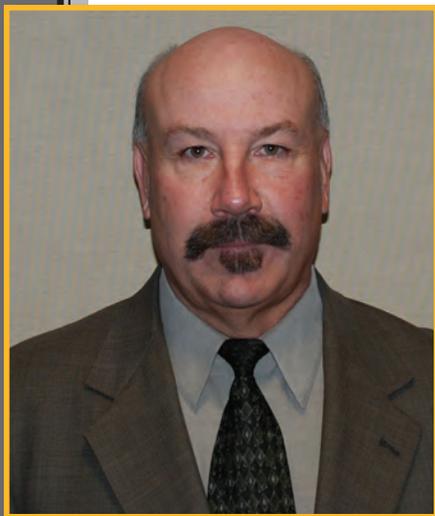


Tip of the Sphere

Training Insights

By Larry Mize

Larry Mize /// Bio



Larry Mize graduated from Xavier University with a Bachelor of Science in Mathematics in 1973. He entered active service in the United States Navy serving a career specializing in Naval Intelligence, Aircraft Carrier Operations, Naval Special Warfare (SEALs), and Space Operations. He attended French language training at the Defense Language Institute and subsequently served as the U.S. Navy Liaison Officer to the Commander French Forces Indian Ocean/French Foreign Legion/Commandos Marine in Djibouti. He attended Naval Postgraduate School and was awarded a Master of Science in Space Systems in 1986, subsequently serving at U.S. Space Command and U.S. Strategic Command. Mize is currently Chief of Space and Ground-based Midcourse Defense Education Training.

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Upcoming Events

As the Future Warfare Center Directorate of Combat Development enters its tenth year of formal institutional training, subsequent Army Space Journal Training Insights articles will address aspects of this 10-year journey. The command's institutional training has evolved and matured tremendously during the first decade of the 2000s and continues to do so. There is more to follow, so stay tuned. In the interim, here are some key training events scheduled. Contact me for further information.

■ Training in Colorado Springs

FA40 Space Operations Officer Qualification Courses	
10-01	Jun. 7 – Aug. 20
10-02	Sept. 8 – Nov. 10
Quarterly Tactical Space Operations Course	
Dates TBD	
Joint Tactical Ground Station Leader Development Course	
New Course Offering	
Joint Tactical Ground Station Initial Qualification Training	
10-03	Mar. 1 – Apr. 16
10-04	Apr. 26 – June 11
10-05	Jun. 21 – Aug. 6
10-06	Aug. 23 – Oct. 8
GMD Operator Course	
10-03	July 12 – Aug. 27
AN/TPY-2 (FBM) Sensor Manager Qualification Course	
10-003	Apr. 19 – May 7
10-004	Jun. 7 – 25
10-005	Sept. 6 – 24

■ Mobile Training

Army Space Cadre Basic Course	
Huntsville, Ala	Apr. 5 – 9
JTAGS Korea and Japan	Dates TBD

New JTAGS Leader Development Course Begins

By Greg Hatfield DCD JTAGS Courses Manager
 Throughout the history of the Joint Tactical Ground Station (JTAGS) program, the leaders in JTAGS Detachments only received the necessary training to perform as operators. There was no formal training in place to assist in their role as leaders. The JTAGS-Leader Development Course will provide the leaders two weeks of additional training which will improve maintenance, reduce training time when they arrive at their assignments, enhance decision making, improve mission event reporting, and reduce reporting errors. Upon graduation from the JTAGS Initial Qualification Training, graduates in the rank of E5 (P) and above, will then attend the JTAGS Leader Development Course.

■ Fiscal Year 2010 Dates

JTAGS Leader Development Course	
Class 10-01	Feb. 22 – Mar. 5 (Pilot)
Class 10-02	Apr. 19 – 30
Class 10-03	Jun. 14 – 25
Class 10-04	Aug. 9 – 20



Future Warfare Center Directorate for Combat Development Welcomes New Employee

The Directorate for Combat Development is proud to welcome to its team our newest Department of the Army Civilian, Michael Russell. Mike joined the team in early January after retiring from a career as an Army Infantry Officer and Functional Area 40 Space Operations Officer. Mike will support several Directorate of Combat Development institutional space training courses and he will be the key developer for two new space courses: an Advanced Space Operations Officer Course and an Army Space Support Team Initial Qualification Training course. -Welcome Mike!



Army Aerospace Medicine Specialists Join Ranks of Space Enablers

The Future Warfare Center Directorate of Combat Development Army Space Cadre Mobile Training Team traveled to Pensacola, Fla., Jan. 25-29, to deliver the 40-hour Army Space Cadre Basic Course to Army Residents in Aerospace Medicine. Joining the new Army Space Enablers were also U.S. Navy Residents in Aerospace Medicine that took advantage of this specialty training opportunity.

The Army Space Cadre Basic Course provides a foundational educational understanding of space operations for Army Space Cadre Enablers. For these newest Enablers, the course was also tailored to account for their unique occupational skills as Army Doctors specializing in aerospace medicine. As an example, one lecture dealt with “BIO-MTX,” a system concept that monitors an individual Soldier’s vital signs and then transmits that data remotely to a field medical site. The space link within this concept is the “space architecture” that gets that medical data to remote medical field stations. This “space architecture” is none other than that of the Joint Friendly Force Tracking.

For more about the Army Residents in Aerospace Medicine, see the related article by COL John Albano in the next edition of the Army Space Journal. For information on the Joint Friendly Force Tracking mission read the “Joint Friendly Force Tracking Mission Network Operations Success” article in Volume 8, No. 3 edition of the Army Space Journal.



Second Annual Space and Missile Defense Student Day

By Daryl Breitbach, FWC DCD Training

The 2009 National Education Alliance Partnership sponsored Space and Missile Defense Student Day took place Oct. 20, 2009 at the Huntsville, Ala., U.S. Space and Rocket Center. Similar to the 2008 Youth Education Day held in conjunction with the 11th Annual Space and Missile Defense Conference and Exhibition at the Von Braun Center in Huntsville, Ala., the 2009 Education Day brought in 7th and 8th graders from the local community.

Exhibitors included U.S. Army Space and Missile Defense Command's Future Warfare Center Directorate of Combat Development Education and Training Division, National Aeronautics and Space Administration, Unmanned Aerial Systems, Unmanned Ground Vehicles, and Space Camp. Activities entailed students rotating throughout all the exhibitors. Education Day exhibitors demonstrated a 15-20 minute presentation of their programs – some had hands-on, interactive

exhibits. Students also had a chance to walk through and visit the main exhibits at the U.S. Space and Rocket Center.

The U.S. Army Space and Missile Defense Command Future Warfare Center Directorate for Combat Development exhibit was provided by Larry Mize and Daryl Breitbach who also provided a video vignette of what it takes to get a satellite in orbit, how to maintain the satellite while in orbit, power, station keeping and pointing considerations. A hands-on practical demonstration activity was provided for students on satellite spin stabilization. Students were turned into a human gyroscope using a rotating platform and a bicycle wheel. The satellite overview DVD vignette was provided to the students along with a CD which included an orbital mechanics Computer Based Training module and other helpful educational material.



■ Future Warfare Center Directorate of Combat Development Cadre with Army and Navy Resident in Aerospace Medicine, NAS Pensacola Jan. 25-29



■ Naval Aerospace Medical Institute Coins of Excellence received by the Future Warfare Center Director of Combat Development Cadre

A Joint Graduation Ceremony

By Larry Mize

■ JTAGS OPERATOR INITIAL QUALIFICATION TRAINING

■ AN/TPY-2 (FBM) SENSOR MANAGER QUALIFICATION COURSE

JTAGS Class 10-002



SMQC Class 10-003



JTAGS Class 10-002

- ** SSG Derek Brown - EUCOM
- * SPC Joshua J. Hammill - EUCOM
- SSG Joe R. Cole - KOREA
- SSG Kenneth S. Paul - EUCOM
- SPC Trey W. Barker- EUCOM
- SPC Andrew C. Johnston - JAPAN
- SPC Jonas L. Knehans - KOREA
- PFC Brandon T. Metzler - EUCOM

SMQC Class 10-003

- * 1LT Kyle B. Vonderheide - 357 AMD-D
- CPT Martin R. Martinez - 357 AMD-D
- SGT Justin J. Meyers - 357 AMD-D
- SPC Joshua L. Bowen - 94 AAMDC
- SPC Tobin D. Jarvis - 94 AAMDC
- Mr. Michael T. Wright - MD A/DW
- Mr. Trevor A. Lane - JFCC-IMD

** Distinguished Honor Graduate, * Honor Graduate

After completing the seven-week Joint Tactical Ground Station (JTAGS) Initial Qualification Training, Class 10-02 graduated Feb. 19 in a joint ceremony with the graduating class for the AN/TPY-2 (FBM) Sensor Manager Qualification Course 10-02. Earning Additional Skill Identified Q4, these new JTAGS operators are en route the 1st Space Brigade and assignments at forward JTAGS Detachments in Korea, Japan and Germany. The SMQC graduates are en route assignments in Hawaii or Germany or with the Missile Defense Agency or Joint Functional Component Command for Integrated Missile Defense.



HISTORY OF JTAGS OPERATORS

In the late 1950s, shortly after the successful launch of the Soviet satellite Sputnik, the U.S. Air Force was given the responsibility to develop an infrared early warning system, which became the Missile Defense Alarm System (MIDAS). In the early 1960s nine MIDAS satellites were launched and real-time detection of missile launches was successfully demonstrated. The successful proof of capability to detect missiles from space led to the development of the current Defense Support Program which began in the late 1960s.

In 1988, U.S. Army Strategic Defense Command and Strategic Defense Initiative Office launched two new initiatives designed to examine near-term theater missile defense solutions. As part of one of those initiatives, a contract was awarded to Aerojet Electronic Systems for the Satellite Early Warning System to “demonstrate and quantify the accuracy to detect and track short range ballistic missiles.” This was the genesis of JTAGS.

In 1990 Aerojet was awarded a follow-on contract to the Satellite Early Warning System. This was dubbed the “Tactical Surveillance Demonstration” and was designed to utilize “national strategic assets [and] develop the hardware and software to extract useful data on tactical ballistic missiles.”

While Satellite Early Warning System was a “proof of principle” demonstration, Tactical Surveillance Demonstration would allow experimentation with real-time data and processing from two Defense Support Program sensors. Concurrently, during the 1991 Persian Gulf War, the Defense Support Program demonstrated the ability to detect short-range missile threats, however the information was warning only, did not offer redundancy, and burdened the long-haul communications infrastructure. As a result of these shortfalls, the warfighter often times did not receive timely accurate warning.

In 1992 a follow-on contract was awarded to Aerojet called “Tactical Surveillance Demonstration, Enhanced.” The system was designed to be mobile and capable of processing data from three Defense Support Program sensors and incorporating improved communication systems and other hardware/software upgrades. Also in 1992 the Army made the formal decision to pursue JTAGS development, the concept being a mobile system to deploy in support of theater missile defense during a major regional conflict.

In 1993, while developmental work proceeded with the Tactical Surveillance Demonstration, Enhanced project, the Tactical Surveillance Demonstration was upgraded and relocated from White Sands Missile Range, N.M., to Kelley Barracks, Stuttgart, Germany.

In 1994 the Tactical Surveillance Demonstration, Enhanced deployed to Osan Air Base, Korea. The Tactical Surveillance Demonstration and Tactical Surveillance Demonstration, Enhanced missions were such successes that the respective theater commanders requested that JTAGS permanently replace the older systems with them when fielded. JTAGS replaced the systems in Germany and Korea in 1997. In 1999 U.S. Central Command requested deployment of a JTAGS to Southwest Asia, which occurred in 2002. A fourth JTAGS was operationally employed in 2007 with the stationing of a JTAGS at Misawa Air Base, Japan.

HISTORY OF AN/TPY-2 (FBM) SENSOR MANAGERS

Previously designated as the Forward Based X-Band Transportable (FBX-T) Radar, this X-band frequency radar is designated as the Army Navy/Transportable Radar Surveillance, or AN/TPY-2. The radar plays a vital role in the Ballistic Missile Defense System by acting as advanced “eyes” for the system, detecting ballistic missiles early in their flight and providing precise tracking information. The first radar, delivered in November 2004, is currently deployed in U.S. Pacific Command. In 2008, the second AN/TPY-2 radar was deployed to U.S. Central Command. There are plans to have as many as four radars deployed worldwide within the next five years. Command and Control, Battle Management, and Communications Program integrates the elements and components of the Ballistic Missile Defense System. It is the critical integrating command and control function that enables the Ballistic Missile Defense System. It provides the warfighter with a reliable, flexible, and real-time capability to plan, monitor, and manage the defense of the United States, its deployed forces, and friends and allies against ballistic missile threats. In April 2006, the first Command and Control, Battle Management, and Communications Program fielded to the warfighters in U.S. Pacific Command. After two years of testing and training, U.S. Army Space and Missile Defense Command/Army forces Strategic Command was tasked to develop the sensor manager qualification course to train future warfighters to operate the AN/TPY-2 (FBM) using the Command and Control, Battle Management, and Communications Program. The first validation course was conducted at Offutt Air Force Base in Omaha, Neb., April 2008, and the first qualification course began in July 2008. Sensor managers are now serving across the globe in support of the 24/7 Ballistic Missile Defense System mission.