



U N I T E D S T A T E S M A R I N E C O R P S

# U.S. Marine Corps (Ground) Liaison Report

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L. Salzano



# USMC ATE/TPS Overview

- General Purpose Automatic Test Systems (GPATS)
- Ground Radio Maintenance Automatic Test System (GRMATS)
- Application Program Sets (APS)
- On-going and Planned Programs

# GPATS

## GPATS Radio Frequency (RF) Variant

- **AN/USM-717(V)2**
  - VIPER/T (Astronics) RF Variant
- **AN/USM-657B(V)2 RF**
  - TETS (ManTech) RF Variant
- **Systems are form, fit, functionally the same**
- **Support Test Program Sets that require RF capabilities in addition to analog/digital**
- **(128) systems deployed for USMC users**



# GPATS

## GPATS Electro-Optic (EO) Variant

- **AN/USM-717(V)3**
  - VIPER/T EO Variant
- **Consists of a core test system with EO subsystem**
- **Supports testing of multiple EO devices:**
  - Infrared (IR) and Image-Intensified (I<sup>2</sup>) night vision devices
  - Laser designators, illuminators, laser aiming devices, and laser range finders.
- **(82) total EO systems deployed for USMC users**



- GPATS Modernization Program
  - New acquisition program initiated to address current and anticipated obsolescence for GPATS (TETS and VIPER/T)
  - Currently there are 4 increments planned under this Program:
    - Common Instrument Controller (CIC)
      - Replace current IC (laptop/docking station) with a modern, Windows 7- compliant solution
      - Currently under contract with Astronics Test Systems to provide two first article units and 229 production CICs
    - Digital Test system (DTS) Refresh planned quantity (23)
    - Analog Instrumentation Refresh planned quantity (23)
    - Radio Frequency (RF) Refresh planned quantity (62)
  - Plan to execute multiple procurements during 2016-2018 to meet these requirements



# GRMATS

## Ground Radio Maintenance Automatic Test System (GRMATS)

- **AN/USM-718 (GRMATS Block I)**
- **(68) systems delivered in 2007 and fielded to support urgent requirement for software-defined radio test support through a Field User Evaluation**
- **This system (Block I) was retired in FY '15**
  
- **AN/USM-718A (GRMATS Block II)**
- **All (562) systems have been delivered by the OEM (Aeroflex)**
- **Fielding to Marine Corps units is in progress**



AN/USM-718 (ATS2000)



AN/USM-718A (GRMATS)

# Application Program Sets

- Application Program Sets
  - ID/IQ contract task orders for TPS Development and APS Production
    - 23 Task Orders awarded:

AN/PSM-105 Rehost and Production (AN/TRC-170)	Video Capture Card Obsolescence Study
AN/PSM-113 APS Production (Training TPS)	AN/USM-657 (TETS) IETM Updates
AN/PSM-109 TPQ-46A Firefinder TPS Rehost and Development	AN/USM-717 (VIPER/T) IETM Updates
AN/PSM-120 LAV25-A2 Instrument Panel Rehost and Production	AN/PSM-120 IETM Development
AN/PSM-123 LAV25-A2 MOOG APS Production	AN/PSM-123 IETM Development
Racal 3152 Obsolescence Study	Ground Radio Application Program Set (GRAPS) Rehost and Production

# Application Program Sets

- Application Program Sets
  - ID/IQ contracts for TPS Development and APS Production

Instrument Controller Obsolescence Study	GRAPS additional hardware production quantities
System Controller upgrade for AN/USM-657A & B and AN/USM-717(V)	AN/PSM-109 Production
VIPER/T EO Glass Covers	AN/PSM-127 GRAPS Production Follow-On
APS Spares	RT-1949 PRC-117G GRAPS Cable Production
AN/PSM-131 Tactical Remote Sensor System (TRSS) TPS Development/ Production	Power Supply Application Program Set (PSAPS) TPS Development
GPATS Robust System Switching Test (RSST)	



# Application Program Set (APS) Overview

- Ground Radio Application Programs Sets (GRAPS)
  - GRAPS are essentially TPS kits used in conjunction with AN/USM-718A GRMATS for testing USMC tactical radios
  - Astronics Test Systems completed rehost of 14 TPSs from the legacy GRMATS (Block I) to the currently fielded GRMATS (Block II)
    - Included production of 100 GRAPS kits
  - Astronics delivered an additional 456 kits under separate contracts

# Application Program Set (APS) Overview

- Currently Fielded GPATS Application Program Sets
  - AN/PSM-105 - AN/TRC-170 LRU/CCA
  - AN/PSM-109 - AN/TPQ-46 LRU/CCA
  - AN/PSM-112 - LAV-AT LRU
  - AN/PSM-115 - AAV MSQ-115 Diagnostics
  - AN/PSM-117 - Electro-Optic Test Suite
  - AN/PSM-118 - LAV-25 Chain Gun
  - AN/PSM-119 - LW 155 LRU Diagnostics
  - AN/PSM-123 - LAV-25A2 LRU Screening/ Diagnostics
  - AN/PSM-120 - LAV Instrument Panels/ Heads-Up Display
  - AN/PSM-124 - M1A1 Tank CCA Diagnostics

# Application Program Set (APS) Overview

- Current Efforts in Development/Production
  - Astronics Test Systems – Orlando, FL
    - AN/PSM-131 TRSS TPS Development and Production (6 new TPSs, 22 prod sets)
      - Complete – PCA to occur 6 Nov 2015
    - GPATS Robust System Switching Test (6 new TPSs)
      - Complete – PCA to be scheduled
  - Analysis, Integration and Design, Inc – Melbourne, FL
    - Power Systems Application Program Set (PSAPS) (21 new TPSs, 4 LRIP sets)
      - To be completed during November 2015
    - M41A4 Saber System CCA TPS Development (12 new TPSs, 2 LRIP sets)
      - To be completed during March 2016

# Application Program Set (APS) Overview

- Current Efforts in Development/Production
  - Automatic Test Systems Division - Picatinny Arsenal, NJ
    - AN/PSM-130 LAV-25A2 Circuit Card Assemblies (CCA) TPS Development and Production (12 new TPSs, 15 production units)
      - To be completed during January 2016
    - AN/PSM-129 Saber Line Replaceable Units (LRU) TPS Development and Production (8 new TPSs, 4 LRIP, 21 production units)
      - To be completed during November 2016
    - AN/PSM-126 Very Small Aperture Terminal (VSAT) LRU TPS Development (24 new TPSs, 6 LRIP units)
      - To be completed during August 2016
    - AN/PSM-119 Lightweight 155 Howitzer Digital Fire Control System (DFCS) LRU TPS Upgrades (New ID, cables and TPS software)
      - Completion date: TBD

# Application Program Set (APS) Overview

- Current Efforts in Development/Production
  - Automatic Test Systems Division - Picatinny Arsenal, NJ (cont'd)
    - AN/PSM-125 LAV-25A2 Improved Thermal Sight System (ITSS) LRU TPS Development (18 new TPSs, 4 LRIP units)
      - To be completed during August 2017
    - AN/PSM-112 LAV-AT (Anti-Tank) LRU TPS Development (18 new TPSs, 2 LRIP units)
      - To be completed during August 2017

# Application Program Set (APS) Overview

- Planned ATS Efforts
  - Assault Amphibious Vehicle (AAV) Upgrade Support
  - Shoulder Mounted Assault Weapon (SMAW) Mod II Program Support
  - LAV Mobility and Obsolescence (MOB) Program Support
  - LAV Foreign Military Sales (FMS) Program Support
    - Multiple programs
  - Dearborn Protocol Adapter (DPA) for EMSS
  - WI-FI Application Module (WAM) for EMSS



# Ongoing Efforts

- LAV Foreign Military Sales (FMS) Support
  - USMC TMDE providing support for FMS procurement of USMC VIPER/T systems and LAV-25 APSs
    - Contract# N64267-15-C-0021 awarded to Astronics Test Systems on 31 Mar 15
    - (2) VIPER/T and APS FAT units
    - Additional production quantities
    - In-country training support
  - TMDE will execute additional ATE and APS procurements, as required
- Stand Alone VIPER/T Electro-Optic (SAVEO) Test System
  - Task order awarded to Astronics Test Systems to provide a stand-alone controller, power supply and instrumentation solution to utilize with existing VIPER/T EO collimators
  - CDR completed on 8 July 2015
- EMSS connectivity in support of:
  - Global Combat Service Support- Marine Corps (GCSS-MC) Mobile Field Service
  - Automatic system updates