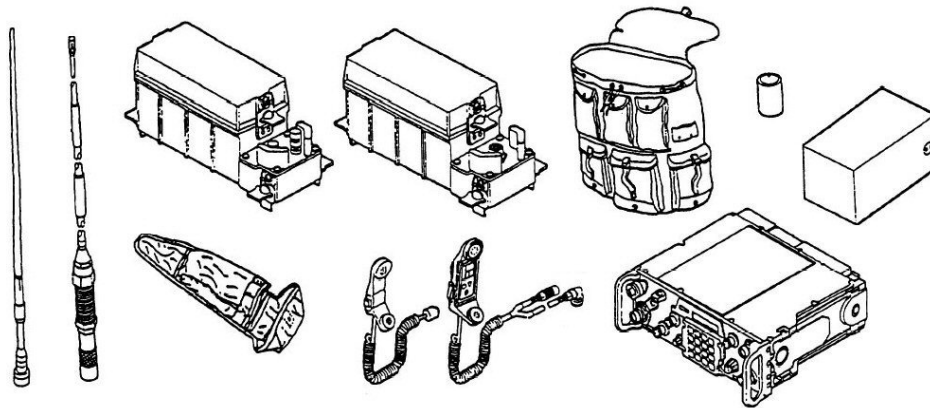
Type Modulation	FM	Size and Weight	Operating/Shipping
Type Transmission	Voice, data	Weight	22 lb. includes batteries
Operating Modes	Single channel, frequency hopping with internal ECCM module	Length	11.5 in.
		Width	9.4 in.
		Height	3.4 in.
Power Output	500 mW to 4W	Cube	1 cu. ft.
Frequency Range	30.0 to 87.975 MHz (VHF)	Number of Channels	2,320
Frequency Entry	Via keyboard	Channel Spacing	25 kHz
Installation	Fixed or portable; manpack, vehicle, or aircraft	Present Channels (if applicable)	6 auto, 1 man/1 cue for single channel, 6 auto/1 cue for ECCM
Standard Power Source	Manpack 12V primary battery	Frequency Hopping Preset Radio Nets	6 each
		Digital Capability	75 bits to 16 kbps (FSK or digital)
		Transmission Range	Data/Voice
		Manpack	4 km/8 km
		Vehicular	20 km/35 km
		Aircraft	20 km/35 km

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Battery Box: CY-8523A/PRC or CY-8523C/PRC	1	Receiver-Transmitter Radio, RT-1523B(C)/U

RADIO SET, AN/PRC-119D

TAMCN A20737G NSN 5820-01-421-0801 ID 09669B



DESCRIPTION AND FUNCTION

The Radio Set, AN/PRC-119D operates as a ground-based manpack radio for tactical communication of voice-frequency Frequency Shift Keying (FSK) or digital data. Communication can be secured and/or frequency-hopped for Communications Security (COMSEC) or Electronic Counter-Countermeasures (ECCM) purposes. The AN/PRC-119D incorporates the technological advances of the RT-1523C(C)/U to support enhanced transmission and reception of synchronous and asynchronous data.

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Receiver/Transmitter		Operating Modes	Single channel
Number of Channels	2,320		Frequency hopping (ECCM),
Single Channel Spacing	25 kHz		Secure (COMSEC),
Frequency Stability	Better than ± 5 PPM		Secure hopping,
Frequency Tuning Range	30 MHz to 87.975 MHz		Retransmission
Transmitter Power	Selectable	Communications	
Low	500 μW	Security	
Medium	160 mW	Built-in Test (BIT)	Embedded to unit level
High	4W		
Offset Tuning Capability	±5 kHz and ±10 kHz		
Receiver Sensitivity	-116 dBm		
Set Channels	6		
Type	RT-1523C(C)/U		
Type of Modulation	Carrier Modulation (FM)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Receiver-Transmitter Radio, RT-1523C(C)/U	1	Battery Box (CY-8523C/PRC)

RADIO SET, AN/PRC-138(V)2

TAMCN A20407G NSN 5820-01-432-2412 ID 10532A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Radio Set, AN/PRC-138(V)2 is a manpackable transceiver which operates in the High Frequency (HF)/Very High Frequency (VHF) bands from 1.6 to 60 MHz. The AN/PRC-138(V)2 weighs less than 10 pounds (without batteries) and can include VHF operation, data modem, Electronic Counter-Countermeasures (ECCM) controller, ALE, and encryption for both voice and data. An internal antenna tuning unit matches a wide variety of whip, dipole, and long-wire antenna automatically.

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Output
Radio Frequency 125W (max.)

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>		<u>Qty</u>	<u>Item</u>
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RADIO SET, AN/PSC-5, -5D

<u>TAMCN</u>	A09187G	AN/PSC-5	<u>NSN</u>	5820-01-366-4120	<u>ID</u>	10191A
<u>TAMCN</u>	A09187G	AN/PSC-5D	<u>NSN</u>	5820-07-000-0767	<u>ID</u>	10191B



DESCRIPTION AND FUNCTION

The Radio Set, AN/PSC-5 is a manpack, battery powered Satellite Communications (SATCOM) terminal. It provides long-range communication with a selectable high/low power output. The AN/PSC-5 provides two-way half-duplex, communications via satellite and Line of Sight (LOS) modes in the 225 to 399.95 MHz frequency range. The AN/PSC-5 Receiver-Transmitter, RT-1672/U(C), contains embedded Communications Security (COMSEC). The AN/PSC-5 employs a low gain omni-directional antenna for LOS communications and a medium gain directional antenna for SATCOM.

The Radio Set, AN/PSC-5D is a multi-band, multi-mission communication terminal with capabilities for Ultra High Frequency/Very High Frequency (UHF/VHF) manpack LOS and Satellite Communications/Demand Assigned Multiple Access (SATCOM/DAMA). It supports the Department of Defense (DoD) requirement for a lightweight, secure, network capable, multi-band/multi-mission, anti-jam, voice/imagery/data communications capability in a single package.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Frequency Range	225-399.95 MHz (AN/PSC-5) 30-512 MHz (AN/PSC-5D)	Size and Weight	
Channel Spacing	5, 6.25, 8.33, 12.5, 25 kHz	Weight	11.5 lb. (w/o batteries)
Stability	1 ppm	Length	13 in.
Modes of Operation		Width	10.6 in.
LOS	AM, FM, FSK, CPM (CPM data rate up to 76.8 kbps)	Height	3.3 in.
Non-DAMA	MIL-STD-188-181B Narrowband (1.2 kbps-9.6 kbps) Wideband (1.2 kbps-56 kbps)	Power Requirements	2 - BB/590 (AN/PSC-5) 2 - BB-390A/U 2 - BA-5590/U
5 kHz DAMA	MIL-STD-188-182A (75 bps-2.4 kbps)	Power Output	10W (max.)
25 kHz DAMA	MIL-STD-188-183 AC and DC Modes (75 bps-16 kbps)	Primary Power	21-32 VDC
Scan Mode	10 frequencies	Temperature Range	
		Operating	-40°F to +149°F
		Non-Operating	-49°F to +159.8°F
		Humidity	100%

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Antenna Extension Parts Kit, MK-2799/U	1	Cable Assembly (DMDG Interface)
1	Antenna (Low Gain, (LOS))	1	Cable Assembly (Retransmit) (PSC-5)
1	Antenna (Medium Gain, (LOS))	1	Cable Assembly (Retransmit) (SINCGARS)
1	Battery Box	1	Cable Assembly (Satellite Antenna)
1	Cable Assembly (KL-43 Interface)	1	Handset
1	Cable Assembly (AN/PSC-2 Interface)	1	Receiver-Transmitter

RADIO SET, AN/VRC-83, -83(V)2

<u>TAMCN</u>	A21647G	AN/VRC-83	<u>NSN</u>	5820-01-291-5415	<u>ID</u>	08946B
<u>TAMCN</u>	A21647G	AN/VRC-83(V)2	<u>NSN</u>	5820-01-127-3485	<u>ID</u>	08946A



DESCRIPTION AND FUNCTION

The Radio Set, AN/VRC-83, -83(V)2 is the tactical, medium range, vehicular, ground-to-air/ground-to-ground radio for the Fleet Marine Force (FMF). The radio set uses the RT-1319B as the basic element. The AN/VRC-83(V)2 is HAVE QUICK II capable. HAVE QUICK II is the anti-jam, frequency hopping capability for Ultra High Frequency (UHF) radios. Some features include: single connector to interface with the handset on encryption device, automatic narrowband/wideband switching; keyboard control and Liquid Crystal Display (LCD) frequency/mode display. In addition the AN/VRC-83(V)2 provides an integral audio amplifier, companion speaker and 30 watt linear power amplifier.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Frequency Range	116.000-149.975 (Band 1) (VHF) 225.000-399.975 (Band 2) (UHF)	Installation	Vehicular mount
		Power Requirements	22-32 VDC; 10A
		Size and Weight	Operating/Shipping
		Weight	40 lb.
Number of Channels	8,360 plus 1 guard channel at 243 MHz (auto override)	Length	12.52 in.
		Width	10.38 in.
Type of Modulation	AM	Height	6.49 in.
Power Output	30W	Cube	1 cu. ft.
Channel Spacing	25 kHz		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Receiver-Transmitter, RT-1319B/VRC P/N 914858-803 or P/N 914858-804	1	Shock Mount, P/N 812097-803
1	Amplifier, Radio Frequency AM-7188A/VRC-83	1	Antenna, AS3588

RADIO SET, AN/VRC-88A

TAMCN A21677G NSN 5820-01-267-9481 ID 09667A



DESCRIPTION AND FUNCTION

The Radio Set, AN/VRC-88A is the short-range vehicular configuration of the Integrated Communications (ICOM) Single Channel Ground to Air Radio System (SINCGARS). Features of this radio include controllable output power with a maximum of 4 watts, 8 non-volatile preset single channels, 6 non-volatile frequency hopping preset channels, and operates over the 30 to 87.975 MHz frequency range in 25 kHz channels (2,320 total channels). The Integrated Communication Security (COMSEC) (ICOM) module is compatible with VINSON COMSEC devices. Additionally, the RT contains Built-in Test (BIT) equipment; it will support digital data communications in the single channel mode with currently fielded Very High Frequency (VHF)-Frequency Modulation (FM) family of radios. The AN/VRC-88A replaced the AN/GRC-125/160.

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type Modulation	FM	Frequency Hopping Preset	
Type Transmission	Voice, data	Radio Nets	6 each
Operating Modes	Single channel, frequency hopping with internal ECCM module	Digital Capability	75 bits to 16 kbps (FSK or digital)
Power Output	500 mW to 4W	Transmission Range	(Data/Voice)
Frequency Range	30.0 to 87.975 MHz (VHF)	Manpack	4 km/8 km
Frequency Entry	Via keyboard	Vehicular	20 km/35 km
Installation	Fixed or portable; Manpack, vehicle or aircraft	Aircraft	20 km/35 km
Standard Power Source	22-32 VDC per MIL-STD-1275 22-32 VDC per MIL-STD-704	Size and Weight	Operating/Shipping
Number of Channels	2,320	Weight	43 lb.
Channel Spacing	25 kHz	Length	19 in.
Present Channels (if applicable)	6 auto, 1 man/1 cue for single channel, 6 auto/1 cue for ECCM	Width	15 in.
		Height	9 in.
		Cube	2 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier Adapter, Vehicle	1	Receiver-Transmitter, Radio, RT-1523B(C)/U

RADIO SET, AN/VRC-89A

TAMCN A21687G

NSN 5820-01-267-9479

ID 09668A



DESCRIPTION AND FUNCTION

The Radio Set, AN/VRC-89A is the long-range/short-range vehicular configuration of the Integrated Communications (ICOM) Single Channel Ground to Air Radio System (SINCGARS). Features of this radio include controllable output power with a maximum of 50 watts for the remaining RT, 8 non-volatile preset single channels, 6 non-volatile frequency hopping preset channels, and operates over the 30 to 87.975 MHz frequency range in 25 kHz channels (2,320 total channels). The Integrated Communication Security (COMSEC) (ICOM) module is compatible with VINSON COMSEC devices. Additionally, the RT contains Built-in Test (BIT) equipment, will support digital data communications with the data rates up to 16,000 bits per second, and is compatible in the single channel mode with currently fielded Very High Frequency (VHF)-Frequency Modulation (FM) family of radios. The AN/VRC-89A replaced the AN/VRC-12/47.

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type Modulation	FM	Number of Channels	2,320
Type Transmission	Voice, data	Channel Spacing	25 kHz
Operating Modes	Single channel, frequency hopping with internal ECCM module	Present Channels (if applicable)	6 auto, 1 man/1 cue for single channel, 6 auto/1 cue for ECCM
Power Output	50W	Frequency Hopping Preset Radio Nets	6 each
Frequency Range	30.0 to 87.975 MHz (VHF)	Digital Capability	75 bits to 16 kbps (FSK or digital)
Frequency Entry	Via keyboard	Transmission Range	(Data/Voice)
Installation	Fixed or portable; Manpack, vehicle or aircraft	Vehicular	20 km/35 km
Standard Power Source		Aircraft	20 km/35 km
Vehicular	22-32 VDC per MIL-STD-1275		
Aircraft	22-32 VDC per MIL-STD-704		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier Adapter, Vehicle	1	Amplifier, Radio Frequency
1	Receiver-Transmitter, Radio, RT-1523B(C)/U		

RADIO SET, AN/VRC-90A

TAMCN A21697G NSN 5820-01-268-5105 ID 09671A



DESCRIPTION AND FUNCTION

The Radio Set, AN/VRC-90A is the long-range vehicular configuration of the Integrated Communications (ICOM) Single Channel Ground to Air Radio System (SINCGARS). Features of this radio include controllable output power with a maximum of 50 watts, 8 non-maximum of 4 watts, 8 non-volatile preset single channels, 6 non-volatile preset single channels, 6 non-volatile frequency hopping preset channels, and operates over the 30 to 87.975 MHz frequency range in 25 kHz channels (2,320 total channels). The Integrated Communication Security (COMSEC) (ICOM) module is compatible with VINSON COMSEC devices. Additionally, the RT contains Built-in Test (BIT) equipment, will support digital data communications with the data rates up to 16,000 bits per second, and is compatible in the single channel mode with currently fielded Very High Frequency (VHF)-Frequency Modulation (FM) family of radios. The AN/VRC-90A replaced the AN/VRC-43/46.

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

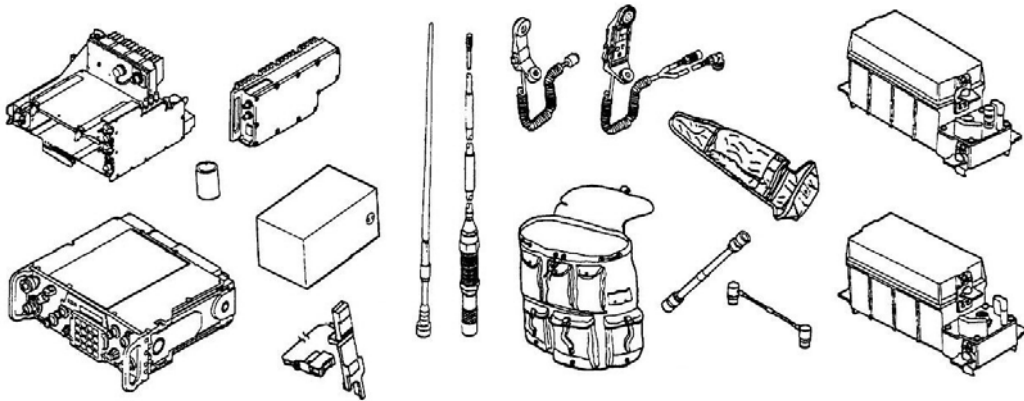
Type Modulation	FM	Number of Channels	2,320
Type Transmission	Voice, data	Channel Spacing	25 kHz
Operating Modes	Single channel, frequency hopping with internal ECCM module	Present Channels (if applicable)	6 auto, 1 man/1 cue for single channel, 6 auto/1 cue for ECCM
Power Output	50W	Frequency Hopping Preset Radio Nets	6 each
Frequency Range	30.0 to 87.975 MHz (VHF)	Digital Capability	75 bits to 16 kbps (FSK or digital)
Frequency Entry	Via keyboard	Transmission Range	(Data/Voice)
Installation	Fixed or portable; Manpack, vehicle or aircraft	Vehicular	20 km/35 km
Standard Power Source		Aircraft	20 km/35 km
Vehicular	22-32 VDC per MIL-STD-1275		
Aircraft	22-32 VDC per MIL-STD-704		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier Adapter, Vehicle	1	Amplifier, Radio Frequency
1	Receiver-Transmitter, Radio, RT-1523B(C)/U		

RADIO SET, AN/VRC-91A

TAMCN A21707G NSN 5820-01-267-9478 ID 09670A



DESCRIPTION AND FUNCTION

The Radio Set, AN/VRC-91A is the long-range/short-range vehicular configuration of the Integrated Communications (ICOM) Single Channel Ground to Air Radio System (SINCGARS), and comes with manpack accessories. Features of this radio include controllable output power with a maximum of 50 watts for the RT using the Power Amplifier (PA) and a maximum of 4 watts for the remaining RT, 8 non-volatile preset single channels, 6 non-volatile frequency hopping preset channels, and operates over the 30 to 87.975 MHz frequency range in 25 kHz channels (2,320 total channels). The Integrated Communication Security (COMSEC) (ICOM) module is compatible with VINSON COMSEC devices. Additionally, the RT contains Built-in Test (BIT) equipment, will support digital data communications with data rates up to 16,000 bits per second, and is compatible in the single channel mode with currently fielded Very High Frequency (VHF)-Frequency Modulation (FM) family of radios. The AN/VRC-91A replaced the AN/GRC-160/125 and AN/VRC-46.

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type Modulation	FM	Number of Channels	2,320
Type Transmission	Voice, data	Channel Spacing	25 kHz
Operating Modes	Single channel, frequency hopping with internal ECCM module	Present Channels (if applicable)	6 auto, 1 man/1 cue for single channel, 6 auto/1 cue for ECCM
Power Output	50W	Frequency Hopping Preset Radio Nets	6 each
Frequency Range	30.0 to 87.975 MHz (VHF)	Digital Capability	75 bits to 16 kbps (FSK or digital)
Frequency Entry	Via keyboard	Transmission Range	(Data/Voice)
Installation	Fixed or portable; Manpack, vehicle or aircraft	Manpack	4 km/8 km
Standard Power Source		Vehicular	20 km/35 km
Vehicular	22-32 VDC per MIL-STD-1275	Aircraft	20 km/35 km
Aircraft	22-32 VDC per MIL-STD-704		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier Adapter, Vehicle	1	Amplifier, Radio Frequency
2	Receiver-Transmitter, Radio, RT-1523B(C)/U		

RADIO SET, AN/VRC-92A

TAMCN A21717G

NSN 5820-01-267-9477

ID 09471A



DESCRIPTION AND FUNCTION

The Radio Set, AN/VRC-92A is the dual long-range vehicular configuration of the Integrated Communications (ICOM) Single Channel Ground to Air Radio System (SINCGARS). Features of this radio include controllable output power with a maximum of 50 watts, 8 non-volatile present single channels, 6 non-volatile frequency hopping preset channels, and operates over the 30 to 87.975 MHz frequency range in 25 kHz channels (2,320 total channels). The Integrated Communication Security (COMSEC) (ICOM) module is compatible with VINSON COMSEC devices. Additionally, the RT contains Built-in Test (BIT) equipment, will support digital data communications with data rates up to 16,000 bits per second, and is compatible in the single channel mode with currently fielded Very High Frequency (VHF)-Frequency Modulation (FM) family of radios. The AN/VRC-92A replaced the AN/VRC-45/49.

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type Modulation	FM	Number of Channels	2,320
Type Transmission	Voice, data	Channel Spacing	25 kHz
Operating Modes	Single channel, frequency hopping with internal ECCM module	Present Channels (if applicable)	6 auto, 1 man/1 cue for single channel, 6 auto/1 cue for ECCM
Power Output	50W	Frequency Hopping Preset Radio Nets	6 each
Frequency Range	30.0 to 87.975 MHz (VHF)	Digital Capability	75 bits to 16 kbps (FSK or digital)
Frequency Entry	Via keyboard	Transmission Range	(Data/Voice)
Installation	Fixed or portable; Manpack, vehicle or aircraft	Vehicular	20 km/35 km
Standard Power Source		Aircraft	20 km/35 km
Vehicular	22-32 VDC per MIL-STD-1275		
Aircraft	22-32 VDC per MIL-STD-704		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier Adapter, Vehicle	2	Amplifier, Radio Frequency
2	Receiver-Transmitter, Radio, RT-1523B(C)/U		

RADIO SET, AN/VRC-102

TAMCN A21737G

NSN 5820-01-420-2251

ID 10618A



DESCRIPTION AND FUNCTION

The Radio Set, AN/VRC-102 is a manpackable transceiver which operates in the High Frequency (HF)/Very High Frequency (VHF) bands from 1.6 to 60 MHz. The AN/VRC-102 has a maximum Radio Frequency (RF) power output of 125W. The AN/VRC-102 weighs less than 10 pounds (without batteries) and can include VHF operation, data modem, Electronic Counter-Countermeasures (ECCM) controller, ALE, and encryption for both voice and data. An internal antenna tuning unit matches a wide variety of whip, dipole, and long-wire antenna automatically.

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Receiver-Transmitter, RT-1694B	1	Coupler, RF-382A-02
1	Amplifier RF, RF-5032-125		

RADIO SET, CONTROL GROUP, AN/GRA-39B

TAMCN H23792B NSN 5820-00-949-9909 ID 04616B



DESCRIPTION AND FUNCTION

The Radio Set, Control Group, AN/GRA-39B enables an operator to transmit and receive voice communication through a radio set from a distance up to approximately 2 miles (3.3 kilometers), from the radio set. A push-to-talk circuit permits the radio in the system also to be operated by a local battery switchboard and the telephones connected to the switchboard. Voice communication of the radio is initiated through either the remote control unit or the local control unit.

Manufacturer: CAE USA, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	6.6 to 9.0 VDC	Size and Weight	
Power Supply	6 BA-30	Weight	10.25 lb.
Battery Life Expectancy	24 hr	Length	4.88 in.
		Width	4.88 in.
		Height	4 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Radio Set Control/C2328	1	Radio Set Control/C2329

RADIO SET, ENHANCED POSITION LOCATING AND REPORTING SYSTEM (EPLRS), AN/VSQ-2C(V)2

TAMCN A21527G NSN 5820-01-462-8411 ID 10656A



DESCRIPTION AND FUNCTION

The Radio Set, Enhanced Position Locating and Reporting System (EPLRS), AN/VSQ-2C(V)2 is a Data Net Radio that provides secure, jam-resistant, radio frequency connectivity and positional location capabilities to the user. The radio set is primarily operated from a surface vehicle, but may be dismounted and operated in its manpacked configuration. The AN/VSQ-2C(V)2 replaced the AN/VSQ-1 and AN/PSQ-4.

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	BA-5590/U, BB-390A/U BA-3090/U batteries; 110 VAC single phase	Size and Weight	Operating/Shipping
		Weight	27.5 lb.
		Length	9.6 in.
		Width	10.5 in.
		Height	5.1 in.
		Square	0.71 sq. ft.
		Cube	0.30 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Control-Readout, Unit	1	Selectable Power Adapter (SPA) or
1	Cable Assembly, URO	1	Enhanced Dual Power Adapter (EDPA)
1	Cable Assembly, AC Power	1	Receiver/Transmitter
		1	Surface Vehicle Installation Kit

RADIO SET, HIGH FREQUENCY, MANPACK, AN/PRC-150(C)

TAMCN A20427G NSN 5820-01-492-3628 ID 10822A



DESCRIPTION AND FUNCTION

The Radio Set, High Frequency, Manpack, AN/PRC-150(C) is an advanced High Frequency (HF) Radio/Transmitter (R/T) which provides reliable tactical communications through enhanced secure voice and data performance, networking, reduced size/weight, and extended battery life.

The R/T provides reliable Line of Sight (LOS) and skywave communications in Upper Sideband (USB), Lower Sideband (LSB), Amplitude Modulation Equivalent (AME), Continuous Wave (CW), and Frequency Modulation (FM) modes. Communications can take place with manpack, mobile and fixed-site radio configurations.

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	2 - BB-390/U 2 - BB-590/U 2 - BA-5590 2 - BB-490/U	Modes of Operation Modulation	FIX, HOP, ALE, and 3G LSB, USB, AME, CW, and FM
Frequency Range	1.6 MHz to 59.9999 MHz in 100 Hz steps	Preset Channels System Presets Temperature Range Immersion	200 75, fully programmable -40°F to +158°F 35.4 in. of water
Power Input	26 VDC		
RF Input/Output Impedance	50 ohms nominal, unbalanced		
Size and Weight	w/o battery box	w/battery box	
Weight	9.9 lb.		
Width	10.5 in.	26.7 in.	
Height	3.5 in.	8.9 in.	
Depth	13.5 in.	34.29 in.	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	RT-1694D(P)(C)/U Receiver/Transmitter (R/T)	1	Keypad Display Unit (KDU)

RADIO SET, MANPACK, AN/PRC-119F

TAMCN

A20797G

NSN

5820-01-451-8252

ID

09669C



DESCRIPTION AND FUNCTION

The Radio Set, Manpack, AN/PRC-119F operates as a ground-based manpack radio for tactical communication of voice frequency, Frequency Shift Keying (FSK), or digital data. Communication can be secured and/or frequency hopped for Communications Security (COMSEC) or Electronic Counter-Countermeasures (ECCM) purposes. The AN/PRC-119F incorporated the technological advances of the RT-1523E(C)/U to support enhanced transmission and reception of synchronous and asynchronous data. RT-1523E(C)/U improvements include substantial decrease in physical size and weight, an embedded battery box for manpack operation, extended battery life and internal mounted options for a Global Positioning System (GPS) receiver and a Network Access Unit (NAU).

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Receiver/Transmitter		Operating Modes	Single channel frequency hopping (ECCM), secure (COMSEC), secure hopping, retransmission
Number of Channels	2,320	Communications Security	Embedded to unit level
Single Channel Spacing	25 kHz	Built-in Test (BIT)	
Frequency Stability	Better than ± 5 PPM	Size and Weight	
Frequency Tuning Range	30 MHz to 87.975 MHz	Weight	18.5 - 21.0 lb.
Transmitter Power	Selectable	Length	19.0 in.
Low	500 μ W	Width	15.0 in.
Medium	160 mW	Height	9.0 in.
High	4W	Cube	2,565 cu. in.
Offset Tuning Capability	± 5 kHz and ± 10 kHz		
Receiver Sensitivity	-116 dBm		
Set Channels	6		
Type	RT-1523C(C)/U		
Type of Modulation	Carrier Modulation (FM)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Adapter, Connector	1	Receiver-Transmitter Set, Radio (RT-1523E(C)/U)

RADIO SET, MULTI-BAND, FALCON II, AN/PRC-117F(V)1C

TAMCN A20687G NSN 5820-01-462-2484 ID 10597A



DESCRIPTION AND FUNCTION

The Radio Set, Multi-band, Falcon II, AN/PRC-117F(V)1C is an advanced multi-band, multi-mission manpack radio providing reliable tactical communications performance in a small, lightweight package that maximizes user mobility. The AN/PRC-117F(V)1C operates from either two BB-590/U Ni-Cad rechargeable batteries, two BA-5590/U lithium batteries, two BB-390A/U Ni-MH rechargeable batteries, or two BB-490/U lead-acid rechargeable batteries. The AN/PRC-117F(V)1C frequency range is continuous from 30.000 MHz to 511.999 MHz, providing Amplitude Modulation (AM) and Frequency Modulation (FM) and various data waveforms. The AN/PRC-117F(V)1C provides Line of Sight (LOS), Satellite Communications (SATCOM), and Electronic Counter-Countermeasures (ECCM) Frequency Hopping (FH) operation Single Channel Ground to Air Radio System (SINCGARS) and HAVE QUICK, and is compatible with all tactical Very High Frequency (VHF)/Ultra High Frequency (UHF) radios.

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	26 VDC nominal 2 - BA-5590, BA-390A/U, BB-590 batteries	Operating Temperature	-40°F to +158°F
Frequency Range	30 MHz to 512 MHz	Operating Altitude	Up to 40,000 ft.
Modulation	5, 6.5, 8 kHz	Size and Weight	
Channels	100 fixed/hopping presets	Weight	
Bandwidth	5 kHz (narrow band) 25 kHz (wide band)	w/batteries and case	15.9 lb.
Mode of Operation	Data/Voice	w/o batteries and case	9.8 lb.
Embedded Encryption	VINSON, ANDVT, Fascinator, KG-84C	Length	9.6 in.
		Width	10.5 in.
		Height	3.2 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	RT-1796(P)/PRC(C)	1	VHF/UHF Flex Antenna
1	Battery Box	1	Flexible Adapter
1	Handset	1	KDU Remote Control Cable
1	VHF Blade Antenna		

RADIO SET, MULTI-BAND (URBAN), INTER/INTRA TEAM, AN/PRC-148(V)2C

TAMCN A20437G NSN 5810-09-000-0353 ID 10745B



DESCRIPTION AND FUNCTION

The Radio Set, Multi-band (Urban), Inter/Intra Team, AN/PRC-148(V)2C is a lightweight, durable, and compact radio that provides secure, multi-band, voice and data communications. This radio will provide a standardized, maintainable, hand held means to support the communications requirements of small units.

Manufacturer: Thales Communications, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	1 - ICR-18650 10 - BA-5123/U 10 - DL-123A w/battery holder	Size and Weight	
		Weight	1 lb. 14.6 oz.
		Length	8.44 in.
		Width	2.63 in.
Frequency Range	30 to 512 MHz	Height	1.52 in.
Bands	VHF, FM, AM, UHF, AM (Air-Ground), UHF FM (LOS), UHF FM (Public Service)	Cube	0.02 cu. ft.
		Immersibility	30 min. at 2m
Channels	100 preset		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Vehicle Adapter	1	AC/DC Powered 6-way Battery Charger
1	Radio Holster	1	GPS, Cloning, Data, and Retransmission Cables
1	Radio System Carrying Bag	1	Special Power Adapter Interface
1	AC Powered Single Battery Charger		

RADIO SET, VEHICULAR, AN/VRC-88D

TAMCN A20747G NSN 5820-01-352-1694 ID 09667B



DESCRIPTION AND FUNCTION

The Radio Set, Vehicular, AN/VRC-88D is a basic radio set which requires operating components that are part of a requisite Installation Kit (IK) unique to each platform. It operates as either a short range vehicular or a manpack radio for tactical communication of voice-frequency, Frequency Shift Keying (FSK), or digital data. Communication can be secured and/or frequency hopped for Communications Security (COMSEC) or Electronic Counter-Countermeasures (ECCM) purposes. The AN/VRC-88D incorporates technological advances of the RT-1523C(C)/U and the AM-7239C/VRC to support enhanced transmission and reception of synchronous and asynchronous data and interfaces with the Precision Lightweight Global Positioning System (GPS) Receiver (PLGR). It also provides circuitry to allow for sending, receiving and storing packetized data utilizing the Internet Controller (INC).

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Receiver/Transmitter		Operating Modes	Single channel frequency hopping (ECCM), secure (COMSEC), secure hopping, retransmission
Number of Channels	2,320	Communications Security	Embedded to unit level
Single Channel Spacing	25 kHz	Built-in Test (BIT)	12 VDC (min.)
Frequency Stability	Better than ± 5 PPM	Power Requirements	32 VDC (max.)
Frequency Tuning Range	30 MHz to 87.975 MHz		
Transmitter Power	Selectable		
Low	500 μ W		
Medium	160 mW		
High	4W		
Offset Tuning Capability	± 5 kHz and ± 10 kHz		
Receiver Sensitivity	-116 dBm		
Set Channels	6		
Type	RT-1523C(C)/U		
Type of Modulation	Carrier Modulation (FM)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier-Adapter, Vehicular (AM-7239C/VRC)	1	Battery Box CY-8523A or CY-8523C
1	Receiver-Transmitter, Radio, RT-1523C(C)/U		

RADIO SET, VEHICULAR, AN/VRC-89D

TAMCN A20757G NSN 5820-01-420-6619 ID 09668B



DESCRIPTION AND FUNCTION

The Radio Set, Vehicular, AN/VRC-89D is a basic radio set which requires operating components that are part of a requisite Installation Kit (IK) unique to each platform. It operates as a long range/short range vehicular radio for tactical communication of voice-frequency, Frequency Shift Keying (FSK), or digital data. Communication can be secured and/or frequency hopped for Communications Security (COMSEC) or Electronic Counter-Countermeasures (ECCM) purposes. The AN/VRC-89D incorporates technological advances of the RT-1523C(C)/U and the AM-7239C/VRC to support enhanced transmission and reception of synchronous and asynchronous data and interfaces with the Precision Lightweight Global Positioning System (GPS) Receiver (PLGR). It also provides circuitry to allow for sending, receiving and storing packetized data utilizing the Internet Controller (INC).

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Receiver/Transmitter		Operating Modes	Single channel
Number of Channels	2,320		frequency hopping (ECCM),
Single Channel Spacing	25 kHz		secure (COMSEC),
Frequency Stability	Better than ± 5 PPM		secure hopping,
Frequency Tuning Range	30 MHz to 87.975 MHz		retransmission
Transmitter Power	Selectable	Communications	
Low	500 μW	Security	Embedded
Medium	160 mW	Built-in Test (BIT)	to unit level
High	4W		
PA	50W		
Offset Tuning Capability	±5 kHz and ±10 kHz		
Receiver Sensitivity	-116 dBm		
Set Channels	6		
Type	RT-1523C(C)/U		
Type of Modulation	Carrier Modulation (FM)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier-Adapter (AM-7239C/VRC)	2	Receiver-Transmitter, Radio, RT-1523C(C)/U
1	Amplifier, Radio Frequency (AM-7238B/VRC)		

RADIO SET, VEHICULAR, AN/VRC-90D

TAMCN A20767G NSN 5820-01-420-6618 ID 09671B



DESCRIPTION AND FUNCTION

The Radio Set, Vehicular, AN/VRC-90D is a basic radio set which requires operating components that are part of a requisite Installation Kit (IK) unique to each platform. It operates as a long range vehicular radio for tactical communication of voice-frequency, Frequency Shift Keying (FSK), or digital data. Communication can be secured and/or frequency hopped for Communications Security (COMSEC) or Electronic Counter-Countermeasures (ECCM) purposes. The AN/VRC-90D incorporates technological advances of the RT-1523C(C)/U and the AM-7239C/VRC to support enhanced transmission and reception of synchronous and asynchronous data and interfaces with the Precision Lightweight Global Positioning System (GPS) Receiver (PLGR). It also provides circuitry to allow for sending, receiving and storing packetized data utilizing the Internet Controller (INC).

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

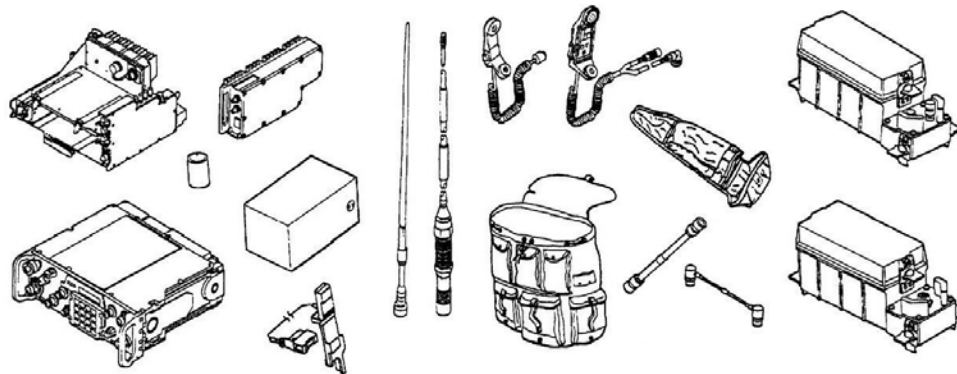
Receiver/Transmitter		Operating Modes	Single channel frequency hopping (ECCM), secure (COMSEC), secure hopping, retransmission
Number of Channels	2,320		
Single Channel Spacing	25 kHz		
Frequency Stability	Better than ± 5 PPM		
Frequency Tuning Range	30 MHz to 87.975 MHz		
Transmitter Power	Selectable	Communications Security	Embedded to unit level
Low	500 μW	Built-in Test (BIT)	
Medium	160 mW		
High	4W		
PA	50W		
Offset Tuning Capability	±5 kHz and ±10 kHz		
Receiver Sensitivity	-116 dBm		
Set Channels	6		
Type	RT-1523C(C)/U		
Type of Modulation	Carrier Modulation (FM)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier-Adapter (AM-7239C/VRC)	1	Receiver-Transmitter, Radio, RT-1523C(C)/U
1	Amplifier, Radio Frequency (AM-7238B/VRC)		

RADIO SET, VEHICULAR, AN/VRC-91D

TAMCN A20777G NSN 5820-01-420-6621 ID 09670B



DESCRIPTION AND FUNCTION

The Radio Set, Vehicular, AN/VRC-91D is a basic radio set which requires operating components that are part of a requisite Installation Kit (IK) unique to each platform. It operates as a long range/short range vehicular or a manpack radio (with dismount) for tactical communication of voice-frequency, Frequency Shift Keying (FSK), or digital data. Communication can be secured and/or frequency hopped for Communications Security (COMSEC) or Electronic Counter-Countermeasures (ECCM) purposes. The AN/VRC-91D incorporates technological advances of the RT-1523C(C)/U and the AM-7239C/VRC to support enhanced transmission and reception of synchronous and asynchronous data and interfaces with the Precision Lightweight Global Positioning System (GPS) Receiver (PLGR). It also provides circuitry to allow for sending, receiving and storing packetized data utilizing the Internet Controller (INC).

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Receiver/Transmitter		Operating Modes	Single channel frequency hopping (ECCM), secure (COMSEC), secure hopping, retransmission
Number of Channels	2,320		
Single Channel Spacing	25 kHz		
Frequency Stability	Better than ± 5 PPM		
Frequency Tuning Range	30 MHz to 87.975 MHz		
Transmitter Power	Selectable	Communications Security	Embedded to unit level
Low	500 μW	Built-in Test (BIT)	
Medium	160 mW		
High	4W		
PA	50W		
Offset Tuning Capability	±5 kHz and ±10 kHz		
Receiver Sensitivity	-116 dBm		
Set Channels	6		
Type	RT-1523C(C)/U		
Type of Modulation	Carrier Modulation (FM)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier-Adapter (AM-7239C/VRC)	2	Receiver-Transmitter, Radio, RT-1523C(C)/U
1	Amplifier, Radio Frequency (AM-7238B/VRC)		

RADIO SET, VEHICULAR, AN/VRC-92D

TAMCN A20787G NSN 5820-01-421-2605 ID 09471B



DESCRIPTION AND FUNCTION

The Radio Set, Vehicular, AN/VRC-92D is a basic radio set which requires operating components that are part of a requisite Installation Kit (IK) unique to each platform. It operates as a dual long range vehicular radio for tactical communication of voice-frequency, Frequency Shift Keying (FSK), or digital data. Communication can be secured and/or frequency hopped for Communications Security (COMSEC) or Electronic Counter-Countermeasures (ECCM) purposes. The AN/VRC-92D incorporates technological advances of the RT-1523C(C)/U and the AM-7239C/VRC to support enhanced transmission and reception of synchronous and asynchronous data and interfaces with the Precision Lightweight Global Positioning System (GPS) Receiver (PLGR). It also provides circuitry to allow for sending, receiving and storing packetized data utilizing the Internet Controller (INC).

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Receiver/Transmitter		Operating Modes	Single channel
Number of Channels	2,320		frequency hopping (ECCM),
Single Channel Spacing	25 kHz		secure (COMSEC),
Frequency Stability	Better than ± 5 PPM		secure hopping,
Frequency Tuning Range	30 MHz to 87.975 MHz		retransmission
Transmitter Power	Selectable	Communications	
Low	500 µW	Security	Embedded
Medium	160 mW	Built-in Test (BIT)	to unit level
High	4W		
PA	50W		
Offset Tuning Capability	±5 kHz and ±10 kHz		
Receiver Sensitivity	-116 dBm		
Set Channels	6		
Type	RT-1523C(C)/U		
Type of Modulation	Carrier Modulation (FM)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier-Adapter (AM-7239C/VRC)	2	Receiver-Transmitter, Radio, RT-1523C(C)/U
2	Amplifier, Radio Frequency (AM-7238B/VRC)		

RADIO TERMINAL SET, AN/MRC-142, -142A

<u>TAMCN</u>	A19557G	AN/MRC-142	<u>NSN</u>	5895-01-333-3040	<u>ID</u>	09543A
<u>TAMCN</u>	A19557G	AN/MRC-142A	<u>NSN</u>	5820-01-491-0162	<u>ID</u>	09543B



DESCRIPTION AND FUNCTION

The Radio Terminal Set, AN/MRC-142, -142A is a vehicular-mounted integrated multi-channel system providing two-way secure digital wideband transmission. The AN/MRC-142 will provide 8 channels (with the TD-1234) in the Ultra High Frequency (UHF) frequency range, with channel rates of 16 and 32 kbps, and a range of 35 miles. Used with a switch (SB-3865 or AN/TTC-42) it can provide a maximum of 36 channels (16 kbps). The AN/MRC-142A operates in the Ultra High Frequency (UHF) frequency range and provides up to 16 data channels or 14 data channels and two digital trunked secure voice channels with individual channel rates up to 512 kbps.

Manufacturer: Loral Terracom

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type Modulation	Conditioned diphase, FM	Standard Power Source	115 VAC, 60/400 Hz, 800W (max.); 22-32 VDC
Type Transmission	Voice/data, wideband, digital	Number of channels	8 plus orderwire (with TD-1234)
Power Output	3W (min.)	Channel spacing	125 kHz
Frequency Range	1,350-1,850 MHz (UHF)	Data rate (selectable)	144, 288, 576 kbps
Antenna Gain	18-20 dBi	Size and Weight	Operating/Shipping
Range	35 mi. LOS	Mast Height	5 ft. 8 in. to 50 ft.
Receiver Noise	≤93 dBm	Encryption	AN/KY-57, AN/KG-194A
Installation	Vehicular system; Transportable by vehicle or aircraft		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
AN/MRC-142	Radio Set, RT-1601/MRC-142		Antenna, AS-4255/MRC-142
	Remote Multiplexer Combiner, TD-1234		Mast, Antenna, AS-1356/MRC-142
	Seeley Trunk Encryption Device, KG-194A		Conditioned Diphase Adapter CV-4089
	Mount, Vehicle		VINSON Voice Security Device, KY-57
	Rack Assembly, Electrical		Power Distribution Panel, SB-4327/MRC-142
AN/MRC-142A	AN/FCC-100(V)9X multiplexer		Uninterruptible Power Supply (UPS)
	CV-8448CX Non-Return to Zero (NRZ) to		50W RF Power Adapter
	Conditioned Diphase (CDI) Converter		

RADIO TERMINAL SET, DIGITAL WIDEBAND TRANSMISSION SYSTEM (DWTS), AN/MRC-142B

TAMCN A19547G NSN 5820-01-491-0215 ID 09543C



DESCRIPTION AND FUNCTION

The Radio Terminal Set, Digital Wideband Transmission System (DWTS), AN/MRC-142B is a vehicular-mounted integrated multi-channel system providing two-way, point-to-point, secure, digital wideband communications to support ship to shore communications. The AN/MRC-142B operates in the Ultra High Frequency (UHF) frequency range and provides up to 16 data channels or 14 data channels and two digital trunked secure voice channels with individual channel rates up to 512 kbps.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120 VAC, 50/60 Hz single phase, 24 VDC	Size and Weight	Operating/Shipping
Transport	Transportable by truck, rail, ship, aircraft or helicopter	Mobility	Packed in various size and weight transit cases
Spectrum	1,350-1,850 MHz UHF		HMMWV mounted, stationary for use
Orientation	Directional		
Range	30+ mi.		
Operational Mode	Voice/Data		
Encryption	AN/KY-57, AN/KG-194		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	AN/FCC-100(V)9X Multiplexer		Uninterruptible Power Supply (UPS)
	CV8448CX Non-Return to Zero (NRZ) to		Shore Mounted Accessory Kit (SMAK)
	Conditioned Diphase (CDI) Converter		Power Distribution Panel, SB-4327
	Radio Set, RT-1601		Condition Diphase Adapter, CV-4089

RADIO TERMINAL SET, AN/TRC-170(V)5

TAMCN A21797G

NSN 5898-01-354-7601

ID 08658A



DESCRIPTION AND FUNCTION

The Radio Terminal Set, AN/TRC-170(V)5 is a transportable, self-enclosed troposcatter terminal (multi-channel) capable of transmitting and receiving digital data in the Super High Frequency (SHF) over varying distances (up to 100 miles). This terminal is comprised of modular electronic equipment in various configurations with Government Furnished Equipment (GFE) multiplexers and cryptographic items all housed in a modified S-250/G shelter. The AN/TRC-170(V)5 operates in Line of Sight (LOS) or troposcatter mode.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Type Modulation	FM	Installation	Fixed;
Frequency	4.4 to 5.0 GHz		Transportable by truck,
Channels	32 full duplex		helicopter, or fixed wing aircraft
Type Transmission	Voice (digital or analog)	Standard Power Source	120/208 VAC, 50/60/400 Hz,
	Data (digital or quasi-analog)		3-phase, 4-wire
Range	100 mi.	Size and Weight	Operating/Shipping
Channel Spacing	3.5 MHz or 7 MHz	Weight	3,440 lb.
Data Rates	2048,1536,1024,512 256,or	Length	345 in.
	128 kbps	Width	170 in.
		Height	111 in.
		Cube	3,767 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Antenna Group, OE-468/TRC-170(V)	1	Radio Terminal Shelter Group OW-91/TRC-170(V)

SATELLITE COMMUNICATIONS TERMINAL, AN/TSC-85C(V)1

TAMCN A08127G NSN 5895-01-463-4063 ID 08347C



DESCRIPTION AND FUNCTION

The Satellite Communications Terminal, AN/TSC-85C(V)1 is a self contained Ground Mobile Forces (GMF), tactical communications terminal that provides, via Super High Frequency (SHF) carrier, the capability of transmitting up to 48 channels of Pulse Coded Modulation (PCM) voice and/or 72 channels (32 KB/s per channel) of various data formats as required by external users. Up to 96 channels of PCM voice and/or 144 data channels are available with a remote of co-located multiplexer van. The AN/TSC-85C(V)1 provides the capability of receiving simultaneously four SHF carriers. Two over-the-satellite orderwire control unit provides automatic or manual tracking of the satellites. The AN/TSC-85C(V)1 may be used with the AN/TSC-93C(V)1 Satellite Communications Terminal.

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	7,225 lb.
Length	174 in.
Width	87 in.
Height	83.38 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Radio Shelter Group, S-280	1	Antenna, AS-3036/TSC

SATELLITE COMMUNICATIONS TERMINAL, AN/TSC-93C(V)1, -93D(V)1

<u>TAMCN</u>	A08147G	AN/TSC-93C(V)1	<u>NSN</u>	5895-01-463-4064	<u>ID</u>	08348C
<u>TAMCN</u>	A08147G	AN/TSC-93D(V)1	<u>NSN</u>	5895-01-522-9993	<u>ID</u>	08348D



DESCRIPTION AND FUNCTION

The Satellite Communications Terminal, AN/TSC-93C(V)1 is a self contained Ground Mobile Forces (GMF) tactical communications terminal that provides, via Super High Frequency (SHF) carrier, the capability of transmitting up to 24 channels of Pulse Coded Modulation (PCM) voice (16/32 KB/s per channel) of various data formats as required by external users. The AN/TSC-93C(V)1 may be used with the AN/TSC-85C(V)1 Satellite Communication Terminal. It also digitally interfaces with the externally multi-plexed TRI-TAC group.

The Satellite Communications Terminal, AN/TSC-93D(V)1 enhanced tactical satellite signal processor improves data throughput. The AN/TSC-93D(V)1 has the following improved characteristics: CV-FOM - the capability to convert base data from copper to fiber and vice versa, Global Positioning System (GPS) receiver - for stable timing source, Uninterruptible Power Supply - for back-up power source, and Replacement Frequency Modulation (FM) Orderwire - computerized- allows ease of viewing status of equipment, updated encryption antenna, and Low Noise Amplifier (LNA) upgrade for dual downloading software (KIV-7 STE).

Manufacturer: CECOM

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	6,000 lb.
Length	87 in.
Width	79 in.
Height	70 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Radio Shelter Group, S-250	1	Antenna, AS-3036/TSC

**SATELLITE COMMUNICATIONS TERMINAL, AN/TSC-154,
SECURE MOBILE ANTI-JAM RELIABLE TACTICAL-TERMINAL (SMART-T)**

TAMCN A32327G NSN 5895-01-435-0571 ID 10432A



DESCRIPTION AND FUNCTION

The Satellite Communications Terminal, AN/TSC-154, Secure Mobile Anti-Jam Reliable Tactical-Terminal (SMART-T) is a Military Strategic, Tactical and Relay (MILSTAR) satellite-compatible communications terminal transported on a High Mobility Multipurpose Wheeled Vehicle (HMMWV). SMART-T is capable of providing voice and data communications at both Low Data Rate (LDR) and Medium Data Rate (MDR). The terminal is capable of transmitting in Extremely High Frequency (EHF) and receiving in Super High Frequency (SHF). It allows long-haul tactical communications for Digital Transmission Groups (DTG), Digital Subscriber Voice Terminal (DSVT), and individual encrypted subscribers, at data rates ranging from 75 bps to 1.544 Mbps. The terminal supports an aggregate data rate of 2,240 kbps with a maximum data rate of 2,400 bps for LDR communications and a maximum data rate of 2,240 kbps for MDR communications. SMART-T is compact, utilizing an offset-fed Gregorian antenna with a 4.5 ft. composite reflector. The components are designed to provide a low profile when mounted on the pallet. The pallet is all-steel construction (for stability), supported by four vertical stabilizing legs. SMART-T will operate in natural weather conditions and under battlefield conditions. SMART-T is designed to withstand biological and chemical attacks, Radio Frequency (RF) signal jamming, detection, and electromagnetic pulse.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	110 VAC, 28 VDC		
Size and Weight	Deployed	Operating	Storage/Shipping
Weight	2,533 lb.	8,600 lb.	8,660 lb.
Length	88.5 in.	193 in.	193 in.
Width	90 in.	85 in.	85 in.
Height	143 in.	143 in.	84 in.
Square	55.3125 sq. ft.	113.92 sq. ft.	113.92 sq. ft.
Cube	659.140 cu. ft.	1,357.589 cu. ft.	797.465 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	MEP-003A		Z-AIJ
	MEP-803A		TRANSEC Module, KSV-3
	Data Transfer Device, AN/CYZ-10(V)3		Cable AN/CYZ-10(V)3 to Planning Tool (9 pin)
	Electronic Transfer Keying Devices,		Fill Cable ANCD
	KYK-13/TSEC		Fill Cable AN/CYZ-10(V)3
	KY-99A		HMMWV, M1097A2
	AN/PSQ-17		Power Distribution Unit (PDU)
	Communication Planning System (CPS)		Pallet
	Terminal Electronics Unit (TEU)		
	Antenna Assembly		
	Generator		

SECONDARY IMAGERY DISSEMINATION SYSTEM (SIDS), MANPACK, AN/PSQ-13, -13(V)2

<u>TAMCN</u>	A09047G	AN/PSQ-13	<u>NSN</u>	5895-01-458-6392	<u>ID</u>	10555A
<u>TAMCN</u>	A09047G	AN/PSQ-13(V)2	<u>NSN</u>	5895-09-000-2099	<u>ID</u>	10555B



DESCRIPTION AND FUNCTION

The Secondary Imagery Dissemination System (SIDS), Manpack, AN/PSQ-13, -13(V)2 outstation is a man-portable device that provides reconnaissance and surveillance units with the capability to electronically disseminate digital imagery to the Marine Air Ground Task Force (MAGTF) in near-real-time via tactical communications. The base station module receives that digital imagery and forwards it to the Intelligence Analysis System (IAS) hosted SIDS network. Each Manpack SIDS consists of three Outstations and a Base Station.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements

Outstation	Internal power source also A/C power sources	Base Station LC	Rechargeable nickel hybrid battery or AC/DC adapters
SCS-1000 Camera	BA-5123/U batteries		A/C power
HTU-100	BA-5600A/U batteries	Printer	90-120/220-240 VAC, 47-63 Hz, 0.8/0.4A or internal rechargeable battery pack, vehicular electrical adapter
	External AC/DC power sources	Panasonic-CF25	

Size and Weight

	System Storage and Transport	Base Station Storage and Transport	Outstations	Base Station Operating
Weight	142 lb.	37 lb.	35 lb.	7.5 lb.
Length	25.25 in.	25.25 in.	25.25 in.	3.0 in.
Width	23.5 in.	23.5 in.	23.5 in.	7.0 in.
Height	53 in.	13.25 in.	13.25 in.	10.0 in.
Square	4.12 sq. ft.	4.12 sq. ft.	4.12 sq. ft.	0.15 sq. ft.
Cube	20 cu. ft.	5 cu. ft.	5 cu. ft.	0.12cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
3	Outstation	1	Base Station
	Camera		Lightweight Computer (LC)
	Lenses and Attachments		Printer
	PCMCIA Hard Disk Card		Cables
	Handheld Terminal Unit-100 (HTU-100)		Base Station Communications Link
	Cables		
	Outstation Communication Link		

SECONDARY IMAGERY DISSEMINATION SYSTEM, MAGTF (MSIDS)

TAMCN

A09047G

NSN

5895-01-420-1584

ID

10242A



DESCRIPTION AND FUNCTION

The MAGTF Secondary Imagery Dissemination System (MSIDS) is a digital imagery collection/transmission system employed by Reconnaissance (Recon) and Light Armored Reconnaissance (LAR) Marines. The refreshed MSIDS consists of one base station and three outstations. The base station consists of a ruggedized laptop computer and printer for hard copy printout of collected images. The outstation consists of a basic digital still-photo camera, advanced digital still-photo camera, night vision intensifier tube, and ruggedized ultra-portable laptop computer. All equipment comprising MSIDS will be Commercial-Off-The-Shelf (COTS) or Government-Off-The-Shelf (GOTS).

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Technology Spectrum	Digital HF, VHF, UHF, SATCOM	Size and Weight Weight Length	Storage/Shipping 65 lb. 18 in.
Orientation	Omni-directional, directional	Width Height	24 in. 30 in.
Mobility	Manpackable		
Power	Radio dependant		
Operational Mode	DATA		
Encryption	Radio dependant		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Digital Imaging Processor	1	Protocol Engine
1	External Monitor	1	HF Modem
1	PCMCIA Camera Interface Unit		

SECTOR ANTI-AIR WARFARE FACILITY (SAAWF), AN/TYQ-87

TAMCN

A23907G

NSN

5895-01-449-8288

ID

10446A



DESCRIPTION AND FUNCTION

The Sector Anti-Air Warfare Facility (SAAWF), AN/TYQ-87 provides the Sector Anti-Air Warfare Coordinator with the equipment necessary to plan, coordinate, direct, and supervise anti-air warfare operations of an assigned sector of airspace. In this capacity, the SAAWF presents informational and tabular data displays that emulate Tactical Air Operations Module (TAOM) and Operator Console Unit (OCU) displays. The SAAWF can also provide voice communications with TAOM operators, radar sites and other agencies using TAOM communications assets.

Manufacturer: Northrop Grumman Electronic Systems

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Transport	Transportable by truck, rail, ship, aircraft, or helicopter	Size and Weight	Operating/Shipping
Power Requirements	120 VAC, 50-60 Hz, single phase		Packed in various size and weight transit cases

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
4	Operator Console Unit (OCU) Display Group	1	Advanced Tactical Communications (ATC) Gateway

SENSOR MOBILE MONITOR SYSTEM (SMMS), AN/MSC-77

TAMCN

A23067G

NSN

6350-01-382-1826

ID

09856A



DESCRIPTION AND FUNCTION

The Sensor Mobile Monitor System (SMMS), AN/MSC-77 is a mobile sensor monitoring and control facility which receives, stores, processes, displays, and reports sensor activity. Either one of the monitoring workstations can be displaced from the shelter to provide limited stand-alone monitoring capability at remote locations. Automated sensor correlation allows up to 504 sensors to be monitored by a single operator. The AN/MSC-77 relay interrogation capability allows non-real-time data from storage relays to be quickly reviewed for indications of enemy activity and movement patterns without continuous monitoring/line of sight. Either one of its two workstations are capable of remotely controlling the RE-162/U Relay Assembly (RA). On-board communications equipment enables timely reporting of sensor activations in Joint Remote Sensor Report/Request (JRSR/R) formats. The AN/MSC-77 can also receive, decode, and display sensor data transmitted in the U.S. Army Improved Remotely Monitored Battlefield Sensor System (I-REMBASS), or United States Marine Corps (USMC) Miniature Intrusion Detection System (MIDS) formats.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	3-phase 208 VAC, 60 Hz source which can provide 4 kW of power		
Frequency Band (VHF)	138-153 MHz	Receiver Sensitivity	-112 dBm
Available Channels	599	Message Data Rate	1,200 bps
Sensor Monitoring		Power Output (VHF)	10W
Capability	512	Power Output (UHF)	None
Frequency Band (UHF)	311-313 MHz		
Size and Weight	Operating	Storage/Shipping	
Weight	8,370.0 lb.	8,370.0 lb.	
Length	204.5 in.	199.7 in.	
Width	92.6 in.	89.0 in.	
Height	103.8 in.	103.8 in.	
Square	131.5 sq. ft.	123.4 sq. ft.	
Cube	1,137.5 cu. ft.	1,067.0 cu. ft.	
Stowage	131.5 sq. ft.	123.5 sq. ft.	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
2	Signal Data Recorder, RO-630/USQ	1	Environmental Control Unit 18,000 BTU
2	VGA Monitor	1	Shelter Assembly
2	UHF Recovery Unit	1	Sensor Monitor System Antenna Group
2	Printer, Epson LQ-870	1	Signal Data Recorder Remote Kit
1	Heavy Duty HMMWV, (M1097)	1	Radio Set, VHF, AN/VRC-91A
1	Power Generation Unit	1	Radio Set, HF, AN/GRC-231

SENSOR MONITORING CENTRAL, AN/USQ-66(V), -66A(V)

<u>TAMCN</u>	A23057G	AN/USQ-66(V)	<u>NSN</u>	5895-01-003-2687	<u>ID</u>	07754A
<u>TAMCN</u>	A23057G	AN/USQ-66A(V)	<u>NSN</u>	7025-01-368-9174	<u>ID</u>	09785A



DESCRIPTION AND FUNCTION

The Sensor Monitoring Central, AN/USQ-66(V) is used to monitor signals from field implanted sensors in order to process these signals for subsequent analysis and evaluation. It consists of receiving and transmitting equipment, sensor monitoring and display equipment, a power panel and controls, and various recording devices. The unit incorporates methods of communication to higher commands or other field units.

The Sensor Monitoring Central, AN/USQ-66A(V) is an upgraded version of the AN/USQ-66(V). Increased capabilities include the use of non developmental computer equipment to increase sensor handling volume, display and storage. It incorporates use of Communications Security (COMSEC) (VINSON) capability.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Installation	Housed in Shelter S-141 (modified); Transportable by 5-ton truck and by aircraft	Size and Weight	Operating/Shipping
		Weight	7,000 lb.
		Length	142 in.
		Width	81 in.
Power Requirements	120/208 VAC, 9 KVA (Diesel), 60 Hz, 3-phase, 4-wire, "WYE" 440 VAC, 60 Hz, 3-phase, 3-wire, DELTA (shipboard)	Height	84 in.
		Cube	560 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
AN/USQ-66(V)			
1	Battle Area Surveillance System, AN/GSQ-172 C/O	1	Antenna, AS-2548/USQ
1	Multiple-Channel Receiver Group, OR-99/GSQ-172	1	Antenna, AS-2549/USQ
1	Sensor Display Unit, RO-412/GSQ-172	1	Antenna, AS-1729/VRC
3	Sensor Display Unit, RO-410/GSQ-172	1	Communications Group OA-8834A(V)1

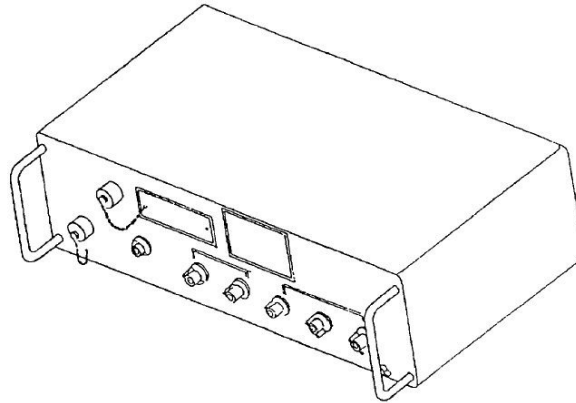
TM 2000-OD/2C

AN/USQ-66A(V)

1	Data Analysis and Processing Group, OL-XXX/USQ-66A	1	Antenna, AS-2548/USQ
1	Communications Group OA-8834A(V)1	1	Antenna, AS-2549/USQ
1	Receiver Group, OR-99A/USQ-66A	1	Antenna, AS-1729/VRC

SENSOR, REMOTE, AUDIO RELAY, AN/GRQ-26

TAMCN A23047G NSN 5820-01-096-4656 ID 08236A



DESCRIPTION AND FUNCTION

The Sensor, Remote, Audio Relay, AN/GRQ-26 is a Very High Frequency (VHF) Repeater and is a sensor in-band Frequency Modulation (FM)/Frequency Shift Keying (FSK) Transceiver designed to relay digital and audio sensor response messages. It consists of two tunable Radio Receiver-Transmitters, RT-1374/GRQ-26, and one preset Radio Receiver-Transmitter, RT-1375/GRQ-26. The operating channel for the RT-1375 is switch selectable from the five channels available in each band. The receiver operates in the upper band and the transmitter operates in the lower band. The two models (RT-1374 and RT-1375) differ primarily in the reversal of the transmit/receive bands, allowing deployment in two or three repeater link configurations.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Frequency		Analog Response	+ 1, ± 1.5 dB 50 Hz to 3 kHz	
Band 1	162 to 165 MHz			
Band 2	171 to 174 MHz	Number of Channels		
Channel Spacing	37.5 kHz	Receiver	100	
Input Impedance	50 ohms nominal	Transmitter	5	
Digital Decoding	Probability of	Installation	Remote, Fixed	
Sensitivity	correct detection at	Power Requirements	Battery BA-5598 or equal	
	-107 dBm > 98.6%	Size and Weight	Operating/Shipping	
Output Power	3W nom., 2W (min.)		(RT-1374/GRQ-26)	(RT-1375/GRQ-26)
	into 50 ohms	Weight (w/o battery)	15 lb.	15 lb.
Modulation	FM/FSK	Cube	1 cu. ft.	1 cu. ft.
Deviation	±3 kHz			
Data Rate	300 bps			

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
2	RT-1374/GRQ-26	1	RT-1375/GRQ-26
3	Antenna-Telescoping AS-304A/GRQ-21	3	Antenna, Toss Up P/N R01817-000
3	Battery, Primary, Lithium Organic BA-5598/U		

TACTICAL AIR OPERATIONS MODULE (TAOM), AN/TYQ-23(V)4

TAMCN A25257G NSN 5895-01-461-9786 ID 10498B



DESCRIPTION AND FUNCTION

The Tactical Air Operations Module (TAOM), AN/TYQ-23(V)4 includes both hardware and software configured as an automated Tactical Air Operations Center (TAOC). Each TAOM is capable of independent operation, but can be interconnected with other TAOMs. The AN/TYQ-23(V)4 provides the capability to control air defense operations and manage air traffic control, providing responsive, real time command and control of all Marine Air Ground Task Force (MAGTF) air and surface-to-air missile assets. It has sufficient modularity and flexibility for rapid deployment of the capability required by the tactical situation and mission.

Manufacturer: Northrop Grumman Electronic Systems

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Transport	Sheltered; Transportable by truck, rail, ship, aircraft, or helicopter	Data Links	TADIL-A, TADIL-B, TADIL-C, TADIL-J, ATDL-1, NATO Link-1	
Power Requirements	120/208 VAC, 50-60 Hz, 3-phase "WYE"	Size and Weight	Operating Shelter	Pallet
Type Transmission		Weight	14,311 lb.	8,000 lb.
Radio	UHF, HF	Length	240 in.	144 in.
Wireline	ULCS, Intercom	Width	96 in.	86 in.
	Data Links	Height	100 in. (w/skids)	96 in.
		Cube	1,344 cu. ft.	688 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
4	Operator Console Unit (OCU) Master	2	Environmental Control Unit (ECU)
2	Computer Unit (CU)	1	ANSI ISO Shelter, 8 ft. x 8 ft. x 20 ft.
1	Digital Communications Unit (DCU)	1	Printer Unit (PRU)
1	Crypto Device, KG-40 (Parallel)	4	Crypto Device, KYV-5 w/ANDVT
14	Crypto Device, KY-58	1	Crypto Device, KY-68
1	Power Distribution and Control Unit (PDCU)	1	Communications Interface Unit (CIU)
1	Recorder/Reproducer Unit (RRU)	1	Radar Interface Unit (RIU)
1	Pallet, Support Equipment	6	Internal Radio Unit (IRU)
		13	Crypto Device, KG-84A

TACTICAL BATTLE MANAGEMENT CORE SYSTEM (TBMCS), AN/TYY-2

TAMCN A00137G NSN 7022-01-477-7627 ID 10726A



DESCRIPTION AND FUNCTION

The Tactical Battle Management Core System (TBMCS), AN/TYY-2 also known as the Tactical Command System (TCS) is the air war planning tool which provides the ACE Commander the automated tools necessary to generate, disseminate and execute the Air Tasking Order (ATO)/Airspace Control Order (ACO). TBMCS is the principal aviation command-and-control system within the Tactical Air Command Center (TACC), with remotes located throughout the Marine Air Ground Task Force (MAGTF). TBMCS is composed of a 27-workstation host system which has the ability to receive, parse, display, store, and forward information required to generate and manage ATOs. TBMCS contains computer workstations, servers, and peripherals configured into a complete system that is capable of scaling down to a single remote workstation for receiving, parsing, and printing the ATO received from the Joint Force Air Component Commander (JFACC).

Manufacturer: Lockheed Martin Mission Systems

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Physical Configuration	Comprised of a specified quantity of workstations and peripheral equipment separated into a host suite and a remote suite.
Host Suite	Seven servers (six UNIX and one NT) and 21 client workstations that provide the ACE staff the capability to generate, disseminate and execute the ATO. Peripherals such as laser printers, tape drives, external hard drives, and other associated equipment.
Remote Suite	Comprised of a workstation and a printer which allows the units that are detached from the host suite the capability to receive, parse, print, and dynamically execute the ATO.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	TBMCS Host Hardware		TBMCS Remote Hardware
27	Sun Ultra 60 with 1 GB Memory	1	Sun Ultra 60 with 1 GB Memory
27	Floppy Disk Drive	1	Floppy Disk Drive
27	Compact Disk-Read Only Memory (CD-ROM)	1	CD-ROM Drive
27	Product Configuration Identification (PCI) Card	1	PCI Card with 1 GB Memory
27	Flat Panel Monitor	1	Flat Panel Monitor
12	Raid Chassis	1	Two Drive Bay Case and Cable with an 18 GB Hard Drive
15	Two Bay Chassis		
5	Tape Drives		
63	18 GB Hard Drives		

TACTICAL COMBAT OPERATIONS (TCO) SYSTEM, INTELLIGENCE OPERATIONS SERVER (IOS)

TAMCN A08727G

NSN 5895-09-000-4283

ID 10753B



DESCRIPTION AND FUNCTION

The Tactical Combat Operations (TCO) System, Intelligence Operations Server (IOS) is the principal tool within the Marine Air Ground Task Force (MAGTF) for situational awareness through distribution of a Common Tactical Picture (CTP). The TCO IOS is also the point of entry for the Common Operational Picture (COP) which is input from the Global Command and Control System (GCCS). The TCO IOS attributes include: automated message processing, mission planning, development and dissemination of operational orders and overlays, display of current friendly and enemy situations, display of tactical control measures, and interface with local and wide area networks. The TCO IOS is a dual processor, Commercial-Off-The-Shelf (COTS), tactical server that functions as a communications processor and tactical database management server.

Manufacturer: Space and Naval Warfare Systems Center, Naval Weapons Station, Charleston, SC

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Processor	UltraSparc IIIi
Hard Drive	2 - 73 GB, removable
RAM	8 GB
Optical Drive	CD-R/W/DVD-ROM
Tape, Data	4mm
Operating System (OS)	Linux

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	IOS Server	1	Inverter Group
1	MEU UPS		

TACTICAL COMBAT OPERATIONS (TCO) SYSTEM, INTELLIGENCE OPERATIONS WORKSTATION (IOW)

TAMCN A09327G NSN 7010-09-000-0931 ID 10848A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Tactical Combat Operations (TCO) System, Intelligence Operations Workstation (IOW) is the principal tool within the Marine Air Ground Task Force (MAGTF) for situational awareness through distribution of a Common Tactical Picture (CTP). The TCO IOW is also the point of entry for the Common Operational Picture (COP) which is input from the Global Command and Control System (GCCS). The TCO IOW attributes include: automated message processing, mission planning, development and dissemination of operational orders and overlays, display of current friendly and enemy situations, display of tactical control measures, and interface with local and wide area networks. The TCO is fielded as two separate, but interoperable tactical systems: The Intelligence Operations Server (IOS) is a dual processor, Commercial Off-The-Shelf (COTS), tactical server that functions as a communications processor and tactical database management server. The IOW is a high end, COTS, laptop computer workstation that provides Marine commanders the rapid receipt, storage, and retrieval of all-source intelligence data, and the automation to receive, fuse, select and display tactical information throughout the battlefield.

Manufacturer: Space and Naval Warfare Systems Center, Naval Weapons Station, Charleston, SC

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Processor	1.6 GHz Pentium M
Hard Drive	80 GB, removable
RAM	1024 MB to 2 GB
Optical Drive	CD-R/W/DVD-ROM
Operating System (OS)	MS Windows 2000

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	IOW Laptop Computer	1	IOW System Case
1	MEU UPS		

TACTICAL DATA NETWORK (TDN), GATEWAY, AN/TSQ-222

TAMCN

A25357G

NSN

5895-01-467-7469

ID

10666A



DESCRIPTION AND FUNCTION

The Tactical Data Network (TDN), Gateway, AN/TSQ-222 augments the existing Marine Air Ground Task Force (MAGTF) tactical communications infrastructure to provide the MAGTF Commander an integrated data network. This data network will support MAGTF Tactical Data Systems (TDS)s and the Defense Message System (DMS) by providing a network of communication nodes (gateways and servers) interconnected with one another and their subscribers via a combination of common user log haul transmission systems, Local Area Networks (LAN)s, the Enhanced Position Location Reporting System (EPLRS), and switch telephone systems. The AN/TSQ-222 will provide its subscribers with basic data transfer and management capabilities; and value-added services, such as message handling, directory services file sharing, and terminal emulation support. In addition, the Tactical Data Network (TDN) system will provide Marine Corps tactical users the infrastructure to support the transition from the Automated Digital Network (AUTODIN) to the mandated replacement system, DMS.

Manufacturer: General Dynamics C4S

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	3-phase, 208 VAC "WYE", 50/60 Hz, 10 kW, 20A
Local Area Network Capability	NIPRNET, SIPRNET and Dial-In
Size and Weight	
Weight	9,391 lb.
Length	190.5 in.
Width	86 in.
Height	104 in.
Square	133.77 sq. ft.
Cube	986.01 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
2	Truck, Utility, M1097A1	1	S-788 Type I Shelter
2	Air Conditioner, Vertical, F18T-MPI w/Skid Assembly	1	Modular Command Post Shelter (MCPS) Tent
2	Ethernet Switch	2	15 inch Monitor
6	Signal Data Converter	1	Router
3	3.0 KVA UPS	1	Laser Printer
4	Secure Telephone Equipment (STE)	3	UPS Battery Assembly
1	WAN Test Set	2	Promina 400
1	Encryption/Decryption, TSEC/KG-175 TACLANE	16	Loop Encryption, TSEC/KIV-7HS
1	Digital Subscriber Voice Terminal (DSVT) TSEC/KY-68	2	Trunk Encryption, TSEC/KIV-19
6	Data Communications Patch Panel	1	Dial-in Modem
2	Group Patch Panel	6	Loop Patch Panel
		1	Communications Patch Panel

**TACTICAL ELECTRONIC RECONNAISSANCE PROCESSING AND EVALUATION SYSTEM
(TERPES), AN/TSQ-90E(V)1, -90E(V)2**

<u>TAMCN</u>	A25377G	AN/TSQ-90E(V)1	<u>NSN</u>	5820-01-454-0338	<u>ID</u>	09976G
<u>TAMCN</u>	A25377G	AN/TSQ-90E(V)2	<u>NSN</u>	5820-01-471-0602	<u>ID</u>	10725A



DESCRIPTION AND FUNCTION

The Tactical Electronic Reconnaissance Processing and Evaluation System (TERPES), AN/TSQ-90E(V)1 is a mobile ground data processing system utilized by the Marine Tactical Electronic Warfare Squadrons (VMAQ)s. The TERPES is capable of identifying and locating radar emitters from data recorded on tape by the VMAQs, and is a segment of the Marine Air Ground Task Force (MAGTF) Command, Control, Communications, Computers, and Intelligence (C4I) concept and, as such, can provide processed intelligence information to the Intelligence Analysis System (IAS) and the Technical Control and Analysis Center (TCAC) when required. TERPES has the capability to identify and locate enemy radar emitters from data recorded by the EA-6B aircraft and received from other sources, and to provide rapid data transfer to the MAGTF Commander during operations afloat and at Forward Operating Bases (FOB)s.

The TERPES AN/TSQ-90E(V)1 consists of Commercial-Off-The-Shelf (COTS) items, Government-Off-The-Shelf (GOTS) items, Non-Developmental Items (NDI), and Government Furnished Equipment (GFE) that is self-contained in portable transit cases, which are housed in one 8 ft. x 8 ft. x 20 ft. shelter (AN/TSQ-90E(V)1), or may be used outside of the shelter as a TERPES Portable Unit (TPU), AN/TSQ-90E(V)2.

Manufacturer: Naval Surface Weapons Center

Marine Corps Systems Command: Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	115/208 VAC, 60 Hz, 3-phase 200A	Size and Weight	
Environmental Characteristic		Weight	10,250 lb.
Trans/Storage Temperature	-40°F to +130°F	Length	20 ft.
Storage Humidity	0-100%	Width	8 ft.
Proc/OS Class	RISC/UNIX	Height	8 ft.
Communications	LAN/WAN, UHF, LOS/SATCOM	Cube	1,272 cu. ft.
Encryption	KIV-7, STU-III, KG-175, AT and T 1910 SDD		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	RRS Assembly	2	Antenna, UHF
2	Workstation Assembly	1	Mast
1	Disk Array Assembly	1	STE Assembly
1	Server Assembly	1	Printer Assembly
1	UPS/Keyboard/Display Assembly	1	Copier Assembly
1	CD-81A Assembly	1	Remote Security Unit (RSU) Assembly
1	ICCS Assembly	1	Shredder
1	Radio Assembly	2	Computer, Laptop (CF-72)
2	UPS Assembly	2	UPS (APC-700)

TACTICAL EXPLOITATION GROUP-MAIN (TEG-M), AN/MSQ-134

<u>TAMCN</u>	A08797G	<u>NSN</u>	TBD	<u>ID</u>	10654A
<u>TAMCN</u>	A08797G	<u>NSN</u>	5895-09-000-0309	<u>ID</u>	10809A



DESCRIPTION AND FUNCTION

The Tactical Exploitation Group-Main (TEG-M), AN/MSQ-134 employs Commercial/Government-Off-The-Shelf (COTS/GOTS), Non-Developmental Item (NDI), and Government Furnished Equipment (GFE) hardware/software in an open architecture, enabling rapid upgrade for commonality with USMC intelligence and Joint Imagery systems. TEG consists of the Tactical Interoperability Ground Data Link II (TIGDL II) mobile surface antenna, up to eight Exploitation Workstations (EWS), and three High Mobility Multipurpose Wheeled Vehicles (HMMWV)s, each with a mounted S-788G Type III shelter.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Operational Mode	LAN and point-to-point
Spectrum	VHF, UHF, SHF voice/data
Operating System	Sun UNIX and Windows 2000
Mobility	HMMWV mounted w/tent
Power	10 kW, 60 Hz
Encryption	AN/KY-68, AN/KY-7, AN/KY-135, AN/KGV-68B, STU-III

MAJOR COMPONENTS

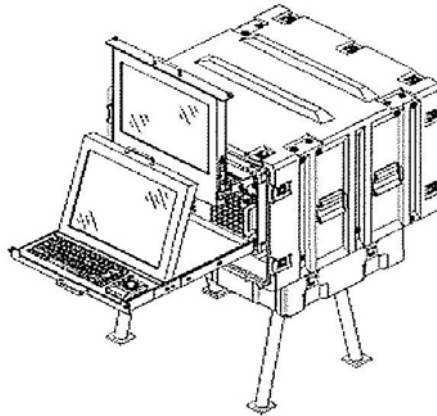
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
3	HMMWV	1	Central Gateway Communications Subsystem
3	Shelter, Electrical Equipment, Lightweight	1	Imagery Product Library Subsystem
1	Tactical Imagery Processing Subsystem	1	Tactical Interoperable Ground Data Link

TACTICAL EXPLOITATION GROUP-REMOTE WORKSTATION (TEG-RWS), AN/TSQ-236

TAMCN A08787G

NSN 5895-09-000-0310

ID 10808A



DESCRIPTION AND FUNCTION

The Tactical Exploitation Group-Remote Workstation (TEG-RWS), AN/TSQ-236 is a manportable imagery exploitation system. It produces digital products that are disseminated electronically throughout the Command, Control, Communications, Computer and Intelligence (C4I) infrastructure. The TEG-RWS will be operated in accordance with the Marine Air Ground Task Force (MAGTF) commander's needs for imagery exploitation. It consists of an Ultra Sparc multiprocessor server and associated peripheral equipment that are used for analysis and exploitation of imagery data. The imagery is screened utilizing a waterfall display of selected imagery scenes. The TEG-RWS controls image scene selection and display of imagery for Selected Imagery Target Area (SITA) selection and exploitation.

Manufacturer: Northrop Grumman Electronics Systems

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120 VAC, 60 Hz, 3-wire single phase	Size and Weight	
		Weight	198.5 lb.
		Length	38 in.
		Width	27 in.
		Height	20 in.
		Square	8 sq. ft.
		Cube	12 cu. ft.
		Stowage	square

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Computer Server Assembly	1	Interface Unit, Automatic Data Processing
1	Terminal Assembly	1	AC/DC Power Supply

TACTICAL REMOTE SENSOR SYSTEMS–PRODUCT IMPROVEMENT PROGRAM (TRSS-PIP)

TAMCN

A25487G

NSN

6350-01-422-1280

ID

TBD



DESCRIPTION AND FUNCTION

The Tactical Remote Sensor Systems-Product Improvement Program (TRSS-PIP) is a suite of systems that provides the capability for all-weather remote monitoring of activity within and near a given objective area. The TRSS-PIP is an incremental upgrade to selected portions of these systems. These systems will upgrade the current fielded baseline and provide a United States Marine Corps (USMC)-wide capability for unattended ground surveillance, which can be tailored to the operational requirement.

Manufacturer: Various

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Mobility	HMMWV mounted monitoring station, stationary for use	Spectrum	VHF (138-153 MHz) UHF (311.5-313.5 MHz)
Technology	Digital	Orientation	SATCOM (Iridium) Directional and omni directional
RF Power	2W deployed sensors (VHF) 10W monitoring station (VHF) 5 (UHF) 5W (SATCOM)	Distance	7-30 km typical for terrestrial LOS links
Encryption	Triple DES	Operational Mode	Data

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Unattended Ground Miniaturized Sensors, (UGMS)		Monitoring System Upgrades
	Advanced Air Delivered Sensors (AADS)		Visual Intelligence Surveillance and Reconnaissance Systems (VISTAS)
	Airborne Relays		

TARGET LOCATION, DESIGNATION, AND HAND-OFF SYSTEM (TLDHS), AN/PSQ-19, -19A

<u>TAMCN</u>	A25607G	AN/PSQ-19	<u>NSN</u>	7010-09-000-2546	<u>ID</u>	10938A
<u>TAMCN</u>	A25607G	AN/PSQ-19A	<u>NSN</u>	7010-01-524-4120	<u>ID</u>	10938B



DESCRIPTION AND FUNCTION

The Target Location, Designation, and Hand-Off System (TLDHS), AN/PSQ-19, -19A is a modular, man-portable equipment suite that will provide the ability to quickly acquire targets in day, night, and near-all-weather visibility conditions. Operators will be able to accurately determine their own location as well as that of their targets, digitally transmit (hand-off) data to supporting arms elements, and designate targets for laser-seeking Precision Guided Munitions (PGM) and Laser Spot Trackers (LST). The TLDHS will be fielded to Forward Observer (FO) Teams, NGF Spot Teams, Tactical Air Control Parties (TACP)s, and Reconnaissance Teams. Although often employed in conjunction with Laser Range Finders and Laser Designators, these items are not considered component parts of the TLDHS.

Manufacturer: Talla-Tech and Walkabout Computers

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Technology	Digital	Size and Weight	Operating	Shipping/Storage
Spectrum	Ultra High Frequency	Weight	7.5 lb.	7.5 lb.
Orientation	Omni-directional	Length	9.0 in.	9.0 in.
Mobility	HMMWV mounted and man portable	Width	8.8 in.	6.5 in.
		Height	3.0 in.	3.0 in.
Power	1-20W (max.) (depending on radio used)	Square	0.55 sq. ft.	0.40 sq. ft.
		Cube	0.14 cu. ft.	0.10 cu. ft.
Distance	15 km	Stowage	N/A	cubic
Encryption	KY-57			
Operational Mode	Voice/Data			

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
AN/PSQ-19			
1	Computer, Digital RHC (02-2777283-7)	1	TTHS Software (02004A0214)
1	AN/PRC-113 Tactical Radio	1	Interconnecting Cable Set
AN/PSQ-19A			
1	Computer, Digital MRT	1	TTHS Software (02004A0214)
1	AN/PRC-117 Tactical Radio	1	Interconnecting Cable Set

TEAM PORTABLE COLLECTION SYSTEM-MULTIPLATFORM CAPABLE (TPCS-MPC), AN/PSQ-9

TAMCN A02837G NSN 5825-01-366-2452 ID 09615A



DESCRIPTION AND FUNCTION

The Team Portable Collection System-Multiplatform Capable (TPCS-MPC), AN/PSQ-9 is a semi-automated, lightweight, man/team transportable Communication Intelligence (COMINT) and Signals Intelligence (SIGINT) support system. The TPCS-MPC is used by the Radio Battalions to conduct COMINT and Direction Finding (DF) operations against enemy communications to support the Marine Air Ground Task Force (MAGTF) Commander and intelligence agencies. COMINT and DF operations include the detection, interception, collection, analysis, processing, location and reporting of real and near-real-time information.

TPCS-MPC is a modular and scaleable carry on/carry off suite of SIGINT equipment for operations onboard organic non-dedicated Marine Corps platforms. Employment will be supported by non-dedicated vehicular lift and/or Platform Integration Kits (PIK), as well as employment in static field and urban shelters, in which SOI access take priority over form factor. Mobile platforms may include ground vehicles, small boats, and aircraft. External communications between the TPCS-MPC and the supported MAGTF commander will be maintained via a tactical Radio Frequency (RF) data link to the Technical Control and Analysis Center (TCAC).

Manufacturer: SPAWAR

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	BA-5590 batteries, vehicular power, portable generator of 115/240 VAC, 50/60 Hz, 3 kW single phase or 28 VDC COTS/GOTS	Collection SOI	HF/VHF/UHF Single channel/special signals
Technology		Mobility Communications	Team, ground, air, water Voice/data encrypted
Size and Weight	Operating	Storage/Shipping	
Weight	1,317 lb.	1,317 lb.	
Length	70 in.	70 in.	
Width	45 in.	45 in.	
Height	32 in.	32 in.	
Square	22 sq. ft.	22 sq. ft.	
Cube	60 cu. ft.	60 cu. ft.	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Communications Outstation		Communications Substation

TECHNICAL CONTROL AND ANALYSIS CENTER (TCAC), AN/MYQ-9

<u>TAMCN</u>	A26287G	AN/MYQ-9	<u>NSN</u>	7010-01-465-3223	<u>ID</u>	10648A
<u>TAMCN</u>	A26287G		<u>NSN</u>	7010-09-000-2722	<u>ID</u>	10648B



DESCRIPTION AND FUNCTION

The Technical Control and Analysis Center (TCAC), AN/MYQ-9 transportable workstation provides the Radio Battalions (RadBns) with a transportable workstation that provides an automated Signals Intelligence (SIGINT) processing, analysis, and reporting capability. The TCAC Transportable Workstation consists of one Sun Scalable Processing Architecture Reduced-Intrusion-Set Computer Station (SPARCStation)-20 that allows stand-alone configuration of Local Area Network (LAN) connectivity for support of various sized Marine Air Ground Task Force (MAGTF) command element.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating	Storage/Shipping
Weight	242 lb.	242 lb.
Length	39.5 in.	39.5 in.
Width	27.0 in.	27.0 in.
Height	56.0 in.	56.0 in.
Square	7.406 sq. ft.	7.406 sq. ft.
Cube	34.562 cu. ft.	34.562 cu. ft.
Stowage		34.562 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	SPARCStation-20 Workstation, S20SX8-151-32-P17	1	Workstation Monitor Assembly 20 in., 365-1335-01
1	Headset, NOMAD	1	UPS Workstation, SU700RMNET
1	Microphone, 370-1678-01	1	UPS Transit Case, AL2216-0805
1	SPARCStation 20 Transit Case, 00018187	1	Worktable Assembly, VS100-VITRO
1	Monitor Transit Case, 00018212		

**TECHNICAL CONTROL AND ANALYSIS CENTER-PRODUCT IMPROVEMENT PROGRAM
(TCAC-PIP), AN/MYQ-8A**

TAMCN

A26297G

NSN

5895-01-397-8285

ID

10175A



DESCRIPTION AND FUNCTION

The Technical Control and Analysis Center-Product Improvement Program (TCAC-PIP), AN/MYQ-8A is a vehicle-mounted, shelterized, computer based Signals Intelligence (SIGINT) and Electronic Warfare (EW) fusion center. The product improvement provides automated assistance for the SIGINT processing, analysis, and reporting functions of the Marine Forces Radio Battalion. The TCAC-PIP enables the Radio Battalion to provide a timely and accurate SIGINT and EW capability for support of Marine Air Ground Task Force (MAGTF) combat operations.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	110 VAC, 60 Hz, 3-phase	
Size and Weight	Operating	Storage/Shipping
Weight	12,500 lb.	12,500 lb.
Length	382 in.	344 in.
Width	162 in.	85 in.
Height	429 in.	102 in.
Square	340 sq. ft.	203 sq. ft.
Cube	15,363 cu. ft.	1,726 cu. ft.
Stowage	N/A	1,698 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Trailer, Cargo, 3/4 Ton, 2W	1	Amplifier, Radio Frequency, RF-5032PA
1	Truck, Utility	1	Antenna Coupler, Fast Tuner Automatic
1	Shelter	2	Antenna, VHF, Whip, AN/VRC-92
1	Shelter, Tactical, Quick Erect, Model 09	1	Antenna, VHF/UHF, AN/VRC-83
1	Secure Telephone Unit, STU-III	1	Antenna, Satellite
1	Radio Set, AN/VRC-102		
Bay 2 Assembly			
1	Printer, Automatic Data Processing, Laser	1	4-Port Ethernet Switch, Printer
Bay 3 Assembly			
2	Fiber Optic Microrepeater	1	Receiver-Transmitter, Light Signal
1	SPARCStation 20, CPU, Comm. Server	1	Transceiver, Micro Ethernet
1	SPARCStation 20, CPU, File Server		
Bay 4 Assembly			
2	Fiber Optic Microrepeater	2	Disk Drive, 9 GB
2	TCIM	1	Tape Drive, 8 mm, 14 GB
2	AUTODIN Communications Controller	1	Tape Drive, 4 mm, 8 GB
1	Patch Panel, Red Digital, 3-Port	1	Tape Drive, 8 mm, 20 GB
1	Patch Panel Assembly, Red Digital, 18-Port	1	RAID Chassis
1	Router	1	RAID Controller
1	Transceiver, Micro Ethernet	7	Disk Drive, 9 GB
1	Data Storage Device, Dual Plus		
Bay 5 Assembly			
2	Encryption Device, KY-99A	5	Serial Encryption Device, KIV-7
2	Vehicular Power Adapter Assembly, HYP-57/TSEC	1	Crypto Ignition Key
1	KY-99 Converter	1	Patch Panel, Black Digital, 18-Port
		1	TSEC/KY-68 Speech Security Equipment
Bay 6 Assembly			
2	Modem Assembly, Comm., Model 3261	1	Receiver-Transmitter, RT-1319B/URC
1	Radio Set, AN/PSC-5	1	Amplifier, AM-7176A/VRC-83
1	Receiver-Transmitter, RT-1672/U(C)	1	Radio Set, AN/VRC-92A
1	Amplifier, RF, AM-7238/VRC	1	Amplifier, RF, AM-7238/VRC
1	Radio Set, AN/VRC-83(V)2	2	Receiver-Transmitter, RT-1523(C)/U
Workstation			
1	Workstation Assembly	1	Transceiver, Micro Ethernet
1	Workstation, Computer	1	Display Unit
1	Data Storage Device, Dual Plus	1	UPS Workstation
1	Disk Drive, 4.3 GB		

**TECHNICAL CONTROL AND ANALYSIS CENTER REMOTE ANALYSIS WORKSTATION
(TCAC RAWS), AN/UYQ-83**

<u>TAMCN</u>	A26347G	AN/UYQ-83	<u>NSN</u>	7022-01-439-8251	<u>ID</u>	10318A
<u>TAMCN</u>	A26347G		<u>NSN</u>	7022-09-000-2723	<u>ID</u>	10318B



DESCRIPTION AND FUNCTION

The Technical Control and Analysis Center Remote Analysis Workstation (TCAC RAWS), AN/UYQ-83 provides the Radio Battalions (RadBns) with a portable, automated Signals Intelligence (SIGINT) processing, analysis, and reporting capability. The TCAC RAWS consists of two electronically linked Sun Scalable Processing Architecture Reduced-Instruction-Set Computer Station (SPARCStation)-20s that allow stand alone configuration or Local Area Network (LAN) connectivity for support of various sized Marine Air Ground Task Force (MAGTF) command elements.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	115/220 VAC, 50/60 Hz, or 24/28 VDC
Size and Weight	Operating
Weight	402 lb.
Length	42.0 in.
Width	72.0 in.
Height	53.4 in.
Square	21.0 sq. ft.
Cube	93.45 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Lexmark, Optra Color 45N Inkjet Printer	2	SCSI Terminal Server
1	Transit, Case Printer	2	SCSI Terminal Server Power Supply
2	Transceiver, 100Base-FX	2	Transit Case, Server
2	Transceiver, 10Base-T UTP	2	SPARCStation-20 Workstation
2	Transceiver, 10Base-T Coaxial	2	Monitor
1	Netgear Dual Speed Hub	2	Transit Case, Monitor
2	TCIM A3 with SCSI Bus Terminator on J4	1	Uninterruptible Power Supply (UPS)
2	TCIM Power Supply	1	Transit Case, UPS
2	Wireline Adapter, TCIM		

TOPOGRAPHIC PRODUCTION CAPABILITY (TPC)

TAMCN

A31687G

NSN

TBD

ID

TBD



DESCRIPTION AND FUNCTION

The Topographic Production Capability (TPC) is an advanced Geographic Information System (GIS), employing commercial computer hardware and software to provide the framework for the Common Operational Picture (COP) and to produce digital and hard copy geographic intelligence products for the Marine Air Ground Task Force (MAGTF) Commander. The TPC consists of three processing (Tactical Geospatial Information Library (TGIL), Deployable Geospatial Information Library (DGIL), and Digital Terrain Analysis Mapping System (DTAMS)) and a collection (Geodetic Survey Set) component. The processing components, in addition to performing geospatial analysis, provide a web server from which the supported commander may download products, backed up by a large storage capability. The DTAMS is designed to support Marine Expeditionary Unit (MEU) operations; the TGIL and DGIL can be task organized to support other operations. The Geodetic Survey Set provides precision surveys for weapons system location and airfield support. In total, the TPC will provide the MAGTF Commander with the capability to collect, access, process, analyze, and disseminate geospatial and geographic information and intelligence to support the COP.

Manufacturer: Northrop Grumman Information Technology, TASC

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Technology	Client/Server, WWW	RAID Storage	TGIL-2TB, DGIL-1TB,
Mobility	Transit Cases		DTAMS-0.5TB
Scalability	Three Tiers (TGIL, DGIL, DTAMS)	Input	Maps and Images (Multi file), Hardcopy
Software	ArcGIS, ArcInfo, Imagine, DII COE	Output	CD, DVD, Magnetic Tape, Plotter, Printer
		Survey Equipment	Theodolite, Level, and Military GPS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Dell PowerEdge 6400 or 6600 w/Quad Processor, 4 GB SDRAM	1	HP 1055CM Plus Plotter w/7.5 GB Internal Drive, 64 MB Memory, 10/100 Base T NIC
1	Winchester FlashDisk RAID 8 x 73 GB, 8 x 147 GB, 8 x 181 GB	1	Tektronix Phaser 750P or Color Printer w/76 MB Memory, 10/100 Base T NIC or Xerox Phaser 6200DP
1	Cisco 2924 M-XL Switch w/Four Port Fiber Module	1	RPS Eagle w/Dual 1.26 GHz Processors, 1GB PC2100 DDR RAM, 36 GB RHDD, CD-ROM Drive, CD-R/W Drive, 8 mm Mammoth Tape Drive, 2 GB Zip Drive, 3.5 in. Floppy Drive, 3D Labs Oxygen GVX1 Program Graphics Card (64 MB), Flat Panel Display
1	Contex FSC8010 or Cougar Color Scanner		
1	Exabyte 221L LTO Tape Library 2.1 TB Native 70 GB Compressed, 108 GB/hr Throughput		
1	Clary CT 2000R Universal Power Supply		
1	Optia Professional Workstation w/Dual 1 GHz or 2.8 GHz Processors, 1GB RDRAM, 2 x 36 GB RHDD		

**TROJAN SPECIAL PURPOSE INTELLIGENCE REMOTE INTEGRATED TERMINAL II
(TROJAN SPIRIT II), AN/TSQ-190(V)2**

TAMCN A32357G

NSN 5895-01-379-0125

ID 10273A



DESCRIPTION AND FUNCTION

The Trojan Special Purpose Intelligence Remote Integrated Terminal II (Trojan SPIRIT II), AN/TSQ-190(V)2 is equipped with two High Mobility Multipurpose Wheeled Vehicles – Heavy Variant (HMMWV-HV), designated as the Primary Heavy HMMWV (HHV) Shelter (PHS), Spare Equipment and Maintenance (SEM), and a 2.4m C/Ku-band Mobile Antenna Platform (MAP). The AN/TSQ-190(V)2 is the Marine Corps unique version, it comes equipped with the AS-4429/TSC Lightweight High Gain X-Band Antenna – Trailer Mounted Antenna (LHGXA) and tri-band Radio Frequency (RF) components.

Manufacturer: USA CERDEC I2WD

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Technology	Digital
Spectrum	C Band, Ku Band, X Band
Orientation	SATCOM
Mobility	Transportable
Power	On-board 10 kW 3-phase generator
Distance	SATCOM
Operational Mode	Voice/data
Encryption	Secret and TS/SCI, KIV-7 and KG-175

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
2	HMMWV, M1097	1	PHS Roadside Rack Assembly
1	Shelter, PHS	1	PHS Curbside Rack Assembly
1	2.4m Antenna	1	SEM Roadside Rack Assembly
1	Mobile Antenna Platform Assembly	1	SEM Analyst Workstation
1	Spare Equipment and Maintenance Shelter (SEM)	1	SEM Curbside Rack Assembly
1	PHS Analyst Workstation		

TROPO/SATELLITE SUPPORT RADIO (TSSR), AN/GRC-239

TAMCN A00197G NSN 5820-01-378-8778 ID 11054A



DESCRIPTION AND FUNCTION

The Tropo/Satellite Support Radio (TSSR), AN/GRC-239 is a complete lightweight full duplex Frequency Modulation (FM) microwave Line of Sight (LOS) radio system that can be quickly set up to interconnect TRI-TAC equipment and Ground Mobile Force (GMF) satellite terminals. The AN/GRC-239 link can be interfaced with or substituted for cable links employing modems, such as the MD-1026. The AN/GRC-239 can interface with the following: AN/TRC-170 Troposcatter Radio, AN/TSC-85C, AN/TSC-93C, AN/TSC-94A, and AN/TSC-100A Satellite Terminals.

In addition, the AN/GRC-239 can carry digital traffic with a 3 volt peak-to-peak conditioned diphas waveform as described in the TRI-TAC Interface Control Document ranging from 0.072 to 4.608 Mbps and carry either an Analog Voice Orderwire (AVOW) or a Digital Voice Orderwire (DVOW) interchangeably and in series with up to 1/4 mile of CX-11230 (twin) coaxial cable. The AN/GRC-239 can also carry 6.144 Mbps pseudo Non-Return-to-Zero (NRZ) signals when operating with the AN/TAC-1 Fiber Optic Interface Unit (FOIU).

Manufacturer: Microwave Radio Communications

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120 VAC and 220 VAC	Size and Weight	
Power Dissipation Rating (max.)	1.0W	Weight	35 lb.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Antenna Assembly	1	Radio Accessory Kit
1	Electronic Assembly	1	Tripod Assembly
1	Mast Assembly		

UNATTENDED GROUND SENSOR SET (UGSS), AN/GSQ-257

TAMCN A32557G NSN 6350-01-343-7134 ID 09632A



DESCRIPTION AND FUNCTION

The Unattended Ground Sensor Set (UGSS), AN/GSQ-257 is a suite of hand and air emplaced sensors that detect movement of personnel and vehicles within tactical objective areas. The UGSS consist of Seismic Intrusion Detectors (SID), Magnetic Intrusion Detectors (MAGID), Infrared Intrusion Detectors (IRID), Air Delivered Seismic Intrusion Detectors (ADSID), and Encoder Transmitter Units (ETU) with connecting cables. Each SID, MAGID, or IRID is cable connected to an ETU which encodes and transmits the sensor data to a monitoring site. The ADSID is the functional equivalent of a SID/ETU pair which can be delivered from rotary or fixed wing aircraft. The ETU and ADSID encoded data is transmitted over 1 of 599 selectable Very High Frequency (VHF) channels to a monitoring site. Pre-planned Product Improvements (P3I) include a day/night image detector, air field detectors, and Nuclear, Biological and Chemical (NBC) detectors. This suite of sensors is commonly referred to as Tactical Remote Sensor System (TRSS) Phase V. It will replace the Marine Corps current inventory of TRSS Phase III sensors.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Frequency Range	138-153 MHz	RF Power Output	1-2W
Power Source	BA-3042/U	Date Rate	1,200 bps
Battery Life	30-60 days	Operating Temperature	-22°F to +149°F

Size and Weight	SID	MAGID	IRID	ETU	ADSID	Cable
Weight	0.60 lb.	0.90 lb.	1.20 lb.	4.00 lb.	5.50 lb.	0.90 lb.
Length	2.80 in.	6.05 in.	5.55 in.	5.87 in.	55.5 in. w/ant.	96.0 in.
Width	2.48 in.	2.50 in.	3.60 in.	5.53 in.	1.5 in. dia.	0.7 in. dia.
Height	1.70 in.	1.63 in.	1.95 in.	3.37 in.	N/A	N/A

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
96	Seismic Intrusion Detector	24	Infrared Intrusion Detector
24	Magnetic Intrusion Detector	96	Encoder Transmitter Units
24	Air Delivered Seismic Intrusion Detector	144	Cables

Section II
Systems, Specific Applications

ADAPTER, TONE SIGNALING, TA-977()/PT

TAMCN

H20102E

NSN

5805-01-040-9653

ID

08429A



DESCRIPTION AND FUNCTION

The Tone Signaling Adapter, TA-977()/PT is a signal converter designed to enable the analog SB-22/PT or SB-22A/PT to communicate with the digital SB-3614/TT and Central Office, Telephone, Automatic, AN/TTC-42 and Switchboard, Telephone, Automatic, SB-3865. In addition to establishing a voice path between the two different types of telephones, the tone signaling adapter generates the Dual-Tone Multi-Frequency (DTMF) tones required to activate the automatic telephone central office switching functions. These tones are generated at specific frequencies and are sent and received over the telephone wire signal pairs. The sealed keyset contains 16 pushbutton keys. Each key is represented by a different frequency signal tone.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	9 VDC	Size and Weight	
Output Level	7 dBm	Length	7 in.
Output Impedance	600 ohms	Width	4 in.
Mobility	Portable	Height	1.5 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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ANTENNA, AS-2259/GR

TAMCN H20442E

NSN 5985-00-106-6130

ID 07508A



DESCRIPTION AND FUNCTION

The Antenna, AS-2259/GR is a crossed sloping dipole antenna fed with a low loss, foam-dielectric, coaxial mass that also serves as a supporting structure. The antenna mast consists of eight light-weight coaxial mast sections held in the vertical position by the four radiating elements serving as mast guys.

Manufacturer: R. A. Miller Industries, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

	Frequency	2.00 MHz (min.) 12.0 MHz (max.)	Size and Weight	Operating	Shipping
Power Input	100W (max.)		Length	60 ft.	27 in.
Range	0 to 300 mi.		Width	60 ft.	N/A
			Height	15 ft.	N/A
			Diameter (outside)	N/A	6 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Case	1	Mast Assembly, Top
7	Mast Section	4	Pin, Tent

APPLICATION PROGRAM SET, AN/PSM-100

TAMCN A00767G NSN 6625-01-483-0409 ID 10760A



DESCRIPTION AND FUNCTION

The Application Program Set, AN/PSM-100 is used to perform diagnostic troubleshooting of various circuit card assemblies and other secondary repairable items of the Radar Set, AN/TPS-63 (TAMCN A15007G). The AN/PSM-100 requires utilization and interface with the AN/USM-646.

Manufacturer: DME, Orlando, FL

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Power Requirements	108-132 VAC, 48-440 Hz;	Size and Weight		
	180-250 VAC, 48-440 Hz;		Weight	20 lb.
	18-32 VDC, 100A, 2,800W		Length	10 in.
			Width	16 in.
			Height	6.4 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Adapter Assembly, Interface Device	1	Cable Assemblies
1	Disk Program, Automatic Data Processing	1	Interface Device Electrical
		1	W1 through W7

APPLICATION PROGRAM SET, AN/PSM-101

TAMCN A75107G NSN 6625-01-486-3880 ID 10790A



DESCRIPTION AND FUNCTION

The Application Program Set, AN/PSM-101 provides the ability to conduct performance and diagnostic maintenance testing of 20 shop replaceable units of the Marine Corps Unit Level Circuit Switch, AN/TTC-42 and SB-3865. The test program hardware components of the Application Program Set provide the mechanical and electrical interface from the units under test to the tester, the AN/USM-657(V)1.

Manufacturer: DME Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	55 lb.
Length	25 in.
Width	24 in.
Height	14 in.
Cube	4.86 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Case, Transit	1	Interface Device
1	Self Test Board Assembly A2	1	Self Test Board Assembly A3
1	Storage Interface Assembly A4	1	Memory Cartridge Mounting Assembly A5
1	CCA Card Edge A6	4	Circuit Card Guide

APPLICATION PROGRAM SET, AN/PSM-105

TAMCN A75117G

NSN 6625-01-513-6372

ID 10990A



DESCRIPTION AND FUNCTION

The Application Program Set, AN/PSM-105 provides diagnostic troubleshooting of various circuit card assemblies in Line Replaceable Units (LRU) and other secondary repairable items of the Radio Terminal Set, AN/TRC-170. The AN/PSM-105 requires utilization and interface with the AN/USM-657(V)2.

Manufacturer: DME Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	35 lb.
Length	28 in.
Width	27 in.
Height	20 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
7	Individual Test Programs		
1	Interface Device		Interconnect Cables

APPLICATION PROGRAM SET, AN/PSM-106

TAMCN A00777G

NSN 6625-01-483-2233

ID 10764A



DESCRIPTION AND FUNCTION

The Application Program Set, AN/PSM-106 provides diagnostic troubleshooting of various circuit card assemblies and other secondary repairable items of the Radar Set, AN/TPS-59(V)3 (TAMCN A15037G). The AN/PSM-106 requires utilization and interface with the AN/USM-646.

Manufacturer: Mantech, Chantilly, VA

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Power Requirements	108-132 VAC, 48-440 Hz;	Size and Weight	
	180-250 VAC, 48-440 Hz;	Weight	75 lb.
	18-32 VDC, 100A, 2,800W	Length	20 in.
		Width	30 in.
		Height	16 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Adapter, Test	1	Disk Program, Automatic Data Processing
1	Bracket, Mounting		Dummy Connectors, Plug
	Cable Assemblies		HOLDERS, Electrical Card

APPLICATION PROGRAM SET, AN/PSM-107

TAMCN

A75127G

NSN

6625-01-513-6360

ID

10989A



DESCRIPTION AND FUNCTION

The Application Program Set, AN/PSM-107 provides diagnostic troubleshooting of various circuit card assemblies of the Radio Terminal Set, AN/MRC-142. The AN/PSM-107 requires utilization and interface with the AN/USM-657(V)2.

Manufacturer: Mantech

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	40 lb.
Length	20 in.
Width	30 in.
Height	15 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
26	Test Programs		Interconnect Cables
	Interface Device		

APPLICATION PROGRAM SET, AN/PSM-109

TAMCN A75907G NSN 6625-01-525-9433 ID 11077A



DESCRIPTION AND FUNCTION

The Application Program Set, AN/PSM-109 provides diagnostic troubleshooting of various circuit card assemblies and other secondary repairable items of the Radar Set, Firefinder, AN/TPQ-46A. The AN/PSM-109 requires utilization and interface with the AN/USM-646.

Manufacturer: Mantech, Chantilly, VA

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Power Requirements	108-132 VAC, 48-440 Hz;	Size and Weight	
	180-250 VAC, 48-440 Hz;	Weight	75 lb.
	18-32 VDC, 100A, 2,800W	Length	20 in.
		Width	30 in.
		Height	16 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Adapters, Connector		Cover, Access
	Adapters, Test	1	Disk Program, Automatic Data Processing
	Brackets, Angle	3	Dummy Load, Electrical
	Cable Assemblies		HOLDERS, Electrical Card

CABLE, SPECIAL PURPOSE

TAMCN H32202B

NSN 5810-01-069-8574

ID TBD

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

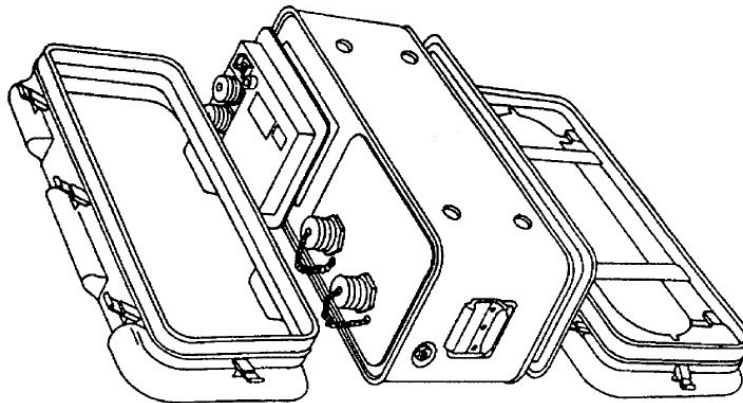
MAJOR COMPONENTS

Qty Item

Qty Item

CONVERTER, TELEPHONE SIGNAL, CV-3478/TTC

TAMCN A03277G NSN 5805-01-127-6943 ID 08442A



DESCRIPTION AND FUNCTION

The Converter, Telephone Signal, CV-3478/TTC is a ruggedized, solid state field converter used as a North Atlantic Treaty Organization Interface Device (NIU) and is a means of connecting National Telecommunications Systems (NTS) that use different signaling techniques. The CV-3478/TTC converts the 2,600 Hz Single Frequency (SF) signal (dial phase) used by the Central Office, Telephone, Automatic, AN/TTC-42 to the NATO standard direct current signaling. Conversion between the 4-wire system on the AN/TTC-42 side of the converter and the 6-wire system used on the NATO side is also accomplished. Each CV-3478/TTC provides eight separate trunks.

Manufacturer: General Telephone Electronics

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	40 lb.
Length	24.5 in.
Width	20.5 in.
Height	10 in.
Cube	2.9 cu. ft.

MAJOR COMPONENTS

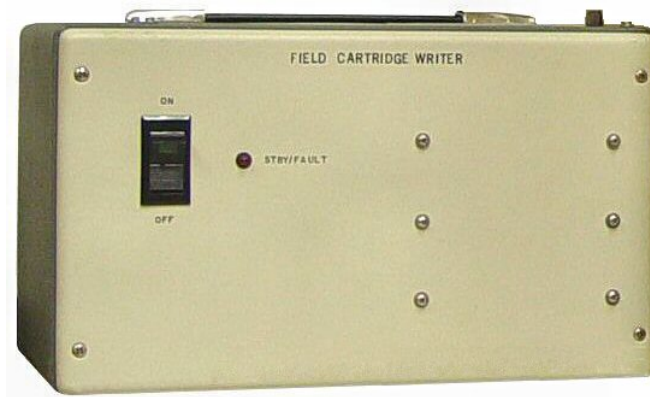
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

FIELD CARTRIDGE WRITER (FCW)

TAMCN A28097G

NSN 5895-01-406-9355

ID 10192A



DESCRIPTION AND FUNCTION

The Field Cartridge Writer (FCW) is used to write operational software onto the Solid State Bulk Storage Unit (SSBSU) Memory Cartridges used in the Unit Level Circuit Switch (ULCS). The FCW also reads and verifies UCLS operation software versions on the SSBSU Memory Cartridge, developed at Marine Corps Tactical Systems Support Activity (MCTSSA), Camp Pendleton. The FCW runs on a Personal Computer (PC) and requires the installation of the PIO-24 Interface Circuit Card Assembly (CCA) into the PC. Connection is made from this CCA installed in the PC to the FCW, via the Interface Cable Assembly.

Manufacturer: ITT Industries, Inc./ITT Aerospace Communications

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120 VAC, 60 Hz
Size and Weight	Operating/Shipping
Weight	9.5 lb.
Length	7.25 in.
Width	12.25 in.
Height	7.35 in.
Square	95 sq. ft.
Cube	698 cu. ft.
Storage	698 cu. ft.

MAJOR COMPONENTS

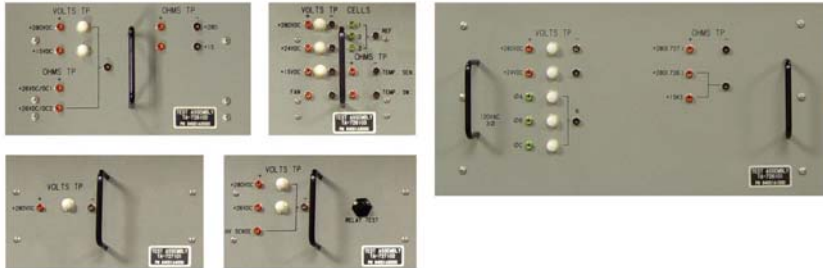
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Cable Assembly, Interface		Circuit Card Assembly

FIELD TEST SET, AN/USM-656

TAMCN A00717G

NSN 6625-01-390-6683

ID 10173A



DESCRIPTION AND FUNCTION

The Field Test Set, AN/USM-656 is a system diagnostic test set designed and developed to support diagnostics of Pacific Electro Dynamics (PED) power supply system failures down to one of the five major module assemblies and identify problems caused by the AN/TTC-42 circuitry supplied by the PED power supply systems.

Manufacturer: ITT Industries, Inc./ITT Aerospace Communications

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	Designed for 110 VAC, 50 Hz operation	
Size and Weight	Operating	Storage/Shipping
Weight	60 lb.	60 lb.
Length	26 in.	26 in.
Width	24 in.	24 in.
Height	17.13 in.	17.17 in.
Square	4.33 sq. ft.	4.33 sq. ft.
Cube	6.18 cu. ft.	6.18 cu. ft.
Stowage	6.18 cu. ft.	6.18 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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INTELLIGENCE OPERATIONS SERVER (IOS), AN/UYQ-91(V)2

TAMCN A08737G NSN 5895-01-482-4634 ID 10752A



DESCRIPTION AND FUNCTION

The Intelligence Operations Server (IOS), AN/UYQ-91(V)2 provides the functionality of the universal communication processor and track management server, and the intelligence shared database server on one hardware platform.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Operating	Server Transit Case	Workstation Case	UPS Transit Case	Printer Transit Case
Weight	128 lb.	40 lb.	53 lb.	51 lb.
Length	44.0 in.	36.0 in.	23.0 in.	16.0 in.
Width	22.5 in.	28.0 in.	20.0 in.	16.5 in.
Height	24.0 in.	18.0 in.	11.5 in.	12.0 in.
Square	6.25 sq. ft.	6.99 sq. ft.	3.2 sq. ft.	1.8 sq. ft.
Cube	12.5 cu. ft.	10.50 cu. ft.	3.0 cu. ft.	1.8 cu. ft.

Size and Weight Storage/Shipping

Storage/Shipping	Server Transit Case	Workstation Case	UPS Transit Case	Printer Transit Case
Weight	128 lb.	70 lb.	75 lb.	75 lb.
Length	34.5 in.	36.0 in.	23.0 in.	26.0 in.
Width	22.5 in.	29.0 in.	20.0 in.	24.0 in.
Height	12.9 in.	20.5 in.	13.5 in.	26.0 in.
Square	5.39 sq. ft.	7.25 sq. ft.	3.2 sq. ft.	4.3 sq. ft.
Cube	5.80 cu. ft.	12.39 cu. ft.	3.6 cu. ft.	9.4 cu. ft.

Power Requirements 110/120 VAC, 50-60 Hz, single phase

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Netra 1125t Server		Client Transit Case
	TAG Monitor/keyboard Assembly		SCSI Terminal Server
	Server Transit Case		SU1400 Uninterruptible Power Supply
	Panasonic Toughbook CF-27 Laptop		UPS Case
	Notebook Keyboard/Trackball Assembly		Ethernet Switch
	17 in. Flat Panel Monitor		Laser Printer
	Soft Case, Laptop		Printer Transit Case

INTERROGATOR, DIGITAL, AN/UPX-37

TAMCN A08807G

NSN 5895-01-460-5448

ID 10851A



DESCRIPTION AND FUNCTION

The Interrogator, Digital, AN/UPX-37 Identification Friend or Foe (IFF) Interrogator has replaced the AN/UPX-27 IFF Interrogators. It will be used for Mark XII and Next Generation IFF processing including Mode S and Mode 5. Its modular/digital architecture affords customized configurations and performance optimization for most applications including Air Defense, Weapon Systems, Air Traffic Control and Range Instrumentation. Digital target reports can be provided in addition to wide band video for subsequent passive/active decoding. The Digital Interrogator also provides amplitude monopulse for significant azimuth accuracy improvement over conventional systems. The AN/UPX-37 Digital Interrogator operates autonomously or in conjunction with a host radar.

Manufacturer: BAE Systems

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Power Requirements	95 to 125 VAC, 50 to 60 Hz single phase	Size and Weight	
Receiver Center Frequency	1,090 ±0.5 MHz	Weight	76 lb.
Transmitter Frequency	1,030 MHz ±0.2 MHz	Length	18 in.
Operating Conditions		Width	14.75 in.
Temperature	-18.4°F to +149°F	Height	10.56 in.
Elevation	Up to 12,000 ft.		
Humidity	0 to 95% non-condensing		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Digital Video Processor Defruiter	1	RF I/O Module
1	Coder Timing	1	Data Entry Device
1	Power Supply	1	Microprocessor
2	Transmitter	1	Circuit Breaker
1	Receiver/Modulator	2	Dummy Loads

MAINTENANCE KIT, ELECTRONIC EQUIPMENT, MK-2713

TAMCN A19567G NSN 5895-01-364-9337 ID 09771A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Maintenance Kit, Electronic Equipment, MK-2713 is a module/Circuit Card Assembly (CCA) set for fault isolation of Radio Set AN/MRC-142 to the lowest repairable unit.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Case Assembly		Power Supply Assembly
	Circuit Card Assembly (Black Interface)		Circuit Card Assembly (Synthesizer RF Module)
	Circuit Card Assembly (Frame Monitor)		Circuit Card Assembly (Synthesizer Control Module)
	Circuit Card Assembly (Group Modem)		Circuit Card Assembly (RF Modulator Module)
	Circuit Card Assembly (Timing Card)		Circuit Card Assembly (Separator-Regenerator Module)
	Circuit Card Assembly (Test and Interface)		Circuit Card Assembly (DVOW Interface Module)

MAINTENANCE KIT, ELECTRONIC EQUIPMENT, MK-2745

TAMCN A19587G NSN 5895-01-369-5560 ID 09786A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Maintenance Kit, Electronic Equipment, MK-2745 is used to assist in isolating failures within Radio Set, AN/MRC-142.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Cable Assembly, Radio Frequency		Lead Assembly, Electrical
	Cable Assembly, Special Purpose Electrical		Sack, Shipping
	PDP AC Power		Wiring Harness
	TED Bypass w/Dummy Load		Cable Assembly, Loopback CDA Traffic
	UHF Radio, AC Power		Cable Assembly, PDP DC Power
	Case, Maintenance Adapter Kit		Wire Harness, Branched
	Dummy Connector, Plug		Cable Assembly, CDA AC/DC Power
	Connector, Accessory, Orderwire, Terminating		
	Connector, Accessory, CDA Radio Side Term.		
	Connector, Accessory, Radio Baseband Test		
	Adapter		

MAINTENANCE KIT, ELECTRONIC EQUIPMENT, MK-2902/TPQ

TAMCN A75407G NSN 5895-01-458-6373 ID 10554A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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MAINTENANCE KIT, ELECTRONIC EQUIPMENT, MK-2970/USC

TAMCN A75457G NSN 5895-09-000-2545 ID 10939A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Maintenance Kit, Electronic Equipment, MK-2970/USC is primarily used to support the AN/USC-65(V)2 while being employed in a tactical environment. It contains critical, non-redundant Line Replaceable Units (LRU)s that are to be used to maintain the AN/USC-65(V)2 in an operational state.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Amplifier, 5 MHz Distribution	1	Laptop, CF28 GTSI
1	Controller, HPA	1	Server, CMA
1	Coupler, L-Band Down	1	Splitter 1
1	Coupler, L-Band Up	1	Splitter 2
1	Demodulator	1	Transport Case

MODULAR EXTENDABLE RIGID WALL SHELTER (MERWS), S-836/G

TAMCN

A22937G

NSN

5411-01-312-9084

ID

10393A



DESCRIPTION AND FUNCTION

The Modular Extendable Rigid Wall Shelter (MERWS), S-836/G is a lightweight, moveable kit designed for attachment to the International Standard Organizational (ISO) shelter of the Army Standard Family (ASF) of expandable rigid wall shelters. All hardware is designed so it can be stored and shipped within the ISO shelters or containers and transported as a single unit. Fully erected the dimensions are: 19 ft. W x 10 ft. H x 38 ft. L. This unit is efficiently insulated, contains power distribution, lighting fixtures, interchangeable panels, and hard floors. Its self-adjusting jack system allows the MERWS to be set-up on unprepared surfaces, and then the electrical and communication lines can be run underneath. It can be utilized for many purposes including a tactical command center, hospital, living quarters, kitchen, and an administrative or maintenance facility. The Marine Corps procured a limited number that have been specially modified for tactical command center utilization. Set up time by four people is approximately four hours.

Manufacturer: Gichner Shelter Systems

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Power Requirements	208 VAC, 50/60 Hz, 60/100A, 3-phase (x2)	Environmental Limits	
Transport	Within ISO shelter or MILVAN container	Transport and Storage	-25°F to +120°F
Size and Weight		Operating Temperature	-65°F to +125°F
Exterior Dimensions		Shipping Dimensions (max.)	
Length	459.8 in.	Length	220.0 in.
Width	224.0 in.	Width	77.8 in.
Height	143.9 in. (max.) w/24 in. Jack adjustment	Height	80.3 in.
Interior Dimensions		Bearing Load Capacity	
Minimum Clear Height	83.5 in.	Floor Capacity Uniform	65 lb./sq. ft.
Minimum Clear Width	220.5 in.	Floor Capacity Point	125 lb./sq. ft.
Useable Floor Space	702.7 sq. ft.	Roof Capacity Uniform	40 lb./sq. ft.
Total Weights (including tools and devices) Less ISO shelter	8,100 lb.	Roof Capacity Point	600 lb. over 2 sq. ft.
		Wind Speed (max.)	153.1 mph
		Wind Load (max.)	60 lb./sq. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Roof Cap Assembly		Endwall Door
12	Roof Panels		Endwall Cutout Panels
2	Power Entry Panel		Step Assembly
12	Sidewall Panels		Sidewall Cutout Panels
21	Leveling Jacks		Roof Trusses
6	Center Beams		Power Distribution Panels
6	Traverse Cross Beams		Fluorescent Ceiling Lights
12	Floor Panels		Pressure Plates
	Endwall Panel Center, LS, RS		Jack Pads

POCKET SIZED FORWARD ENTRY DEVICE (PFED), AN/PSG-10

TAMCN A09407G NSN 7021-01-491-9156 ID 11050A



DESCRIPTION AND FUNCTION

The Pocket Sized Forward Entry Device (PFED), AN/PSG-10 is a small, portable, rugged communications-enabled computer that is capable of processing fire support specific functions. The PFED is fielded as an alternate solution of the Target Location, Designation, and Hand-off System (TLDHS) program. The PFED is used in conjunction with the Global Positioning System (GPS) and a Laser Ranger Finder (LRF). It is used by the Forward Observer (FO) to digitally call for fire and transmit and receive Variable Message Format (VMF) and plain text messages. As the FO lases a target, the actual location of that target gets input into the PFED automatically, and the FO can process the Call for Fire, which is digitally sent to an Advanced Field Artillery Tactical Data System (AFATDS).

Manufacturer: Talla-Tech

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Size and Weight	Operating	Shipping/Storage
Weight	2.6 lb. w/batteries	1.7 lb. w/o batteries
Length	9.0 in.	18.5 in.
Width	5.5 in.	14.1 in.
Height	2.0 in.	6.9 in.
Square	0.35 sq. ft.	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Pocket Sized Forward Entry Device	1	Interface Cable Set

POWER SUPPLY MODULE LINE REPLACEABLE UNIT (LRU) TEST ADAPTER, MX-10141/TT

TAMCN

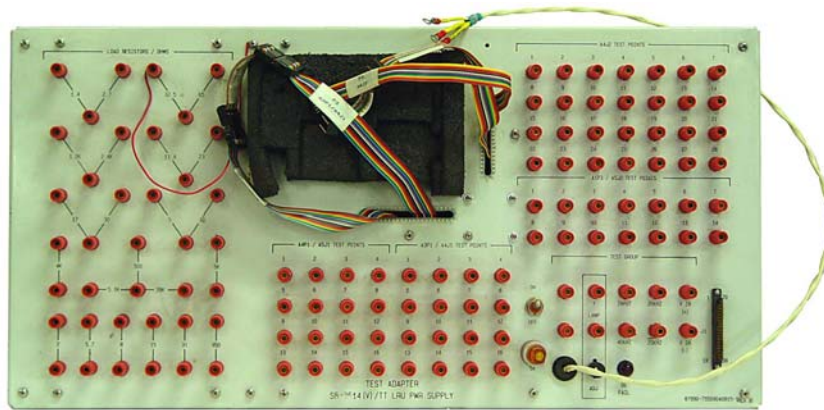
A00067G

NSN

6625-01-090-6789

ID

08302A



DESCRIPTION AND FUNCTION

The Power Supply Module Line Replaceable Unit (LRU) Test Adapter, MX-10141/TT is used to bench test the printed circuit cards and chassis assembly of the Keltec Power Supply Module. The test adapter is basically a breakout box containing load resistors, a switch/fuse combination, potentiometer, indicator lamp, heat sink, interconnecting cable assemblies and an active circuit that supplies a complementary 20 kHz output signal.

Manufacturer: General Dynamics C4 Systems, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Length	24.380 in.
Width	12.310 in.
Height	3.000 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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REPRODUCTION/DISTRIBUTION SHELTER, S-715/T

TAMCN A22947G NSN 5411-01-298-1661 ID 09261A



DESCRIPTION AND FUNCTION

The Reproduction/Distribution Shelter, S-715/T is a shelter assemblage of equipment in an 8 ft. x 8 ft. x 10 ft. facility consisting of reproduction machines, a document shredder, teletype printer, and other miscellaneous items having the capability to effectively reproduce, collate, distribute, and when necessary, destroy large quantities of received messages in a tactical environment.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Installation	10 ft. EMI Shelter	Size and Weight	Operating/Shipping
Power Requirements	120/208 VAC, 30A, 60 Hz, 3-phase, 4-wire power from external source	Weight	5,000 lb.
		Length	120 in.
		Width	96 in.
		Height	96 in.
		Cube	640 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Shelter Assembly, 10 ft. Basic	2	Raceway Assembly and Installation
1	Shelter Assembly, 10 ft. Module	1	Fire Extinguisher
2	Module Assembly, Document Copier	1	Rod Assembly and Installation, Ground
1	Module Assembly, Document Shredder	2	Stool, Swivel
1	Panel Installation, Power Distribution	2	Cable Assembly
4	Rail Assembly and Installation	1	Lantern Assembly
2	Bus Assembly and Installation, Conductor	1	Handling Tool Assembly
3	Pipe Assembly and Installation	1	AN/UGC-74C
2	Dry Toner Copies	1	Paper Shredder

SHELTER, TACTICAL, EXPANDABLE, TWO-SIDED, S-786/G

TAMCN A23337G NSN 5411-01-294-9866 ID 10394A



DESCRIPTION AND FUNCTION

The Shelter, Tactical, Expandable, Two-Sided, S-786/G is a 100 ampere variant, two-side expandable tactical ISO shelter. When extended, the S-786/G triples the square foot floor space available of a nonexpandable 20 ft. shelter. These shelters provide a highly mobile, environmentally controlled work/live-in space used for applications such as, field hospitals, maintenance facilities, tactical operation centers, command posts, field kitchens, modular print systems, surgeries, laboratories, etc. The S-786/G is designed for movement to and within the objective area via truck, fixed-wing/rotary-wing aircraft, landing craft, barge, or ship, both military and commercial. The S-786/G is recognized for its flexibility, reliability, maintainability, and simplicity. It is capable of operating throughout the range of climatic conditions (temperature, humidity, moisture, wind, and dust) associated with expeditionary operations. A limited number of these shelters were procured by the Marine Corps, which were specially modified to be compatible with the Modular Extendable Rigid Wall Shelter MERWS (TAMCN A22937G) for utilization by the tactical command centers.

Manufacturer: Gichner Shelter Systems

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Size and Weight		Overall Height	8 ft.
Extended Length	19.875 ft.	Door Quantity	3
Extended Width	21.750 ft.	Weight	6,900 lb.
Retracted Length	19.875 ft.	Payload	8,100 lb.
Retracted Width	8 ft.		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
8	Jack Assemblies	1	Drive Rod
2	Panel Assemblies	4	Tie Down Ring
12	Closeout Panel Assemblies	8	Ground Anchor Assembly
1	Equipment Container with Contents	2	Strap Assembly
1	Tie Down Installation	1	Light Assembly Exterior
1	Drive Head	6	Light Assembly Exterior
1	Holding Handle	4	Extension Assembly

TACTICAL REMOTE SENSOR SYSTEM (TRSS) ELECTRONIC MAINTENANCE KIT, MK-3002/U

TAMCN A30137G

NSN 5895-09-000-4022

ID 11092A



DESCRIPTION AND FUNCTION

The Tactical Remote Sensor System (TRSS) Electronic Maintenance Kit, MK-3002/U consists of a Computer Unit (CU), printer, various test fixtures, and miscellaneous cables for Radio Frequency (RF) and data connections. These items are used when troubleshooting components of the TRSS. Additional equipment may be required depending on which TRSS component is being tested.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements		Power Output	10W
CU and printer	120 VAC	Size and Weight	
Breakout Box	12 VDC	Weight	49 lb.
Frequency Range		Length	31 in.
VHF	138 to 153 MHz	Width	23 in.
UHF	311.5 to 313.5 MHz	Height	19 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Breakout Box	1	Laptop Computer
1	RF Modulator	1	Deskjet Printer HP6540
1	VHF Receiver	1	Transit Case
1	VHF Transmitter		

TACTICAL REMOTE SENSOR SYSTEM (TRSS) TEST ADAPTER, RPM-007N

TAMCN A70407G

NSN 6625-01-505-1143

ID 11089A



DESCRIPTION AND FUNCTION

The Tactical Remote Sensor System (TRSS) Test Adapter, RPM-007N Radio Personality Module (RPM) is a test adapter that is a component of the RCT-007 Radio Test System. The RPM-007N is used in conjunction with the general purpose, frequency agile, radio communications test set, (TS-4317). The RPM-007N is housed on the J-4843A, which provides the interface link between the test set and the radio Lowest Replaceable Unit (LRU) or other system component being tested. The RPM-007N uses the “Plug and Play” approach pioneered with the RPM-001. This approach uses the front panel removable/replaceable RPM to allow ease of system configuration. The RPM-007N tests Radio Frequency (RF) and data bus Input/Output (I/O) as well as I/O pin logic and voltage levels. The RPM-007N has four Megabytes of on-board Random Access Memory (RAM) that should accommodate a wide array of test programs. The test adapter also contains 256K of non-volatile RAM for test parameter storage. The unit software can be easily upgraded in the field and test data can be sent to a printer using the optional serial interface printer cable. This test adapter is designed to support all current and future Tactical Remote Sensor Systems (TRSS) testing requirements.

Manufacturer: Aeroflex Wichita, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	100 to 240 VAC at 50, 60 or 400 Hz	Operating Altitude	10,000 ft.
	22 to 240 VAC at 50 Hz	Storage Altitude	40,000 ft.
	22 to 30 VDC	Size and Weight	
Operating Temperature	32°F to 122°F	Weight	7 lb.
Storage Temperature	-40°F to +160°F	Length	9.0 in.
		Width	15.0 in.
		Height	3.0 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	J-4843A		PP-8468
	RPM-007N		Case

TEST SET, TS-4458/GSQ

TAMCN A30137G

NSN 6625-01-390-9667

ID 09864A



DESCRIPTION AND FUNCTION

The Test Set, TS-4458/GSQ consists of a series of components used when troubleshooting the equipment of the AN/GSQ-261 Tactical Remote Sensor System (TRSS). It is primarily used for troubleshooting the Relay Unit, a component of the RE-1162/U Relay Assembly (RA), and the workstation components of the AN/MS-77 Sensor Mobile Monitor System (SMMS).

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements		Temperature	
Power Supply	120 VAC	Operating w/o Computer	-22°F to +149°F
ICC, CU, RF Tuning	12 VDC	Operating w/Computer	-15°F to +130°F
Box, Reception		Transit/Storage w/o Computer	-67°F to +159.8°F
Indicator		Transit/Storage w/Computer	-4°F to +149°F
Rated Output		Humidity	Up to 90%
VHF Transmitter in (ICC)	10W output	Altitude	0 - 15,000 ft.
Frequency			
ICC	138 - 153 MHz provides 599 channels		

Size and Weight	Computer Unit	ICC	Printer	Power Supply	RF Tuning Box	Reception Indicator	Attenuator Assembly
Weight	16.25 lb.	24.70 lb.	19.80 lb.	3.08 lb.	1.23 lb.	0.15 lb.	2.12 lb.
Length	15.10 in.	14.00 in.	14.20 in.	8.63 in.	5.0 in.	4.0 in.	9.25 in.
Width	11.90 in.	15.50 in.	17.00 in.	1.5 in.	4.0 in.	1.5 in.	4.25 in.
Height	4.30 in.	8.25 in.	5.60 in.	3.0 in.	3.0 in.	3.0 in.	2.12 in.
Cube	0.45 cu. ft.	1.04 cu. ft.	0.78 cu. ft.	0.01 cu. ft.	0.03 cu. ft.	0.01 cu. ft.	0.05 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Intelligence Communications Controller (ICC)		Radio Frequency (RF) Tuning Box
	Computer Unit (CU)		Reception Indicator
	Dot Matrix Printer		Attenuator Assembly
	Printer Cable		Right Angle Tuning Antenna
	Power Converter		Straight Tuning Antenna

TEST SET, ADAPTER/EXTENDER, OF-117/U

TAMCN

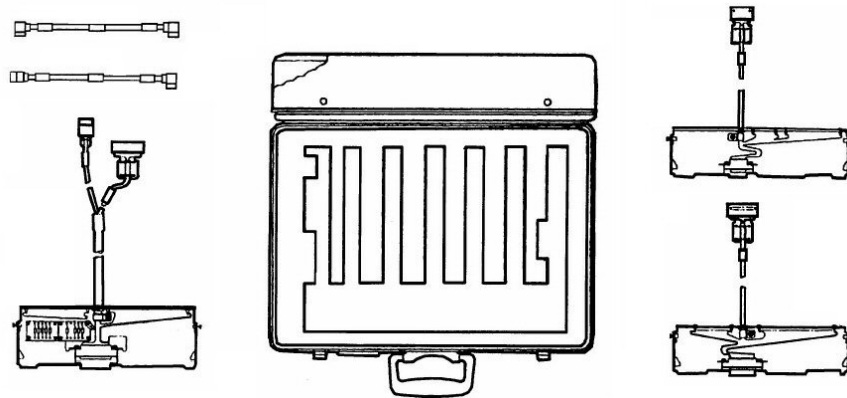
A28077G

NSN

6625-01-207-7190

ID

09978A



DESCRIPTION AND FUNCTION

The Test Set, Adapter/Extender, OF-117/U is used as an aid for isolating a fault in the RT-1319/URC to the module level. The test adapter extends the modules of the RT-1319/URC to allow probing with commercially available test equipment and contains test points that allow the module input and output modes to be probed with commercially available test equipment. It is designed for bench testing.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	18 lb.
Length	20in.
Width	8 in.
Height	16 in.
Cube	1.5 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
2	Cable Assembly, Coaxial	1	Extender Assembly, Modulator
1	Cable Assembly, Coaxial	1	Extender Assembly, Synthesizer
1	Case Assembly, Test Adapter	1	Extender Assembly, Transmitter
1	Extender Assembly, Guard Receiver	1	Extender, Data Converter
1	Extender Assembly, Main Receiver	1	Heatsink Transmitter

TEST SET, ADAPTER/EXTENDER, OF-118/U

TAMCN

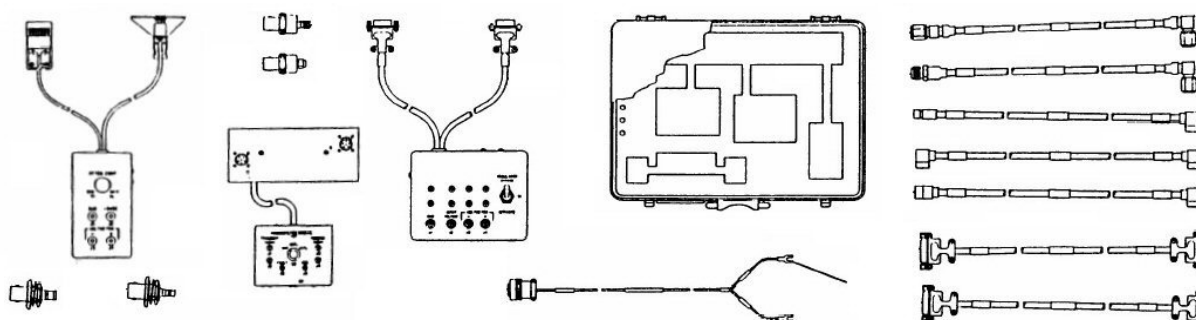
A28067G

NSN

6625-01-135-1846

ID

09034A



DESCRIPTION AND FUNCTION

The Test Set, Adapter/Extender, OF-118/U is used as an aid for isolating a fault in the AN/VRC-83(V) to the module level. The Test Adapter extends the modules of the AN/VRC-83(V) to allow probing with commercially available test equipment and contains test points that allow the module input and output modes to be probed with commercially available test equipment.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	24 VDC (min.)/25 VDC (max.)
Size and Weight	
Weight	18 lb.
Length	20 in.
Width	8 in.
Height	16 in.
Cube	1.5 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Adapter, Attenuator	1	Cable Assembly, Control
1	Adapter, Electrical, 185668-1	1	Cable Assembly, DC Power Interconnect
1	Adapter, Electrical, 185668-2	1	Cable Assembly, VRC-83, Input Power
1	Adapter, Regulator Test	1	Case Assembly
1	Adapter, RT-1319 Simulator	2	Connector, Various
1	Cable Assembly, Coaxial, Various		

TEST SET, VINSON INTER-CONNECT BOX, AN/USM-481

TAMCN A30867G NSN 6625-01-106-4296 ID 08708A



DESCRIPTION AND FUNCTION

The Test Set, VINSON Inter-Connect Box, AN/USM-481 voice ciphering cryptographic system as used by the KY-57, KY-58, KYV-2, etc. replaced the NESTOR system used by the KY-38. There are a large number of manpack, vehicle and airborne installations of VINSON equipment and the USM-481 Test Set was made to troubleshoot those in the VRC-12 family that uses the MT-1029 Mount and the PRC-77 manpack family, like the GRC-160 installations by checking 15 different interconnecting cables and 2 junction boxes.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	115 or 230 VAC with dual	Size and Weight	
	12V outputs up to 480 mA	Length	18 in.
	BA-5590	Width	15 in.
		Height	6 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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**TOOL KIT, INTERMEDIATE MAINTENANCE FOR TACTICAL AIR OPERATIONS MODULE
(TAOM), MK-2898U**

TAMCN A79052E

NSN 5895-01-452-7551

ID 10484A



DESCRIPTION AND FUNCTION

The Tool Kit, Intermediate Maintenance for Tactical Air Operations Module (TAOM), MK-2898U is composed of hand tools and electrical tools for performing intermediate maintenance on the AN/TYQ-23.

Manufacturer:

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	400 lb. (approx.)
Length	24.625 in.
Width	19.500 in.
Height	37.500 in.
Cube	10.5 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Various Hand Tools		Various Electrical Tools

Section III
Equipment, General Application

ACCESSORY MAINTENANCE KIT, TELEPHONE, MK-1823(V)/TT

TAMCN A00047G NSN 5999-01-032-1692 ID 07960A



DESCRIPTION AND FUNCTION

The Accessory Maintenance Kit, Telephone, MX-1823(V)/TT provides printed circuit boards and termination cards to vary functional and performance capabilities of Switchboard, Telephone SB-3614(V)/TT. It is also used in maintenance/repair procedures for the switchboard.

Manufacturer: General Dynamics C4 Systems, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Installation	For transportable, tactical field use
Power Requirements	N/A
Size and Weight	Operating/Shipping
Weight	12 lb. (approx.)
Length	14 in.
Width	14 in.
Height	8 in.
Cube	1 cu. ft.

MAJOR COMPONENTS

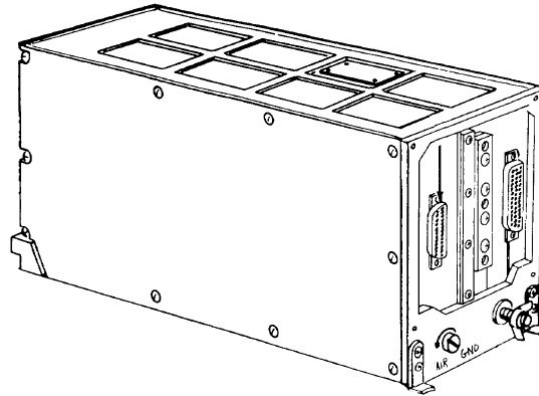
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Case, Electronic Equipment P/N 755090A0453-1	1	Circuit Card Assembly, Interface P/N 755090A0332-2
1	Circuit Card Assembly, Main Timer P/N 755090A0365-1	1	Circuit Card Assembly, P+/P- P/N 755090A0301-1
1	Circuit Card Assembly, Processor P/N 755090A0383-1	1	Circuit Card Assembly, RAM P/N 755090A0305-1
1	Circuit Card Assembly, PROM 909 P/N 755090A0909-1	2	Circuit Card Assembly, Type I P/N 755090A0372-1
3	Circuit Card Assembly, Type II P/N 755090A0399-3	2	Circuit Card Assembly, Type III P/N 755090A0315-2
	Circuit Card Assembly, Type IV P/N 755090A0916-1	1	Extractor, Circuit Card P/N 755090A0137

**ADVANCED NARROWBAND DIGITAL VOICE TERMINAL/TACTICAL (ANDVT/TACTERM),
CV-3591(P)/U**

TAMCN A00097G

NSN 5895-01-250-9557

ID 08629A



DESCRIPTION AND FUNCTION

The Advanced Narrowband Digital Voice Terminal/Tactical (ANDVT/TACTERM), CV-3591(P)/U provides secure voice, data and/or transmission capability for tactical and strategic military users who have access to bandwidth limited communications equipment such as radio, satellite systems and wireline networks. The ANDVT/TACTERM system consists of the Basic Terminal Unit CV-3591, Interface Unit J-3953 and the Communications Security (COMSEC) module KYV-5. The system is designed for operation in tactical and fixed plant environments.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	17 to 32 VDC (24 VDC nominal)	Memory Retention	6.5 VDC BA-1372/U; BA-5372/U
Size and Weight	Operating/Shipping		
Weight	42 lb.		
Length	16 in.		
Width	13 in.		
Height	9 in.		
Cube	2 cu. ft.		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

ANTENNA, COMMUNICATION, TRAILER-MOUNTED, LIGHTWEIGHT, AS-4429/TSC

TAMCN A13807G

NSN 5895-01-422-4682

ID 10651A



DESCRIPTION AND FUNCTION

The Antenna, Communication, Trailer-mounted, Lightweight, AS-4429/TSC enhances critical multi-channel communications between Commander in Chief command echelons down to the Marine Air Ground Task Force (MAGTF) level. The AS-4429/TSC is capable of operating continuously (24 hours per day).

Manufacturer: Harris Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

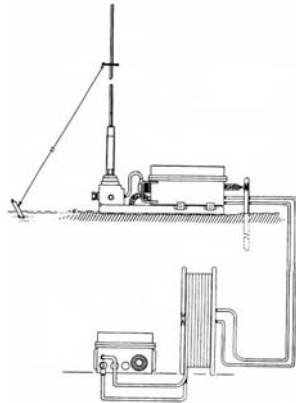
Power Requirements	120 VAC, 5A for stowing or deploying	
Size and Weight	Operating	Storage/Shipping
Weight	3,940 lb.	4,200 lb.
Length	429 in.	248.8 in.
Width	192 in.	94.8 in.
Height	281 in.	93.9 in.
Square	572 sq. ft.	164 sq. ft.
Cube	13,395 cu. ft.	1,282 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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ANTENNA COUPLER REMOTE KIT, MK-2560/GRC-193

TAMCN H20402B NSN 5985-01-231-5401 ID 09433A



DESCRIPTION AND FUNCTION

The Antenna Coupler Remote Kit, MK-2560/GRC-193 allows an antenna and antenna coupler CU-2064/GRC-193 to be installed at a remote location up to 200 feet from the radio set.

Manufacturer: Autodyne Manufacturing Co., Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Antenna Adapter	1	Control Cable Assembly
1	Antenna Base	1	Coupler and Antenna Base Assembly
1	Antenna Cable Assembly	1	Ground Rod
1	Cable Reel	1	Guy Assembly
1	Coaxial Cable Assembly	1	Guy Stake Assembly

AXLE AND CRANK ASSEMBLY, RL-31-E

TAMCN H23852B

NSN 3895-00-252-6896

ID 00272A



DESCRIPTION AND FUNCTION

The Axle and Crank Assembly, RL-31-E is a lightweight unit, designed to facilitate paying out and recovering of field wire on metal reels. The Reel Unit has a divided axle, to permit independent handling of two small reels or one large reel. The construction is two “H” shaped frames, hinged at one end and reinforced with cross-braces. The Unit is designed so that it can be used in a litter-type carrying position or wheelbarrow-type fashion; it can also be installed on several type vehicles. The RL-31-E is equipped to handle two “DR-4” or “RL-159/U” reels; or one “DR-5”, “DR-7”, or “DR-15” reel. The reels are used with, but are not part of the equipment.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Reel Data		Size and Weight		Shipping
Maximum Diameter	27.5 in.	Weight		133 lb.
Outside Width	18 in.	Length		41 in.
		Width		27.5 in.
		Height		11 in.
		Cube		7 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Axle Assembly	1	Reel Frame
2	Brake Unit, Reel Cable	2	Sling, Bag and Case, Carrying
2	Crank, Hand		

CABLE ASSEMBLY, 100 FT. AND 1,320 FT., CX-11230A/G

<u>TAMCN</u>	H20782B	CX-11230A/G, 100 ft.	<u>NSN</u>	5995-01-125-6781	<u>ID</u>	08867B
<u>TAMCN</u>	H20792B	CX-11230A/G, 1,320 ft.	<u>NSN</u>	5895-01-121-6623	<u>ID</u>	08618B



DESCRIPTION AND FUNCTION

The Cable Assembly, 100 ft. and 1,320 ft., CX-11230A/G is a twin-axial cable used to interconnect various communications systems together in a tactical environment. The CX-11230A/G comes in lengths of 100 ft. and 1,320 ft. (1/4 mile) wound on a cable reel ready for shipment and storage.

Manufacturer: Belden Wire and Cable Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Temperature Range -67.0°F to +185.0°F

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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CABLE ASSEMBLY, FIBER OPTIC, 300M AND 1.0 KM, CX-13295/G

<u>TAMCN</u>	H34582B	CX-13295/G, 300m	<u>NSN</u>	6020-01-220-5435	<u>ID</u>	09009A
<u>TAMCN</u>	H34592B	CX-13295/G, 1.0 km	<u>NSN</u>	6020-01-208-1147	<u>ID</u>	09008A



DESCRIPTION AND FUNCTION

The Cable Assembly, Fiber Optic, 300m and 1.0 km, CX-13295/G is a 62.5/125 mm diameter, non-ruggedized, single-mode fiber optic cable terminated with Biconic connectors, and is used to interconnect various fiber optic communications systems in a tactical environment. The CX-13295/G comes in lengths of 300m and 1.0 km wound on a cable reel ready for shipment and storage.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Operating Temperature	-51°F to +160°F	Size and Weight	
Storage Temperature	-67°F to +185°F	Cable Diameter	0.236 in.
Attenuation (max. 77°F)	3.0 dBm at 1,290 nm ±20 nm (300m)	Bend Radius	0.59 in.
	3.75 dBm at 1,290 nm ±20 nm (1.0 km)		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Cable Reel	2	Fiber Optic Connector
1	Fiber Optic Cable, 300m and 1.0 km	1	Dust Cover

CABLE ASSEMBLY, TELEPHONE, 25 FT., 100 FT., 250 FT. W/REEL, 250 FT. W/O REEL, 500 FT., CX-4566A/G

<u>TAMCN</u>	H20812B	CX-4566A/G, 25 ft.	<u>NSN</u>	5995-00-985-7571	<u>ID</u>	07878B
<u>TAMCN</u>	H20832B	CX-4566A/G, 100 ft.	<u>NSN</u>	5995-01-116-6111	<u>ID</u>	08368A
<u>TAMCN</u>	H20842B	CX-4566A/G, 250 ft. w/reel	<u>NSN</u>	5995-00-823-2715	<u>ID</u>	8H926B
<u>TAMCN</u>	H20842B	CX-4566A/G, 250 ft. w/o reel	<u>NSN</u>	5995-00-985-7569	<u>ID</u>	07877B
<u>TAMCN</u>	H20862B	CX-4566A/G, 500 ft.	<u>NSN</u>	5995-01-114-5501	<u>ID</u>	08367A



DESCRIPTION AND FUNCTION

The Cable Assembly, Telephone, 25 ft., 100 ft., 250 ft. w/reel, 250 ft. w/o reel, 500 ft., CX-4566A/G is a 26 pair cable used to provide cable distribution for the local telephone lines and circuits, and interconnecting communication shelters. It is also used in conjunction with distribution boxes and cable CX-4760/U. This cable is terminated with universal connector U-187A/G at either end. The CX-4566A/G is sturdy enough for ground or aerial use.

Manufacturer: Amper Electronic Programs

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight
Diameter 0.625 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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CABLE LASHING MACHINE, LC-231/FT

TAMCN H20892B

NSN 3895-00-286-9027

ID 00205A



DESCRIPTION AND FUNCTION

The Cable Lashing Machine, LC-231/FT is used to lash an aerial telephone cable to a suspension strand with a 0.045 inch diameter stainless steel lashing wire. The LC-231/FT is designed for lead-covered cable of 1.675 inch or smaller diameter and a suspension strand of 5/16 inch, 3/8 inch, or 7/16 inch diameter.

Manufacturer: General Machine Products Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	58 lb.
Length	21.5 in.
Width	13 in.
Height	13 in.
Cube	4.86 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Case, Transit		
1	Towing Bridle		

CABLE, TELEPHONE, WF-16/U

TAMCN H21172B

NSN 6145-00-910-8847

ID 08373A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Cable, Telephone, WF-16/U is a two pair field wire for use with the tone-signaling field telephone equipment. WF-16/U consists of two individual bonded pairs of stranded field wire twisted together. One pair is color coded brown, the other is olive drab. The olive drab pair has a ridge along the one side to distinguish it at night.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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CONVERTER SET, FIBER OPTIC, AN/GSC-54TAMCN

A06527G

NSN

6020-01-237-2218

ID

09006A

**DESCRIPTION AND FUNCTION**

The Converter Set, Fiber Optic, AN/GSC-54 when used with a Tactical Fiber Optic Cable Assembly (TFOCA), forms a part of the Fiber Optic Cable System (FOCS). The FOCS provides a full duplex fiber optic transmission link between a compatible pair of TRI-TAC equipments. The AN/GSC-54 and the FOCA configuration provides an optical communication link for up to 6 kilometers in length, operating at group data rates ranging from 72 kilobits per second to 4,608 kilobits per second.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	120 VAC, 50/60 Hz single	Size and Weight	
	phase, 14W (max.); 28 VDC		Weight
Operating Temperature	14W (max.)	Length	12.60 in.
	-51°F to +126°F		Width
Storage Temperature	-71°F to +160°F	Height	3.00 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Fiber Optic Converter, CV-4004	1	Special Purpose Electrical Power Cable
1	Power Electrical Power Cable Assembly		Assembly, CX-11230 A/G
1	Special Purpose Electrical Power Cable Assembly	1	Front Cover Assembly
		1	Sling, MIL-S-1698

DIGITAL NON-SECURE VOICE TERMINAL (DNVT), TA-1042, -1042A/U

TAMCN H34652E NSN 5805-01-318-8421 ID 08789B



DESCRIPTION AND FUNCTION

The Digital Non-Secure Voice Terminal (DNVT), TA-1042, -1042A/U is a ruggedized field telephone. It is operable as a table top device in tents, shelters, and office environments. It may also be operated outdoors while strapped to a tree or pole. The DNVT is designed for durability to exposure of the elements during operation and transportation. The TA-1042, -1042A/U is a tactical 4-wire telephone set used to transmit and receive full duplex, conditioned diphase digital voice and loop signaling information at 16 or 32 kbps rates. It digitizes voice information using Continuously Variable Slope Delta (CVSD) modulation and operates in a non-secure mode only. Digital communication transmissions, both to and from the DNVT, are accomplished using a Conditioned DiPhase (CDP) data transmission method by the use of a Digital Data Port (DDP). The TA-1042, -1042A/U operates in both common battery mode and local battery point-to-point mode, but not simultaneously.

Manufacturer: SCI Systems, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Voice Input	70-4,000 Hz	Power Requirements	Nominal 48 VDC, 2W
Nominal Sound Pressure	20 dynes/sq. cm at 1 kHz	Common Battery	
Digital Input (receive pair)	Continuously Variable Slope Delta (CVSD) modulation, conditioned diphase signal at 16 or 32 kbps	Mode	20-56 VDC, 1.5W
		Local Battery Mode	5.5-28 VDC, 50 mA
Voice Output	70-4,000 Hz	Temperature Range	
Nominal Sound Pressure	2 dynes/sq. cm. at 1 kHz	Operating	-22°F to +125°F
Digital Output	CVSD, conditioned diphase signal at 16 or 32 kbps	Storage	-57°F to +160°F
Installation	Fixed	Humidity Range	Up to 98%
		Size and Weight	Operating/Shipping
		Weight	4.5 lb.
		Length	9.75 in.
		Width	7 in.
		Height	4.25 in.
		Cube	1 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Telephone, Digital	1	Handset, H-250/U

DISK CONTROL UNIT (DCU), 10000

TAMCN H22102E

NSN 7025-01-362-1116

ID 10235A



DESCRIPTION AND FUNCTION

Manufacturer: Demo Systems LLC

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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DISTRIBUTION BOX, J-1077A

TAMCN

H22072B

NSN

6110-00-985-7574

ID

07875A



DESCRIPTION AND FUNCTION

The Distribution Box, J-1077A is a hard-wired distribution box used to connect field wire. Traffic capability is 26 two-pair lines. Two J-1077A/U's are required for use during field expedient patching.

Manufacturer: Amper Electronics Programs

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Length	8.50 in.
Width	15.625 in.
Height	5.188 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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DISTRIBUTION BOX, J-2317A/U

TAMCN H22092B

NSN 6110-00-937-4964

ID 07876A



DESCRIPTION AND FUNCTION

The Distribution Box, J-2317A/U consists of 4 sets of 52 pair binding posts for a total of 208 binding posts. The J-2317A/U facilitates the connection of stripped field wire to a 26-pair cable assembly. The special contacts allow for testing of each pair without jumpers, quickly and easily.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Length	35 in.
Width	17 in.
Height	4.5 in.
Cube	1.6 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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EMULATOR UNIT, DATA LINK, SM-822/GYQ

TAMCN

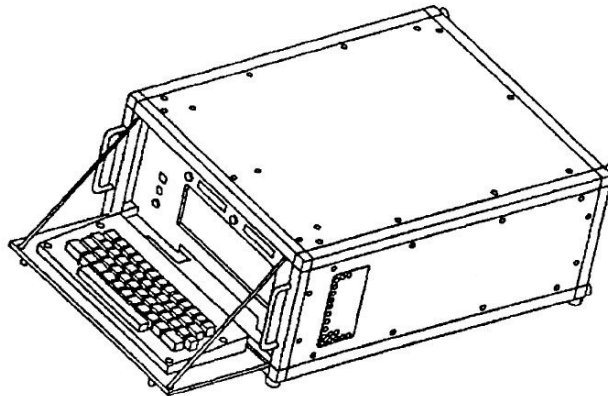
A06257G

NSN

5895-01-164-6640

ID

08841A



DESCRIPTION AND FUNCTION

The Emulator Unit, Data Link, SM-822/GYQ simulates three data link types for maintenance of and training on various pieces of data link equipment. The unit is capable of simulating TADIL-B, ATDL-1, and NATO Link-1 data types.

Manufacturer:

Marine Corps Systems Command: MC2I Product Group 11

TECHNICAL CHARACTERISTICS

Power Requirements	Input 115/230 VAC, single phase, 47-440 Hz	Signal Output Rate	600 bps and 1,200 bps (selectable by data modem)
Consumption	226W	Modulation (selectable)	FSK (TADIL-B and ATDL-1) DFSK (NATO Link-1)
Logic Power Supply		Environmental Conditions	
PS-1 Outputs	+12 VDC, -12 VDC, +5 VDC	Operating Temperature	35°F to 100°F
Display Power Supply		Operating Humidity	80% non-condensing
PS-2 Outputs	+12 VDC, -12 VDC, -250 VDC, +5 VDC	Non-operating Temperature	14°F to 122°F
Logic Level		Non-operating Humidity	90% non-condensing
Logic 0	0V		
Logic 1	5 VDC		
Size and Weight			
Weight	70 lb. w/computer program loaded		
Length	25.5 in. w/keyboard closed		
Length	31 in. w/keyboard extended		
Width	17 in.		
Height	9 in.		
Cube	3 cu. ft.		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	LSI-11/23 Microprocessor	1	Random Access Memory Module (128K x 16 bit)
1	Multifunction Module	1	TU-58 Dual Tape Cassette System
1	Parallel Interface Module	1	Variable Length Synchronous Serial Interface
1	Data Modems (three) Modules (three)	1	Plasma Display
1	Keyboard (standard ASCII)		(dot matrix - 40 characters x 6 lines)
1	Display Controller Module	1	PS-1 Logic Power Supply
1	PS-2 Display Power Supply	1	Auxiliary Circuit Module
1	Maintenance Mode Computer Program (tape cassette)	1	Scenario Generation Mode Computer Program (tape cassette)
1	Link Recording/Playback Mode Computer Program (tape cassette)	1	Training Mode Computer Program (tape cassette)
1	LSI-11 Bus		

HAND HELD PORTABLE MONITOR (HHPM), AN/PSQ-22

TAMCN A12217G NSN 7035-01-521-8607 ID 11045A



DESCRIPTION AND FUNCTION

The Hand Held Portable Monitor (HHPM), AN/PSQ-22 is a battery powered, hand held radio receiver that receives, demodulates, decodes, and displays symbols representative of sensor set message transmissions. The HHPM operates on Very High Frequency (VHF) frequencies.

Manufacturer: Nova

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Source		Data Rate	1.2 to 56 kbps
Internal	6.9V lithium batteries	Size and Weight	
Battery Life	24 hr at -13°F	Weight	2.5 lb. w/batteries
External	6 to 16 VDC	Cube	0.04 cu. ft.
Temperature Range	-22°F to +131°F		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

HEADSET, H-182/PT

TAMCN H22682E

NSN 5965-00-069-8885

ID 02693B



DESCRIPTION AND FUNCTION

The Headset, H-182/PT is a lightweight headset-microphone used with both telephone and switchboard equipment to continuously monitor telephone and radio signal transmissions. The push-to-talk switch may be locked in the depressed position to allow for an “open microphone” or continuous telephone transmission.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Frequency Response	800 to 4,000 cps.
Microphone Impedance	15 ohms
Microphone DC Resistance	35 ohms
Earphone DC Resistance	15 ohms
Output Level	46 dB above 1 mW

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Earphone and Earcup Assembly	1	Headband Assembly
1	Boom Microphone Assembly	1	Cord Assembly
1	Switchbox Assembly		

HELIPORT PORTABLE LIGHTING SET

TAMCN A08157G

NSN 6230-00-148-9375

ID 07711A



DESCRIPTION AND FUNCTION

The Heliport Portable Lighting Set is used to assist aircraft to land safely over hazardous obstacles during periods of darkness in forward combat areas.

Manufacturer: Honeywell International

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Case, Lightset	8	Light, Marker, Ground Obstruction
1	Glide Angle Indicator Light Assembly		

KIT, MAINTENANCE

TAMCN H2323

NSN TBD

ID TBD



DESCRIPTION AND FUNCTION

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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KIT, REPAIR, CABLE, MK-2495/G

TAMCN A22952B

NSN 6080-01-208-1817

ID 09007A



DESCRIPTION AND FUNCTION

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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MULTIPLEXER-COMBINER, TD-1234(P)/TTC

TAMCN

A10787G

NSN

5820-01-145-2458

ID

08792A



DESCRIPTION AND FUNCTION

The Multiplexer-Combiner, TD-1234(P)/TTC is designed for use in adverse tactical environments. The TD-1234(P)/TTC is a Remote Multiplexer Combiner (RMC) which primarily performs Time-Division Multiplexing of digital channels (loops) into a loop group and combining of a loop group with a group input from another unit to form a higher capacity group. It also provides transmission of maintenance orderwire and power feed for loop end instruments.

Manufacturer: Raytheon Co.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

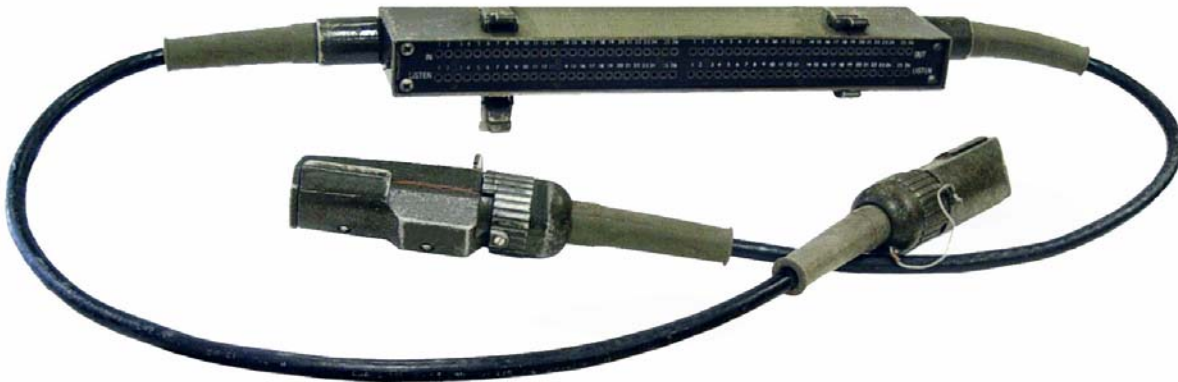
Number of Channels	up to 8	Installation	Fixed field exposed
Input Bit Rates		Power Requirements	115 VAC ±10%, 22 to 32 VDC
Channel	16 or 32 kbps	Size and Weight	Operating/Shipping
Group	72, 128, 144, 256 or 288 kbps	Weight	44 lb.
Output Group Rates	128, 144, 256, 288, 512, or 576 kbps	Length	17.75 in.
Power Drain	140W	Width	18.9 in.
Frequency	47.5 to 440 Hz	Height	9.9 in.
Temperature Range		Cube	2 cu. ft.
Operating	-50°F to +125°F (incl. solar radiation)		
Non-Operating	-70°F to +145°F		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

PANEL, PATCHING, COMMUNICATION, SB-3659A/U

TAMCN H23462B NSN 5895-01-102-2099 ID 08228A



DESCRIPTION AND FUNCTION

The Panel, Patching, Communication, SB-3659A/U is equipped with two 48 inch connector-ended cables for making thru connections to the 26-pair cable. The front of the patching panel contains an IN and OUT jackfield for all 26-pair cable connections. It also contains an associated LISTEN (monitor) jack. The SB-3659A/U will allow patching between any IN or OUT circuit to any other IN or OUT circuit using a single plug cord assembly.

Manufacturer: Codalex Ltd.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Section Quantity	4
Size and Weight	
Length	5.940 in.
Width	2.000 in.
Height	19.000 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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PANEL, PATCHING, COMMUNICATION, SB-4097/U

TAMCN

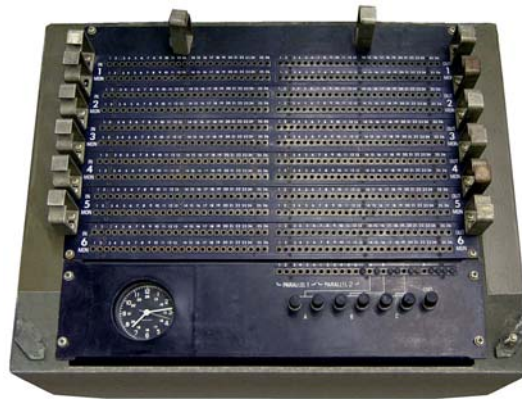
A12147G

NSN

5895-01-102-2100

ID

08229A



DESCRIPTION AND FUNCTION

The Panel, Patching, Communication, SB-4097/U is an item of Amphibious Assault, 26-pair Cable and Cable Distribution System. The panel provides for operator control in cross connecting and monitoring circuits in the system. SB-4097/U provides 312 pairs (156 IN and 156 OUT) derived from 12 standard 26 pair cables. All pairs terminate on standard 26 pair connectors mounted on the back of a table mounted console. Associated jacks are mounted on the face of the console, arranged in seven jack mountings.

Manufacturer: Codalex Ltd.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Installation	Fixed, transportable	Size and Weight	Operating/Shipping
Power Requirements	N/A	Weight	105 lb.
		Length	19 in.
		Width	24.5 in.
		Height	17.5 in.
		Cube	5 cu. f t.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
640	Jacks	12	26-Wire Connectors (panel mounted)
3	Binding Post Pairs	1	Grounding Terminal
1	Ground Rod	60	Patch Cords with Plugs (5 ft.) P/N F66480
15	Patch Cords with Plugs (4 ft.) P/N F66479	15	Patch Cords with Plugs (2 ft.) P/N F66476

REELING MACHINE, CABLE, HAND, RL-27-D

TAMCN H20552B NSN 3895-00-356-3937 ID 00376B



DESCRIPTION AND FUNCTION

The Reeling Machine, Cable, Hand, RL-27-D is used to lay and recover field wire. The axle has a machined-steel bar used for mounting wire reels, and two knurled handles, one removable for mounting Wire Reel RL-159/U on the axle. The axle has roller bearings and is equipped with a removable crank for rewinding wire. The RL-27-D can be carried by two individuals or placed on some improvised mounting.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight
 Length 36.0 in.

MAJOR COMPONENTS

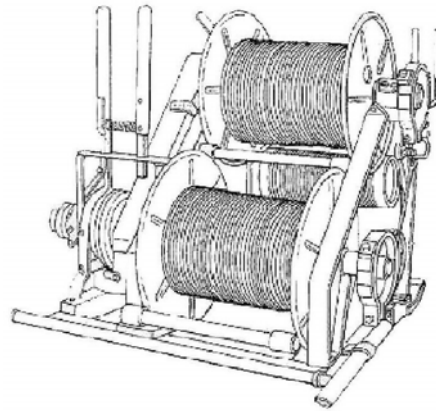
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Axle Assembly, P/N SC-C-83176	1	Washer P/N SC-B-83172
1	Crank, P/N SC-DL-83189	2	Roll Pins P/N SC-D-83171-1
1	Handle Assembly, P/N SC-C-83183		Steel O/A
1	Handle Assembly, P/N 83180		Painted Olive Drab
1	Bushing Assembly, P/N SC-B-83173		

REELING MACHINE, RL-26-E

TAMCN H23872B

NSN 3895-00-537-7953

ID 00271A



DESCRIPTION AND FUNCTION

The Reeling Machine, RL-26-E is a portable, engine driven machine capable of simultaneously handling two reels of wire or four reels of wire when the RL-159/U is used. The gasoline-powered engine is located on the frame base to provide power to drive two reel shafts by means of a transmission and clutch assembly. Each reel shaft has a friction disk clutch and a positive, splined shaft type clutch. Each reel shaft has a brake assembly used for paying out wire. A toolbox located at the rear of the frame base contains the tools and spare parts necessary for minor adjustments and repairs. A canvas cover is used to protect the RL-26-E when it is not in use.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Length	42.00 in.
Width	40.00 in.
Height	30.00 in.
Cube	29.2 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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SWITCHBOARD, TELEPHONE, MANUAL, SB-22/PT, -22A/PT

<u>TAMCN</u>	A24807G	SB-22/PT	<u>NSN</u>	5805-00-257-3602	<u>ID</u>	00276A
<u>TAMCN</u>	A24807G	SB-22A/PT	<u>NSN</u>	5895-00-715-6171	<u>ID</u>	00276B



DESCRIPTION AND FUNCTION

The Switchboard, Telephone, Manual, SB-22/PT, -22A/PT is a lightweight, local battery, field-type switchboard that can be installed rapidly to provide facilities for interconnecting 12 Voice Frequency (VF) circuits. The SB-22/PT, -22A/PT is normally used to interconnect local battery telephone circuits, remote-controlled radio circuits, and voice-frequency teletypewriter circuits. The SB-22/PT, -22A/PT is used with Telephone Set TA-312/PT, or TA-1/PT.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Line Circuits	12	Protection	Lightning arrestor, each line or trunk
Trunk Circuits	Any of 12 line circuits		
Switchboard Positions	1 (stackable to 46 lines)		
Ringing		Power Requirements	
Manual	20 Hz, 90 to 100V (provided by hand ringing generator)	Operator's Telephone	3 VDC (2 - BA-30 batteries)
		Night Alarm	3 VDC (2 - BA-30 batteries)
		SB-22A/PT	4 - BA-30 batteries

Size and Weight

	SB-22/PT, -22A/PT, MX-230/PT w/Accessory Kit	SB-22/PT, -22A/PT, MX-230A/PT w/Accessory Kit	MX-230/PT Accessory Kit	Shipping
Weight	58 lb.	58 lb.	4 lb.	58 lb.
Length	14.5 in.	9.5 in.	10.5 in.	19 in.
Width	19 in.	28.5 in.	15.5 in.	17.25 in.
Height	17.25 in.	16.5 in.	4.5 in.	14.25 in.
Cube	2.8 cu. ft.	2.6 cu. ft.	1 cu. ft.	3 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Battery Box	1	Headset-Microphone H-182/PT
12	Telephone Circuit, Line Jack TA-222/PT	1	Telephone Circuit, Operator's TA-221/PT
1	Generator, Ringing, Hand G42/APT	3	Telephone Circuit, Line Jack TA-222/PT
1	Telephone Circuit, Trunk Jack TA-3326/PT	4	Battery, Non-rechargeable

SWITCHBOARD, TELEPHONE, SB-3614(V)/TT

TAMCN

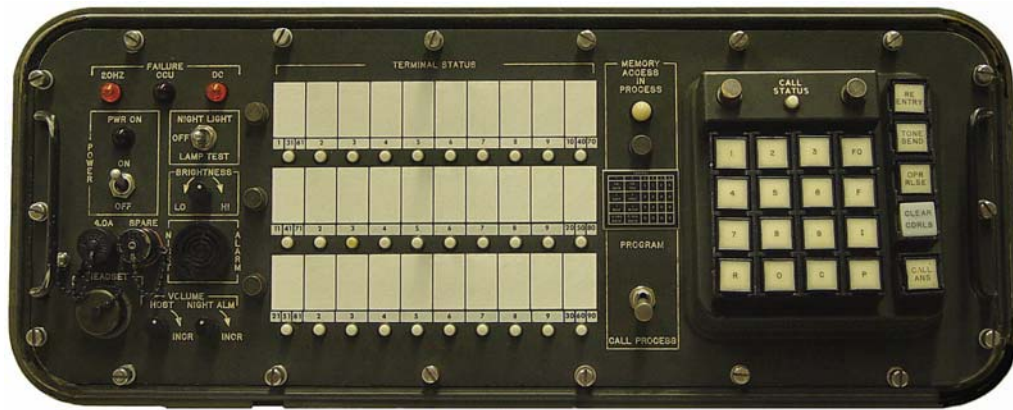
A25057G

NSN

5805-01-032-1694

ID

07867A



DESCRIPTION AND FUNCTION

The Switchboard, Telephone, SB-3614(V)/TT provides cordless service to 2-wire Common Battery Signaling (CBS) lines, 20 Hz Ring Down (RD) lines or trunks, common battery dial pulse or Dual Tone Multi-Frequency (DTMF) lines, and 4-wire tone signaling trunks over 15 links in a non-blocking matrix arrangement. The unit itself has 30 lines/trunk, but interconnection with 2 additional SB-3614s provides 60 or 90 lines/trunk respectively. The unit is designed to be team-transportable for tactical field use.

Manufacturer: General Dynamics C4 Systems, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Number of available	
Lines/Trunk	30
Installation	Tactical environment (no mount)
Size and Weight	Operating/Shipping
Weight	49 lb.
Length	24.5 in.
Width	14.5 in.
Height	10.5 in.
Cube	3 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Cable Assembly, Special Purpose, Electrical	2	Cable Assembly, Power, Electrical
1	Lead, Electrical	1	Headset, Microphone
		1	Rod, Ground

SWITCHING UNIT, TELEPHONE, AUTOMATIC, SB-3865(P)/TTC

TAMCN A25087G NSN 5805-01-187-9399 ID 08439A



DESCRIPTION AND FUNCTION

The Switching Unit, Telephone, Automatic, SB-3865(P)/TTC is a team transportable telephone switchboard that provides automatic switching service functions to the TRI-TAC family. The SB-3865(P)/TTC provides switching service to and from a variety of digital and analog loops and trunks. A single line can provide automatic switching for 30 lines and up to 90 lines by stacking the units. The SB-3865(P)/TTC is used at the Regiment/Group level and above within the Fleet Marine Force (FMF).

Manufacturer: ITT Industries, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

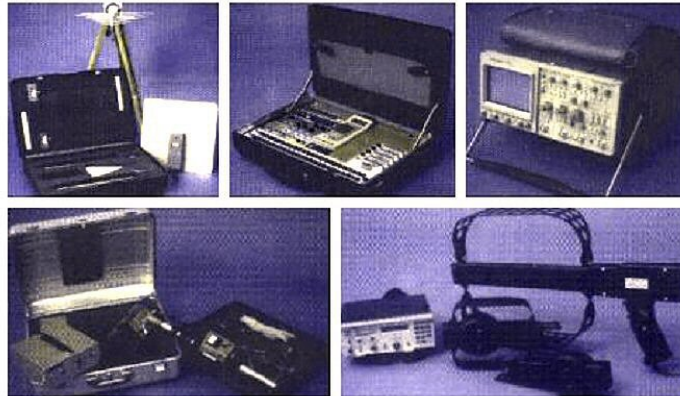
Termination Capacity (per unit)	30 single channels 54 time division multiplex channels over 3 groups	Internal Emergency Battery Fully Automatic		
Redundant	32 kb/s to 16 kb/s conversion	Size and Weight	Power Module	Switch Module
Microprocessor Control	Single phase, 120/208 VAC, 50/60 or 400 Hz, 480W, 24 VDC, 304W	Weight	99 lb.	97 lb.
Flexible Power Input		Length	20.6 in.	20.7 in.
		Width	17.8 in.	21.1 in.
		Height	17.8 in.	20.7 in.
		Cube	4 cu. ft.	6 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Switch Module	1	Power Module
1	Fault Assistance Module (FAM) Kit	1	SEELEY Trunk Encryption Device (STED) TSEC/KG-194, -194A

TECHNICAL SURVEILLANCE COUNTERMEASURES (TSCM) SUITE

TAMCN A03807G NSN 5865-01-415-9131 ID 10197A



DESCRIPTION AND FUNCTION

The Technical Surveillance Countermeasures (TSCM) Suite provides the Counterintelligence Team (CIT) with the capability to detect, locate, analyze, and disable specific threats. Its architecture is flexible and scalable to allow for rapid tailoring of countermeasures capabilities to match the level of threat.

TSCM is a multi-service/agency required “performance level” suite of equipment which provides the Marine Air Ground Task Force (MAGTF) Commander with a state-of-the-art, mission critical information protection capability required by national directive for each participant authorized to engage in this activity. TSCM equipment is designed to detect, locate, identify, neutralize, and/or exploit clandestine audio, Radio Frequency (RF), laser, Infrared (IR), optical, and telephone surveillance threats in and around areas where classified or sensitive information is discussed and/or viewed.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	AC/DC, 50/60 Hz, 120 VAC and 9V/BA-30 and “C” cell battery	Size and Weight	Operating/Shipping
		Weight	55 lb.
Mobility	Manpackable	Length	24 in.
	Vehicle mountable	Width	10 in.
Operational Mode	Voice/Data	Height	24 in.
		Square	1.6 sq. ft.
		Cube	4 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Forensic Evidence Gathering Kit		Communications Kit
	TSCM Accessory Kit		Field Bench Support Equipment
	Low Loss Armored Cable		Antenna Fabrication Kit

TELEPHONE SET, TA-1/PT

TAMCN H24422E

NSN 5805-00-521-1320

ID 00826A



DESCRIPTION AND FUNCTION

The Telephone Set, TA-1/PT is sound powered equipment providing facilities for talking and signaling without batteries. This telephone set can be used to advantage in forward areas, in switched networks having magneto signaling switchboards, in closed nets, and in point-to-point circuits. The telephone handset contains sound-powered transmitter and receiver units, a hand generator that is operated by a lever-type switch, and a push-to-talk switch. The user can receive either visual or audible-visual signaling indications during operation.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Voice Transmission Range	4 mi.	Size and Weight	
Signal Range	4 mi.	Weight	2.75 lb.
Frequency Range	300 to 4,000 Hz	Length	4.00 in.
Signal Voltage	65 to 80 VAC at 20 Hz	Width	3.25 in.
Operating Temperature	-40°F to +131°F	Height	10 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Handset	1	Carrying Case

TELEPHONE SET, TA-312A, -312/PT

<u>TAMCN</u>	H24432E	TA-312A	<u>NSN</u>	5805-01-217-7310	<u>ID</u>	02336A
<u>TAMCN</u>	H24432E	TA-312/PT	<u>NSN</u>	5805-00-543-0012	<u>ID</u>	02336A



DESCRIPTION AND FUNCTION

The Telephone Set, TA-312A, -312/PT is used as a Local Battery (LB) or Common Battery (CB) manual telephone. It may be arranged for operation as a local battery using Common Battery Signaling (CBS). It can be used under all outdoor conditions, or used as a desk or wall-mounted telephone. A receptacle is provided for connecting a handset-headset which may be used in place of the handset provided. In addition, the TA-312A, -312/PT can be used to control remotely operated radio equipment by operation of the push-to-talk switch on the telephone handset.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Frequency Range	300 to 3,200 Hz	Size and Weight	
Impedance Output	600 ohms at 1,000 Hz	Weight	9.75 lb.
Power Supply	2 BA-30 (1.5V)	Length	15.00 in.
Type Transmission	Voice	Width	7.75 in.
		Height	5.00 in.
		Cube	0.34 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Case, Electronic Communications Equipment	1	Sling, Bag and Case Carrying

TELEPHONE SET, TA-838/TT, -838A/TT, -1058/U

<u>TAMCN</u>	A26357G	TA-838/TT	<u>NSN</u>	5805-00-124-8678	<u>ID</u>	07659A
<u>TAMCN</u>	A26357G	TA-838A/TT	<u>NSN</u>	5805-01-125-5976	<u>ID</u>	07659B
<u>TAMCN</u>	A26357G	TA-1058/U	<u>NSN</u>	5805-01-485-1920	<u>ID</u>	TBD



DESCRIPTION AND FUNCTION

The Telephone Set, TA-838/TT, -838A/TT is a tactical environment, analog, solid state microprocessor controlled field telephone designed for use with Central Office Telephone, Switchboard, SB-3614/TT or Tactical Automatic Switches AN/TTC-38(V) or AN/TCC-39(V). It is a 2-wire or 4-wire; local or common battery powered set using Dual-Tone, Multi-Frequency (DTMF) tones for signaling. Up to four sets can be bridged across a single 4-wire line for extension service. An internal self test diagnostic feature is included.

The Telephone Set, TA-1058/U is a rugged analog telephone capable of operation in a tactical field environment when connected to a private branch or public switched telephone network. The TA-1058/U operates with a common battery, Direct Current (DC) supervised, DTMF or pulse signaling two-wire line.

Manufacturer: Star Dynamic Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Installation	Vertical or horizontal mount	
Power Requirements	DC local battery (4 BA-42/U)	
Size and Weight	TA-838/TT, -838A/TT	TA-1058/U
Weight	8 lb.	5.25 lb.
Length	10 in.	10 in.
Width	6 in.	8.50 in.
Height	6 in.	4.25 in.
Cube	1 cu. ft.	1 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Telephone Base	1	Handset and Retractable Cord

TEST SET, AN/GRM-115

TAMCN A28057G

NSN 6625-01-131-1385

ID 09035A



DESCRIPTION AND FUNCTION

The Test Set, AN/GRM-115 is used as an interface device to inject, monitor and control input and output signals and Direct Current (DC) power for Receiver-Transmitters (RT), radio sets, radio systems, remote control units and radio set controls.

Manufacturer: SOPARK Corp.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	+24 to +30 VDC at up to 4A			
(For Test Operation)	+5 VDC at up to 50 mA			
Input-Output Impedance			Size and Weight	
XMT Audio (J11)	150 ohm, unbalanced,	J3 return (Plain mode)	Height	3.25 in.
RCV Plain Audio (J5)	1,000 ohm, unbalanced,	J1 return	Width	7.19 in.
RCV Cipher Audio (J16)	20,000 ohm, unbalanced,	J8 return	Depth	5.81 in.
RCV Audio Fixed (J12)	600 ohm, unbalanced,	J4 return		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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TEST SET, CABLE, FIBER OPTIC, TS-4336/G

TAMCN

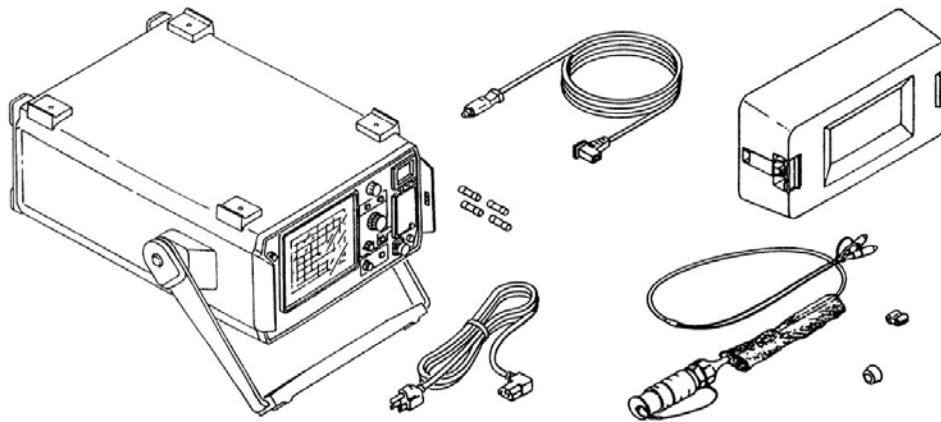
H34622B

NSN

6625-01-316-2752

ID

09490A



DESCRIPTION AND FUNCTION

The Test Set, Cable, Fiber Optic, TS-4336/G is a real time scan optical fiber tester that is capable of measuring loss characteristics, and detecting and locating faults in multimode and single mode fiber cables. The TS-4336/G operates on 115 or 230 VAC, 48-400 Hz; or from a 12 VDC battery. The test set comes equipped to test the CX-13295A/U Tactical Fiber Optic Cable Assembly (TFOCA) equipped with Biconic connector assemblies.

Manufacturer: Tektronix, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements 115 or 230 VAC,
 48-400 Hz; 12 VDC

MAJOR COMPONENTS

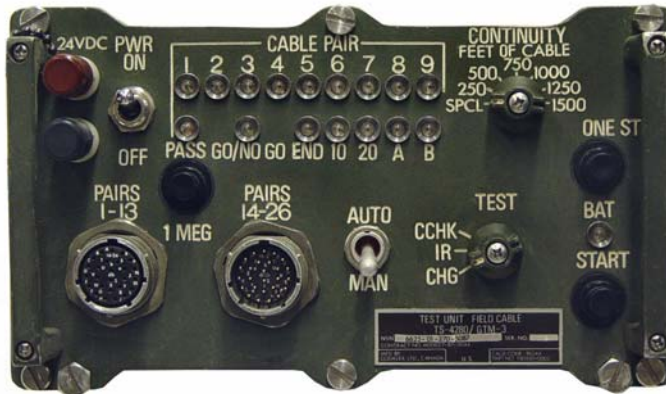
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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TEST SET, FIELD CABLE, AN/GTM-3

TAMCN A24707G

NSN 6625-01-257-7921

ID 09076A



DESCRIPTION AND FUNCTION

The Test Set, Field Cable, AN/GTM-3 is a portable testing unit for checking the continuity and insulation resistance of field installed 26 pair assemblies, (Type CX-4566/G or equivalent) and patching panels.

Manufacturer: Codalex Ltd.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight	29 lb.
Length	14 in.
Width	18.5 in.
Height	8 in.
Cube	2.07 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Case, Test Set	1	Tester, Field Cable

TEST SET, OPTICAL COMMUNICATIONS, AN/GSM-317

TAMCN

A28087G

NSN

6625-01-238-8954

ID

09010A



DESCRIPTION AND FUNCTION

The Test Set, Optical Communications, AN/GSM-317 is a self-contained test set used in a field environment to test and troubleshoot Fiber Optic Cable Assembly (FOCS) communication links.

Manufacturer: ITT Industries, Inc./ITT Aerospace Communications

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	BA-5590/U, BB-590/U, BA-3090/U, BA-5567/U batteries 115 VAC, 50/60 Hz single phase			
Size and Weight	Transport Case	Optical Power Meter	Optical Transmitter	Loopback Connector
Weight	24.8 lb.	1.1 lb.	8.0 lb.	13 oz.
Length	20 in.	7.0 in.	8.0 in.	3.5 in.
Width	11 in.	4.5 in.	7.0 in.	-
Height	17 in.	6 in.	9.5 in.	-
Diameter	-	-	-	1.5 in.

MAJOR COMPONENTS

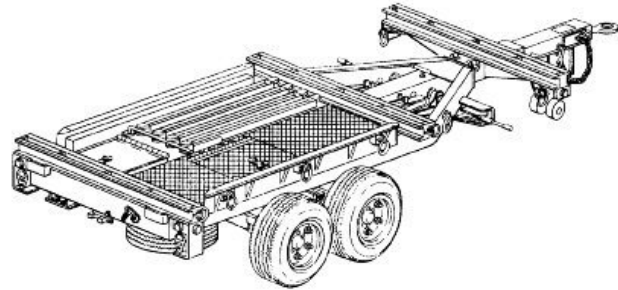
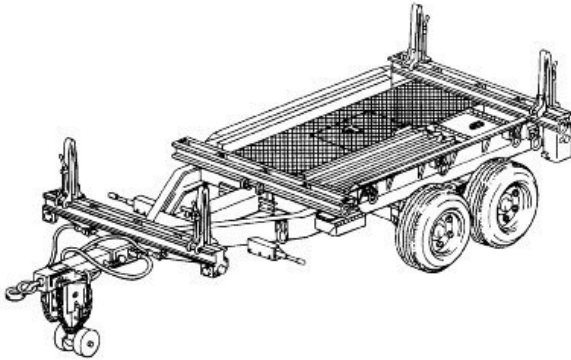
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Transmitter, Optical (T-1514/GSM-317)	1	Meter, Optical Power (ME-548/GSM-317)
1	Transport Case	1	Circular Fiber Optic Connector (M83526/14-02) (Loopback Connector)

TRAILER, BOLSTER, M-796A1

TAMCN A32007G

NSN 2330-01-137-5116

ID 10119A



DESCRIPTION AND FUNCTION

The Trailer, Bolster, M-796A1 is a 4 ton, 4 wheel trailer used to haul utility poles in a tactical environment.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight

Weight (empty)	4,820 lb.
Weight (loaded)	12,820 lb.
Length (retracted)	210.5 in.
Length (extended)	258.5 in.
Width	92 in.
Height	42.5 in.
Cube (retracted)	476.3 cu. ft.
Cube (extended)	584.9 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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TRAILER, CABLE, REEL, K-37

TAMCN A31907G

NSN 2330-00-395-1878

ID 02458A



DESCRIPTION AND FUNCTION

The Trailer, Cable Reel, K-37 is designed to be towed by a 2 1/2 ton, 6 ft. x 6 ft. towing vehicle.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	24V system
Size and Weight	
Weight (Payload max.)	
Cross-Country	7,000 lb.
Highway	9,100 lb.
Empty	2,900 lb.
Length	149 in.
Width	88.5 in.
Height	68.75 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Bolsters		Safety Chains
	Stanchions		Lunette
	Handbrake Levers		Cable Reel Saddle
	Intervehicular Cable		Leaf Spring
	Parking Stand		Reflectors
	Air Couplings		Rear Prop

Section IV

Communications Security Equipment

ADVANCED NARROWBAND DIGITAL VOICE TERMINAL (ANDVT) COMMUNICATIONS SECURITY (COMSEC) MODULE (VACTOR), TSEC/KYV-5

TAMCN A80817G NSN 5810-01-224-0202 ID 09187A



DESCRIPTION AND FUNCTION

The Advanced Narrowband Digital Voice Terminal (ANDVT) Communications Security (COMSEC) Module (Vactor), TSEC/KYV-5 is a removable module designed to plug into the front panel of the CV-3591 Basic Terminal Unit. The TSEC/KYV-5 provides communications security capability to the Advanced Narrowband Digital Voice Terminal/Tactical Terminal (ANDVT/TACTERM).

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Length	3.0 in.
Width	5.0 in.
Height	6.0 in.
Cube	1 cu. ft.
Classification	Controlled Cryptographic Item

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

**ADVANCED NARROWBAND DIGITAL VOICE TERMINAL/MINIATURE TERMINAL
(ANDVT/MINTERM), TSEC/KY-99A**

TAMCN A80477G

NSN 5810-01-391-0187

ID 10247A



DESCRIPTION AND FUNCTION

The Advanced Narrowband Digital Voice Terminal/Miniature Terminal (ANDVT/MINTERM), TSEC/KY-99A is a lightweight, battery-powered, tactical manpack terminal that provides voice or data communications over wideband (16 kbps) radio channels and is inter-operable with KY-57 VINSON/Single Channel Ground and Airborne Radio System (SINGARS) equipment.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	BA-5590, BB-590, or BA-6590 batteries
Size and Weight	Operating
Weight	4.25 lb.
Length	6.725 in.
Width	5.5 in.
Height	3 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Net Control Device, KYX-15		Z-AIJ Battery Case
	Electronic Transfer Device, KYK-13		Fill Cable
	Remote Tape Reader, KOI-18		

AUTOMATIC KEY DISTRIBUTION CENTER, TSEC/KGX-93

TAMCN

A80697G

NSN

5810-01-212-8128

ID

09485A



DESCRIPTION AND FUNCTION

The Automatic Key Distribution Center, TSEC/KGX-93 is an automatic cryptovisible distribution and storage device. The TSEC/KGX-93 is combined with the KG-82 loop key generator and the KG-194, -194A trunk encryption device to provide the Communications Security (COMSEC) module used to secure the medium TRI-TAC Unit Level Circuit Switch, AN/TTC-42.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Weight	27 lb.
Length	19.0 in.
Width	7.9 in.
Height	9.2 in.
Cube	1 cu. ft.
Classification	Confidential

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

BATTERY CASE, Z-AIJ/TSECTAMCN A80507GNSN 5810-01-048-8167ID 08333A**DESCRIPTION AND FUNCTION**

The Battery Case, Z-AIJ/TSEC connects mechanically to the KY-57 and HYX-57. The Z-AIJ/TSEC houses either the BA-1590 mercury, BA-5590 lithium organic or DAAB07-74-C-A169 Ni-Cad batteries.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Weight	1.1 lb.
Length	5.28 in.
Width	4.73 in.
Height	2.68 in.
Cube	1 cu. ft.
Classification	Unclassified

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

CONTROL GROUP, RADIO, OK-648/U

TAMCN

A81007G

NSN

5895-01-429-4556

ID

10267A



DESCRIPTION AND FUNCTION

The Control Group, Radio, OK-648/U provides for remote control operation of Single Channel Ground to Air Radio System (SINCGARS) radios. The Remote Control Unit (RCU) is connected with the radio by two-way field wire and may be located up to 4 km away from the remotely controlled radio. The RCU is capable of sending and receiving voice and data messages in plain or cipher text. The controls, features, and operations of the RCU is similar to that of the SINCGARS radio.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	w/o battery box
Weight	15.4 lb.
Length	10.0 in.
Width	10.7 in.
Height	3.4 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Battery Box, (CY-8523A/PRC)	1	Handset, (H-250A/U)
1	Control, Receiver-Transmitter, (C-11561(C)/U)	1	Loudspeaker, Crystal, (LS-685/U)

DATA TRANSFER DEVICE (DTD), AN/CYZ-10(V)2, -10(V)3

<u>TAMCN</u>	A80237G	AN/CYZ-10(V)2	<u>NSN</u>	5810-01-388-7634	<u>ID</u>	10240A
<u>TAMCN</u>	A80237G	AN/CYZ-10(V)3	<u>NSN</u>	5810-01-393-1973	<u>ID</u>	10254A

**DESCRIPTION AND FUNCTION**

The Data Transfer Device (DTD), AN/CYZ-10(V)2, -10(V)3 is a battery-powered, hand-held unit capable of receiving, storing, and transferring data between compatible equipment. The primary application is the transfer of variable-length electronic keying material, frequency-hopping data, and other Communications Security (COMSEC)-related variables. The DTD is intended to replace the current family of Common Fill Devices (KYK-13, KYX-15/A) and support service implementations of the Electronic Key Management System (EKMS). The DTD offers programming capabilities to preclude the need for developing other system-unique requirements. The DTD is programmable, which makes it capable of performing the system-specific functions of current Common Fill Devices. The DTD also fully supports the new generation of embeddable Information Security (INFOSEC) devices currently being developed. The DTD is made user friendly by the extensive use of menus. Interaction between the DTD and the operator is via the 35-key keyboard (full keypad, NSN 5810-01-347-9121) or the 13-key keyboard (limited keypad, NSN 5810-01-348-4673) and the 2-by-24-character window in the LCD display. The DTD interface is a standard six-pin audio connector, and the DTD contains a receptacle for inserting the Crypto Ignition Key (CIK). The CIK is used to control access to the secure domain based on the data stored in the key. Data to the key is serially read or written under control of the dual processor. The DTD performs various Built-in Test (BIT) functions. The BIT is designed to test the functionality of the DTD to a high level of confidence in the Host and COMSEC sections. The major difference between the AN/CYZ-10(V)2 and the AN/CYZ-10(V)3 is the software used.

Manufacturer: Allied Signal Aerospace

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	9 VDC battery source	
Size and Weight	Operating	Storage/Shipping
Weight	1.90 lb.	3.50 lb.
Length	6.00 in.	27.75 in.
Width	3.50 in.	21.75 in.
Height	1.70 in.	18.50 in.
Square	0.15 sq. ft.	4.19 sq. ft.
Cube	0.02 cu. ft.	6.45 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Cover	1	Keypad, Full
2	Crypto Ignition Key	1	Tag CIK DTD
1	Housing, Battery		

**DEMAND ASSIGNED MULTIPLE ACCESS (DAMA) COMMUNICATIONS SECURITY (COMSEC),
KGV-11A, -11C**

<u>TAMCN</u>	A80637G	KGV-11A	<u>NSN</u>	5810-01-236-6988	<u>ID</u>	10314A
<u>TAMCN</u>	A80637G	KGV-11C	<u>NSN</u>	5810-01-368-7751	<u>ID</u>	10408A



DESCRIPTION AND FUNCTION

The Demand Assigned Multiple Access (DAMA) Communications Security (COMSEC), KGV-11A, -11C is a general-purpose, half-duplex, removable COMSEC, Transmission Security (TRANSEC) module that protects various control channels and orderwires. The KGV-11A, -11C is a National Security Agency (NSA) COMSEC device to incorporate the smart fill protocol (DS-101) using the AN/CYZ-10 Data Transfer Device for its key loading. It supports over-the-air rekey and can provide automatic key rollover at the end of the cryptographic period. A KGV-11A, -11C is intended for integration into a host system that controls its operation (e.g., clock and status indicators). The KGV-11A, -11C can accommodate time-division multiple access communications systems, broadcast, point-to-point, satellite command and control, and secure conferencing systems; it is deployed to strategic and tactical ground, air, surface, and subsurface platforms. It is interoperable with the KGV-8 family, COMSEC/TRANSEC Integrated Circuit (CTIC) DS-101 Hybrid (CDH), KG-66, KGR-66, KGV-68, KI-37, KGV-15, KGV-13, and KG-87. It is also certified to encrypt and decrypt up to TOP SECRET. It is an UNCLASSIFIED Controlled Cryptographic Item (CCI) when unkeyed. When keyed, its classification equals that of the key installed.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	7.5 to 9V at 35 mA	Size and Weight	
Data Rate	16 kbps to 10 Mbps	Weight	2.7 lb.
Installation	Ground, air and sea	Length	6.0 in.
MTBF		Width	5.0 in.
Ground fixed (77°F)	406,216 hr	Height	2.0 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

DIGITAL SUBSCRIBER VOICE TERMINAL (DSVT), TSEC/KY-68

TAMCN

A80837G

NSN

5810-01-082-8404

ID

10037A



DESCRIPTION AND FUNCTION

The Digital Subscriber Voice Terminal (DSVT), TSEC/KY-68 terminal provides secure and nonsecure access to a variety of switched digital network and secure access to a variety of nonswitched networks. The TSEC/KY-68 is a ruggedized equipment designed for use in a tactical environment.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Weight	14.2 lb.
Length	12.8 in.
Width	9.7 in.
Height	6.7 in.
Cube	1 cu. ft.
Classification	Controlled Cryptographic Item

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

ELECTRONIC TRANSFER DEVICE, TSEC/KYK-13TAMCN

A80257G

NSN

5810-01-026-9618

ID

08148A

**DESCRIPTION AND FUNCTION**

The Electronic Transfer Device, TSEC/KYK-13 is a handheld, battery operated electronic transfer and storage device which can accept and store up to six cryptovariabes. The cryptovariabes can be retained for long term storage or transferred to compatible equipment.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

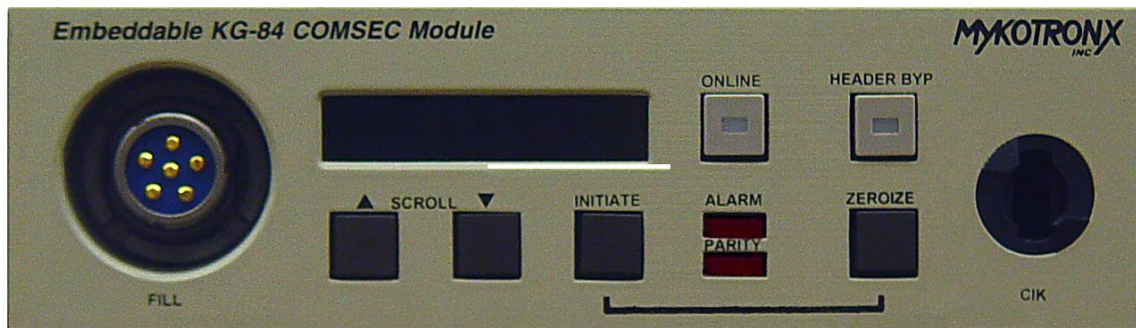
Power Requirements	Battery (BA-1372/U)
Size and Weight	Operating/Shipping
Weight	0.8 lb.
Length	2.12 in.
Width	3.75 in.
Height	1.38 in.
Cube	1 cu. ft.
Classification	Controlled Cryptographic Item

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

ENCRYPTION-DECRYPTION EQUIPMENT, TSEC/KIV-7, -7HS, -7HSA, -7HSB

<u>TAMCN</u>	A80847G	TSEC/KIV-7	<u>NSN</u>	5810-01-414-6656	<u>ID</u>	10310A
<u>TAMCN</u>	A80847G	TSEC/KIV-7HS	<u>NSN</u>	5810-01-431-8264	<u>ID</u>	10309A
<u>TAMCN</u>	A80847G	TSEC/KIV-7HSA	<u>NSN</u>	5810-01-430-4225	<u>ID</u>	10774A
<u>TAMCN</u>	A80847G	TSEC/KIV-7HSB	<u>NSN</u>	5810-01-487-6582	<u>ID</u>	10847A



DESCRIPTION AND FUNCTION

The Encryption-Decryption Equipment, TSEC/KIV-7 is designed for installation into any standard 19-inch cabinet that meets RS-410 design requirements. TSEC/KIV-7 provides both electrical and mechanical interfaces for up to eight modules in the TSEC/KIV-7 product family.

The Encryption-Decryption Equipment, TSEC/KIV-7 High Speed (HS), -7HSA, -7HSB Communications Security (COMSEC) Module is an embeddable KG-84 COMSEC Module. It is a compact (universal half-height computer peripheral configuration) high performance (data rates up to T1 (1.544 Mbps)), National Security Agency (NSA) endorsed Type -1 encryption device, that protects classified and sensitive but unclassified, digital data transmissions. The TSEC/KIV-7HS, -7HSA, -7HSB is interoperable with the KG-84A, KG-84C and TSEC/KIV-7 equipment in the majority of modes for both secure data and Over-The-Air Rekey (OTAR). The TSEC/KIV-7HS, -7HSA, -7HSB is embeddable in one of the computer's disk drives or in an external rack installation.

The Encryption-Decryption Equipment, TSEC/KIV-7HS, -7HSA, -7HSB is an unclassified Cryptographic Controlled Item (CCI) that specifically addresses the growing requirement to secure data communication links among users of Personal Computers (PC)s, workstations, and facsimile equipment. The Personal Computer Interface Card (PCIC), an accessory kit available for PC/XT and PC/AT compatible computers, is necessary to interface the TSEC/KIV-7HS, -7HSA, -7HSB with the host bus, Direct Current (DC) power source, and rear connector panel.

The Encryption-Decryption Equipment, TSEC/KIV-7HSA is a revision of the TSEC/KIV-7HS which contains the Presidio processor chip.

The Encryption-Decryption Equipment, TSEC/KIV-7HSB is specifically designed to operate in Time Division Multiple Access (TDMA) architectures to provide secure high bandwidth, wide area, networked data exchange via Military Strategic Tactical and Relay (MILSTAR) satellites over a broad range of data rates. The TSEC/KIV-7HSB protects a broad spectrum of point-to-point, netted, and broadcast data links. Plain text header bypass allows initial modem setup, without reconfiguration, prior to secure traffic operation. An integrated remote control interface enables management of up to 30 remote units through a single TSEC/KIV-7HSB via an independent secure link. A user-friendly menu interface simplifies access to all operational features. Future replacement for the TSEC/KIV-7HS, -7HSA, -7HSB will be the TSEC/KIV-7M or TSEC/KIV-19M.

Manufacturer: Bendix Corp. and Mykotronix, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements		Data Rate	2.048 Mbps (synchronous)
Input	115 VAC, 50 to 60 Hz, 12A		288 kbps (asynchronous)
Output	+5 VDC, 12A	MTBF	
Keying Material	3.6 VDC lithium battery,	(Ground Fixed at 77°F)	77,000 hr
Retention	LS6-BA		
Temperature Range			
Operating	32°F to 122°F		
Storage	-40°F to +185°F		
Humidity	10% to 90%, non-condensing		
Size and Weight	TSEC/KIV-7	TSEC/KIV-7HS, -7HSA, -7HSB	
Weight w/Power			
Supplies	10.8 lb.		
Weight w/o Power			
Supplies	7.7 lb.		
Weight		3.00 lb.	
Length	12.13 in.	8.00 in.	
Width	19.00 in.	5.88 in.	
Height	8.72 in.	1.68 in.	
Square		0.33 sq. ft.	
Cube		0.05 cu. ft.	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Crypto-Ignition Key (CIK)	1	Mounting Rails

ENCRYPTION-DECRYPTION EQUIPMENT, TSEC/KIV-19, -19A

<u>TAMCN</u>	A80857G	TSEC/KIV-19	<u>NSN</u>	5810-01-449-7179	<u>ID</u>	10605A
<u>TAMCN</u>	A80857G	TSEC/KIV-19A	<u>NSN</u>	5810-01-492-5165	<u>ID</u>	11030A



DESCRIPTION AND FUNCTION

The Encryption-Decryption Equipment, TSEC/KIV-19 is a Communications Security (COMSEC) equipment and is a Controlled Cryptographic Item (CCI). The TSEC/KIV-19 is a miniaturized version of the existing KG-194/194A Trunk Encryption Device (TED). It performs digital data encryption/decryption in full duplex synchronous operation at rates from 9.6 kilobits to 13 megabits per second. The TSEC/KIV-19 is designed for use in ground mobile and/or sheltered environments. In the traditional mode of operation the TSEC/KIV-19 is cryptographically compatible with each of the following equipments: KG-81, KG-194, KG-194A, and the KG-95 within the data rates that are operationally common between the two equipments. In the FIREFLY mode of operation the TSEC/KIV-19 is only compatible with the KG-194, KG-194A, and other TSEC/KIV-19 equipment. The TSEC/KIV-19 secures all levels of classified information.

The Encryption-Decryption Equipment, TSEC/KIV-19A performs digital data encryption and decryption utilizing identical key generators for transmission and reception. It will provide cryptographic security for all classifications of digital data traffic at rates from 9.6 kbps to 13 Mbps. The TSEC/KIV-19A also offers users the ability to locally reconfigure the internal strapping options from the front control panel. Future replacement for the TSEC/KIV-19, -19A will be the TSEC/KIV-7M or TSEC/KIV-19M.

Manufacturer: Sypris Electronics

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements		Size and Weight	Operating/Shipping
Operating Range	19-55 VDC	Weight	5.50 lb.
Power Consumption (max.)	28 VDC is 28W	Length	11.5 in.
Batteries	4 1.2 VDC AAA size	Width	5.90 in.
Cryptovariable Retention Capability	External 4.2 to 6.4 VDC	Height	1.70 in.
		Square	0.47 sq. ft.
		Cube	0.07 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

ENCRYPTOR, NETWORK, IN-LINE, KG-175

TAMCN

A80887G

NSN

5810-01-463-0133

ID

10672A



DESCRIPTION AND FUNCTION

The Encryptor, Network, In-line, KG-175 is short for Tactical FASTLANE and was developed by the National Security Agency (NSA) to provide network communications security on Internet Protocol (IP) and Asynchronous Transfer Mode (ATM) networks for the individual user or for enclaves of users at the same security level. The KG-175 is a low-cost, Type 1, key-agile, in-line network encryptor for deployment in Department of Defense (DoD) tactical and strategic networks. KG-175s meet the needs of users who must communicate securely over legacy networks such as the Mobile Subscriber Equipment (MSE) packet network and Secure Internet Protocol Router Network (SIPRNET), and emerging ATM networks. KG-175s provide encryption for IP datagram traffic. ATM traffic and IP datagrams are encapsulated in ATM cells to support a variety of IP, ATM and mixed network configurations. KG-175s can be used to overlay Secure Virtual Networks (SVN) on top of existing public and/or private network infrastructures.

Manufacturer: General Dynamics

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	110 to 220 VAC, 50 to 60 Hz, 18 to 36 VDC, 40W	MTBF	5,000 hr
Data Rate		Ground Fixed	
ATM	DS-3 (44.736 Mbps)	Size and Weight	
IP	4 Mbps (design)	Weight	14 lb.
Operating Temperature		Length	16.5 in.
With Warm-Up	0°F to 120°F	Width	8.25 in.
Without Warm-Up	40°F to 120°F	Height	4.25 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

FLEET BROADCAST SECURITY EQUIPMENT, TSEC/KWR-46

TAMCN A80677G NSN 5810-01-160-8398 ID 09277A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Fleet Broadcast Security Equipment, TSEC/KWR-46 is a "low level" device that performs on-line decryption of digital messages, records, and data traffic received over the broadcast system at data rates from 50 to 9,600 bits per second in asynchronous, stepped or synchronous modes. It uses a continuous synchronization pattern situated directly in the transmitted traffic and will process up to and including TOP SECRET information. The TSEC/KWR-46 is used for Over-The-Air Transfer (OTAT) of cryptographic material to support KG-84A/C use. Also supported is the North Atlantic Treaty Organization (NATO) Broadcast, the Navy Standard Teleprinter (NST), Low Frequency (LF)/High Frequency (HF) R-2368 receiver equipment, and the High Speed Fleet Broadcast (HSFB). Unkeyed TSEC/KWR-46 equipment is classified CONFIDENTIAL. Keyed TSEC/KWR-46 equipment assumes the classification level equal to that of the keying material but not less than confidential. Access to TSEC/KWR-46 equipment is limited to personnel who possess a security clearance equal to the classification of the TSEC/KWR-46 or its keying material, whichever is greater. Electronic key fill of the TSEC/KWR-46 will only be accomplished through the utilization of the Key Tape Reader KOI-18/TSEC and AN/CYZ-10, DTD.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

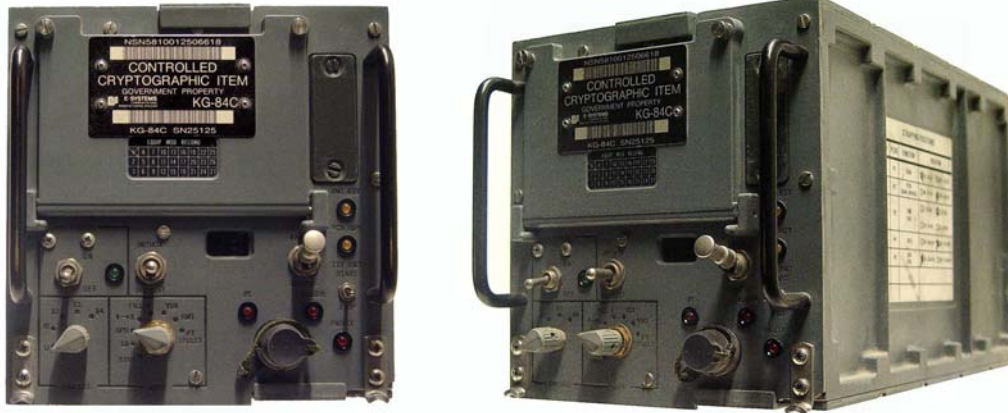
Power Requirements		Size and Weight	
Cryptovariable Memory		Weight	22.90 lb.
Retention	BA-1371/U battery	Length	16.80 in.
Data Rate	50 bps to 9.6 kbps	Width	4.90 in.
		Height	7.60 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

GENERAL PURPOSE ENCRYPTION EQUIPMENT, TSEC/KG-84A, -84C

<u>TAMCN</u>	A80827G	TSEC/KG-84A	<u>NSN</u>	5810-01-146-3260	<u>ID</u>	10018A
<u>TAMCN</u>	A80827G	TSEC/KG-84C	<u>NSN</u>	5810-01-250-6618	<u>ID</u>	10018B

**DESCRIPTION AND FUNCTION**

The General Purpose Encryption Equipment, TSEC/KG-84A, -84C is a high capacity key generator used to encrypt and decrypt teletypewriter and digital data traffic on dedicated links in both tactical and fixed plant environments. Future replacement for the TSEC/KG-84A, -84C will be the TSEC/KIV-7M or TSEC/KIV-19M.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Weight	20 lb.
Length	12.7 in.
Width	7.5 in.
Height	7.7 in.
Cube	1 cu. ft.
Classification	Controlled Cryptographic Item

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

GENERAL PURPOSE TAPE READER, TSEC/KOI-18

TAMCN A80247G NSN 5810-01-026-9620 ID 08147A



DESCRIPTION AND FUNCTION

The General Purpose Tape Reader, TSEC/KOI-18 is a handheld, battery operated electronic transfer device which reads cryptovariabes from an eight level punched tape. The TSEC/KOI-18 is used to transfer the cryptovariabes to compatible equipments but is not capable of storing the data itself.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	Battery (BA-1372/U)
Size and Weight	Operating/Shipping
Weight	1.0 lb.
Length	4.62 in.
Width	2.88 in.
Height	1.63 in.
Cube	1 cu. ft.
Classification	Controlled Cryptographic Item

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

GENERATOR, DATA, RANDOM, AN/CSZ-9

TAMCN A80217G

NSN 5810-01-349-9309

ID 10146A



DESCRIPTION AND FUNCTION

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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GENERATOR, KEY, COMMUNICATIONS SECURITY (COMSEC), KGV-8C

TAMCN

A80367G

NSN

5810-01-368-7752

ID

10315A



DESCRIPTION AND FUNCTION

The Generator, Key, Communications Security (COMSEC), KGV-8C miniature Secure Data Unit (SDU) is a general-purpose, half-duplex, removable, and embeddable COMSEC Transmission Security (TRANSEC) module that supports the implementation of the Joint Tactical Information Distribution System (JTIDS) terminals. The user installs the module as a plug-in to the front of the AN/URC-107(V) JTIDS terminal. JTIDS is a high-capacity, secure, jam-resistant, tactical data and voice communications system that provides classified information distribution, relative navigation, and identification capabilities. The KGV-8C supports over-the-air rekey and can perform automatic key rollover at the end of the cryptographic period. The KGV-8C is intended for integration into a host system that controls its operation (e.g., clock and status indicators). It is interoperable with the KGV-11 family, COMSEC/TRANSEC Integrated Circuit (CTIC) DS-101 Hybrid (CDH), KG-66, KGR-66, KGV-68, KI-37, KGV-15, KGV-13, and KG-87. It is certified to encrypt and decrypt up to TOP SECRET. It is an UNCLASSIFIED Controlled Cryptographic Item (CCI) when unkeyed. When keyed, its classification equals that of the key installed.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	7.5 to 9.0V at 35 mA	Size and Weight	
Installation	Tactical ground, air and sea	Weight	2.7 lb.
MTBF		Length	6.0 in.
Ground Fixed at 77°F	406,216 hr	Width	5.0 in.
		Height	2.0 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

HALF-DUPLEX DIGITAL KEY GENERATOR, TSEC/KG-40TAMCN

A80387G

NSN

5810-01-016-8052

ID

08137A

**DESCRIPTION AND FUNCTION**

The Half-Duplex Digital Key Generator, TSEC/KG-40 is a micro-miniature, half-duplex, digital electronic key generator designed to provide cryptographic security for Link II High Frequency/Ultra High Frequency (HF/UHF) communications and for any communications which meet Tactical Digital Information Link (TADIL A) data standards. The TSEC/KG-40 will interface between a computer and a data terminal. The TSEC/KG-40 is available in serial and parallel interface configurations.

Manufacturer:**Marine Corps Systems Command:** CINS Product Group 12**TECHNICAL CHARACTERISTICS**

Size and Weight	Operating/Shipping
Weight	24 lb.
Length	15.5 in.
Width	5.9 in.
Height	7.6 in.
Cube	1 cu. ft.
Classification	Confidential

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

INTERFACE ADAPTER, Z-AHQ/TSEC

TAMCN A80657G

NSN 5810-01-026-9624

ID 08332A



DESCRIPTION AND FUNCTION

The Interface Adapter, Z-AHQ/TSEC provides electrical and mechanical interfacing of a KY-58 into most existing NESTOR (KY-28) installations. With the use of this adapter, a KY-58 may be remotely controlled by a Z-AHP or the existing KY-28 remote control unit. If a KY-28 remote control is used, the capabilities of the KY-58 will be limited.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Weight	4.32 lb.
Length	7.99 in.
Width	4.38 in.
Height	2.34 in.
Cube	1 cu. ft.
Classification	Unclassified

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

INTERROGATOR COMPUTER, TSEC/KIR-1CTAMCN A80187GNSN 5810-01-273-7819ID 09429A**DESCRIPTION AND FUNCTION**

The Interrogator Computer, TSEC/KIR-1C provides cryptographic security to the Identification Friend or Foe (IFF) system for identifying friendly units and rejecting enemy units. This system consists of the KIR-1 interrogator which generates the interrogations and the KIT-1 transponder which processes and responds to the interrogations.

Manufacturer:**Marine Corps Systems Command:** CINS Product Group 12**TECHNICAL CHARACTERISTICS**

Size and Weight	Operating/Shipping
Length	10.0 in.
Width	5.0 in.
Height	6.75 in.
Cube	1 cu. ft.
Classification	Controlled Cryptographic Item

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

INTERWORKING FUNCTION (IWF)/DIGITAL NARROWBAND VOICE TERMINAL (DNVT)

TAMCN A80487G NSN 5810-01-395-4258 ID 10250A

NO ILLUSTRATION AVAILABLE

DESCRIPTION AND FUNCTION

The Interworking Function (IWF)/Digital Narrowband Voice Terminal (DNVT) provides network interface, control and signaling to process secure STU-III calls between the tactical MM1500/DNVT and strategic based STU-III environments. The IWF/DNVT is used only in conjunction with the MMT1500/DNVT on the tactical side and is only needed for secure calls.

Manufacturer: Freescale Semiconductor, Inc. DBA Motorola

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	90-270 VAC, 47-63 Hz	
Size and Weight	Operating	Storage/Shipping
Weight	12.51 lb.	27.5 lb.
Length	14.5 in.	21 in.
Width	13 in.	21 in.
Height	7.3 in.	17 in.
Square	1.4 sq. ft.	3.1 sq. ft.
Cube	0.8 cu. ft.	4.4 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Adapter, DNVT	1	Radio Wireline INF
1	Cable Assembly, Power Electrical	1	Screwdriver, Six Point Tip
1	Converter, Telegraph-Telephone Signal	1	Transit/Storage Case
1	Cord, Telephone Line		

KEY GENERATOR RECEIVER (ACME), TSEC/KGR-96TAMCN

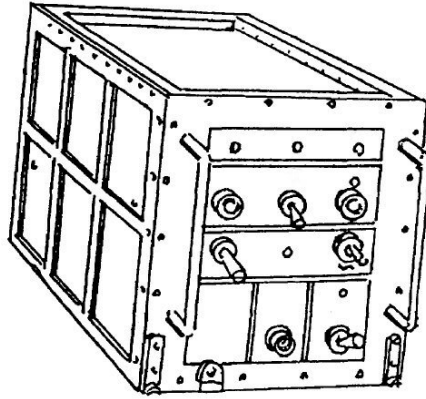
A80687G

NSN

5810-01-154-2409

ID

10033A

**DESCRIPTION AND FUNCTION**

The Key Generator Receiver (ACME), TSEC/KGR-96 performs decryption of cipher text data received from a satellite based TSEC/KG-96 key generator.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Weight	25 lb.
Length	12.6 in.
Width	7.5 in.
Height	7.6 in.
Cube	1 cu. ft.
Classification	Secret not releasable to foreign nationals

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

KIT, SUPPORT, MAINTENANCE (NEW CODE CHANGER KEY), TSEC/RGQ-40

TAMCN A80347G

NSN 5810-01-152-1133

ID 09282A



DESCRIPTION AND FUNCTION

The Kit, Support, Maintenance (New Code Changer Key), TSEC/RGQ-40 supports the (TAMCN A80387G) TSEC/KG-40.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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LIMITED MAINTENANCE SPARE PARTS KIT, TSEC/RGQ-84C

TAMCN A80787G NSN 5810-01-152-1164 ID 10233A

**DESCRIPTION AND FUNCTION**

The Limited Maintenance Spare Parts Kit, TSEC/RGQ-84C supports the (TAMCN A80827G) TSEC/KG-84C.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS**MAJOR COMPONENTS**

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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LIMITED MAINTENANCE SPARE PARTS KIT, TSEC/RVQ-57

TAMCN A80437G NSN 5810-01-137-1081 ID 08695A



DESCRIPTION AND FUNCTION

The Limited Maintenance Spare Parts Kit, TSEC/RVQ-57 supports the (TAMCN A80317G) TSEC/KY-57.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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LIMITED MAINTENANCE SPARE PARTS KIT, TSEC/RVQ-58

TAMCN A80447G NSN 5810-01-137-1082 ID 08696A

**DESCRIPTION AND FUNCTION**

The Limited Maintenance Spare Parts Kit, TSEC/RVQ-58 supports the (TAMCN A80327G) TSEC/KY-58.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS**MAJOR COMPONENTS**

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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LOOP KEY GENERATOR (LKG), TSEC/KG-82

TAMCN A80597G NSN 5810-01-082-8403 ID 10029A



DESCRIPTION AND FUNCTION

The Loop Key Generator (LKG), TSEC/KG-82 provides crypto synchronization with a variety of terminal equipments. Under switch control or manual operation, the rack-mountable TSEC/KG-82 LKG accomplishes synchronization, re-synchronization, and key variable transfers necessary to operate and process secure digital traffic. The LKG can be used in four different modes: as a Circuit Switch, as a Message Switch on a trunk to a Circuit Switch, as a Message Switch on a loop to a KG-84 subscriber terminal, or as a Message Switch on a trunk to a TSEC/KG-82 at another Message Switch.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

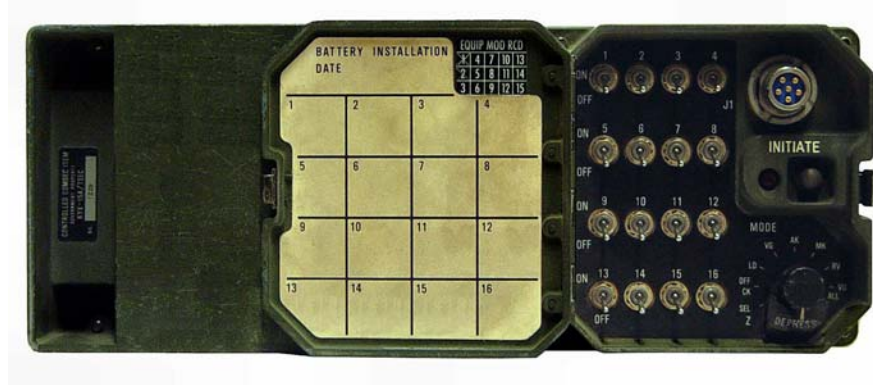
Size and Weight	Operating/Shipping
Weight	4.0 lb.
Length	17.33 in.
Width	0.94 in.
Height	8.97 in.
Cube	1 cu. ft.
Classification	Controlled Cryptographic Item (CCI)

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

NET CONTROL DEVICE, TSEC/KYX-15, -15A

<u>TAMCN</u>	A80267G	TSEC/KYX-15	<u>NSN</u>	5810-01-026-9619	<u>ID</u>	08149A
<u>TAMCN</u>	A80267G	TSEC/KYX-15A	<u>NSN</u>	5810-01-095-1312	<u>ID</u>	10208A

**DESCRIPTION AND FUNCTION**

The Net Control Device, TSEC/KYX-15 is a hand held, battery operated electronic transfer and storage device which can accept and store up to sixteen cryptovariables. When connected to external SAVILLE advanced remote rekeying equipment, the TSEC/KYX-15 performs remote keying and other variable operations.

The Net Control Device, TSEC/KYX-15A is a battery operated transfer and storage device. It is used by net controllers to perform Advanced Remote Keying operations. It can store up to 16 keys and can be filled by a KOI-18, KYK-13, or another KYX-15A. When connected to Communications Security (COMSEC) equipment, it can perform the remote keying and control functions and other key operations.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Installation	Portable
Power Requirements	Battery (BA 1372/U)
Size and Weight	Operating/Shipping
Weight	3.2 lb.
Length	11.5 in.
Width	4.5 in.
Height	1.75 in.
Square	0.36 sq. ft.
Cube	0.06 cu. ft.
Storage	1 cu. ft.
Classification	Controlled Cryptographic Item (CCI)

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Cable, Fill		Battery, Non Rechargeable
	Cable Assembly, Special Purpose, Electrical		Battery, Non Rechargeable 6.5V

PARTS KIT, ELECTRONIC EQUIPMENT, RYQ-99A

TAMCN

A80617G

NSN

5895-01-411-7127

ID

10304A



DESCRIPTION AND FUNCTION

The Parts Kit, Electronic Equipment, RYQ-99A supports the (TAMCN A80477G) TSEC/KY-99A.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

Qty

Item

Qty

Item

POWER SUPPLY, AUXILIARY, HYP-71TAMCN A80087GNSN 5810-01-082-8412ID 09707A**DESCRIPTION AND FUNCTION**

The Power Supply, Auxiliary, HYP-71 is the power supply for the KY-68 in stand-alone applications when the KY-68 is not opened with the AN/TTC-42 or the SB-3865. The HYP-71 comes in its own built-in transit case with all cables necessary for its own input power and the output power to the KY-68.

Manufacturer:**Marine Corps Systems Command:** CINS Product Group 12**TECHNICAL CHARACTERISTICS**

Power Requirements (Input; Single Phase)		Size and Weight	
115 VAC	45 to 66 Hz or 380 to 420 Hz	Weight	11.0 lb.
220 VAC	45 to 66 Hz	Length	9.125 in.
		Width	8.750 in.
		Height	6.000 in.
		Square	0.555 sq. ft.
		Cube	0.277 cu. ft.

MAJOR COMPONENTS

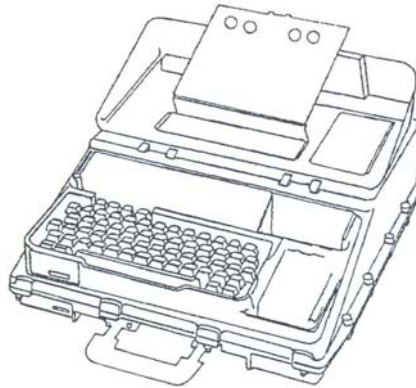
<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Cable Assembly, Special Purpose, Electrical (W1)	1	Cable Assembly, Special Purpose, Electrical (W3)
1	Cable Assembly, Special Purpose, Electrical (W2)		

RAPID AUTOMATIC CRYPTOGRAPHIC EQUIPMENT (RACE), TSEC/KL-51

TAMCN A80647G

NSN 5810-25-120-8069

ID 10098A



DESCRIPTION AND FUNCTION

The Rapid Automatic Cryptographic Equipment (RACE), TSEC/KL-51 has an electronic key generator designed for off-line encryption and decryption of messages. The messages are entered into the equipment from the built-in keyboard, the built-in tape reader or an external teleprinter. The TSEC/KL-51 is designed to operate in tactical and office environments.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Length	19.6 in.
Width	16.2 in.
Height	5.9 in.
Cube	2 cu. ft.
Classification	Confidential

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

REMOTE REKEY EQUIPMENT, KOK-13ATAMCN A80727GNSN 5810-01-248-6018ID 10720A**DESCRIPTION AND FUNCTION**

The Remote Rekey Equipment, KOK-13A is controlled by a user-supplied host computer. The KOK-13A is capable of generating electronic keys for Over-The-Air-Rekeys (OTAR), manual distribution, or memory storage. The KOK-13A is capable of encrypting these keys for distribution over-the-air to Thornton (KGV-8, KGV-11, COMSEC/TRANSEC Integrated Circuit (CTIC), and CTIC/DS-101 Hybrid (CDH)) and Thornton-based Information Security (INFOSEC) equipment. The KOK-13A can generate Red keys for manual distribution to most KYK-13 compatible INFOSEC equipment. The keys generated by the KOK-13A may be used as Traffic Encryption Keys (TEK)s, Key Encryption Keys (KEK)s, Transmission Security (TRANSEC) Keys, and Initial Encryption Keys (IKEK)s.

Manufacturer:**Marine Corps Systems Command:** CINS Product Group 12**TECHNICAL CHARACTERISTICS**

Power Requirements	115 VAC	Size and Weight	
External Source	5-15 VDC	Weight	N/A
Power Consumption	35-40W (max.)	Length	19.62 in.
MTBF	11,215 hr at 77°F	Width	12.63 in.
Classification	Confidential	Height	7.0 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

SECURE DIGITAL NET RADIO INTERFACE UNIT (SDNRIU), TSEC/KY-90

TAMCN A80797G NSN 5810-01-166-3931 ID 10034A



DESCRIPTION AND FUNCTION

The Secure Digital Net Radio Interface Unit (SDNRIU), TSEC/KY-90 is a secure, tactical, man transportable device that interfaces the TRI-TAC digital switched network with single channel radio nets. Where interface terminals and interconnecting paths permit, the TSEC/KY-90 can accommodate both voice and data transmissions.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Weight	45.0 lb.
Length	19.0 in.
Width	17.0 in.
Height	7.0 in.
Cube	2 cu. ft.
Classification	Controlled Cryptographic Item

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

SECURE TELEPHONE UNIT-THIRD GENERATION (STU-III), MMT1500/DNVTTAMCN A80497GNSN 5810-01-408-0224ID 10245A**DESCRIPTION AND FUNCTION**

The Secure Telephone Unit-Third Generation (STU-III), MMT1500/DNVT is the standard telephone used by governments at all levels for secure communications. It is unique in that although it plugs into a normal telephone jack, the unit itself requires a security controlled key to access other STU-III units and users. The STU-III is used everywhere and is included with small Very Small Aperture Terminal (VSAT) satellite communications gear.

Manufacturer: Freescale Semiconductor, Inc. DBA Motorola

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	90-270 VAC, 47-63 Hz, and BR-2325 battery	
Size and Weight	Operating	Storage/Shipping
Weight	8.0 lb.	39.2 lb.
Length	8.5 in.	29 in.
Width	9.5 in.	20 in.
Height	3.5 in.	11.8 in.
Square	0.56 sq. ft.	4.03 sq. ft.
Cube	0.17 cu. ft.	4.0 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
	Adapter, DNVT		Microcircuit, Memory
	Cable Assembly, Power, Electrical		Repair Kit, Black
	Case, Electrical Equipment Cabinet		Screwdriver, Six Point Tip
	Converter, Telegraph-Telephone Signal		Secure Telephone

SECURE TERMINAL EQUIPMENT (STE) TELEPHONE, STE OFFIC-442

TAMCN A80107G NSN 5810-01-459-6441 ID 10748A



DESCRIPTION AND FUNCTION

The Secure Terminal Equipment (STE) Telephone, STE OFFIC-442 is the standard telephone for secure-multi-media communications. STE are engineered to operate on the digital Integrated Services Digital Network (ISDN) or analog networks. The STE consist of a host terminal and a removable security core. The host terminal is a telephone-like device that provides the communication interfaces and functionality and is software upgradeable. The security core is a removable FORTEZZA Plus cryptographic card which provides all of the user specific encryption and security management functions. Together, these pieces provide the user with personal portable security.

Manufacturer: L-3 Communications Systems

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	90-253 VAC, 47-63 Hz, autoranging, 20W (max.)	Size and Weight	
Speed	Up to 128 kbps on ISDN	Weight	7 lb.
Temperature Range		Length	9.5 in.
Operating	32°F to 104°F	Width	10.0 in.
Storage	-4°F to +140°F	Height	5.25 in. (w/wedge)
Classification	Unclassified		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	FORTEZZA Plus Cryptographic Card		

SPEECH SECURITY EQUIPMENT (VINSON), TSEC/KY-57TAMCN

A80317G

NSN

5810-00-434-3644

ID

08114A

**DESCRIPTION AND FUNCTION**

The Speech Security Equipment (Vinson), TSEC/KY-57 is a portable, tactical cryptographic device designed to provide security for Very High Frequency-Frequency Modulation (VHF-FM) and Ultra High Frequency-Amplitude Modulation (UHF-AM), half-duplex, radio and tactical wireline communications. The TSEC/KY-57 is designed for manpack and vehicular applications.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping	Ancillary Equipment
Weight	5.0 lb.	Vehicular Power Adapter, HYP-57/TSEC
Length	6.22 in.	Wireline Adapter, HYX-57/TSEC
Width	5.0 in.	Battery Case, Z-AIJ/TSEC
Height	5.0 in.	
Cube	1 cu. ft.	
Classification	Controlled Cryptographic Item	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

SPEECH SECURITY EQUIPMENT (VINSON), TSEC/KY-58, -58-2, -58-3, -58-4, -58-5

<u>TAMCN</u>	A80327G	TSEC/KY-58	<u>NSN</u>	5810-00-449-0154	<u>ID</u>	08144A
<u>TAMCN</u>	A80327G	TSEC/KY-58-2	<u>NSN</u>	5810-01-050-8115	<u>ID</u>	08144B
<u>TAMCN</u>	A80327G	TSEC/KY-58-3	<u>NSN</u>	5810-01-050-9968	<u>ID</u>	08144C
<u>TAMCN</u>	A80327G	TSEC/KY-58-4	<u>NSN</u>	5810-01-050-8116	<u>ID</u>	08144D
<u>TAMCN</u>	A80327G	TSEC/KY-58-5	<u>NSN</u>	5810-01-084-2200	<u>ID</u>	08144E



DESCRIPTION AND FUNCTION

The Speech Security Equipment (VINSON), TSEC/KY-58 is a portable, tactical cryptographic device designed to provide security for Very High Frequency-Frequency Modulation (VHF-FM) and Ultra High Frequency-Amplitude Modulation (UHF-AM), half-duplex, radio and tactical wireline communications. The TSEC/KY-58 is designed for aircraft and shore station installations.

The Speech Security Equipment (VINSON), TSEC/KY-58-2, -58-3, -58-4, and -58-5 are members of the VINSON family. The VINSON family consists of Wide Band Secure Voice (WBSV) units developed by the National Security Agency (NSA) to provide line of sight half-duplex voice and data encryption at 16 kbps. The TSEC/KY-58-2, -58-3, -58-4, and -58-5 provides security for AM/FM, VHF, UHF, half-duplex Public Telephone and Telegraph (PTT) combat net radios and tactical wireline systems when used with the HYX-57. They are also used by non-tactical users for high-level communications in the local wideband telephone networks and wideband satellite terminals. The TSEC/KY-58-2, -58-3, -58-4, and -58-5 are certified to pass data up to TOP SECRET and accepts key from the family of Common Fill Devices (CFD) and also incorporates remote keying.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	BA-1590 (Mercury)	MTBF		
	BA-5590 (Lithium Organic)	Air Inhabited at 77°F	6,463 hr	
	BA-3590 (Alkaline)	Size and Weight		
	BA-590 (Ni-Cad)	Weight	4.9 lb.	
Power Consumption		Length	4.2 in.	
	Input	28 VDC, 9W (min.),	Width	5.0 in.
		10.25W (max.)	Height	5.0 in.
			Ancillary Equipment	
Data Rate	16 kbps	Remote Control Unit, Z-AMP/TSEC		
Classification	Controlled Cryptographic Item	Interface Adapter, Z-AHQ/TSEC		

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

TEST EQUIPMENT, AUTOMATIC, ST-58TAMCN A80967GNSN 5810-01-173-6242ID 09774A**DESCRIPTION AND FUNCTION**

The Test Equipment, Automatic, ST-58 is used to test communications security equipment. It tests the KY-57, KY-58, KYX-57, Z-AHP, Z-AHQ, KYX-15/15A, KOI-18, KYK-13, KG-84, and KG-84C.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	220 VAC; 115 VAC or 28 VDC, 150W (max.)
Size and Weight	Operating
Weight	35 lb.
Length	12.5 in.
Width	18 in.
Height	10.5 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Test Set (ST-58)	1	VINSON Test Adapter (Z-APA)
1	KG-84 Test Adapter (Z-APD)	1	Interface Cable, ON332691-1

TEST EQUIPMENT, ELECTRONIC, SPECIAL PURPOSE, TSEC/ST-21

TAMCN

A80927G

NSN

5810-00-127-2346

ID

07993A



DESCRIPTION AND FUNCTION

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

Qty

Item

Qty

Item

TEST SET, ST-34TAMCN A80947GNSN 5810-01-111-4082ID 09583A**DESCRIPTION AND FUNCTION**

The Test Set, ST-34 is an Intermediate Level Maintenance Tester. The ST-34 will isolate to the failed Printed Wiring Assembly (PWA) in equipment 99% of the time. The ST-34 is used as a TRI-TAC and Mobile Subscriber Equipment (MSE) Intermediate Level Maintenance Tester for the KGX-93, HGX-82, HGX-83, HGX-84, KG-82, KG-83, KG-84, KY-68 and KY-78 equipment and itself.

Manufacturer: Strategic Technologies

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	115 or 220 VAC 90W (max.)	Size and Weight	
MTBF	5,000 hr at 77°F	Weight	46 lb.
Temperature Range	-50.8°F to +149°F	Length	21.75 in.
Classification	Unclassified	Width	21.5 in.
		Height	14.1 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	STP-34 Power Supply	2	Transit Cases
1	STB-34 Logic Unit		Associated power and interconnect test cables

TEST SET, STX-34A

TAMCN A80977G

NSN 5810-01-254-5850

ID 09662A



DESCRIPTION AND FUNCTION

The Test Set, STX-34A is the Intermediate Level Test Set (ILTS) for the KG-194/A. The STX-34A provides go or no go testing. It exercises all commands and monitors all status indicators of the equipment under test. The STX-34A is designed to test all of the circuitry in the KG-194/A except for the FIREFLY circuitry resident on the E-GQY PWA. A self test function is incorporated to verify the proper operation of the STX-34A. The STX-34A operates from 9.6 kbps to 20 Mbps in order to cover the range of all the equipment it will test.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	19 to 31 VDC at 5A	Size and Weight	Operating/Shipping
	115 or 220 VAC (max.)	Weight	21.1 lb.
	load of 65W	Length	14.0 in.
		Width	19.0 in.
		Height	9.0 in.
		Square	1.85 sq. ft.
		Cube	1.39 cu. ft.
		Stowage	1.39 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
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TEST SET, LIMITED MAINTENANCE KG-40A, TSEC/ST-31A

TAMCN

A80987G

NSN

5810-01-351-7228

ID

10303A



DESCRIPTION AND FUNCTION

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

MAJOR COMPONENTS

Qty

Item

Qty

Item

TEST UNIT, VERIFICATION, KT-83

TAMCN A80877G

NSN 5810-01-111-4080

ID 09565A



DESCRIPTION AND FUNCTION

The Test Unit, Verification, KT-83 is a Key Variable Generator Test Set for the KG-83, KGX-93/93A, or another KT-83. It provides all necessary signals and Direct Current (DC) voltages for the Equipment Under Test (EUT). The KT-83 is classified to the level of the certification it carries.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	115 VAC	
Size and Weight	removed from case	in transit case
Weight	15.00 lb.	37.00 lb.
Length	4.95 in.	10.28 in.
Width	8.72 in.	11.80 in.
Height	19.00 in.	10.28 in.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

TRANSPONDER COMPUTER, TSEC/KIT-1CTAMCN A80197GNSN 5810-01-273-7820ID 09428A**DESCRIPTION AND FUNCTION**

The Transponder Computer, TSEC/KIT-1C is used in conjunction with the TSEC/KIR-1C (TAMCN A80187G).

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Power Requirements	103-126 VAC or 21-30 VDC	Size and Weight	
Cryptovvariable		Weight	6.5 lb.
Memory Retention	2 - BA-5567/U	Length	11 in.
		Width	6 in.
		Height	7 in.
		Square	0.5 sq. ft.
		Cube	0.3 cu. ft.

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

TRUNK ENCRYPTION DEVICE, TSEC/KG-194, -194A

<u>TAMCN</u>	A80907G	TSEC/KG-194	<u>NSN</u>	5810-01-283-1395	<u>ID</u>	09673A
<u>TAMCN</u>	A80897G	TSEC/KG-194A	<u>NSN</u>	5810-01-283-1394	<u>ID</u>	09672A



DESCRIPTION AND FUNCTION

The Trunk Encryption Device, TSEC/KG-194, -194A are full-duplex key generators designed to provide trunk encryption and decryption for digital data traffic. The TSEC/KG-194 is a non-ruggedized, rack mounted equipment. The TSEC/KG-194A is a tactical, ruggedized equipment with a rack mounting capability. TSEC/KG-194, -194A are enhanced versions which have been modified to incorporate the FIREFLY remote rekey capability. Future replacement for the TSEC/KG-194, -194A will be the TSEC/KIV-17M or TSEC/KIV-19M.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	TSEC/KG-194	TSEC/KG-194A
Weight	13.2 lb.	15.9 lb.
Length	8.5 in.	18.5 in.
Width	14.0 in.	6.1 in.
Height	5.2 in.	5.7 in.
Cube	1 cu. ft.	1 cu. ft.
Classification	Controlled Cryptographic Item	

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

VEHICULAR POWER ADAPTER, HYP-57/TSECTAMCN

A80277G

NSN

5810-01-026-9621

ID

08150A

**DESCRIPTION AND FUNCTION**

The Vehicular Power Adapter, HYP-57/TSEC replaces the battery and battery case, Z-AIJ, of either the KY-57 or HYX-57. Its purpose is to provide TEMPEST and EMI filtering, and mechanical connector conversion to adapt a vehicular power source to the KY-57 or HYX-57.

Manufacturer:

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Weight	21 lb.
Length	4.28 in.
Width	4.73 in.
Height	2.68 in.
Cube	1 cu. ft.
Classification	Unclassified

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
None	Self contained unit		

WIRELINE ADAPTER, HYX-57/TSEC

TAMCN A80287G

NSN 5810-01-026-9622

ID 08151A



DESCRIPTION AND FUNCTION

The Wireline Adapter, HYX-57/TSEC is designed to provide the appropriate wireline interface for the TSEC/KY-57, TSEC/KY-38, and TSEC/KY-65 to allow their use over a point-to-point wireline link or through certain military switchboards, and to provide remote radio operation for various military radios (primarily the PRC-77 and VRC-12 families). In the remote radio mode, radios can be remotely operated from a distance of up to four miles. The HYX-57/TSEC provides both plain and cipher communication capability over ten miles of standard 26 pair, type WD-1/TT or WF-16/TT field wire. In addition, a handset connector on the front panel of the wireline adapter permits plain text order wire communications. It can be used in a battery operated manpack configuration using Battery Case Z-AIJ/TSEC or in a vehicular configuration using Vehicle Power Adapter (VPA) HYP-57/TSEC.

Manufacturer: Caterpillar, Inc.

Marine Corps Systems Command: CINS Product Group 12

TECHNICAL CHARACTERISTICS

Size and Weight	Operating/Shipping
Weight	4.75 lb.
Length	6.2 in.
Width	5.0 in.
Height	3.0 in.
Cube	1 cu. ft.
Classification	Unclassified

MAJOR COMPONENTS

<u>Qty</u>	<u>Item</u>	<u>Qty</u>	<u>Item</u>
1	Battery, Non rechargeable	AR	Cable Assembly, Special Purpose, Electrical
1	Battery, Storage	AR	Cable Assembly, Special Purpose, Electrical
AR	Cable Assembly, Special Purpose, Electrical	1	Case, Battery Assembly
AR	Cable Assembly, Special Purpose, Electrical	1	VPA Assembly
AR	Cable Assembly, Special Purpose, Electrical	AR	Handset

APPENDIX A

LIST OF ABBREVIATIONS/ACRONYMS

A

A	Ampere
AAU	Add-On Audio Unit
AADS	Advanced Air Delivered Sensor
AAP	Abbreviated Acquisition Program
ABT	Air Breathing Target
ABT	Air Breathing Threat
AC	Alternating Current
ACE	Aviation Combat Element
ACO	Airspace Control Order
ADCP	Air Defense Communications Platform
ADF	Automatic Direction Finder
ADL	Automatic Data Link
ADP	Automatic Data Processor
ADP/COMM	Automatic Data Processing/Communication
ADSID	Air Delivered Seismic Intrusion Detector
ADU	Azimuth Drive Unit
af or AF	Audio Frequency
AFATDS	Advanced Field Artillery Tactical Data System
AFC	Automatic Frequency Control
AFC	Audio Frequency Coupler
AH	Ampere-Hour
AKDC	Automatic Key Distribution Center
ALE	Automatic Link Establishment
ALICE	All Purpose Lightweight Individual Carrying Equipment
AM	Amplitude Modulation
AM/RC	Auxiliary Memory/Relay Controller
AMM	Auxiliary Memory Module
AMTI	Automatic Moving Target Indicator
ANDVT/TACTERM	Advanced Narrowband Digital Voice Terminal/Tactical Terminal
ANTS	Alternate Net Time Station
AOC	Air Operation Central
AOR	Area Of Responsibility
approx.	approximately
APS	Application Program Set
ARM	Anti-Radiation Missile
ASF	Army Standard Family
ASC	Automatic Sensitivity Control
ASR	Airborne Surveillance Radar
ATARS	Advanced Tactical Air Reconnaissance System
ATC	Air Traffic Control
ATDS	Airborne Tactical Data System
ATM	Asynchronous Transfer Mode
ATO	Air Tasking Order
AUTODIN	Automatic Digital Network
AUTOVON	Automatic Voice Network
avg	average

B

Bd	baud
BDL	Base Data Line
BER	Bit Error Rate

BFO	Beat-Frequency Oscillator
BFT	Blue Force Tracker
BIT	Built-In Test
BLOS	Beyond Line of Sight
bps	bits per second
BPSK	Binary Phase Shift Keying
BUCS	Back Up Computer System

C

C	celsius (centigrade)
C2 or C ²	Command and Control
C2CE	Command and Control Compact Edition
C2PC	Command and Control Personal Computer
C3	Command Control and Communications
C4I	Command and Control, Communications, Computers and Intelligence
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance
CAC2S	Common Aviation Command and Control System
CAD/GIS	Computer Aided Design/Government Information System
CapSet	Capability Set
CAS	Calculated Air Speed; Close Air Support
CASC	Communications Air Support Center
CAOC	Counter Air Operations Center
CB	Common Battery
CBS	Call Box Station
CBS	Common Battery Signaling
CCA	Circuit Card Assembly
CCI	Controlled Cryptographic Item
CDAC	Communication and Data Analysis Central
CDD	Computer Digital Data
CDF	Combination Distribution Frame
CDH	COMSEC/TRANSEC Integrated Circuit DS-101 Hybrid
CDI	Conditioned Diphas
CDLS	Communications Data Link System
CDP	Conditioned DiPhase
CD-ROM	Compact Disk-Read Only Memory
CDS	Communications Distribution System
CESAS	Communication Emitter Sensing and Attacking System
CFAR	Constant False Alarm Rate
CFD	Common Fill Device
CGS	Common Ground Station
CI/HUMINT	Counterintelligence and Human Intelligence
CIBS-M	Common Integrated Broadcast Service-Module
CID	Combat Identification
CIHEP	Counterintelligence and Human Intelligence Equipment Program
CIK	Crypto-Ignition Key
CIS	Communication Interface System
CIT	Counterintelligence Team
CIU	Communications Interface Unit
CJTF	Commander Joint Task Force
CM	Cruise Missile
cm	centimeter
cm/s	centimeter per second
CMS	Control Monitor Set
CNR	Combat Net Radio
COBRA	Coastal Battlefield Reconnaissance and Analysis

COC	Combat Operations Center
COE	Common Operating Environment
COMINT	Communications Intelligence
COMSEC	Communications Security
CONDOR	Command and Control On-The-Move Network, Digital Over-The-Horizon Relay
Cont.	continued
COP	Common Operational Picture
COTS	Commercial-Off-The-Shelf
CPAS	Coded Pulse Anti-clutter System
CRT	Cathode-Ray Tube, Controller Receiver Transmitter
CRU	Command Response Unit
CS	Communication Subsystem
csc	cosecant
CTEPS	Cooperative Engagement Transmission Processing Set
CTIC	COMSEC/TRANSEC Integrated Circuit
CTN	Composite Tracking Network
CTT	Command Tactical Terminal
CTT3	Command Tactical Terminal Three
CTT-H/R	Commanders Tactical Terminal-Hybrid/Receive Only
CU	Computer Unit
CUCV	Commercial Utility Cargo Vehicle
cu. ft.	cubic foot/feet
cu in.	cubic inch
CVSD	Continuously Variable Slope, Delta
CW	Continuous Wave
CWAR	Continuous Wave Acquisition Radar

D

DAGR	Defense Advanced Global Positioning System (GPS) Receiver
DAMA	Demand Assigned Multiple Access
DASC	Direct Air Support Center
DASC, AS	Direct Air Support Central, Airborne System
dB	decibel
dBm	power level; in decibels with reference to a power of one milliwatt
DC	Direct Current
DCA	Defense Communication Agency
DCS	Defense Communication System
DCSG	Distributed Common Ground/Surface System
DCT	Digital Communication Terminal
DCU	Digital Communications Unit
D-DACT	Dismounted-Data Automated Communications Terminal
DDGP	Digital Data Group Processor
DDP	Digital Data Port
DDS	Data Distribution System
DED	Diesel Engine, Direct Drive
DEOS	Deployable End Office Suite
DEUCE	Downsize End User Computer Equipment
DF	Direction Finder
DGIL	Deploy Geospatial Information Library
dia.	diameter
DITS	Deployable Integrated Transport Suite
DMA	Defense Mapping Agency
DMS	Defense Message System
DMS	Diminishing Manufacturing Source
DNVT	Digital Non-secure Voice Terminal

DoD	Department of Defense
DPSK	Di-Bit Phase Shift Key
DSB	Double Sideband
DSN	Defense Switched Network
DSSCS	Defense Special Security Communications Systems
DSU	Digital Switching Unit
DSVT	Digital Secure Voice Terminal
DTAMS	Digital Terrain Analysis Mapping System
DTC	Digital Technical Control
DTD	Digital Transfer Device
DTG	Digital Transmission Group
DTMF	Dual Tone Multi-Frequency
DVST	Digital Voice Subscriber Terminal
DWTS	Digital Wideband Transmission System

E

ea.	each
EA	Electronic Attack
ECCM	Electronic Counter Countermeasures
ECM	Electronic Counter Measures
ECU	Environmental Control Unit
EDPA	Enhanced Dual Power Adapter
EHF	Extremely High Frequency
ELINT	Electronic Intelligence
E-LMR	Enterprise-Land Mobile Radio
EMDCT	Expanded Memory Digital Communication Terminal
EMPED	Expanded Memory Program Entry Device
ENM	EPLRS Network Manager
ENTR	Embedded National Tactical Receiver
EPLRS	Enhanced Position Locating and Reporting System
ETU	Encoder Transmitter Unit
EUT	Equipment Under Test
EW	Early Warning
EW	Electronic Warfare
EWS	Exploitation Workstations
EWSM	Electronic Warfare Support Measure
EWTS	Electronic Warfare Training System

F

F	Fahrenheit
FAM	Fault Assistant Module
FAR	False Alarm Rate
FBCB2	U.S. Army Force XXI Battle Command, Brigade-and-Below
fc	foot-candle
FCW	Field Cartridge Writer
FDM	Frequency Division Multiplexing
FDX	Full Duplex
FGRS	Fixed Ground Receive Suite
FICCS	First in Command and Control System
FIOP	Family of Interoperable Operational Pictures
FLTSEVOCOM	Fleet Secure Voice Communications
FM	Frequency Modulation
FMF	Fleet Marine Force
FOCA	Fiber Optic Cable Assembly
FSK	Frequency Shift-Keying
FSSG	Force Service Support Group

ft.	foot/feet
FTI	Fixed Target Indicator
FTS	Field Test Set
ft./min.	feet/per minute
ft./s.	feet/per second

G

g	gram
G/ATOR	Ground/Air Task Oriented Radar
Gb	gigabit
GB	Gigabyte
GBDL	Ground Based Data Link
GBS	Global Broadcast Service
GCA	Ground Controlled Approach
GCCS	Global Command and Control System
GCCS-IP	Global Command and Control System-Integrated Imagery and Intelligence
GCE	Ground Combat Element
GCI	Ground Control Intercept
GDL	Ground Data Link
GENSER	General Service
GFE	Government Furnished Equipment
GHz	Gigahertz (1000 MHz)
GIG	Global Information Grid
GIS	Geographic Information System
GOTS	Government-Off-The-Shelf
Gph	gallons per hour
GPIC	General Purpose Interface Controller
GPS	Global Positioning System
grad.	gradient
GTC	Gain Time Control
GUI	Graphical User Interface
GUPS	Global Uninterruptible Power Supply
GWLR	Ground Weapons Locating Radar

H

h/hr	hour
HF	High Frequency
HFR	Height Finder Radar
H-HMMWV	Heavy Variant - High Mobility Multipurpose Wheeled Vehicle
HHPM	Hand Held Portable Monitor
HMMWV	High Mobility Multipurpose Wheeled Vehicle
hp	horsepower
HS	High Speed
HSFB	High Speed Fleet Broadcast
HTU	Handheld Terminal Unit
HUMINT	Human Intelligence
Hz	Hertz (cycles per second)

I

I and W	Indications and Warnings
IADS II	Improved Air Delivered Sensor II
IAS	Intelligence Analysis System
IBR	Intelligence Broadcast Receiver
IBS	In-Band Signaling
IBS	Integrated Broadcast Service
ICC	Intelligence Communications Controller

ICOM	Integrated Communications
ID	Identification Number
ID	Item Designator
IF	Intermediate Frequency
IFF	Identification Friend or Foe
IK	Installation Kit
IKEK	Initial Key Encryption Key
ILTS	Intermediate Level Test Set
in.	inch
INC	Internet Controller
IOS	Intelligence Operations Server
IOW	Intelligence Operations Workstation
IP	Internet Protocol
I/P	Instruction Pulse
ips	interruptions per second
IR	Infrared
I-REMBASS	U.S. Army Improved Remotely Monitored Battlefield Sensor System
IRID	Infrared Intrusion Detector
IRU	Internal Radio Unit
ISB	Independent Sideband
ISO	International Standard Organization
ISR	Intelligence Surveillance and Reconnaissance, Intra Squad Radio
IW	Intelligence Workstation
IWF	Interworking Function

J

JECCS	Joint Enhanced Core Communications System
JFACC	Joint Force Air Component Commander
JFACC	Joint Force Air Control Center
JFRG-II	Joint Force Requirements Generator-II
JNMS	Joint Network Management System
JRE	Joint Range Extension
JROC	Joint Requirements Oversight Committee
JRSR/R	Joint Remote Sensor Report/Request
JSIPS	Joint Source Imagery Processing System
JSTARS	Joint Surveillance Target Attack Radar System
JSWS	Joint Services Workstation
JTF	Joint Task Force
JTIDS	Joint Tactical Information Distribution System
JTRS	Joint Tactical Radio System
JTT	Joint Tactical Terminal
JTT-R	Joint Tactical Terminals-Receive

K

kb	kilobit
kb/s or kbps	kilobits per second
kBps	kilobytes per second
KDU	Keypad Display Unit
KEK	Key Encryption Key
kg	kilogram
kHz	Kilohertz (kilocycles per second)
KIB1	KY-58 Interface Box
KIB2	KY-99 Interface Box
km	kilometer
KPP	Key Performance Parameter

kV	kilovolt
kVA/KVA	kilovolt ampere
kW	kilowatt
KY	cryptographic

L

L	liaison (aircraft)
LAAD Bn	Low Altitude Air Defense Battalion
LAN	Local Area Network
LAR	Light Armored Reconnaissance
LAV	Light Armored Vehicle
LB	Local Battery
lb.	pound
LC	Lightweight Computer
LCD	Liquid Crystal Display
LDN	Local Distribution Network
LDR	Low Data Rate
LED	Light-Emitting Diode
LED	Loop Encryption Device
LF	Low Frequency
LGSM	Light Ground Station Module
LHGXA	Lightweight High Gain X-Band Antenna – Trailer Mounted Antenna
LKG	Loop Key Generator
LLDR	Lightweight Laser Designator Rangefinder
LMR	Land Mobile Radio
LMRDFS	Lightweight Man Transportable Radio Direction Finder System
LMS	Lightweight Multipurpose Shelter
LMST	Lightweight Multiband Satellite Terminal
LNA	Low Noise Amplifier
LOS	Line of Sight
LRU	Line Replaceable Unit, Lowest Replaceable Unit
LSB	lower sideband
LSMF	Light Signal Monitor Facility
LST	Laser Spot Tracker
LTD STD	Limited Standard

M

mA	milliampere
MACCS	Marine Air Command and Control System
MACS	Marine Air Control Squadron
MEF	Marine Expeditionary Force
MAGID	Magnetic Intrusion Detector
MAGIS	Marine Air Ground Intelligence System
MAGTF	Marine Air Ground Task Force
MAP	Mobile Antenna Platform
MARCORSYSCOM	Marine Corps Systems Command
MARDIV	Marine Division
MARFORLANT	Marine Forces Atlantic
MARFORPAC	Marine Forces Pacific
MARFORRES	Marine Forces Reserves
MASS	Marine Air Support Squadron
MATCD	Marine Air Traffic Control Detachment
MATCS	Marine Air Traffic Control Squadron
MAW	Marine Aircraft Wing
max.	maximum
MB	Megabyte

mbar	millibar
MBMMR	Multi-Band Multi-Mode Radio
Mbps	megabits per second
MCEN	Marine Corps Enterprise Network
MCESS	Marine Corps Expeditionary Shelter System
MCHS	Marine Corps Common Hardware Suite
MCIU	Multi-Channel Interface Unit
MCPS	Modular Command Post Shelter
MCTSSA	Marine Corps Tactical Systems Support Activity
MCW	Modulated Continuous Wave
MDA	Milestone Decision Authority
M-DACT	Mounted-Data Communications Terminal
MDR	Medium Data Rate
MEF	Marine Expeditionary Force
MEF-IAS	Marine Expeditionary Force-Intelligence Analysis System
MEP	Mobile Electric Power
MERWS	Modular Extendable Rigid Wall Shelter
MEU	Marine Expeditionary Unit
MEU	MESHnet Ethernet Unit
MeV	Mega electron volts
MEWSS	Mobile Electronic Warfare Support System
MGU	Map Generation Unit
MHz	Megahertz
mi.	mile
MIDS	Miniature Intrusion Detection System
MILSTAR	Military Strategic Tactical and Relay
min.	minute
MMC	Manual Morse Code
MNS	Mission Needs Statement
mph	miles per hour
mR	milliroentgen
mRAD/h	millirads per hour
MRRS	Multi-Role Radar System
ms	millisecond
μs	microsecond
MSBL	Marine Air Ground Task Force Software Baseline
MSE	Mobile Subscriber Equipment
MSIDS	(MAGTF) Secondary Imagery Dissemination System
MTBF	Mean Time Between Failures
MTI	Moving Target Indicator
MTX	Miniature Transmitter
mV	millivolt
μV	microvolt
mW	milliwatt
MW	Megawatt

N

N/A	not applicable
NATO	North Atlantic Treaty Organization
NATO/MIL	North Atlantic Treaty Organization/Military
NAU	Network Access Unit
NAVMACS	Naval Modular Automated Communications System
NBC	Nuclear, Biological, and Chemical
N-CES	Net-Centric Enterprise Services
NCS	Net Control Station
NDI	Non-Developmental Item

NIPR	Non-secure Internet Protocol Router
n. m.	nautical mile(s)
NPS	NAU Power Supply
NRZ	Non-Return to Zero
NSA	National Security Agency
NSN	National Stock Number
NST	Navy Standard Teleprinter
NTDS	Navy Tactical Data Systems
NTS	Net Time Station

O

O and O	Operational and Organization
OBS	obsolete
OCAC	Operations Control and Analysis Center
OCU	Operator Console Unit
OOK	ON-OFF Keying
OPFAC	Operation Facility
OPm	operations per minute
ORD	Operational Requirements Document
OT	Operational Trailer
OTAR	Over-The-Air Rekey
OTAT	Over-The-Air-Transfer
OTM	On-The-Move
oz.	ounce

P

P3I	Pre-planned Product Improvement
PA	Power Amplifier
PARCS	Portable Autonomous Reports Collection System
PC	Personal Computer
PCDP	Pilot Control Display Panel
PCI	Product Configuration Identification
PCM	Pulse Code Modulation
PCMCIA	Personal Computer Memory Card International Association
PDCU	Power Distribution and Control Unit
PDP	Power Distribution Panel
PDS	Processing and Display Subsystem
PED	Pacific Electro Dynamics
PEP	Peak Effective Power, Peak Envelope Power
pf	power factor
PFED	Pocket Sized Forward Entry Device
PGM	Precision Guided Munition
PHS	Primary Heavy Shelter
PIK	Platform Integration Kit
PK	peak
PLGR	Precision Lightweight Global Receiver
PLI	Position Location Information
PLRS	Position Location Reporting System
PM	Portable Monitor
P/N	Part Number
PO	power oscillator
POM	Program Objective Memorandum
PPDL	Point to Point Data Link, Pulse Position Data Line
PPI	Plan Position Indicator
PPI/RHI	Plan Position Indicator/Range Height Indicator
PPS	Pulse Per Second

PRF	Pulse Rate Frequency
PRK	Phase Reversal Keying
PRR	Personal Role Radio
PRU	Printer Unit
PTT	Public Telephone and Telegraph, Push-To-Talk
PWA	Printed Wiring Assembly

Q

qty	quantity
-----	----------

R

R	roentgen
R and D	Research and Development
RA	Relay Assembly
RADBN MODS	Radio Battalion Modernization
RAM	Random Access Memory
RBM	Receive Broadcast Manager
RCU	Remote Control Unit
RCW	Remote Cab Workstation
RD	Ring Down
RDF	Radio Direction Finding
Recon	Reconnaissance
REMBASS	U.S. Army Remotely-Monitored Battlefield Sensor System
RF	Radio Frequency
RFI	Radio Frequency Interference
RIF	Radio Intercept Facility
RIU	Radar Interface Unit
RMC	Remote Multiplexer Combiner
rms/RMS	Root Mean Square, Radio Personality Module
RPA	Radio Programming Application
R-PDA	Rugged-Personal Digital Assistant
RREP	Radio Reconnaissance Equipment Program
RREP-SS	Radio Reconnaissance Equipment Program Signal Intelligence Suite
RRT	Radio Reconnaissance Team
RRU	Recorder/Reproducer Unit
RSMS	Radio Signal Monitoring Set
RWS	Remote Workstation

S

s/sec.	second
SAA	Situation Awareness and Analysis
SAAWF	Sector Anti-Air Warfare Facility
SAR	Synthetic Aperture Radar
SAT	Satellite
SATCOM	Satellite Communications
SBPSK	Shaped Binary Phase Shift Keying
SCAMP	Sensor Control and Management Platoon
SCD	SINCGARS Control Device
SCDL	Surveillance Control Data Link
SCI	Sensitive Compartmented Information
SDNRIU	Secure Digital Net Radio Interface Unit
SDR	Signal Data Recorder
SDRAM	Synchronous Dynamic Random Access Memory
SDS	Sensor/Data Subsystem
SDU	Secure Data Unit
SE	Supplemental Equipment

SEM	Spare Equipment and Maintenance
SHF	Super High Frequency
SHORAD	Short Range Air Defense
SIAP	Single Integrated Air Picture
SID	Seismic Intrusion Detector
SIDS	Secondary Imagery Dissemination System
SIF	Selected Identification Feature
SIGINT	Signals Intelligence
SIGNET/EW	Signal Intelligence/Electronic Warfare
SINCGARS	Single Channel Ground and Airborne Radio System
SIPR	Secret Internet Protocol Router
SMAK	Shore Mounted Accessory Kit
SMART-T	Secure Mobile Anti-Jam Reliable Tactical-Terminal
SMI	Switch Matrix Intercom
SMMS	Sensor Mobile Monitor System
SMS	Sensor Monitoring System
snr	signal-to-noise ratio
SOF	Special Operations Force
SPA	Special Power Adapter
SPARCStation	Sun Scalable Processing Architecture Reduced-Intrusion-Set Computer Station
SPEE	Systems Planning Engineering and Evaluation
SPEED	System Planning Engineering Evaluation Device
SSB	Single Sideband
SSBSU	Solid State Bulk Storage Unit
SSEP	Stand Alone Signal Entry Panel
SSU	System Server Unit
STAJ	Short Term Anti-Jam
STD	standard
STE	Secure Telephone Equipment
STED	SEELEY Trunk Encryption Device
STU	Signal and Terminating Unit
STU-III	Secure Telephone Unit-Third Generation
SVN	Secure Virtual Network

T

TACAN	Tactical Air Navigation
TACC	Tactical Air Command Center
TACINTEL	Tactical Intelligence
TACP	Tactical Air Control Party
TACS	Tactical Air Control System
TADIL	Tactical Digital Information Link
TADIXS	Tactical Data/Digital Information Exchange System
TADIXS B	Tactical Data Information Exchange System Broadcast
TAMCN	Table of Authorized Material Control Number
TAOC	Tactical Air Operations Center
TAOM	Tactical Air Operations Module
TBM	Tactical Ballistic Missile
TBMCS	Theater Battle Management Core System
TCAC	Technical Control and Analysis System
TCAC RAWS	Technical Control and Analysis Center Remote Analysis Workstation
TCAC-PIP	Technical Control and Analysis System-Product Improvement Program
TCC	Tactical Communications Central
TCIM	Tactical Communications Interface Module
TCO	Tactical Combat Operations
TCS	Tactical Command System
TDAR	Tactical Defense Alert Radar

TDDS	Tactical Data Dissemination System
TDI	TIBS Data Interface
TDL	Tactical Data Link
TDL-J	Tactical Data Link-Joint
TDM	Time Division Multiplex
TDMA	Time Division Multiple Access
TDN	Tactical Data Network
TDS	Tactical Data Systems
TEAMS	Tactical Elevated Antenna Mast System
TED	Trunk Encryption Device
TEG-M	Tactical Exploitation Group-Main
TERPES	Tactical Electronic Reconnaissance Processing and Evaluation System
TFOCA	Tactical Fiber Optic Cable Assembly
TFT	Thin Film Transistor
TGIL	Tactical Geospatial Information Library
THHR	Tactical Hand Held Radio
TIBS	Tactical Intelligence Broadcast Service
TIGDL II	Tactical Interoperability Ground Data Link II
TLDHS	Target Location Designation and Hand-off System
TPC	Topographic Production Capability
TPCS-MPC	Team Portable Collection System-Multiplatform Center
TPU	TERPES Portable Unit
TRANSEC	Transmission Security
TRAP	TRE Related Applications
TRE	Tactical Receiver Equipment
TRI-TAC	Tri-Service Tactical
TRIXS	Tactical Reconnaissance Intelligence Exchange System
TROJAN SPIRIT II	TROJAN Special Purpose Intelligence Remote Integrated Terminal II
TROJAN SPIRIT LITE	TROJAN SPIRIT Lightweight Integrated Telecommunications Equipment
TRSS	Tactical Remote Sensor System
TRSS-PIP	Tactical Remote Sensor System-Product Improvement Program
TSCM	Technical Surveillance Countermeasures
TSEC	Telecommunication Security
TSM	Transition Switch Module
TSSP	Tactical Satellite Signal Processor
TTY	teletypewriter
TX	transmit

U

UCD	User Control Device
UDB	UCD Distribution Box
UDI/O	User Data Input/Output
UFO	Ultra High Frequency Flow-On
UGMS	Unattended Ground Miniaturized Sensor
UGSS	Unattended Ground Sensor Set
UHF	Ultra High Frequency
ULCS	Unit Level Circuit Switch
UNREG	unregulated
UPS	Uninterruptible Power Supply
URO	User's Read Out
USAF	United States Air Force
USB	Upper Sideband
USMC	United States Marine Corps
USMC GBDL	United States Marine Corps Ground Base Data Link
USN	United States Navy
UUT	Units Under Test

V

V	volt(s)
VAC	volt(s) alternating current
VA	volt ampere
VDC	volt(s) direct current
VF	Voice Frequency
VFCT	Voice Frequency Carrier Telegraph
VHF	Very High Frequency
VMAQ	Marine tactical electronic warfare squadron
VOR	Very High Frequency, Omnidirectional Radio Range
VPA	Vehicle Power Adapter
Vrms	Volts root mean square
VSAT	Very Small Aperture Terminal
VSWR	Voltage Standing Wave Ratio
VTC	Video Tele-Conferencing
VTUAV	Vertical Tactical Unmanned Aerial Vehicle

W

W	watt(s)
WIS	Weather Information Services
WNW	Wideband Networking Waveform
wpm	words per minute

Y

yd.	yard
yd./s	yards per second
Yr	year

APPENDIX B**GLOSSARY**

Allotment (of a radio frequency or radio frequency channel). Entry of a designated frequency channel in an agreed plan, adopted by a competent conference, for use by one or more administrations for a terrestrial or space telecommunication service in one or more identified countries or geographical areas and under specified conditions.

Alphanumeric. Describing a character set that contains letters, numerals (digits), and other characters such as punctuation marks.

Amplifier. A device capable of increasing the magnitude or power level of a signal that is varying in time without distorting the wave shape of the quantity.

Amplitude Modulation (AM). A process by which a continuous radio wave is varied in amplitude in order to superimpose intelligence thereon.

Analog. A physical variable which remains similar to another variable insofar as the proportional relationships are the same over some specified range; for example, voltage.

Analog Communication. A system of telecommunications employing a nominally continuous electric signal that varies in frequency, amplitude, and so on, in some direct correlation to non-electric information.

Analog Signal. A signal that represents information by varying a quantity, such as amplitude or frequency, continuously between upper and lower limits.

Antenna Array. Antenna elements assembled in such a manner that the resulting radiation is concentrated in one or more directions.

Antenna/Aerial. A device used to radiate or collect radio waves.

Antenna, Dipole Array. A number of parallel dipoles producing a pattern with a main beam and many side lobes and nulls.

Antenna, Gain. The ratio, usually expressed in decibels, of the power required at the input of a loss free reference antenna to the power supplied to the input of the given antenna to produce, in a given direction, the same field strength or the same power flux-density at the same distance. When not specified otherwise, the gain refers to the direction of maximum radiation. The gain may be considered for a specified polarization.

Antenna, Rhombic. A non-resonant broadband antenna with a rhombic shape which produces an interface pattern with a main beam axis in line with the diagonal joining the feed point to the terminal point.

Application. A system or problem to which a computer is applied.

Architecture. A framework or structure that portrays relationships among all the elements of the subject force, system, or activity.

Assignment (of a radio frequency or a radio frequency channel). Authorization given by a designated authority for an electromagnetic emitter to use a radio frequency or radio frequency channel under specified conditions.

Asynchronous. A communications channel capable of transmitting data but not timing is called "asynchronous".

Asynchronous Modem. A modem that uses asynchronous transmission and, therefore, does not require timing synchronization with its attached DTE or the remote modem; also used to describe a modem which converts asynchronous inputs from the DTE to synchronous signals for modem-to-modem transmission.

Asynchronous Transfer Mode (ATM). A method of digitized data transmission based on fixed length cells. ATM can carry multiple types of data text, voice, imagery, and video at high speeds.

Asynchronous Transmission. Data transmission in which the instant that each character, or block of characters, begins to be transmitted is arbitrary. However, the time of occurrence of each signal representing a bit within the character or block is predictable.

Attenuation. Deterioration of signals as they pass through a transmission medium; generally, attenuation increases (signal level decreases) with both frequency and cable length. Measured in terms of levels or decibels.

Audio Frequency. A frequency which can be detected as a sound by the human ear. The range of audio frequencies extends from approximately 20 to 20,000 hertz.

Authentication. A security measure designed to protect a communication system against fraudulent transmission.

Authentication System. A system designed for the purposes of authentication, i.e., to serve as a secure means of establishing the authenticity of a transmission or message or of challenging the identity of a station.

Authenticator. A letter, numeral, or groups of letters or numerals, or both, attesting to the authenticity of a message or transmission.

Backbone. The high traffic density connectivity portion of any communications network.

Band. A range of electromagnetic wave frequencies between definite limits, such as that assigned to a particular type of radio service.

Bandwidth. The difference between the limiting frequencies of a continuous frequency band expressed in hertz (cycles per second). The term bandwidth is also loosely used to refer to the rate at which data can be transmitted over a given communications circuit. In the latter usage, bandwidth is usually expressed in either kilobits per second (kbps) or Megabytes per second (Mbps).

Battery. An apparatus which may comprise a group of two or more cells used for the conversion of chemical energy into electrical energy.

Battery Life. Approximate rating of how much energy a battery can deliver before its useful life is finished.

Baud. Measure of bandwidth. The higher the baud rate, the faster the data is transmitted.

Beacon. A light, group of lights, electronic apparatus or other device which emits identifying signals related to their positions so that the information produced can be used for guidance orientation or warning.

Beacon, Radar. A radio navigation transponder which transmits in response to a specific received signal a, pulsed radio signal with specific characteristics whereby the bearing and/or range of the transponder from the interrogator may be determined, and which in some cases also be used to identify the transponder.

Beacon, Radio. A radio transmitter which emits a distinctive or characteristic signal used for the determination of bearings, courses or location.

Binary. Digital system with 2 states, 1 and 0; contrast with octal, decimal and hexadecimal.

Bipolar Transmission. Method of sending binary data in which negative and positive states alternate; used in digital transmission facilities such as DDS and T1. Sometimes known as polar transmission.

Bit. Contraction of binary digit; smallest unit of information and basic unit in digital data communications. A bit can have a zero or a one value (a mark or space in data communications terminology).

Bit Concentration of “Binary Digit”. The smallest unit of measurement for computer data.

bps, bits per second. A measure of speed or data rate. Often combined with metric prefixes as in kbps for thousands of bits per seconds (k for kilo-), in Mbps for millions of bits per second (M for mega-) and Gbps for billions of bits per second (G for Giga-).

Breakout Box. A device that provides access for testing of circuits in a cable or connector.

Broadband. Communications channel having a bandwidth greater than a voice-grade channel and potentially capable of much higher transmission rates; also called wideband.

Broadcast. Transmission of a message intended for general reception rather than for a specific station.

Buffer. A temporary storage device used to compensate for a difference in either the rate of data flow or the time of occurrence of events in transmissions from one device to another.

Byte. A collection of bits operated upon as a unit; most are 8 bits long; and most character sets use one byte per character. The capacity of storage devices is frequently given in bytes or in K bytes (K meaning 1024 bytes).

Cable-Based Local Area Network (LAN). A shared-medium LAN that uses a cable for its transmission medium.

Call Sign. Any combination of characters or pronounceable words which identifies a communication facility, command, an authority, an activity, or a unit; used primarily for establishing and maintaining communications.

Call Sign, Tactical. A call sign which identifies a tactical command(s) or tactical communication facility(ies).

Carrier. A continuous signal which is modulated with a second, information-carrying signal.

Central Processing Unit (CPU). Actually the heart of a computer, but often used as a synonym for computer.

Challenge. Any process carried out by one unit or person with the objective of ascertaining the friendly or enemy character or the identity of another. The answer to a challenge is a Reply.

Challenge and Reply. In authentication, a procedure by means of a prearranged system whereby one transmitter requests authentication of another transmitter (the Challenge) and the latter by a proper reply establishes its authentication (the Reply). In establishing identity, the challenge and the reply is a prearranged method whereby one station identifies itself and requests the identity of another (the Challenge) and the latter identifies itself (the Reply).

Channel. The smallest subdivision of a trunk, by means of which a single type of communications service is provided; i.e., voice channel, teletypewriter channel, data channel.

Channel, (Frequency). Part of the frequency spectrum intended to be used for the transmission of signals and which may be defined by two specified limits, or by its center frequency and the associated bandwidth, or by an equivalent indication.

Channel, (Transmission). A transmission path suitable for a specific mode. A transmission channel may be qualified by the nature of the transmitted signal, or by its bandwidth, or by its rare bit rate.

Cipher. Any cryptographic system in which arbitrary symbols or groups of symbols represent units of plain text of regular length, usually single letters, or in which units of plain text are rearranged, or both, in accordance with certain predetermined rules.

Circuit. The complete electrical path between end terminal instruments over which telecommunications are provided.

Circuit Discipline. The component of transmission security which includes the proper use of communications equipment, the adherence to the prescribed frequencies and operating procedure, remedial action, net control, monitoring and training.

Circuit, Permanent. A circuit which is permanently provided and used in peacetime and which normally continues to be used in wartime.

Circuit Restoration. The process by which a communications circuit supplier provides a circuit path between two user stations after disruption or loss of the existing circuit path, in accordance with preplanned procedures and priorities.

Circuit (Telecommunication). A telecommunication facility to transmit signals between message source and message link by electric, electromagnetic, acoustic or visual means.

Circuit, Dedicated. A circuit provided for the sole use of certain specified users to serve a pre-assigned purpose.

Circuit, Trunk. A circuit directly connecting two distant exchanges.

Classified Information. Information related to the national interest, the compromise of which would reasonably be expected to cause injury to the national interest.

Clear. In plain text. When security of military information is not involved, messages are ordinarily sent in the clear rather than in cipher or code.

Clear Text. Plain Language.

Client-Server Architecture. A computer networking architecture, client-server defines a software architecture and not a hardware architecture. A client software entity (client) requests a service from a server software entity (server), which in turn fulfills the request. To fulfill the request the server may provide data, perform processing tasks, control a peripheral, or request the services of another server. A client can request services from multiple servers and a server can service multiple clients. Because clients and servers are software entities, they can reside on the same computer or be on different computers in a network. Servers are designated according to the services provided. A server providing access to communications services would be called a communications server.

Clock. The timing signal used in synchronous transmission.

Closed Architecture. An architecture that is compatible only with hardware and software from a single vendor. Contrast with open architecture.

Clutter. Collective term for unwanted echoes on a radar display.

Coax, Coaxial Cable. A transmission medium noted for its wide bandwidth and for its low susceptibility to interference; signals are transmitted inside a fully enclosed environment - an outer conductor; the conductors are commonly separated by a solid insulating material.

Code, Brevity. A code which provides no security but which has as its sole purpose the shortening of messages rather than the concealment of their content.

Code, International Morse. A code in which letters and numbers are represented by specific groupings of dots and/or dashes. The International Morse Code is used especially in radio telegraph and visual communication.

Cold Start. Transmission Security Key (TSK) Cold start, when combined with the proper switch setting will result in "COLD" display. When "COLD" is displayed, it is possible to begin COLD START net opening.

Cold Start Net Opening. Method used to initially open a net.

Command and Control (C2). The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of the mission.

Command, Control, Communication and Information Systems. A self-explanatory term used to define a wider scope of responsibilities than communications or signals which embraces the flow of information in support of command and control.

Command Radio Net. A command radio net connects the command post of an echelon with the command post of some, or all, of its subordinate echelons. It may be used to handle tactical, operational, or administrative traffic.

Commercial-Off-The-Shelf (COTS). Pertaining to a commercially marketed product which is readily available for procurement and normally used without modification. A COTS product is often provided in large quantities and at relatively low cost to meet the demands of a wide range of user needs.

Common User. A channel of communications available to all units, such as a channel terminating in telephone switchboards.

Commonality. A quality which applies to material or systems possessing like and interchangeable characteristics enabling each to be utilized or operated and maintained by personnel trained on the others without additional specialized training and/or having interchangeable repair parts and/or components; and applying to items interchangeably equivalent without adjustment.

Communication. The transfer of intelligence or knowledge according to agreed conventions.

Communication and Information Systems (CIS). Assembly of equipment, methods and procedures (and if necessary personnel), organized so as to accomplish specific information conveyance and processing functions.

Communication Facilities. Installation, personnel, and equipment requisite to the provisions of telecommunications.

Communication, Line/Wire. The use for communication purposes of a physical path, such as wire or waveguide, between terminals.

Communication, Radio. The use of radio for communication purposes. It is technically described as telecommunication using radio waves not guided between the sender and receiver by physical paths such as wire or waveguides.

Communication System. An overall term used to describe communication facilities from an engineering aspect including all the associated equipment.

Communications. A method or means of conveying information of any kind from one person or place to another.

Communications Countermeasures. All electronic countermeasures taken against communications.

Communications Deception. The deliberate introduction of deceptive emissions into friendly or enemy radio communications channels with the intention of misleading the enemy.

Communications Electronics (CE). The specialized field concerned with the use of electronic devices and systems for the acquisition or acceptance, processing, storage, display, analysis, protection and transfer of information.

Communications Intelligence (COMINT). Technical material and intelligence information derived from electromagnetic communications and communications systems (e.g., Morse, voice, teleprinter, facsimile) by other than the intended recipients.

Communications Network. An organization, geographically disseminated, of communications stations interconnected to communicate information, and comprising of the stations communication equipment and the physical means that link them up.

Communications Protocol. The means used to control the orderly exchange of information between stations on a data link or on a data communications network or system. Also called line discipline – or protocol, for short.

Communications Security (COMSEC). The protection resulting from all measures designed to deny to unauthorized persons information of value which might be derived from the possession and study of telecommunications, or to mislead unauthorized persons in their interpretation of the results of such a study.

COMSEC (Communications Security) Key. Variable used to encrypt/decrypt signals during a secure operation. TEK and KEK are COMSEC keys.

Communications Security (COMSEC) Monitoring. The protection resulting from the application of crypto security, transmission security and emission security measures to telecommunications and from the application of physical security measures to COMSEC information. These measures are taken to deny unauthorized persons information of value which might be derived from the possession and study of such telecommunications, or to ensure the authenticity of such telecommunications.

Compatible. The capability of two or more items or components of equipment or material to exist or function in the same system or environment without mutual interference.

Compromise. A violation of the security system such that an unauthorized disclosure, modification, or destruction of sensitive or classified information may have occurred or that a denial of service condition has been induced.

Conduct of Fire Radio Net. A functional radio net used principally to execute assigned fire missions by technically conducting or spotting fire on an observed target.

Configuration. A combination in which a set of components can be grouped or arranged.

Continuous Wave (CW). A continuous signal, not pulsed on and off. A CW signal may be amplitude, phase or frequency modulated.

Countermeasures. Devices and techniques intended to impair the operational effectiveness of enemy activity.

Cryptanalysis. The steps and operations performed in converting encrypted messages into plain text without previous knowledge of the key employed.

Cryptographic Ignition. A physical key required for the AN/CYZ-10 Data Transfer Device

Cryptography. The art or science which treats the various means and methods for rendering plain text unintelligible, and reconverting unintelligible text into intelligible language; application of that science by means other than cryptanalysis.

Cryptoguard. A communication station designed to protect or handle specified encrypted traffic to and from certain stations or addresses.

Cryptosystem. The associated items of cryptomaterial which are used as a unit and which provide a single means of encryption and decryption.

Data. Representation of facts, concepts, or instructions in a formalized manner suitable for communications, interpretation, or processing by humans by automatic means. Any representations such as characters or analog quantities to which meaning is, or might be, assigned.

Data Base. A large, ordered collection of information.

Data Circuit. A telephone facility allowing transmission of digital data pulses with minimum distortion.

Data Communications. The processes, equipment, and/or facilities used to transport signals from one data processing device at one location to another data processing device at another location.

Data Link. The means of connecting one location to another for the purpose of transmitting and receiving data.

Data Network. An arrangement of data circuits and switching facilities for establishing connections between data terminal equipments. Synonymous with data transmission network.

Data Processing. Any operation or combination of operations on data. Also known as information processing.

Data Processing Equipment, Automatic (ADPE). Data processors associated input-output devices, and auxiliary equipment using electronic circuitry to perform arithmetical and logical operations automatically by means of internally-stored program instructions.

Data Processing Network. An organization, geographically disseminated, of data processing systems interconnected to exchange data, and comprising the components of the interconnected data systems and their interface with the supporting data or communication network. A data processing network can use the services of one or several communication networks; several data processing networks can use the services of one common communication network. A data processing network is called "local" if it links several computers together in the same site. Synonymous with computer network, automatic data processing network. Contrast with data (transmission) network.

Data Terminal Equipment. A networked device, such as a PC, that is capable of transmitting and receiving digital data signals over a communications circuit.

Data Transmission. The movement of data in real time by electronic means without human intervention.

Date-Time Group (DTG). A group of six digits with a zone time suffix and the standardized abbreviation for the month. The first pair of digits represent the day, the second pair the hour and the third pair the minutes. The last two digits of the year may be added after the month. Example: 090559Z JUL 56.

Decibel, dB. Comparative (logarithmic) measure of signal power (strength or level): +10dB (or +1 Bel) represents a gain of 10:1; -3dB represents a 50% loss of power. Contrast with dBm.

Dead Space. The area or zone which is within the range of a radio transmitter, but in which a signal is not received.

Decimal. A digital system that has 10 states, 0 through 9.

Decode. To convert information from the form used to carry it through a communications system to another form such as audible voice.

Decrypt. To convert a cryptogram into plain text by a reversal of the encryption process. This does not include cryptanalysis.

Demodulate. To recover the modulating wave from a modulated carrier.

Digital. Pertaining to data in the form of digits.

Digital Backbone. A term loosely applied to the TRI-TAC-based circuit switched communications network employed by the Marine Corps. Used synonymously with switched backbone.

Digital Communications. A system of telecommunications employing a nominally discontinuous signal that changes in frequency, amplitude or polarity.

Digital Signal. A signal that represents information by varying a quantity, such as amplitude or frequency, in two or more discrete steps. In the case of two discrete steps, the digital signal is called a binary signal.

Digital Switch. A switch that performs time-division multiplexed switching of digitized signals. When used with analog inputs analog-to-digital and digital-to-analog conversions are necessary.

Digital Transmission. The transmission of a digital bit stream that may include digitized voice or data or both. The transmission signal itself may be either discrete or continuous (analog).

Diplexer. A coupling system that allows two different transmitters to operate simultaneously or separately from the same antenna.

Dipole. An antenna consisting of two elements, each approximately one quarter-wavelength in length and fed with radio frequency energy of opposing polarity at adjacent ends of the elements.

Direction Finding (DF). The process of determining the bearing of an electromagnetic emission.

Directory Services. Network services that identify all resources on a network and make them accessible to users and applications. Resources include e-mail addresses, servers, and peripheral devices such as printers.

Disk Operating System (DOS). A program or set of programs that instruct a disk-based computing system to schedule/supervise work, manage computer resources, and operate/control peripheral devices.

Domain Name. The symbolic name assigned to a host on an IP network. Syntactically, the domain name consists of a sequence of names separated by periods. A domain is a logical grouping of IP hosts.

Domain Name System. The online distributed database system used to relate (map) readable, alphabetic domain names with numeric IP addresses.

Down Link. A transmission link carrying information from a satellite or spacecraft to earth. Typically down links carry telemetry, data and voice.

Downtime. Period when all or part of a system or network is not available to end users due to failure or maintenance.

Dubbing. The combining of two or more sources of sound into a complete recording, at least one of the sources being a recording.

Duplex. Pertaining to a simultaneous two-way independent transmission in both directions.

Electromagnetic Interference (EMI). Any electromagnetic disturbance which interrupts, obstructs, or otherwise degrades or limits the effective performance of electronics/electrical equipments. It can be indeed intentionally, as in some forms of electronic warfare, or unintentionally as a result of spurious emission responses, intermodulation products and the like.

Electronic. A generic term to describe that branch of electrical science and technology which treats the behavior of free electrons in vacuous or gaseous space and in semi-conductors and the circuitry associated therewith

Electronic Counter-Countermeasures (ECCM). That major subdivision of electronic warfare involving actions taken to ensure our own effective use of electromagnetic radiations in spite of the enemy's use of countermeasures.

Electronic Countermeasures (ECM). The major subdivision of electronic warfare involving actions taken to prevent or reduce the effectiveness of enemy equipment and tactics employed or affected by electromagnetic radiations.

Electronic Intelligence (ELINT). The technical and intelligence information derived from foreign noncommunication electromagnetic radiations emanating from other than nuclear detonations or radioactive sources.

Electronic Jamming. The deliberate radiation, re-radiation or reflection of electromagnetic energy, with the object of impairing the effectiveness of electronic devices, equipment or systems being used by an enemy.

Electronic Mail. A system of electronic communication in which a computer user can compose a message for transmission over communications networks. Some electronic-mail systems are confined to a single computer system or network, but others have gateways to the internet, enabling users to send electronic mail anywhere in the world. Also called e-mail.

Electronic Security (ELSEC). The protection resulting from all measures designed to deny to unauthorized persons information of value which might be derived from their interception and study of friendly noncommunication electromagnetic radiations.

Electronic Warfare (EW). That division of the military use of electronics involving actions taken to prevent or reduce an enemy's effective use of radiated electromagnetic energy, and action taken to ensure our own effective use of radiated electromagnetic energy. Electronic warfare includes electronic countermeasures and electronic counter-countermeasures.

Emission Control Orders. Orders, referred to as EMCON orders, used to authorize, control, or prohibit the use of electronic emission equipment.

Emulation. Computer representation of a real-time situation which is constrained to respond in a predicted manner.

Encrypt. To convert a plain text message into unintelligible form by means of a cryptosystem.

Equalizer. A device used by modems to compensate for distortions caused by telephone line conditions.

Facility Coordination. A function assigned to the technical control element of a Defense Communication Service (DCS) station. The function includes responsibility for coordination of all technical operations at the station involving activation, deactivation, and restoration of circuits and facilities, maintenance releases, and reports submission. In certain instances, a DCS station may be assigned the facility coordination-function for a DCS subsystem; e.g., a wideband trunk involving several stations. In such instances, the station so designated exercises control of and submits reports on all subordinate elements.

Facsimile (FAX). The process of transmitting and reproducing printer matter, maps, still pictures, etc. by means of telephone or radio communication.

Feedback. The return of energy from one point in a system to an earlier point.

Fiber Optic Cable, Fiber Optics. A transmission medium composed of small strands of glass each of which provides a path for light rays which acts as a carrier.

File. A collection of related data records.

File Server Protocol. In LAN technology, a communications protocol that allows application programs to share files.

Filter. An arrangement of electronic components designed to pass signals in one or several frequency bands and to attenuate signals in other frequency bands.

Fire Direction Radio Net. A fire direction radio net is a functional net employed essentially to assign tactical fire missions to subordinate units for execution.

Firewall. A specific type of Boundary Protection Device (BPD), being a software application or a CIS system that acts as a security barrier between two network segments and mediates access between those two networks according to an approved set of rules (CA).

Firmware. A computer program or software stored permanently in PROM or ROM or semi permanently in EPROM or EEPROM.

Footprint. The area of the earth's surface which is covered by a satellite's antenna. The size and shape of this area is determined by the altitude of the satellite and the width and shape of the satellite's beam. The footprint is also known as the Cone of Earth View.

Format. The specific arrangement of data on a printed page, punched card or such to meet established presentation requirements.

Frequency. The number of recurrences of a periodic phenomenon in a unit of time. In specifying electrical frequency, the customary unit of time is the second.

Frequency Hopping (FH). ECCM method of operation. The RT circuits automatically change frequencies rapidly.

Frequency Management (Operational/Tactical). The function of planning, coordinating, and managing use of individual frequencies through tactical operational, engineering, and administrative procedures.

Frequency Modulation (FM). A process by which a continuous radio wave is varied in frequency in order to superimpose information thereon.

Frequency, Primary. A frequency assigned for normal use on a particular circuit.

Frequency, Secondary. A frequency assigned for use on a particular radio circuit when primary frequency becomes unusable for any reason.

Full Duplex. Refers to a mode of transmission in which communication between two terminals takes place in both directions simultaneously.

Functional Radio Net. A functional radio net handles specialized traffic. The name of the particular net indicates the specific function for which it has been provided. Functional radio nets normally operate under the control and supervision of designated officers. Traffic on these nets usually is not routed through communication centers. This reduces overloads and backlogs of traffic, and provides flexibility to the radio system. Although they are normally used to control a particular function, they can be used to handle command traffic via the communication center when required.

Gain. The increase in signal power that is produced by an amplifier, usually gives the ratio of output to input voltage, current or power expressed in decibels.

Garble. An error in transmission, reception or encryption which renders the message or a portion thereof incorrect or incomplete.

Gateway. In a communications network, a network node that is equipped for interfacing with another network that uses different protocols. The term is loosely applied to a computer or computer software configured to perform the tasks of a gateway.

Ground/Earth. The term applied to any conductor common to a number of circuits and which serves to maintain a constant potential, or to provide a bond of very small impedance between the points of connection to it. In many cases, the Earth itself is used as the conductor.

Guard. Continuous receiver watch with transmitter ready for immediate use.

Half-Duplex. Refers to a mode of transmission in which communication between two terminals occurs in either direction, but in only one direction at a time. This is the typical mode of operation for tactical single-channel radios.

Half-Duplex Operation. Communication between two points in a single direction only. A half duplex facility is exactly half of a full-duplex facility, and is not the same as a simplex facility.

Handset. Part of telephone containing mouthpiece and receiver.

Handshake, Handshaking. A preliminary procedure, usually part of a communications protocol, to establish a connection.

Hardware. Equipment (as opposed to a computer program or a method of use), such as mechanical, electrical, magnetic or electronic devices.

Harmonic. An integral multiple of a fundamental frequency.

Hertz, Hz. A measure of frequency or bandwidth equal to one cycle per second. Named after experimenter Heinrich Hertz.

Hexadecimal. A digital system that has 16 states, 0 through 9 followed by a through f. Any 8-bit byte can be represented by 2 hexadecimal digits.

Home Page. The main page of a web site. Typically, the home page serves as an index or table of contents to other documents stored at the site.

Host. In a computer network, a computer that provides services to end users. Those services are considered to be hosted on that computer. The term host also refers to the computer on a network that performs network control functions.

Hub. In LAN technology, the centre or a star topology network or cabling system.

Identification, Friend or Foe-Personal Identifier (IFF-PI). The discrete IFF code assigned to a particular aircraft, ship or other vehicle for identification by electronic means.

Imagery. Collectively, the representations of objects reproduced electronically or by optical means on film, electronic display devices, or other media.

Independent Sideband. This type of signal consists of two independent sidebands with one positioned above and the other below a suppressed radio frequency carrier. See Single Sideband.

Indicator, Routing. A group of letters assigned to identify a station within a communication network to facilitate the routing of traffic. It ordinarily indicates whether the station is a major relay, a minor relay, or a tributary station; the country or international alliance operating the station; and its geographical area.

Information Assurance (IA). The application of security measures to protect information processed, stored or transmitted in communication, information and electronic systems by ensuring their availability, integrity, authentication, confidentiality and non-repudiation. This includes providing for restoration of CIS by incorporating protection, detection and reaction capabilities.

Information Retrieval. The technique and process of searching, recovering, and interpreting information from large amounts of stored data.

Information Security (INFOSEC). A generic term covering the following aspects of security: (a) Personnel security. (b) Physical security. (c) Radiation security. (d) Transmission security. (e) Crypto security. (f) Computer security.

Information System. Assembly of equipment, methods of procedures and, if necessary, personnel organized so as to accomplish specific information processing requirements.

Information Technology (IT). A catch-all term used to describe the techniques used for the automation of information handling and retrieval, including computing, telecommunications and office systems.

Infra-Red. In visual communications, transmission of signals by light outside the visual spectrum. This method necessitates the use of special equipment and affords greater security than normal visual means.

Intercommunications Set. A two-way communication system for localized use such as within or between buildings and within crew served vehicles or aircraft. Functions may include remote selection of frequencies, selection of operational mode and/or available equipments, etc.

Interconnection Links. Circuits between DCS stations (usually located in the same geographic area) devoted to any or all of the following: technical control, electrical patch-through, and traffic movement. Such circuits generally terminate at a patch panel.

Interference. The impairment of reception by atmospheric, unwanted signals, or the effects of electrical apparatus or machinery.

Internet. The worldwide interconnection of individual computer networks operated by government, industry, academia, and private parties. The internet was originally developed by the Defense Advanced Research Projects Agency (DARPA) to interconnect laboratories and academic institutions engaged in government-sponsored research.

Internet Protocol (IP). Standard that allows dissimilar hosts to connect to each other through the Internet.

Interoperability. The ability of systems, units or forces to provide services to and accept services from other systems, units or forces and to use the services so exchanged to enable them to operate effectively together.

Interphone/Intercom. A telephone apparatus by means of which personnel can talk to each other within an aircraft, tank, ship or activity.

Interrogation. A signal or combination of signals intended to trigger a response.

Ionization. The process or the result of any process by which a neutral atom or molecule acquires either a positive or negative charge.

Interrogator. A pulse transmitter used exclusively for exciting a transponder.

Intranet. A network based on Transmission Control Protocol (TCP)/IP protocols (an internet) belonging to an organization, usually a corporation, and accessible only by the organization's members, employees, or others with authorization. An intranet's web sites look and act just like any other web sites, but the firewall surrounding an intranet fends off unauthorized access.

IP Address. A unique numerical address assigned to each host on an IP network based on a standard scheme and by a central agency. Used to communicate between hosts on the network.

Isochronous. Pertaining to data transmissions in which the time interval separating two corresponding signal state transitions is equal to the unit interval of that signal state or a multiple of the unit interval.

Jammer. A transmitter designed specifically to prevent or reduce the enemy's effective use of the electromagnetic spectrum.

Jamming:

Barrage. The simultaneous jamming of a number of adjacent channels or frequencies.

Spot. The jamming of a specific channel or frequency.

Electronic Jamming. The deliberate radiation, reradiation, or reflection of electromagnetic signals with the object of impairing the use of electronic devices by the enemy.

kbps. 103 bits per second (bps).

Key. A means of gaining or preventing access. A set of instruments governing the encryption or decryption of a message.

Landline. A general term applied to metallic conductors used for conveyance of intelligence.

Light-Emitting Diode (LED). Semiconductor device, much more reliable than an incandescent lamp, used for status display purposes in electronic equipment.

Line. A general term applied to metallic conductors used for conveyance of intelligence.

Line of Sight (LOS). Alternative term for point-to-point transmission and reception between two antennae not masked by the earth's surface.

Link. Communications circuit or transmission path connecting 2 or more points.

Listen. Continuous receiver watch for reception of traffic addressed to, or of interest to, the receiver's unit.

Local Area Network (LAN). A data communications network confined to a limited geographic area (up to 6 miles or about 10 kilometers) with moderate to high data rates (100 kbps to 100 Mbps). The area served may consist of a single building, a cluster of buildings, or a campus-type arrangement. It is owned by its user, includes some type or switching technology, and does not use common carrier circuits - although it may have gateways or bridges to other public or private networks.

Logic. The result of planning a data processing system or of synthesizing a network of logic elements to perform a specified function.

Long Lines. Long lines include all forms of physical conductors used for communication purposes such as open wire systems, underground and overhead cables, and submarine cables, but do not include local circuits. They also may contain radio relay systems when they are integrated with the wire system.

Loop Circuit. Common communications circuit shared by more than two parties; when applied to a teletypewriter operation, all machines print all data entered on the loop.

Mainframe, Mainframe Computer. A large-scale computer (such as those made by IBM, Univac, Control Data, Burroughs and others) normally supplied complete with peripherals and software by a single large vendor, often with a closed architecture. Also called host or CPU. Contrast with minicomputer.

Manpack (MP). A radio set designed to be carried by one Marine in a backpack (e.g., AN/PRC-119B).

Mbps. Millions of bits per second (bps).

Mean Time Between Failures (MTBF). A figure of merit for electronic equipment or systems that indicates the average duration of periods of fault-free operation. Used in conjunction with MTTR to derive availability figures.

Mean Time To Repair (MTTR). A figure of merit for electronic equipment or systems that indicates the average time required to fix the equipment or system. Used in conjunction with MTBF to derive availability figures.

Message, Drill. Message intended for training communication personnel.

Message, Exercise. Message sent during and relating to training exercises, command post exercises, tactical exercises, and maneuvers.

Message Handling System. Provides a store-and-forward service for conveying messages between system users. DMS is an example of a message handling system.

Microcomputer. A desktop (or knee-top) computer; as personal computer or a microprocessor system.

Microprocessor. A computer-on-a-chip.

Microwave. A sub-classification of the electromagnetic spectrum. Generally covers the wavelength region from VHF to EHF (3 Meters to .3 cm).

Minimize. A condition imposed by command authority to drastically reduce a nonessential message and/or telephone traffic to facilitate prompt transmission of vital messages in time of emergency or when normal communications capability has been severely curtailed.

Modem. A contraction of modulator-demodulator, and equipment that connects data terminal equipment to a communication line.

Modulate. To vary the amplitude, frequency, or phase of a wave, or vary the velocity of the electrons in an electron beam in some characteristic manner.

Modulation. The process of varying a characteristic (e.g., frequency, phase, amplitude) of a carrier signal in accordance with an information bearing signal.

Module. A packaged assembly of wired components, built in a standardized size and having standardized plug-in or solderable terminations.

Monitor. To supervise a program and check that it is operating correctly during its execution, usually by means of a diagnostic routine.

Multichannel. The term arises from the fact that a single trunk, either radio or wire, may be employed to provide more than one channel of communication. These channels may be voice, teletypewriter, or data in various combinations.

Multichannel Radio Equipment. Radio equipment designed to provide several channels of communications simultaneously.

Multiplexer. A device for combining two or more signals.

Need-to-Know. A criterion used in security procedures that require the custodians of classified information to establish, prior to disclosure, that the intended recipient must have access to the information to perform his/her official duties.

Net. An organization of stations capable of direct communications on a common channel or frequency.

Net (Communications). An organization of stations capable of direct communications on a common channel or frequency.

Net Control Station (NCS). The station charged with controlling the flow of traffic within a net.

Network. An organization of stations capable of intercommunications but not necessarily on the same circuit.

Network Security. The protection of networks and their services from unauthorized modifications, destruction, or disclosure, providing an assurance that the network performs its critical functions correctly and there are no harmful side-effects.

Nodal. Pertaining to a junction point in a network; a branch point.

Octal. A digital system with 8 states, 0 through 7.

Off-line Cryptographic Operation. A method of operation in which encryption and transmission or reception and decryption are performed in separate steps, rather than automatically and simultaneously.

Omni-directional. Radiating or receiving equally well in all directions. Also known as nondirectional.

On-line. A method of transmission by which signals from telecommunications equipment are passed direct to a channel/circuit to operate automatically, compatible equipment at one or more distant stations.

On-line Cryptographic Operation. A method of operation whereby messages are automatically encrypted and simultaneously transmitted from one station to one or more stations where reciprocal equipment is automatically operated to permit reception and simultaneous decryption of the message.

On-line Secured Communications System. Any combination of interconnected communication centers partially or wholly equipped for on-line cryptographic operation and capable of relaying or switching message traffic using on-line cryptographic procedures.

Open Architecture. An architecture that is compatible with hardware and software from any of many vendors. Contrast with closed architecture.

Operations Security (OPSEC). A process of identifying critical information and subsequently analyzing friendly actions attendant to military operations and other activities to:

- a. Identify those actions that can be observed by adversary intelligence systems.
- b. Determine indicators hostile intelligence systems might obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries.
- c. Select and execute measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation.

Optical Fiber. One of the glass strands - each of which is an independent circuit - in a fiber optic cable.

Originator. The command by whose authority a message is sent. The originator is responsible for the functions of the drafter and releasing officer.

Oscillator. A device which produces an electrical signal of relatively constant frequency and amplitude.

Parabolic Antenna. An antenna provided with a reflector having the characteristic that radio frequency waves emitted from a focal point will be reflected into space along parallel paths thus creating a narrow beam.

Parity Bit. The bit which is set to 1 or 0 in a character to ensure that the total number of 1 bits in the data field is even or odd. Or may be fixed at 1 (mark parity), fixed at 0 (space parity), or ignored (no parity).

Parity, Parity Check. Addition of overhead bits to ensure that the total number of 1s in a grouping of bits is either always even for parity or always odd for odd parity. This permits detection of single errors. It may be applied to characters, transmission blocks or any convenient bit grouping.

Patch, On-call. A communications service which provides temporary direct communications between users. Teleconferences are an example of this type of service.

Phased Array. An array of dipoles in which the phase of the signal feeding each dipole is varied in such a way that antenna beams can be formed and scanned very rapidly in azimuth and elevation without requiring physical movement of the antenna.

Plain Language (Plain Text). Text or language which conveys an intelligible meaning in the language in which it is written with no hidden meaning; the intelligible text underlying encrypted text.

Point-to-Point. A circuit which connects terminals at two (and only two) points.

Power (of Radio Transmitter). When not otherwise specified the definition of Peak Power of a radio transmitter shall be used.

Printed Circuit. A pattern comprising printed wiring formed in a predetermined design in, or attached to, the surface or surfaces of a common base.

Programmable Read Only Memory (PROM). Permanently stored data in a non-volatile semiconductor device. Compare with EPROM, RAM and ROM.

Propagation. The manner in which an electromagnetic emission travels outward from its source.

Protocol. Hardware and software procedures used to control the transfer of data in communications networks and between networks and subscriber.

Pulse-Code Modulation (PCM). A process by which the peak-to-peak amplitude range of the signal to be transmitted is divided into a number of standard values each having its own three-place code; each sample of the signal is then transmitted as the code for the nearest standard amplitude.

Pulse Regeneration. The process of restoring pulses to their original relative timings, forms, and magnitudes.

Pulse Repeater. A device used for receiving pulses from one circuit and transmitting corresponding pulses into another circuit; it may also change the frequencies and waveforms of the pulses and perform other functions.

Rack-Mount. Designed to be installed in a cabinet.

Radar. Radio detection and ranging equipment, that determines the distance and usually the direction of objects by transmission and return of electromagnetic energy.

Radar Coverage. The limits within which objects can be detected by one or more radar stations.

Radar Echo. The radio frequency energy received after reflection from an object.

Radar Recognition and Identification (Identification, Friend or Foe (IFF)). A system using radar transmissions to which equipment carried by friendly forces automatically responds; for example by emitting pulses, thereby distinguishing themselves from enemy forces. It is the primary method of determining the friendly or unfriendly character of aircraft and ships by other aircraft or ships and by ground forces employing radar detection equipment and associated IFF units.

Radar Silence. An improved discipline prohibiting the transmission by radar of electromagnetic signals on some or all frequencies.

Radio. A descriptive term applied to the use of electromagnetic waves between 10 kilohertz and 3,000,000 megahertz. It is used principally as an adjective.

Radio Deception. The employment of radio to deceive the enemy. Radio deception includes sending false dispatches, using deceptive headings, and employing enemy call signs.

Radio Guard. A ship, aircraft, or radio station designated to listen for and record transmission, and to handle traffic on a designated frequency for a certain unit or units.

Radio Silence. A period during which all or certain radio equipment capable of radiation is kept inoperative.

Radio Telegraph. A method of radio communications in which the output of a transmitter is keyed using the International Morse Code to transmit intelligence.

Radio-Wire Integration. The combining of wire circuits with radio functions.

Random Access Memory (RAM). A storage device into which data can be entered (written) and read; usually (but not always) a volatile semiconductor memory.

Range. The distance between specified radio stations over which effective communications can be provided.

Read Only Memory (ROM). Nonvolatile semiconductor storage device manufactured with predefined contents. Compare with EPROM, PROM and RAM.

Real-Time. Pertaining to a data-processing system that controls an ongoing process and delivers its outputs (or controls its inputs) not later than the time that these are needed for effective control. Near real-time approximates this capability.

Receiver (Radio). A device connected to an aerial or other source of radio signals in order to make available in some desired form the required information content of the signals.

Reception. Listening to, copying, recording or viewing any form of emission.

Redundancy. Equipment or facilities provided in numbers greater than the essential minimum, to increase overall reliability.

Re-Encrypt. A process of encrypting again a previously encrypted and transmitted message, any of the plain text thereof, or a paraphrased version.

Repeater. A device that amplifies, reshapes, retimes or performs a combination of these functions on an input signal for retransmission. The input signal may be either analog or digital. Repeaters are used to extend the distance that network signals can be transmitted.

Reperforator. Equipment used in conjunction with a teletypewriter through which signals are printed and perforated on tape. This tape may then be used to automatically key a transmitter or device.

Resolution. The degree to which nearly equal values of a quantity may be discriminated. The degree to which a system or device distinguishes fineness of detail.

Retransmission. The process by which a signal received by one transceiver may be retransmitted on another. The advantages of this process include interconnection of different radio nets, use of higher powered retransmission equipment to increase range, automatic and/or unattended relay, and non-line of sight transmission capabilities. A normal frequency separation of 1 MHz or more is used to avoid mutual interference between the receiving and transmitting functions.

Router. A device used to interconnect two or more data communication networks. The router reads the network address of all data packets and forwards to the addressee via the best available communications path.

Saturation. The overwhelming of a receiver by an excessively high input signal such as jamming.

Scintillation. In radar, a rapid apparent displacement of a target indication from its mean position on a radar display. In radio, a random fluctuation of the received field about its mean value (usually small).

Security Clearance. An administrative determination by competent national authority that an individual is eligible, from a security standpoint, for access to classified information.

Serial Transmission. A technique in which each bit of information is sent sequentially on a single channel, rather than simultaneously as in parallel transmission. Serial transmission is the normal mode for data communications. Parallel transmission is often used between computers and local peripheral devices.

Sideband. A sideband is the frequency band, above or below the carrier, produced by the process of modulation.

Sidetone. Background audio you hear in the earpiece when keying the transmitter and talking into microphone.

Signal.

1. As applied to electronics, any transmitted electrical impulse.
2. Operationally, a type of message, the text of which consists of one or more letters, words, characters, signal flags, visual display or special sounds, with prearranged meanings and which is conveyed or transmitted by visual, acoustical, or electrical means.
3. The document containing the information to be transmitted and or any reproduction thereof made in the course of transmission or delivery to the addressee. Also known as a message.

Signals Intelligence (SIGINT). The generic term used to describe COMINT and ELINT when there is no requirement to differentiate between these two types of intelligence, or to represent fusion of the two.

Simplex. Refers to a mode of operation in which communication between two terminals can take place in only one direction.

Simulator. A routine which is executed by one computer, but which simulates the operations of another computer. A computer or other piece of equipment that simulates a desired system or condition and shows the effects of various applied changes.

Single Channel (SC). The RT method of operation using one selected frequency.

Single Sideband. The term arises from the fact that the electromagnetic spectrum of this signal contains only one of the two sidebands that are part of an amplitude-modulated signal. A single sideband signal normally consists of a low-frequency modulating signal converted to a radio frequency signal. Either the upper or lower sideband frequencies may be employed with the radio frequency carrier suppressed.

Single Sideband (SSB) Transmission. That system of carrier transmission in which one sideband is transmitted and the other sideband is suppressed. The carrier wave may be either transmitted or suppressed.

Skywave. A radio wave that reaches the receiving location after refraction from the ionosphere.

Software. A computer program or set of computer programs held in some kind of storage medium and loaded into read/write memory (RAM) for execution.

Sound Powered. A term denoting that a device (e.g., a microphone) derives its power by converting acoustic energy to electrical power without the aid of an external power supply.

Spread Spectrum. A communications technique in which the modulated information is transmitted in a bandwidth considerably greater than the frequency bandwidth containing the original information. Spread spectrum systems utilize a sequential noise like signal, for example pseudo noise codes, to spread the normally narrow band information signal over a relatively wide band of frequencies. The receiver correlates these signals to retrieve the original information signal.

Squelch. Circuit in the RT that eliminates the rushing sound in the earpiece or loud speaker when no real signal is being received.

Start of Message Indicator (SOMO). An indicator employed to activate automatic message switching equipment. It is required on messages passing into or through automatic switching systems to indicate the start of the message.

Station. A separate transmitter or receiver or a combination of transmitters and receivers including the accessory equipment required for carrying on a definite radio communication service. The station assumes the classification of the service in which it operates permanently or temporarily.

Switchboard. In an exchange, a suite of one or more operating positions at which the interconnection of lines is manually controlled.

Switching, Automatic. A method of operation which effects automatic interconnection of channels, circuits, and trunks and/or handling of traffic through a switching center.

Switching Communications System. In telecommunications, assembly of equipment and procedures, organized so as to effect automatic interconnection of channels, circuits and trunks, and/or handling of traffic, through switching facilities.

Synchronization, Synchronizing. The process of making the receiver be “in step” with the transmitter; usually achieved by having a predefined constant time interval between successive bits.

Synchronous. Pertaining to an operation that occurs with a regular or predictable time relationship to a specified event.

Synchronous Transmission. Transmission in which the data characters and bits are transmitted at a fixed rate with the transmitter and receiver synchronized. This eliminates the need for individual start bits and stop bits surrounding each byte, thus providing greater efficiency. Contrast with asynchronous transmission.

Synthesizer. An electronic instrument which combines simple elements to generate more complex entities; examples include frequency synthesizer or sound synthesizer.

System. An overall term used to describe communication facilities from an engineering aspect including all the associated equipment.

System Administration. The maintenance of a multi-user information system, including LANs. Typical duties include adding and configuring new workstations, setting up user accounts, installing system-wide software, and allocating mass storage space.

System Integrity. The property that a system performs its intended function in an unimpaired manner, free from deliberate or accidental unauthorized manipulation of the system.

System Plan. A plan which encompasses the methods and means for fulfilling the approved telecommunication requirements.

T1 Circuit. A communications circuit providing 1.544 Mbps capacity.

Tactical Air Navigation System (TACAN). An ultra-high frequency electronic air navigation system which provides a continuous indication of bearing and slant range to the TACAN station. The term is derived from Tactical Air Navigation. A navigation aid, measuring distance and bearing from the transponder type directional beacon. The craft carries a pulsed interrogating transmitter, a receiver and display equipment. The combined receive-transmit radiation pattern of the beacon rotates continuously about a vertical axis and the phase-characteristics of the amplitude modulation so imposed on the transmitted pulses carries the bearing information.

Tactical Radio Net. A functional radio net used primarily for immediate and direct control of fire and maneuver of subordinate units. It operates normally under the control of the unit commander or operations officer, and is established primarily for rapid and uninterrupted handling of operational traffic between commanders.

Telecommunications. Any transmission or reception of signs, writing, images, and sounds or intelligence of any nature by wire, radio, visual, or other electromagnetic systems.

Teleconference. A conference between persons remote from one another but linked by a telecommunication system.

Teletypewriter. A type of communication equipment that provides a printed record of all messages transmitted and received. There are three methods of operation: (1) Send only-receive only, which provides transmission of signals in one direction only, (2) Half-duplex, which provides transmission in both directions, but in only one direction at a time, (3) Full-duplex, which provides simultaneous sending and receiving.

Terminal. A facility, excluding unattended relays, where channels may be tested, rerouted, or dropped out, or through which "express through" channels pass.

Test, Communications. Any transmission or reception of information directed specifically to evaluate the degree of responsiveness of communication media and/or facility (ies).

Threat. Any potential event or act that could cause one or more of the following to occur: unauthorized disclosure, destruction, removal, modification or interruption of sensitive information, assets or services, or injury to people. A threat may be deliberate or accidental.

Time Zones. Twenty-four 15-degree longitudinal divisions of the earth into time zones having local standard time. Each zone is one hour different from its adjacent zones.

Traffic. All transmitted and received messages.

Traffic Control. That action taken by a DCS station, network coordination station, or a communication control center to ensure that telecommunications traffic flows within the DCS in the manner prescribed by current operating instructions.

Traffic Control Element. An organizational element which supervises the traffic handling and traffic control functions of a DCS station, reports traffic conditions as required by the Defense Communications Agency (DCA) and operates in coordination with the network coordination station and communication control center. This element is located only in those DCS stations which accomplish message center or message switching functions.

Transceiver. A radio transmitter and receiver combined in one unit and having switching arrangements to permit use of one or more tubes for both transmitting and receiving a transmitter-receiver.

Transmission Identification (TI). A combination of letters and figures used to identify a transmission on a circuit between two stations. It consists of the following components in sequence:

Station and Circuit Identification. Three letters which identify one or both of the stations and a specific circuit between the two stations (JRO). These are used as follows:

- (1) Either two letters identify one or both of the stations and one letter to identify a specific circuit, or
- (2) Three letters to collectively represent one of the stations and a specific circuit.

Transmission Number. Three numeral characters which serve to sequentially number each transmission on a specific circuit and which start at one (001) on a daily basis.

Transmitter (Radio). Apparatus producing radio frequency energy for the purpose of radio communication.

Transponder. A transmitter-receiver capable of accepting the challenge of an interrogator and automatically transmitting an appropriate reply.

Troposcatter (Tropospheric scatter). Scatter propagation of radio waves caused by irregularities in the refractive index of air in the troposphere; used for long distance communications, with the aid of relay facilities, 300-500 kilometers (186-310 mi.) apart.

True Date-Time Group (TDTG). The initial date and time assigned to a message for identification purposes. The TDTG, which is not necessarily the date-time group appearing in the external message heading, remains identified with a message regardless of the number of transmissions, retransmissions, re-encryptions, or readdresses.

Trunk. A single or multichannel communication medium between two successive terminals.

Trunk Group. A combination of trunks between specified terminals or geographic areas. In a broadband system a trunk group will consist of two or more radio supergroups, separate groups, or a combination thereof.

Tuning. The process of adjusting a circuit so that it resonates at a desired frequency.

Unidirectional. Radiating in only one direction.

UNIX. An operating system developed at Bell Laboratories in the early 1970s. As a result of its portability, flexibility, and power, UNIX became the leading operating system for workstations. UNIX is widely used in military command and control systems. However, the proliferation of variants has limited its portability, and its lack of user friendliness is a major drawback for military applications.

Up-Link. A communications and/or command transmission from earth to a satellite.

Validation. The act of testing for compliance with a standard.

Virus. A self-replicating malicious computer program segment that attaches itself to an application program or other executable system component.

Waveguide. A transmission line consisting of a system of material boundaries or structures for guiding electromagnetic waves.

Wavelength. The distance between two successive points of a periodic wave in the direction of propagation, in which the oscillation has the same phase.

Whip Antenna. An antenna which has no elements extending from the single (flexible) shaft.

Wide Area Network (WAN). A network which uses common carrier-provided lines; contrast with LAN.

Zeroize. To align cryptographic elements of a cipher machine to a fixed original position.

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