

U.S. Marine Corps (Ground)

Liaison Report

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ASTRONICS
DME CORPORATION

USMC ATE/TPS Overview



- ATE Systems
 - AN/USM-657 - Third Echelon Test System (TETS)
 - AN/USM-717 - Virtual Instrument Portable Equipment Repair/Test (VIPER/T) System
 - AN/USM-718 - Ground Radio Maintenance Automatic Test System (GRMATS)
- Platforms/TPSs
- Future Test Activities

USMC ATE Systems



- AN/USM-657 - Third Echelon Test System (TETS)

- 228 systems

- 25 Core (Analog/Digital)
- 165 RF
- 38 EO

- Upgrades in process (from VIPER/T program)

- Instrument Controllers (replacement) – 228
- Power Distribution Units (replacement) – 164
- Synchro/Resolver Simulator (added capability) – 26
- 18 GHz RF Subsystem (replacement) - 5

- Field locations

- Supporting USMC Air Wings, Logistics Groups, Headquarters Groups, and Depots



USMC ATE Systems



- AN/USM-717 - Virtual Instrument Portable Equipment Repair/Test (VIPER/T) System
 - 127 VIPER/T Systems total ordered to date
 - 45 RF
 - 44 RF/EO
 - 38 EO
 - 126 VIPER/T Systems delivered to date
 - 44 RF
 - 44 RF/EO
 - 38 EO



USMC ATE Systems



- AN/USM-717 - VIPER/T (Cont'd)
 - Systems provided as GFE for development
 - Picatinny Arsenal – New Jersey
 - TPS rehost of LW-155 Howitzer APS to VIPER/T platform
 - TPS development for Expeditionary Fighting Vehicle LRUs
 - Astronics DME – Orlando, FL
 - APS Production and TPS rehost for LAV-25 A2 LRUs
 - Elcan Optical Technologies – Richardson, TX
 - TPS development for the Medium Range Thermal Bi-Ocular (MRTB)
 - Elbit Systems – Merrimack, NH
 - TPS development for the Long-Range Thermal Imager (LRTI)

USMC ATE Systems



- AN/USM-717 - VIPER/T (Cont'd)
 - Fleet fielding began in June 2009
 - Final verification of legacy TPSs in process at USMC-Albany and DME-Orlando
 - 2nd MEB, Afghanistan
 - Combat Logistics Battalion-7, 29 Palms, CA
 - Exercise Support Division, 29 Palms, CA
 - Electronics Maintenance Company, Camp Lejeune, NC

USMC ATE Systems



- AN/USM-717 - VIPER/T (Cont'd)
 - Retrofit Kits for legacy TETS
 - Instrument Controllers – New laptop, docking station and Windows XP-based operating system with modified system software
 - 228 modification kits ordered
 - 63 kits delivered
 - Power Distribution Units - New single box PDU with modified system software
 - 164 kits ordered
 - 164 kits delivered
 - Synchro/Resolver Simulators - NAI Synchro/Resolver Simulator VXI card and cables with modified system software
 - 26 kits ordered
 - 5 kits delivered (awaiting GFE to deliver additional kits)



Platforms/TPSs

- Current platforms supported by TETS and/or VIPER/T
 - AN/MRC-142 Digital Wideband Transmission System
 - AN/TPQ-46A Firefinder Radar
 - AN/TRC-170 Tropospheric Scatter Microwave Radio Terminal
 - LAV-25 Light Armored Vehicle 25mm Turret LRUs
 - TOW II System and Missile Guidance Set
 - AN/PAS-22 Long Range Thermal Imager
 - M-777A2 (LW155) Light Weight 155 Digital fire Control System LRUs
 - M1A1 Abrams (CCAs)
 - DIM-36 Marine Corps Thermal Optics Unit



Platforms/TPSs

- Current platforms in development on TETS and/or VIPER/T
 - General Support of Tactical Handheld and Weapons Mounted Optics and Laser Aiming Devices
 - Enhancements to existing AN/PSM-117 APS
 - ECP's to current VIPER/T system configuration
 - Thermal, Image Intensified, and Laser Devices
 - Tactical Handheld and mobile communication devices
 - Weapons Mounted Optics and Laser Aiming Devices
 - Ground Vehicle Weapon System

Platforms/TPSs



- Future platforms to be supported by TETS and/or VIPER/T
 - AN/TRC-170 enhancements
 - AN/TPQ-46A enhancements
 - Light Armored Vehicle Instrument Panel, Annunciator Panel and Head-Up Display
 - Expeditionary Fighting Vehicle (EFV)
 - Shoulder-launched Multipurpose Assault Weapon (SMAW II)

AN/USM-718 - Ground Radio Maintenance Automatic Test System



- USMC MARCORSYSCOM Quantico
- Test and diagnostic functions for both current and future software-defined, tactical radios
- Preparing for GRMATS First Article Test
- Test Program Set Development Effort to be released next month as separate effort



USMC Future Test Activities

- **Next Generation Ground Marine Corps Automatic Test System (NGEN ATS)**
 - “2012” Tester - Future ATE System
 - Successor to TETS and VIPER/T
 - Smaller, lighter, new technology
 - Reconfigurable for specific deployments
 - Requirements generation in process



USMC Future Test Activities

- EO Test Requirements
 - Common EO Tester prototype developed to assist in Identifying requirements for an Organizational Level EO Test Suite
 - Joint Army – Marine Corps EO (JAMEO) effort to define requirements
 - Ongoing effort
- Identifying requirements/solutions for a downsized Field Level EO Tester using hand held and weapons-mounted laser devices as baseline candidates.
- Identifying requirements for a Portable Cable Tester
 - On-vehicle testing of cable assemblies