Approved for public release;
distribution is unlimited.
Headquarters,
Department of the Army

ARMY Communicator

Voice of the Signal Regiment • PB 11-06-3 Summer 2006 Vol. 31 No. 3

INTERNET PROTOCOL

LEVERAGING THE IP NETWORK TO SOLDIERS IN THE FORWARD FIGHT











INTELLIGENCE

RECONNAISSANCE

SURVEILLANCE

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
2006		**00-00-2006 to 00-00-2006**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Army Communicator. Voice of the Signal Regiment. Vol. 31 No. 3, Summer 2006	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **U.S. Army Signal Center and Fort Gordon,Army Communicator,ATTN: ATZH-POM,Fort Gordon,GA,30905-5301**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT **unclassified**	b. ABSTRACT **unclassified**	c. THIS PAGE **unclassified**	**Same as Report (SAR)**	**48**	

Chief of Signal's Comments

Bringing Internet Protocol to the Soldier

Fellow members of the Signal Regiment:

Our Regiment is moving faster and accomplishing more than ever before. One example of this is that the Secretary of the Army just made a decision that brings the power of the Internet Protocol network to the battalion and below level.

As a direct result of Operation Iraqi Freedom I, we recognize the need to release our commanders and their command posts from the static, cumbersome, and voice-based mobile subscriber equipment and un-tether them from line-of-sight communications. Now with the advent of Joint Node Network they operate independently, taking advantage of line-of-sight when available, or autonomously with the use of satellite communications which can be set up at the Quick Halt. Commanders and CPs can also operate more effectively, using voice, data, and video as never before with our first IP enabled network down to the maneuver battalion level.

Most recently we endeavored to extend the digitally networked and IP converged capabilities from the commanders down to the leaders and Soldiers at the lowest levels, in order to provide them with the freedom and power that battle command deserves. The importance of this mission has been underscored by our Chief of Staff when he said, "at the end of the day, squads and platoons will continue to win our battles…" These changes are not only essential for our Army, they are incredibly exciting for those of us developing them.

Today the Soldiers and leaders executing missions are still operating with legacy command-and-control equipment. Soldiers executing the commander's intent continue to ask for:

1. Ability to communicate in complex terrain, built-up urban areas, or over extended ranges (space/aerial layer) on-the-move and dismounted
2. Battle command on-the-move
3. Situational awareness capability to squad
4. Mounted to dismounted interoperability below platoon
5. Joint, air-to-ground interoperability below the company level



BG Randolph P. Strong
Chief of Signal

The Army is working to extend the goodness of the IP network to leaders and Soldiers in the forward fight sooner rather than later. The Secretary of the Army recently gave his support for an interim strategy that solves capability gaps for leaders and Soldiers as soon as possible (2007-2009 timeframe). This strategy maps to future systems like Land Warrior, Warfighter Information Network-Tactical, Joint Tactical Radio System, and Future Combat Systems while supporting the near-term fight during the global war on terrorism. The plan begins to solve capability gaps with solutions brought forward from the future. It puts LandWarrior into the hands of deploying Soldiers and moves JTRS/WIN-T-like functionality to the left by three years. It also leverages existing network infrastructure where feasible. Not only are we moving to IP, we are improving traditional radio capabilities also, providing common voice networks down to the team leader level.

What are some of the benefits of networking radios and other battle command devices? One benefit is task reduction. Automated position location reporting reduces radio calls and allows the team leader, squad leader, and platoon leader to focus on closing with and destroying the enemy. Instead of conducting a link up to distribute orders there is immediate multi-echelon dissemination of orders. There is also immediate, assured common graphics dissemination. A networking radio command and control system also reduces the communications limitations caused by built up urban environments or

See Chief of Signal Comments continued on Inside Back Cover

Recently we endeavored to extend the digitally networked and IP converged capabilities from the commanders down to the leaders and Soldiers at the lowest levels, in order to provide them with the freedom and power that battle command deserves.

Worldwide web homepage address http://www.gordon.army.mil/AC/
E-mail ACeditor@gordon.army.mil

PB 11-06-2
Summer 2006
Vol. 31 No. 3

Army Communicator

Voice of the Signal Regiment

Command

U.S. ARMY SIGNAL CENTER AND FORT GORDON
Commander/Commandant
BG Randolph P. Strong
Command Sergeant Major
CSM Michael Terry

Editorial Staff

Editor-in-Chief/Graphic Designer
Janet A. McElmurray
Senior Adviser
Susan Wood
Illustrator
Billy Cheney
Photography
Stephen Larsen, Anthony Ricchiazzi, Kristy Davies, Tony Medici**,** SFC Ty Sloan, SSG Jeff Troth, SFC Gregory Zigila, Members of the 30th Signal Battalion

Army Communicator (ISSN 0362-5745) (USPS 305-470) is an authorized, official quarterly professional bulletin of the U.S. Army Signal Center, Fort Gordon, Ga. 30905-5301. Second-class official mail postage paid by Department of the Army (DOD 314) at Augusta, Ga. 30901 and additional mailing offices.

POSTMASTER: Send address changes to ***Army Communicator***, U.S. Army Signal Center, Fort Gordon, Ga. 30905-5301.

OFFICIAL DISTRIBUTION: ***Army Communicator*** is available to all Signal and Signal-related units, including staff agencies and service schools. Written requests for the magazine should be submitted to Editor, ***Army Communicator,*** U.S. Army Signal Center, Fort Gordon, Ga. 30905-5301.

This publication presents professional information, but the views expressed herein are those of the authors, not the Department of Defense or its elements. The content does not necessarily reflect the official U.S. Army position and does not change or supersede any information in other official U.S. Army publications. Use of news items constitutes neither affirmation of their accuracy nor product endorsement.

Army Communicator reserves the right to edit material.

CORRESPONDENCE: Address all correspondence to ***Army Communicator,*** U.S. Army Signal Center and Fort Gordon, Signal Towers (Building 29808), Room 713, Fort Gordon, Ga. 30905-5301. Telephone DSN 780-7204 or commercial (706) 791-7204. Fax number (706) 791-3917.

Unless otherwise stated, material does not represent official policy, thinking, or endorsement by an agency of the U.S. Army. This publication contains no advertising.

U.S. Government Printing Office: 1984-746-045/1429-S.

Army Communicator is not a copyrighted publication. Individual author's copyrights can be protected by special arrangement. Acceptance by ***Army Communicator*** conveys the right for subsequent reproduction and use of published material. Credit should be given to ***Army Communicator.***

Table of Contents

Features

2 **USARSO provides new communications package**
1LT Andrew Thompson

4 **Great ideas start in the Balkans: High Frequency Tracker Initiative**
MAJ Karen J. Dill

7 **Eighth US Army hosts 2006 LandWarNet Training Conference**
Jim Arrowood

20 **Army National Guard prepares for hurricane season with 'Connect Army Logisticians' comms**
Stephen Larsen

42 **Signal Museum opens new exhibit with 1918 wire cart**
Kristy Davies

44 **MG Grombacher funeral service held at Huachuca**
NETCOM/9th ASC

Cover: The cover depicts Internet Protocol leveraging the IP network to Soldiers in the forward fight as discussed in the Chief of Signal's Comments.
Cover by Billy Cheney

Departments

9 Training Update
12 TSM update
18 Books
19 Doctrine Update
23 Circuit check

By Order of the Secretary of the Army:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

Official:
JOYCE E. MORROW
Administrative Assistant to the Secretary of the Army

0603003

USARSO provides new communications package

By 1LT Andrew Thompson

The United States Army South is the Army component of Southern Command with headquarters at Fort Sam Houston, Texas. USARSO is tasked with executing and supporting missions in South America, Central America, and the Caribbean in order to promote democracy, prosperity, and stability in those regions.

Unfortunately, a large amount of instability and poverty is in some of those areas, resulting in rampant crime and a prosperous drug trade. To combat this, and to react to any other events such as natural disasters, USARSO must be ready to deploy at a moment's notice, whether in small teams or as the complete headquarters.

The new USARSO Communications Package was designed to be a robust system able to deploy rapidly anywhere in the USARSO Area of Responsibility. During the deployment to Haiti for Operation Secure Tomorrow in the Spring of 2004, the previous communications package proved inadequate for such a heavy workload, and the need for a new system was identified.



The rigid wall shelter (above) houses the USARSO communications package.

During the deployment to Haiti for Operation Secure Tomorrow in the Spring of 2004, the previous communications package proved inadequate for such a heavy workload, and the need for a new system was identified.

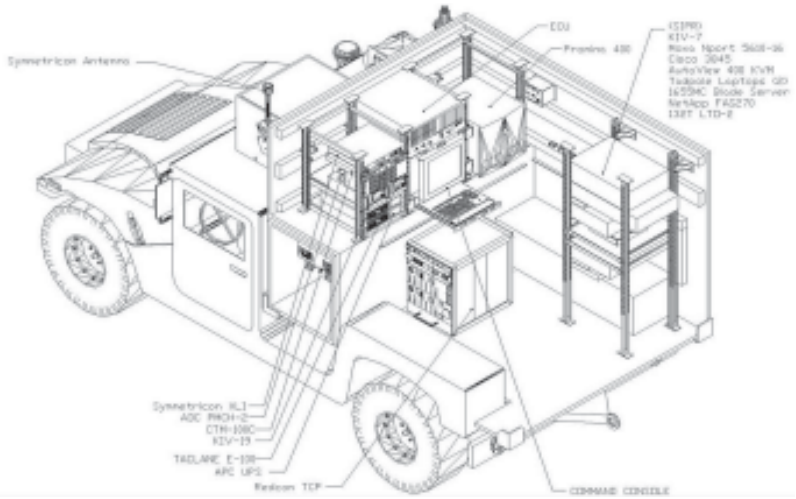
The new communications package was required to provide Non-secure Internet Protocol Router Network, Secure Internet Protocol Router Network, Voice, Video Teleconferencing, and Combined Enterprise Regional Information Exchange capabilities for up to 120 simultaneous users. Additionally, it needed to be mobile, redundant and self sustaining. The result is a new satellite system, the AN/TSC-170, and an integrated data management solution loaded in a rigid wall shelter.

AN/TSC-170 SATCOM trailer

The AN/TSC-170 is a self deploying, tri-band satellite system loaded on a trailer. This system is based on the Ku-Band terminal that goes with the new Joint Network Node system, but has additional X- and C-Band capabilities. Because this system is self-sustaining and does not tie in to a larger tactical network, the additional bands are necessary to provide versatility. Changing bands is as easy as switching out the feed plate, a five-minute job.

The 2.4 meter antenna self deploys, reducing total setup time to about fifteen minutes. While a two-or-three man team is used to get the terminal up, the system can be run by a single Soldier. The old package used the AN/TSC-93 with a four-man crew and needed a couple of





(Above) The RWS Data Package houses the brains of the system. A Promina 400 platform provides NIPR, SIPR, Voice and VTC capabilities.

(left) The AN/TSC-170 is a self deploying, tri-band satellite system loaded on a trailer.

hours to be operational. The time and effort saved is substantial.

The auto-tracking antenna is capable of putting out 450 Watts in X-Band and 325 Watts for both C- and Ku-Bands. The antenna controller can store satellite positions as well as ground locations using the onboard GPS system. There are dual Frequency Division Multiple Access Raydne DMd-20L Satellite Modems that can each handle an 8 MB link. The -170 comes with an on-board 10 kilowatt generator and an Environmental Control Unit to keep the components cool. If necessary, the terminal can also run off commercial power.

Connectivity between the -170 and the rigid wall shelter is accomplished using either TFOCA-II or CX11230. The fiber has proven very durable and much easier to handle than the bulky CX11230 reels. Two dual port CTM-100 codems at each end allow for more than one link to the RWS if necessary. They also provide redundancy in the case of a failure in the hardware.

RWS Data Package

The brains of the system are in the RWS. A Promina 400 platform provides NIPR, SIPR, Voice and VTC capabilities. Beyond the Promina, the system is almost completely commercial off-the-shelf equipment. The only exception is the REDCOM ISDN Gateway Exercise phone switch that provides up to 128 phone lines for the command post. These lines can be DSN or commercial and can also support secure telephones.

Data processing begins with Cisco 3845 routers. These versatile routers can handle almost any router function, and have room for numerous modules. This scalability allows flexibility in dealing with new system requirements and progressing technology. Using a combination of fiber and CAT6, a Gigabit backbone is created to connect the routers with the other key components of the system.

The first of these components are the servers. Dell 1655 Blade Servers were chosen for their compactness, scalability, redundancy, and ease of management. While, as with any computer, the blades have to be replaced frequently, the blade rack mount system makes replacement a breeze.

Two different mass storage devices are used to provide redundancy. A NetApps FAS270 Filer is used as the primary mass storage device with a Dell 132T Tape Backup system as a secondary. The FAS270 has a total of 3.4 Terabytes of storage space, 1.7 TB each for both NIPR and SIPR.

Managing this system is done using a central console that can switch between both NIPR and SIPR, as well as, between the individual blades. Additionally, most management can be done remotely. Ideally, once the system has been booted the doors to the shelter can be closed and all management can be done externally. The onboard generator and ECU keep the system running regardless of the environment.

Overall system

As a whole, this system offers a huge step forward in performance and capabilities. The added mobility and ease of setup make it well rounded and easy to operate. The normal six-to-eight man data package team can trim to two people and still accomplish a faster setup.

However, as with any new system, there are kinks to work out. The equipment may be high perfor-

mance, but with performance comes increased complexity. Operators must have a much higher level of technical knowledge to operate this system than the standard data package, creating challenges with continuity and training. Also, having all the components of the data package hard wired into a shelter reduces troubleshooting flexibility.

Despite challenges, the USARSO Communications Package is a great system that allows the command to conduct its mission anytime and anywhere in its AOR. This platform, and others like it, represent the next generation of battlefield communications rapidly changing the face of our Army.

LT Thompson is the officer-in-charge of 56th Signal Battalion's Forward Detachment. He is charged with providing communications support to U.S. Southern Command and U.S. Army South. He is a graduate of the United States Military Academy, class of 2004, with a Bachelor of Science in physics.

Acronym QuickScan

AOR – Area of Responsibility
CENTRIX – Combined Enterprise Regional Information Exchange
DSN – Defense Switched Network
ECU – Environmental Control Unit
FDMA – Frequency Division Multiple Access
GPS – global positioning system
IGX – ISDN Gateway Exchange
ISDN – Integrated Services Digital Network
NIPR – Non-Secure Internet Protocol Router
REDCOMIGX – REDCOM ISDN Gateway Exchange
RWS – Rigid Wall Shelter
SIPR – Secure Internet Protocol Router
USARSO – U.S. Army South
VTC – Video Tele-Conference

Great ideas start in the Balkans:
High-Frequency Tracker Initiative

By MAJ Karen J. Dill

Limited by scarce resources to obtain Blue Force Tracking systems for aviation assets, Task Force Talon took charge to provide the battlefield commander with aviation situation awareness.



The Balkan terrain highlights the effectiveness of HF communications when dropping into the valleys where line-of-sight communications are not as reliable.

"Battle captains and non-commissioned officers are overwhelmed trying to keep up during mission execution, with radio traffic, commo logs, mission control, tracking and reporting. It's not just nice, it is critical to successful mission execution and safety to have a clear operating picture," said MAJ

(Right) WO1 Al Robinson, left, prepares to send a position report to Task Force Talon Tactical Operation Center upon arriving at designated HLS.

J. Connell.

SFC Gregory Zigilia, TF Talon non-commissioned officer-in-charge, recognized that they already had a digital tracking mechanism, the High Frequency Tracker, in their helicopters. All 17 Talon helicopters already had HF Tracker installed.

He questioned if the data could also be routed to the common operational picture and viewed over the command and control personal computer. U.S. Army Europe G3 Information Management Division, in conjunction with 3-238 Aviation Battalion of Task Force Talon and Space and Missile Defense Command, successfully launched a project to provide aircraft data generated by HF Tracker to the COP and common tactical picture.

By injecting the new data aviation units and higher headquarters can see the helicopter flights in their COP/CTP.

Connell continues, "We used the HF tracker info on C2PC during a recent operation and it was the best battlefield operating picture that we have ever had."

Zigilia approached the USAREUR Blue Force Tracking expert, Jay Morales, with his idea to add the HF Tracker data into the COP/CTP. Only three years earlier Morales played a key role as

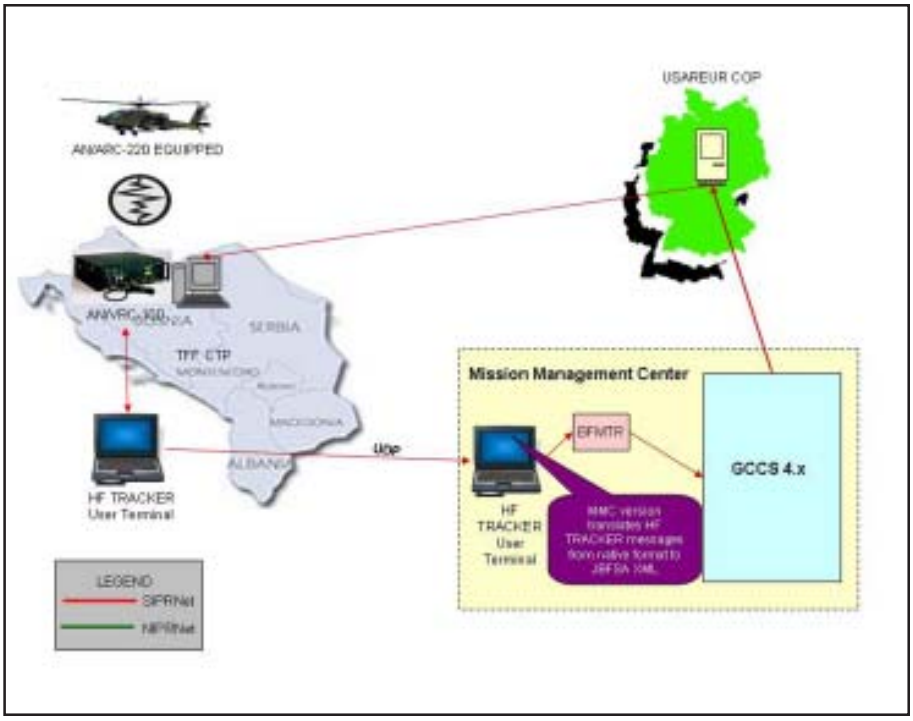




Pictured above is one of two CSA FanLite antennas erected on Camp Bondsteel for LIFT and MEDEVAC flight operations.

(Left) SGT Steve Andrews, 15P FLT operations specialist, prepares a text message to send to an aircraft acknowledging receipt of position reports which were received during an insertion/extraction mission.

USAREUR introduced the Kosovo Location Reporting System which was the forerunner of modern BFT. As a long time member of the G3 IMD team Morales knew the task force faced a lengthy wait for the Army's BFT-Aviation systems. G3 IMD contacted SMDC's Joint Blue Force Situation Awareness Mission Management Office for assistance. According to JMMO chief LTC Sandra Yanna, "This is a new organization within the Space and Missile Defense Battle Lab charged with coordinating all of SMDC and Army Strategic Command's JBFSA efforts." Yanna's engineers determined that adding the HF Tracker data was possible and set to work engineering a solution. Over a two-month period key personnel from TF Talon, G3 IMD, SMDC, and the Program Manager Aviation provided the time, equipment, and information to establish and test the data path. The system successfully passed technical testing and the operational assessment with extremely positive results.



HF Tracker Operational Architecture v2(2)

A primary reason for pursuing this initiative was the availability of HF Tracker equipment to Balkans units. Nearly every aircraft in the Army, including the task force's helicopters, is already equipped with HF Tracker making this an ideal, available, and inexpensive solution for projecting track data into the COP/CTP. The new capability is only used in the Balkans but it can easily extend to any theater and is not dependant on satellite coverage like BFT making it perhaps more useful in some venues.

HF Tracker is a software program that receives position reports transmitted by an aircraft's AN/VRC 220 HF ground radio and plots it on to a digital map display. The aviation battalion S6 noted that one of the unit's greatest challenges since mobilizations was to prove the reliability of HF communications when challenged by those who said it had not ever been used before or that it would not work. Each time, HF worked flawlessly and proved itself as a necessary link for operating in mountainous terrain. Similar to the BFT systems, CPT Randy Lutz observes HF Tracker "provides the tactical operations center the ability to communicate mission critical information via text messages with aircraft that may be out of FM (frequency modulation), UHF (ultra high frequency), or VHF (very high frequency) range." The free-text option allows users to compose, send, and read messages between aircraft and ground tracker systems.

When a position report is generated the HF Tracker client, connected to the TOC base station, receives and then forwards position location information to the Mission Management Center over a secure Internet connection. The MMC converts the position data from its native format into the Joint Blue Force Situation Message Translator Format, then forwards the data to the USAREUR designated COP where the data can be viewed using C2PC.

Unlike BFT, HF Tracker does not generate position reports automatically. They are generated only when the operator manually pushes the position report key on the radio. Therefore, units must build techniques, tactics, and procedures that include generating position reports during missions. A second drawback to HF tracker compared to BFT, the aircraft does not have a device to view map graphics. "That makes the HF tracker an interim solution at best," points out MAJ Bobby Dodd, G3 IMD division chief. With the completion of the assessment the HF tracker initiative is available for operation throughout the Army.

A variety of future enhancements have been identified for consideration in future versions of HF tracker. First, pushing the track data to ground platforms using Force XXI Battle Command Brigade and Below and the Intelligence Battle System will allow ground based assets to view the HF tracker equipped aircraft on vehicle displays. Pilot workload in the cockpit is very busy and reporting always falls off the plate when pilots get busy, reminds Connell. A future fix could include automatic reporting so that the HF tracker system will generate position reports without pilot interaction. Finally, the Talon TOC and G3 IMD commenced testing of the C2PC to FalconView

overlay converter with the goal of allowing aviation assets using HF Tracker to plan missions. FalconView is the mapping systems used for planning aviation missions.

HF Tracker meets the immediate need to include aircraft on the COP/CTP using existing equipment and an innovative application of the data generated. "Accurate position reporting and timely intelligence via HF Tracker, allows a battlefield commander to have the information instantly and be able to make sound tactical decisions. We are no longer making decisions on what happened 10 minutes ago, but what just happened. It doesn't get any better than that. Digitization is a force multiplier and we can no longer keep up during mission execution without a system like HF tracker providing a common operating picture," concludes Connell.

MAJ Dill is the theater programs section chief, United States Army Europe/ 7th Army, G3 information management division, Campbell Barracks, Heidelberg, Germany.

Note: *Other contributors to this article are: Rick Koon, systems engineer, Space and Missile Defense Battle Lab, Colorado Springs, Colo; and SFC Gregory Zigilia, non-commissioned officer-in-charge, Task Force Talon, Camp Bondsteel, Kosovo.*

Acronym QuickScan

BFT - Blue Force Tracking
C2PC - command and control personal computer
COP - common operational picture
CTP - common tactical picture
FM - frequency modulation
HF - high frequency
IMD - Information Management Division
JBSFA - Joint Blue Force Situation Awareness
JMMO - JBFSA Mission Management Office
MMC - Mission Management Center
PM - Program Manager
SMDC - Space and Missile Defense Command
TF Talon - Task Force Talon
TOC - Tactical Operation Center
UHF - ultra high frequency
USAREUR - U.S. Army Europe
VHF - very high frequency

Eighth US Army hosts 2006 **LandWarNet Training Conference**

By Jim Arrowood

The Network Enterprise Technology Command Regional Chief Information Office - Korea conducted a three-day LandWarNet training conference at Yongsan, Seoul, Korea, April 18 -20.

More than 150 key information technology specialists, Soldiers and Department of the Army Civilians, participated in the conference. The purpose of the conference was to train the IT community on the latest policy and procedural changes for network management, information assurance, information dissemination management, visual information, and records management.

LandWarNet is the United States Army's global enterprise network that supports all communications in support of command and control of warfighting operations, as well as, the Army's daily business.

Just as Soldiers need the best equipment and training to be successful on the battlefield, a steady



Bronco Lane, RCIO-Korea gives the opening keynote address at the 2006 Eighth U.S. Army LandWarNet Training Conference held April 18-21. LandWarNet is the United States Army's global enterprise network that supports all communications in support of Command and Control of Warfighting Operations, as well as, the Army's daily business.

flow of information is just as vital.

According to Roger Bacon, a 13th century English philosopher, "knowledge is power." This statement applies just as well today as it did then. Connecting Soldiers to information they need, whenever they need it and wherever they are is the job of the LandWarNet.

A wealth of information was presented through 38 separate briefings during the conference, which opened with Bronco Lane, RCIO-Korea in a key note speech that addressed the quality and quantity of command, control, communications, computers, and information management services provided in the region by the LandWarNet.

"The reason that our Army today is able to do what it does is because it's net-centric," said Lane. "In other words, it helps us do a better job in what we do. We work smarter instead of harder,"

The importance of the training was reinforced by Eight U.S. Army Commanding General LTG David P. Valcourt, who addressed participants later the first day.

Valcourt emphasized the importance of the LandWarNet for command and control of forces throughout the spectrum of conflict and his unconditional support for securing this crucial network.

On the second day of the conference, Deputy Commanding General U.S. Army Signal Center, BG Ronald M. Bouchard, briefed the latest enhancements to training being made at the Signal Center in direct support of the LandWarNet. The general's presentation focused on transformation; the merger between tactical and strategic networks, and bandwidth, and giving trainees credit for what they already know.

The third day and final day ended with a game show that tested the participants' knowledge and awarded prizes to those competing.

In his closing remarks, COL LaWarren V. Patterson, 1st Signal Brigade commander/Eighth Army Chief Information Officer/G6 emphasized the importance of successful transformation of the LandWarNet to complement the Army Theater Master Plan in Korea, while remaining at all times, "Ready to fight tonight."

Mr. Arrowood is presently assigned as the chief, Information Resources Management Division, Regional Chief Information Office Korea. Arrowood has more than 37 years of experience with information technology. Past assignments include: Joint Trunking Systems Manager for U.S. Army Pacific Hawaii, Chief Infrastructure Management Group, Directorate of Information Management, Hawaii, and staff action officer for the Deputy Chief of Staff for Information Management, USARPAC G-6, 516th Signal Brigade, Hawaii. His education includes: graduate of the Army Management Staff College, Sustaining Base Leadership Management Course, and a Bachelor of Liberal Arts from the University of Maryland.



(Left) In his speech at the 2006 Eighth U.S. Army LandWarNet Conference, Eighth U.S. Army Commanding General LTG David P. Valcourt emphasizes the importance of LandWarNet for command and control.

(Below) BG Ronald M. Bouchard addresses 2006 Eight Army LandWarNet Conference held at Yongsan's Main Post Club April 18-20. LandWarNet is the United States Army's global enterprise network which supports all communications in support of command and control of warfighting operations, as well as, the Army's daily business.



Training update

Lifelong Learning – An Enabler for LandWarNet

By members of University of Information Technology



Signal School cadre and staff are working some significant projects to provide LandWarNet education for Lifelong Learning. This effort is one of the five goals supporting the command's LandWarNet strategy. Members of the Directorate of Training's University of Information Technology Division, the 15th Regimental Signal Brigade, the Non-commissioned Officers Academy, the Leader College for Information Technology, the Office Chief of Signal, and other staff are capitalizing on the work previously done in Lifelong Learning to support and enhance the LandWarNet strategy.

LandWarNet definition:

LandWarNet is the Army's contribution to the Global Information Grid that consists of all globally interconnected, end-to-end set of Army information capabilities, associated processes, and personnel for collecting, processing, storing, disseminating, and managing information on demand supporting warfighters, policy makers, and support personnel. It includes all Army (owned and leased) and leveraged Department of Defense/ Joint communications and computing systems and services, software (including applications), data security services, and other associated services. LandWarNet exists to enable the war fight through battle command.

LandWarNet University definition:

LWN-U continuously trains and educates Soldiers and leaders from the classroom to the battlefield by integrating training between multiple enabling organizations in order to provide network enabled battle command in support of leader-centric operations. It is made up of the resident school at the Signal Center, satellite resident training on the network at other schools and centers, training support provided to the warfighters at battle command training centers at camps/ posts/stations, the network service center-training, and LandWarNet eUniversity.

LandWarNet eUniversity definition:

LWNeU is the self-development portal for the Soldiers and leaders to access training, training support materials, simulations, reference material, forums, news, and information. It rolls up the University of Information Technology as a component, and links to proponent Lifelong Learning Centers and sites that provide relevant LWN content for applications, services, and transport. LWNeU is an enabler and component of the over-arching LWN University.

Lifelong Learning technologies and accomplishments are being applied to the goals and initiatives supporting LandWarNet. This article highlights several relevant projects and recent accomplishments.

Provide 24/7 access for training and education to LandWarNet eUniversity for Soldiers and leaders.

One of the first steps in this area was to build a LandWarNet portal which becomes the location where all Soldiers and leaders, regardless of branch, come for training and education on anything that connects to the network. On April 12, 2006, https://lwn.army.mil was launched from Fort Gordon's Lifelong Learning Center, and although currently in its infancy, already contains helpful information. The portal, accessible through



Army Knowledge Online, is organized into three main topic areas descriptive of the LandWarNet strategy: applications, transport, and services. These areas are being populated with network-relevant content and training materials from the Army community with the objective that lwn.army.mil matures into the one-stop site for the warfighter seeking training and information on any technology that connects to the Global Information Grid.

The site also contains links to other helpful sites such as LWNeU-Signal (the UIT portal) with all the same familiar content and training; links to other proponent schools, the Center for Army Lessons Learned; and network-relevant doctrine manuals. Planned improvements and enhancements to lwn.army.mil include establishing presences on more sites to include Army Knowledge Online; collecting, validating and uploading more content; establishing partnerships with other training and education sites; and creating and monitoring forums.

For more information on the LWN.ARMY.MIL portal, or to provide feedback on what you see there, you may post to the LWN Site Feedback Forum under LWN Forums, or contact Mike Bowie, contractor, Research Triangle International, Fort Gordon Lifelong Learning Center, DSN 780-2448.

Support training and education during all phases of the Army Force Generation.

The UIT division is leveraging work that is already being done in its capacity as the point of contact for Training and Doctrine Command Lifelong Learning Center Executive Agent projects. The Lifelong Learning Center remains the hub of the lifelong learning process. LLC architecture questions are being researched and answered by an architecture control committee made up of the executive agent and the TRADOC chief information officer, the Program Manager Distributed Learning System, the Army Training Support Center, and the Deputy Chief of Staff for Operations and Training. Work being done by this group includes finalizing an LLC operational requirements document, integrating Battle Command Knowledge System into the LLCs, and designing an LLC consolidation plan.

UIT also provides support to this goal while fulfilling its responsibilities to the training organizations on Fort Gordon assisting them in developing lifelong learning training materials and capabilities. As distributed learning products such as computer-based training and simulators are produced, they will be posted to the LWN site and made available for training in resident and nonresident settings. CBTs under development include products for the non-resident Signal Captains Career Course, and a satellite communications principles trainer for MOS 25S. Personal computer-based simulators for the 85/93 satellite terminal, a local area network/wide area network router and switch, the master reference terminal, and the AN/TSC-156 (Phoenix) satellite communications terminal are also being worked, along with a leader driven, scenario based PC simulator for the BCT S6 Staff. All of these products are scheduled to be delivered and posted to the LWNeU-Signal site by June 2007. Eleven simulators and over 70 CBT products have already been posted to the site.

The Signal Center academic training departments are working in conjunction with the Directorate of Training and other organizations to



integrate the LWN portal and other technologies into resident training. This will not only support the execution of resident training, but will also serve to familiarize students with LandWarNet eUniversity, distributed learning, and simulators. Current instruction includes simulators for the high-capacity line-of-site radio, the TRC-173, the Joint Network Node, the Command Post Node, the KU Band Satellite, the Force XXI Battle Command, Brigade-and-Below, and the GSC-52. Plans are underway to incorporate more and more products into both resident and nonresident instruction.





For more information on CBT and simulator products, or our strategies for incorporating them into training, contact Bennita Freeman, chief instructional systems specialist, Distance Education Branch at DSN 780-2303 or MAJ Chuck Dugle, simulations operations officer, chief, Simulations Branch at DSN 780-8681.

Provide virtual access through LandWarNet eUniversity to proponent portals for training and resources.

The extension campus (formerly referred to as virtual campus) program opens opportunities for distributed learning for field units who are in need of training and unable to return their Soldiers to the school house. This relationship with the proponent "home" includes working with the unit to determine what hardware, software, and communications infrastructure they have to support the training, and designing a program best fitting their needs.

As technology matures the extension campus will include individual Soldiers at their homes. Recent extension campus relationships include those with the CFLCC Signal University, 335th Theater Signal Command (FWD) in Camp Arifjan, Kuwait; and the Baghdad Signal University, 22nd Signal Brigade, in Camp Victory, Iraq.

For more information, or to explore opportunities for extension campus relationships with the Signal Center, contact Mike Sizemore, contractor, Research Triangle International, Lifelong Learning Center, DSN 780-2494.

This article was written by members of the University of Information Technology Division, Directorate of Training: Barbara H. Walton, chief, University of Information Technology Division; MAJ Chuck Dugle, chief, Simulations Branch, contributed information on simulations; Mike Sizemore, RTI contractor, contributed information on the virtual campus; Bennita Freeman, chief instructional systems specialist, Distance Education Branch; MAJ Chuck Dugle, simulations operations officer, chief, Simulations Branch; and Mike Bowie, RTI contractor, contributed information on the Lifelong Learning, Bennita Freeman, chief instructional systems specialist, Distance Education Branch.

Acronym QuickScan

AKO – Army Knowledge Online
ARFORGEN – Armed Force Generation
CBT – computer based training
DoD – Department of Defense
F2BCB2 – Force XXI Battle Command, Brigade-and-Below
FWD – Forward
GIG – Global Information Grid
LLLCs – Lifelong Learning Centers
LWN – LandWarNet University
LWNeU – LandWarNet eUniversity
TRADOC – Training and Doctrine Command
UIT – University of Information Technology



TSM update

Updates from Training and Doctrine Command systems managers for satellite communications, tactical radio and Warfighter Information Network-Tactical

TSM-WIN -T

PART I
JOINT NETWORK NODE – NETWORK

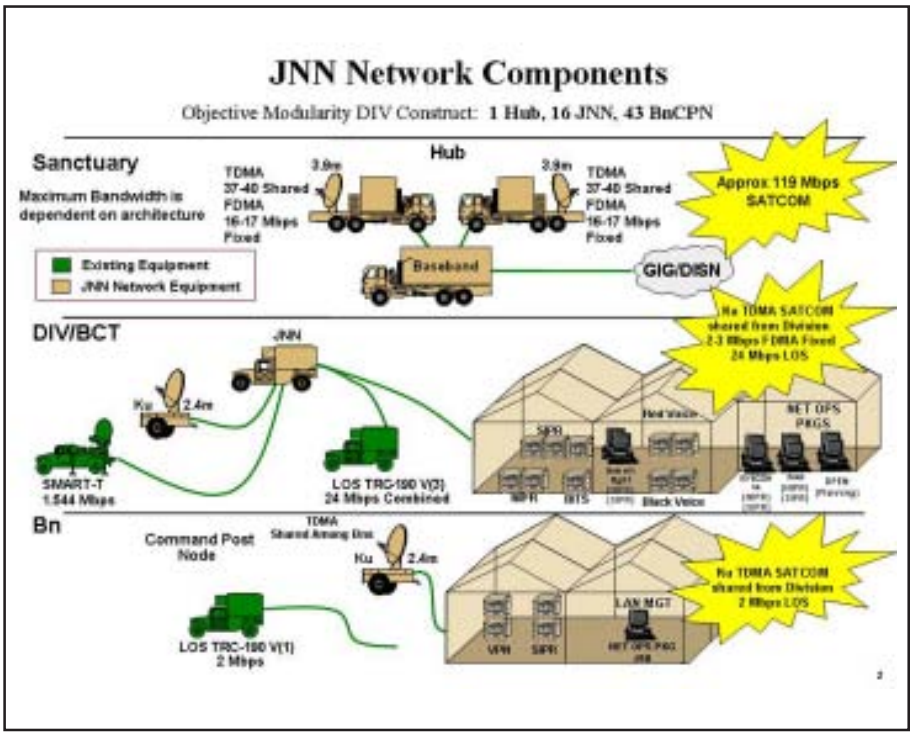
By MAJ Camilla A. Wood and Douglas Kuehl

The Army's existing tactical communications network and command, control, communications, computers, intelligence, surveillance, and reconnaissance capabilities were not designed to support current and future warfighter needs. Although the tactical communications systems (mobile subscriber equipment/ Tri-Service Tactical Communications) served well to support yesterday's command, control, and support services that relied heavily on voice and short text messaging, today's warfighter depends on a much broader spectrum of information services.

Joint Network Node-Network is accelerating the delivery of future force capabilities into our current force now. In 2004, with close coordination by Department of the Army and Training and Doctrine Command leadership, the JNN-N components were fielded and trained to the 3rd Infantry Division by the Project Manager for Tactical Radio Communications Systems, all in less than 180 days after contract award. Army senior leadership called delivery of the JNN-N systems to 3ID to support their deployment date so quickly "an acquisition miracle".

JNN-N replaces the MSE switching network in the tactical formations. It provides state-of-the-art switching, transmission, information network security, network management, and terminal devices to fill the capability gaps identified from Operation Iraqi Freedom.

JNN-N provides a suite of capabilities packaged in tactical shelters and user transit cases which include: Defense Information System Network Access, Non-Secure Internet Protocol Router Network, Secret Internet Protocol Router Network, Coalition Wide Area Network, Defense Red Switch Network access, e-mail, Defense Message System, Special Circuit requirements, Voice over IP, and a Battlefield Video-Teleconferencing capability.



During the 3ID deployment JNN-N demonstrated the ability to provide direct connectivity to the global information grid as well as to all of the Army Battle Command Systems. This tremendous connectivity greatly enhanced the common operating picture.

In addition to the 3rd Infantry Division the JNN-Network has been fielded to the 101st Airborne Division, 4th Infantry Division and the 10th Mountain Division in support of their OIF/Operation Enduring Freedom rotations. To date, seven U.S. Army Divisions, nine U.S. Army National Guard Brigades and one U.S. Army Stryker Brigade have been funded to field and deploy with JNN-N.

Although the current MSE/ TRI-TAC communication structure was sufficient for its time, just as the way we fight on the battlefield evolved, so did technology and the requirements to support the force. JNN-N is the framework that is setting standards and protocols for the Future Force while interfacing or replacing equipment in legacy forces to fulfill warfighters requirements.

Facts/Current Status:

- March 2004: Battle Command General Officer Steering Committee validates operational need for replacement of the Mobile Subscriber Equipment Network
- October - December 2004:

Spiral 1 of JNN-N (3ID) fielded to support OIF rotation.
- January-November 2004: 101st/10th/4th Divisions fielded with JNN-N
- July 2005: TRADOC System Managers Warfighter Information Network - Tactical accepted BFN and JNN-N charter
- May/June 2006: Initial Operational Test of JNN-N with 1st Cavalry
- September 2006: Planned contract award for future spirals of JNN-N

For more information on the JNN-N program, contact MAJ Camilla A. Wood or Douglas Kuehl, TSM WIN-T, (706) 791-7939 or (706) 791-4731, respectively. DSN prefix is 780. Email addresses are woodca@gordon.army.mil or douglas.kuehl@gordon.army.mil.

PART II
Integrated System Control
By MAJ Frederick Hollis

ISYSCON (V)1 and (V)2 - (AN/TYQ-76B [V]1 and [V]2). The Integrated System Control Version 1 and 2 (V1 and V2) systems are currently fielded to the active Army. As the Army modular transformation, the ISYSCON V1 and V2 systems are being displaced by the JNN – N Network Operations packages. The ISYSCONs will be reallocated to select reserve component units. The Detailed Planning and Engineering Module from the ISYSCON program will be reused in the JNN-N NetOps packages as the planning solution for the modular force.

The ISYSCON (V)4 program is currently preparing to take part in the JNN-N summer 2006 operational assessment. This event is to be conducted at Fort Irwin, Calif., and Fort Hood, Texas, with elements of the 1st Cavalry Division. The results of this assessment, along with those from the April 2005 Good Enough Initial Operational Test and Evaluation, will provide a comprehensive assessment of its functionality and Reliability & Maintainability. A conditional materiel release will be requested in the July/August timeframe of 2006. The ISYSCON (V)4 will serve as the baseline network management GE solution to support fielding and sustainment of Operation Enduring Freedom/ Operation Iraqi Freedom units through 2008. In order to obtain a full materiel release, the program must provide an initialization capability and demonstrate joint/ coalition interoperability. The IC is in development and scheduled for an FY07 delivery.

For further information on the ISYSCON program, contact MAJ Fredrick Hollis, TSM WIN-T, (706) 791-7600. DSN prefix is 780. Email address is *fredrick.hollis@gordon.army.mil.*

PART III
Army Key Management System
By Allen Walton

Currently, electronic key management is provided by the Electronic Key Management System, a Department of Defense initiative, operated by the National Security Agency, which was developed to enhance security and modernize the management and distribution of communications security material. EKMS provides an integrated end-to-end key management, COMSEC material generation and distribution, and logistics support capability for the DoD and civil agencies. The EKMS is a distributed system developed and deployed in multiple tiers using a multi-phased approach. The Army's implementation of the EKMS is through the AKMS program.

AKMS Operational Requirements Document

A DA Form 2028 was submitted in July 2005 to clarify requirements for the AKMS to support benign fill and black key processing. The ORD was approved by the Army Requirements Oversight Council and is pending Joint Certification. The TSM office continues working with all the program managers to capture key management requirements and ensure that these requirements will either be supported by AKMS and/or the planned Key Management Initiative.

System Subcomponents:

Simple Key Loader

The AN/PYQ-10 SKL is a mission essential system that provides the Army communications network planner and end user with the means to handle, view, manage, store and load Signal Operating Instructions/Electronic Protection data, and COMSEC keys. The SKL replaces the AN/CYZ-10 within the AKMS. The SKL fielding is currently ongoing IAW the CY06 fielding schedule. The SKL is designed to complement the functionality of workstation products from ACES, LMD, and Key Processors.

Automated Communications Engineering Software

The PdM NETOPS-CF has completed the certification of the new ACES workstations with version 1.7 software. Approximately 520 workstations have been purchased and a fielding plan has been initiated. The PM is also developing ACES version 1.8 software which adds the following capabilities: Black Key Load, Word of the Day, Identification Friend or Foe, Key Tag Screen, GP Module Name, Simplify GP HMI, GP New Equipment Support, and Master Net List General Net Key Tags.

Local COMSEC Management Software

Since the last update, the Army has fielded 368 new workstations with LCMS version 4.0.3.2 software. LCMS software version 5.1 will be fielded when available but still needs to complete government testing (the Army will not field LCMS version 5.0 except to pilot accounts). The anticipated release date is late 2006. The new worksta-

tions support the following new applications:

- LCMS upgrades version 5.1
- Common User Application Software version 5.1
- Card Loader User Application Software

The LCMS version 5.1software provides the following capabilities:

- Multi-User/Single accounts
- Increased account line item capacity for a Single User account
- Virtual Private Network Capability
- Incorporates Audit Reduction Analysis tool

The transition plan is to use LCMS pilot accounts to evaluate VPN and LCMS version 5.0. The Communications Security Logistics Activity will conduct a traffic analysis to determine VPN/INE requirement for long term transition to version 5.1. CSLA will use existing Authority to Operate and Defense Information Systems Agency authorization and documentation for connection to SIPRNET in support of the pilot study.

LCMS 5.1 will not be released without the simultaneous release of CUAS 5.1. CUAS 5.1 will be bundled (for distribution) with LCMS 5.1 but must be separately installed. Once LCMS 5.1 is released, there will be a yearly patch until the transition to KMI. No other versions are planned to be developed.

Key Management Infrastructure

The DoD Global Information Grid and Crytpgraphic Modernization will require that many End Crypotpgraphic Units be able to autonomously request key updates or re-keying over Internet Protocol networks to support real-time operations, or receive software and crypto algorithm updates over those networks.

Future military systems will also require an infrastructure that can create and distribute many more keys than the EKMS infrastructure can handle. The technology of EKMS systems is at least two generations behind current technology, which makes it difficult and expensive to improve, or to implement new requirements. To overcome these capability gaps, EKMS/AKMS (LMD/KP) will begin a transition to the Department of Defense Key Management Infrastructure beginning in the FY 2008 timeframe. These two systems will co-exist as parallel systems with the actual transition from EKMS components to KMI components occurring beyond the FY 2008-2011 timeframe.

EKMS/AKMS also cannot support newer, more sophisticated security measures, such as the new signature and key exchange algorithms needed to support planned improvements in crypto algorithms. CI-2 is the first increment for KMI and is projected to begin deployment in late FY 2008 with a projected Full Operational Capability of May 2011.

In preparation for the migration from EKMS to KMI, NSA (I5) is hosting KMI transition meetings to help the user community map the transition from the EKMS to the future KMI system. The purpose of these meetings is to begin to validate roles and work toward joint agreement on consolidation of roles. After an overview of the effort, each Service group has worked independently to identify EKMS tasks and determine which KMI role would be responsible to perform that function. The eventual, hoped for, outcome is to be able to possibly combine roles and to have identified capability gaps in the transition from EKMS to KMI. The final product is to be provided to a contractor to finalize the system.

For further information on AKMS and KMI transition, contact Allen Walton, (706) 791-2316. DSN prefix is 780. Email address is *waltona@gordon.army.mil.*

Joint Network Management System (AN/USQ-176A [V] 1 and [V] 2)

By Russell Benoit and Billy Rogers

New Equipment Training and fielding of the Joint Network Management System are underway. The NET consists of three separate courses – Planner (three weeks), Network Manager (two weeks) and System Administrator (one week) and is being provided by the JNMS development contractor, Science Applications International Corporation. Army organizations fielded to date include Detachment 1 of the 311th Theater Signal Command and the 335th TSC; the 3rd, 11th, 35th and 93rd Signal Brigades; and the 112th Special Operations Signal Battalion. Units currently planned to be fielded later this year include the U. S. Army Signal Center, the 142nd and 160th Signal Brigades.

JNMS software incremental build efforts are on-going and are scheduled to deliver additional enhancements/capabilities to the field later this year and early 2007. The Army's Test and Evaluation Command is planning on conducting independent government assessments to meet testing requirements for these incremental builds prior to their release to the field.

The Vice Director, Joint Staff J6, approved the Product Manager's recommendation to conduct a 60-day study to determine if the current JNMS baseline is still viable, given the way the Combatant Commands and Joint Task Forces now conduct joint network management. The study results were briefed on May 22, 2006, to the MG Moran, vice director, Joint Staff J6, and MG Mazzucchi, JNMS Milestone Decision Authority. The Initial Operational Test for JNN-N is on-going now at Fort Hood, Texas, and the National Training Center, Fort Irwin, Calif.

For further information on JNMS, contact Russell Benoit or Billy Rogers, TSM WIN-T, (706) 791-7501/2334, respectively. DSN prefix is 780. Email addresses are benoitr@gordon.army.mil or rogersb@gordon.army.mil.

Mr. Kuehl is a retired Signal/acquisition lieutenant colonel and a

former product manager/trail boss. His education includes CGSC and a masters in telecommunications from the University of Colorado. Kuel now works for JANUS Research Group in support of TSM WIN-T.

MAJ Wood is currently serving as an assistant TRADOC System Manager Warfighter Information Network – Tactical, at Fort Gordon, Ga. MAJ Wood, former Alpha Company, 122nd Signal Battalion, 2nd Infantry Division company commander, is currently assigned as the Joint Network Node-Network Program Lead.

MAJ Hollis is currently serving as an assistant TRADOC System Manager for the Warfighter Information Network – Tactical Office. Hollis has been an acquisition officer since 1999. Currently Hollis is working Network Operations within the WIN-T office. Hollis also served as a combat developer during his first tour at Fort Gordon.

Mr. Walton is a retired Signal Corps sergeant major who served in the U.S. Army for 30 years. He is currently employed by Engineering Solutions & Products, Inc. providing contractor support to the TRADOC System Manager for the Warfighter Information Network – Tactical. Mr. Walton is the TSM Project Leader for the Army Key Management System, a sub-element of the DoD Electronic Key Management System. Mr. Walton has worked extensively in developing and documenting key management requirements in support of current and future DoD Information Systems.

Mr. Benoit is currently an assistant TSM and senior telecommunications specialist for TSM WIN-T. Benoit has been working Network Operations and JNMS since 1997.

Mr. Rogers is a currently a senior systems analyst with Femme Comp, Incorporated and provides TSM WIN-T with contract support services for the JNMS program. Mr. Rogers has been the primary TRADOC POC for the JNMS and has worked program issues with representatives of the Joint Staff, other services and agencies since the contract was awarded to Science Applications International Corporation in 2001. Rogers managed network management programs for the Defense Information Systems Agency prior to his retirement and also provided contract support services to TSM Network Management before its merger with TSM WIN-T in 2001.

ACRONYM QUICKSCAN

3ID – 3rd Infantry Division
ABCS – Army Battle Command Systems
ACES – Automated Communications Engineering Software
ARA – Audit Reduction Analysis
AROC – Army Requirements Oversight Council
ATEC – Army's Test and Evaluation Command
ATO – Authority to Operate
BFN – Bridge to Future Networks
BVTC – Battlefield Video-Teleconferencing
C4ISR – Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance
CSLA – Communications Security Logistics Activity
COCOM – Combatant Command
COMSEC – communications security
CUAS – Common User Application Software
CWAN – Coalition WAN
DA – Department of the Army
DISA – Defense Information Systems Agency
DISN – Defense Information System Network
DMS – Defense Message System
DoD – Department of Defense
DPEM – Detailed Planning and Engineering Module
DRSN – Defense Red Switch Network
ECU – End Cryptographic Unit
EKMS – Electronic Key Management System
EP – Electronic Protection
FOC – Full Operational Capability
FY – fiscal year
GE – Good Enough
GIG – Global Information Grid
IAW – In Agreement/Accordance With
IC – Initialization Capability
IFF – Identification Friend or Foe
INE – In-line Encryption
IP – Internet Protocol
ISYSCON – Integrated System Control
JNN-N – Joint Network Node – Networks
JNMS – Joint Network Mangement System
JTF – Joint Task Force
KMI – Key Management Infrastructure
KP – Key Processor
LCMS – Local COMSEC Management Software
LMD – Local Management Device
MNL – Master Net List
NET – New Equipment Training
NetOps – Network Operations
NIPRNET – Non-Secure Internet Protocol Router Network
NSA – National Security Agency
OA – Operational Assessment
OEF – Operation Enduring Freedom
OIF – Operation Iraqi Freedom
ORD – Operations Requirements Document
R&M – Reliability & Maintainability
SAIC – Science Applications International Corporation
SIPRNET – Secret Internet Protocol Router Network
SKL – Simple Key Loader
SOI – Signal Operating Instructions
TRADOC – Training and Doctrine Command
TRI-TAC – Tri-Service Tactical Communications
TRCS – Tactical Radio Communications Systems
TSC – Theater Signal Command
TSM – TRADOC Systems Manager
VoIP – Voice over IP
VPN – Virtual Private Network
WAN – Wide Area Network

JOINT TACTICAL RADIO SYSTEM

By COL Carole Best

JTRS Incremental Strategy

The Joint Tactical Radio System program is in transition after more than a year going through evaluation and assessment of the best way to move forward. The transformational and network-centric JTRS is moving from a big-bang requirement and acquisition strategy toward an incremental strategy divided into phases called increments.

The JTRS initiative is to develop a family of software-programmable tactical radios providing voice, data, and video communications interoperable across the services and joint battle space.

In a March 31, 2006, Acquisition Decision Memorandum, signed by Ken Krieg, the Under-Secretary of Defense for Acquisition, Technology and Logistics, the Pentagon approved a new path for the JTRS program that reduces its requirements in exchange for radios that are more likely to be delivered.

The ADM is the result of a series of Defense Acquisition Board meetings between August and November 2005. The communities looked at the degree to which JTRS is a network program versus a radio platform. Trades were made about how far the network would go, how much it would tie into the Global Information Grid, how it would do the tie in, and the level of security it would have. There were a number of big trade vectors worked. While the program lost planned capabilities, it retains requirements that are more easily achieved.

The strategy reflects the collaborative efforts of the funding, acquisition, and warfighter communities to achieve network communications within an affordable budget, in a consolidated time frame. Additionally, the JTRS research and development program costs were reduced by $2 billion by the collaboration.

A new way to manage the family of interoperable software radios has been implemented. The new management plan alters the JTRS clusters, which became separate, disjointed programs, replacing them with centrally-managed domain, program-management offices.

There will now be four JTRS domains:

a. **Ground Domain:** Ground Mobile Radios for vehicles (previously Cluster 1) and Handheld – Manpack – Small Form Fit radios (formerly Cluster 5).

b. **Airborne and Maritime Domain:** Airborne, Maritime, and Fixed Site, as well as, the Multifunctional Information Distribution System.

c. **Network Enterprise Domain:** Network enterprise services, including gateways and waveforms.

d. **Special Radio Systems Domain:** JTRS Enhanced Multi-Band Intra-Team Radio.

Although the program has been undergoing reorganization for more than a year, there was some progress. As of April, 15, 2006, a total 21 JTRS radios were delivered to the Army's Future Combat Systems program for testing. A total of 50 are to be delivered by the Ground Mobile Radio Boeing team.

In June 2005 competing teams led by Boeing and Lockheed Martin successfully passed the system design review for the Airborne, Maritime, and Fixed Station JTRS AMF. The current plan is for AMF to name a single supplier this summer.

A General Dynamics-led team is developing small, lightweight, software-defined radios for all-service use in units such as unattended sensors and Soldier systems.

In conclusion, the incremental phases are expected to realistically deliver communications capabilities to the warfighter at less risk to escalating cost, schedule, and performance. Increment 1 is being implemented and is to enable the Joint Program Executive Office to reduce overall program risk from high to moderate. The fiscal year 2007 budget includes funding for transformational network capabilities and service priority waveforms, including the Wideband Networking Waveform, the Soldier Radio Waveform, and Joint Airborne Networking-Tactical Edge for the joint war fighter.

JTRS HMS hardware fabricated and in testing:

The JTRS Handheld – Manpack – Small Form Fit domain (previously JTRS Cluster 5) is under new leadership and back on track to successfully develop the next generation of networked, tactical radios. The JTRS JPEO was stood up to enforce the standardization of common interfaces, protocols, link the common software application developments to the various hardware product line offices, facilitate information flow and tradeoffs among the various product line offices, and ensure a comprehensive and cohesive foundation is in place for JTRS success.

Even with all the turmoil over the past 18 months, the HMS Program Management Office continued to make significant progress, and the results are simply astounding. The HMS program was redirected by the Office of the Secretary Defense, Acquisition, Technology, and Logistics {OSD (AT&L)} on March 5, 2005, to reduce overall development risk.

The HMS PMO immediately recommended and received approval to focus the initial development efforts on the less complex disposable radios that support Intelligent Munitions Systems and the Unattended Ground Sensors requirements. The IMS and UGS programs require one channel radios running the SRW application, operating between 225-450 MHz with Type 2 encryption certified by the National Security Agency.

The more complex and capable radios (multi-channel radios running multiple waveform applications using NSA-Certified, Type 1 encryp-

tion) would be developed somewhat concurrently, but delivered in subsequent increments.

LTC Housewright, Product Manger for HMS, stated that a major hurdle was crossed on March 15, 2006, when government representatives were on hand at General Dynamics C4 Systems facilities in Scottsdale, Ariz., to witness the manufacture of the first JTRS HMS radio hardware. He stated further that the real significance of this event is the JTRS HMS PMO is no longer just "talking-the-talk" with PowerPoint presentations and documentation, but now "walking-the-walk" with fabrication of the actual hardware, coding of the software, and porting of the SRW waveform application.

In less than 24 months, which includes two stop works and a total JTRS Enterprise restructure, the HMS program progressed from requirements analysis, into design, and is now moving forward with build and test.

Enhanced Position Location Reporting System

The Annual EPLRS Multi-Service Meeting was held March 28-29, 2006, at the Renaissance Hotel, Los Angeles, Calif. Raytheon Corp hosted the annual event. Program managers and contractors briefed their current program status. Contractor Logistics Support of the Communications and Electronics Command presented plans for transition of repair activities to CECOM in fiscal year 2008.

Discussions among all the services followed in regard to Crytpo modernization and the purchase of more assets in support of mid-term requirements. All services continue to show operational success for EPLRS-equipped units during scheduled combat rotations.

Present status of the Army deliveries is approximately 11,000 radio sets. Deliveries supporting all users now exceed 14,000. Approximately 4,000 remain to complete the current contract. The JTRS-waiverable ceiling remains at 12,896 radios sets.

Department of the Army redistribution of assets has resulted in fielding support for the 4th Infantry Division, 1st Cavalry, the Stryker BCTs, and National Guard units which support Operation CLEAR SKIES. Additional quantities to support fielding of SBCT-7 and the remaining divisions will require additional redistribution and/or additional quantity buys. The North American Aerospace Defense Command has become the newest user of EPLRS.

The need for tactical data links to support nearly all of NORAD-apportioned fighters equipped with Situational Awareness Data Link will be supported by 34 SADL gateways. The ground-air data link network will improve intercept mission execution.

The EPLRS MicroLite 2nd Generation radio will provide tactical internet connectivity for the Land Warrior ensemble fielded to Stryker units. The M2G radio is a small, Internet Protocol-based, data radio that can be used for a host of applications. It exploits the EPLRS networking waveform. The version with the Universal Serial Bus interface is on a path toward Type-1 certification with the National Security Agency and is used in the LW program. There is also a version with an Ethernet interface. The LW Limited User Test is scheduled for September 2006.

COL Best is a native of Beaufort, S.C. She earned a Bachelor of Science degree in social studies in 1975 from Fayetteville State University, a Master of Science degree in systems management from the University of Southern California in 1989 and a Master of Science degree in national security and strategy from the Army War College in 2001. She completed Command and General Staff College in 1993 and the Armed Forces Staff College in 1995. She entered the Army in 1980 and was commissioned upon graduation from Officer Candidate School, Fort Benning, Ga., in March 1981.

After completing the basic communications-electronics course at Fort Gordon, Ga., Best was assigned as the executive officer, Officer Student

Acronym QuickScan

ADM – Acquisition Decision Memorandum
AMS – Airborne, Maritime, and Fixed Site
AT&L – Acquisition, Technology, and Logistics
BCT – Brigade Combat Team
C4 – command, control, communication, and computers
CECOM – Communications and Electronics Command
CLS – Contractor Logistics Support
DA – Department of the Army
EPLRS – Enhanced Position Location and Reporting System
FY – fiscal year
GIG – Global Information Grid
GMR – Ground Mobile Radios
HMS – Handheld – Manpack – Small Form Fit
IMS – Intelligent Munitions Systems
IP – Internet Protocol
JPEO – Joint Program Executive Office
JTRS – Joint Tactical Radio System
LUT – Limited User Test
LW – Land Warrior
M2G – MicroLite 2nd Generation
MBITR – Multi-Band Intra- Team Radio
MIDS – Multifunctional Information Distribution System
NORAD – North American Aerospace Defense Command
NSA – National Security Agency
OSD – Office of the Secretary Defense
PMO – Program Management Office
SADL – Situational Awareness Data Link
SBCT – Stryker Brigade Combat Team
SRW – Soldier Radio Waveform
UGS – Unattended Ground Sensors
USB – Universal Serial Bus

Company, Second Signal Training Brigade, Fort Gordon.

In September 1982 she was reassigned as platoon leader, Company B, 67th Signal Battalion and later served as signal operations platoon leader and executive officer, headquarters company, in the same battalion. Best was assigned to the 93rd Signal Brigade, Ludwigsburg, Germany, in June 1985.

While there, she served successively as assistant operations officer and commander, Company C, 34th Signal Battalion. Other assignments in her career include: assistant brigade operations officer, 1101st Signal Brigade, Fort McNair, Washington, D.C.; commander, Satellite Communications Station, Camp Roberts, Calif.; project officer and deputy program manager, Defense Information Systems Agency, Washington, D.C., and commander, 1st Satellite Control Battalion, Army Space Command, Colorado Springs, Colo.

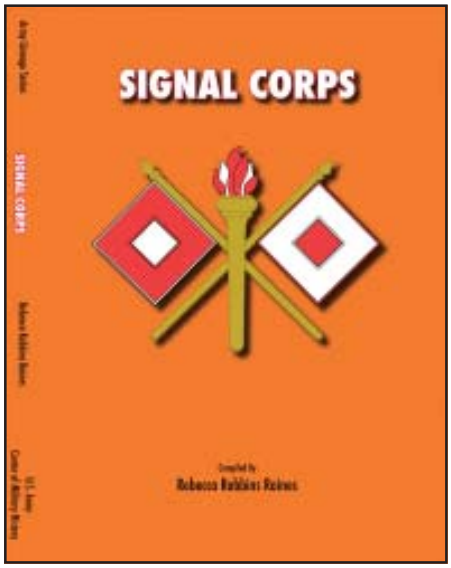
Best is currently assigned as the chief, Strategy and Technology Applications Branch, U.S. Strategic Command, Colorado Springs, Colo.

Books

Book reviews of Signal-relevant published works

Signal Corps Army Lineage Series

By Rebecca Raines



Signal Corps, compiled by Rebecca Robbins Raines, is the latest edition to the Army Lineage Series published by the U.S. Army Center of Military History. This volume includes the lineages and honors of the Signal Corps' Modified Table of Organization & Equipment units at battalion level and above that are active in the Regular Army and Army Reserve since 1963. Also included are the Army National Guard's Signal Corps units, battalion and above, that were federally recognized and in the force structure as of June 15, 2001. The color illustrations of the units' heraldic items and their descriptions are a distinctive feature. Bibliographies for each unit direct the user to additional sources of information.

The Signal Corps has come a long way since its founding in 1860 by MAJ Albert J. Myer. It originally contained neither permanent personnel nor units. The situation began to change with the formation of permanent signal units in the National Guard during the 1880s. It took the Regular Army a little longer to follow suit; signal companies entered the force structure during the war with Spain. The current 50th Signal Battalion traces its lineage to one of those early organizations. From this modest start, the Signal Corps grew throughout the twentieth century as the United States assumed global responsibilities. Although the corps is undergoing considerable structural redesign at the present time, which will result in the inactivation of its divisional battalions, this is but the latest chapter in the branch's ongoing organizational evolution. Along with Raines' earlier volume, *Getting the Message Through: A Branch History of the Signal Corps*, this book provides a valuable reference tool for Signal Soldiers and others who are interested in learning about the branch's organizational and institutional development as the one hundred and fiftieth anniversary is approached.

Mrs. Raines has been a historian at the U.S. Army Center of Military History since 1977. For most of that period, she has been a member of the Force Structure and Unit History Branch (formerly Organizational History Branch) with responsibility for maintaining the lineage and honors of Signal Corps units. She is the author of the volume, Getting the Message Through: A Branch History of the U.S. Army Signal Corps, *published in 1996. Raines has written numerous articles on various aspects of the Corps' history, several of which have appeared in the* Army Communicator. *In her spare time, she is completing a biography of BG Albert J. Myer, father of the Signal Corps.*

Acronym QuickScan

MTOE – Modified Table of Organization and Equipment

Doctrine update

Updates in Signal doctrine from Directorate of Combat Developments, Army Signal Center, Fort Gordon, Ga.

Doctrinal challenges with implementation of two-levels of maintenance in C&E arena

By Tim Landreth

The Army's maintenance transformation to a two-tiered maintenance structure, commonly referred to as two-level maintenance, is designed to bring greater capabilities to the force by allowing increased on-system repairs at the unit level.

This increase of on-system repair is due to the merging of unit and direct support levels of maintenance from the old four-levels of maintenance process into a new level called field maintenance.

Field maintenance is designed to provide greater capabilities with the unit-level maintenance Soldier now having increased capabilities and responsibilities. Lessons learned have shown this model to have merits in the motor-vehicle maintenance arena where the same military occupational skill from the current force takes on the new on-system repairs but in the communications and electronics maintenance arena the responsibility to perform all current requirements is not clear.

Part of the doctrinal confusion this new maintenance policy creates is based upon the fact that currently two different MOSs perform maintenance support for communications and electronic systems and devices. These MOSs come from two different proponents, Signal Corps and Ordnance Corps, and will be performing the maintenance functions now called field maintenance.

It is this merging of the C&E maintenance function at the unit level that creates doctrinal challenges for the brigade and battalion S6.

These S6 challenges are centered mainly on the C&E systems operated by the general purpose user, or in other terms, C&E systems operated by any MOS. A good example is the Single Channel Ground to Air Radio System, which is the most prevalent communications system at brigade and below. This doctrinal challenge concerns the current unit level maintainer, MOS 25U – Signal Support Systems Maintainer, and under the TLM plan the unit level maintainer Soldier is removed from the unit where the equipment resides and placed in a new organization called a Forward Support Company.

Along with the planned Soldier move most units have seen the removal of critical test, measurement and diagnostic equipment; specifically the AN/PRM-34 and the AN/PSM-45, and tool kit 101/k, from their modified tables of organization and equipment.

The Signal Regiment's doctrinal challenge centers on how we address the units' doctrinal on-system C&E system requirements when the Soldier trained and responsible is no longer organic to the organization? Without the 25U – Signal Support Systems Maintainer, TMDE and tool kit the S6, who is responsible for ensuring continuous operation of the units' communications networks, will be severely challenged. It is this potential that may impede operations and sustainment of the network that creates our doctrinal dilemma; how does the S6 ensure the unit has the right assets available to ensure information, in the right format, and at the right place on the battlefield if they are not in total control of maintenance assets for the network?

These doctrinal challenges have been addressed at numerous Army meetings over the last two years but no true support answer has been identified that will resolve the problem and at the same time guarantee the S6 at brigade and below will receive the timely support needed to ensure the network is effective and sustainable.

The Signal Center and the Ordnance Center have agreed to conduct a Manpower Requirements Criteria study to determine which MOS and what skills are required to support the network sustainment requirements and ensure the right Soldier and skill set are in the right place on the battlefield.

Mr. Landreth is a doctrine writer within the Doctrine Branch of the Concepts and Doctrine Division, Fort Gordon, Ga. He has more than 18 years of tactical communications experience and eight years as a concepts and doctrine developer.

Acronym QuickScan

C&E – Communications and Electronics
GPU – general purpose user
MOS – military occupational skill
MTO&E – modified tables of organization and equipment
SINCGARS – Single Channel Ground and Air Radio System
TK – tool kit
TLM – two-level maintenance
TMDE – test, measurement, and diagnostic equipment

Army National Guard prepares for hurricane season with **'Connect Army Logisticians'** comms



Product Manager, Defense Wide Transmission Systems fielding team member Kenny Scott (right) explains the operation of a Combat Service Support Very Small Aperture Terminal to a group National Guard Soldiers on May 10 in Orlando, Fla.

By Stephen Larsen

ORLANDO, Fla. - Experts predict that the 2006 hurricane season, from June 1 to November 30, could include 13 to 17 named storms, eight to 10 hurricanes and four to six major hurricanes of Category 3 (with winds of 111 to 130 miles per hour and storms surges of nine to 12 feet above normal) or higher – above average in all categories.

To be prepared, the National Guard Bureau's Army Logistics Division, in coordination with the Florida Army National Guard, hosted an exercise in Orlando from May 6 to May 21 in which National Guard Soldiers from several hurricane-prone states – Alabama, Florida, Mississippi, North Carolina, South Carolina, Louisiana, and Texas – and the Virgin Islands were trained in using logistics automation and network equipment that could help their relief efforts.

The participants in the exercise, mostly enlisted Soldiers and field grade officers who had been involved in support after Hurricanes Katrina, Rita, and Wilma in 2005, trained with the same systems that compose the Army G4's 'Connect Army Logisticians' initiative: The Movement Tracking System - a position navigation system that provides in-transit visibility and communications with logistics convoys; the Battle Command Sustainment Support System-3 - the Army's tactical logistics command and control data system; and the Combat Service Support satellite communications system - which provides Non-Classified Internet Protocol Router Network and Voice Over Internet Protocol access via CSS Very Small Aperture Terminals, which are wirelessly connected to a local or wide area network via the CSS Automated Information Systems Interface.

The MTS and CSS SATCOM systems are products of the Army's Program Executive Office, Enterprise Information Systems and the BCS3 is a product of the Program Executive Office, Command, Control and Communications Tactical.

"One of the lessons learned in Hurricane Katrina were that the comms were not what they should be," said MAJ Robin Steffan, deputy chief of the National Guard Bureau Logistics Division's Logistics Management Branch. "We want to develop a proof of concept. We plan to come up with a straw SOP (standard operating procedure) here."

MAJ Richard Elam, Deputy J4 for the Florida Army National Guard, said this exercise would help with more than just hurricane relief efforts.

"What about another 9-11?" asked Elam. "The rules change for hurricane relief and other disasters. We're trying to set up TTPs (tactics, techniques and procedures) for each. We plan to set up a STAMIS (Standard Army Management Information Systems) gunnery, to find out, can we send a requisition downrange?"

Steffan noted that CSS VSAT and CAISI are both in the top 25 of the National Guard Bureau's prioritized equipment list for HLD/DSCA (Homeland Defense/Defense Support to Civil Authorities). PEO EIS' Project Manager, Defense Communications and Army Transmission Systems' Product Manager, Defense Wide Transmission Systems



Product Manager, Defense Wide Transmission Systems fielding team member Dan Burke (right) teaches SFC Gene Jordan (left) and other National Guard Soldiers to set up a Combat Service Support Very Small Aperture Terminal on May 10 in Orlando, Fla. "This is good, it will help us," Jordan said.

sent CSS SATCOM fielding team members Dan Burke, Kenny Scott, and Rick Ackerley and support engineer Tommie Horton, along with four CSS VSATs, to the exercise to conduct new equipment training and to field the CSS VSATs to four of the National Guard units, with CAISI training and equipment issue to follow later in the exercise. First, the fielding team did classroom work with the Soldiers, teaching them how the system evolved and how to set up and operate it. Then, they broke Soldiers into four groups, assisting each group as they set up their CSS VSAT, found a satellite, and then tore the unit down and packed it back into its four transit cases. Upon completion of the training, the team issued the CSS VSATS to National Guard units of Florida, North Carolina, Louisiana, and Texas.

Was the training helpful?

"Definitely," said SFC Gene Jordan of the 449th Aviation Group, North Carolina National Guard. "Especially the hands-on part - I find I learn better that way."

Jordan added that when he and his group got their CSS VSAT set up, the first thing he did was to pull up Army Knowledge Online and send an e-mail to his master sergeant back in North Carolina. "I told him this was good, it will help us," Jordan said.

"The Soldiers loved the training," said Steffan, adding that MTS will be fielded to National Guard units later in the summer, and that BCS3 is being purchased with training to follow.

Collaboration with Army G4

According to Steffan, the idea for the exercise grew out of discussions she had with LTC Forrest Burke of the Army G4 (Deputy Chief of Staff, Logistics) when both attended a logistics management seminar in early April. Burke said the thought process was to bring all of the "enablers" together so they could understand what's needed to exchange logistics information.

"This exercise is a welcome and necessary activity," said Burke. "Many National Guard units and Soldiers don't use and operate their systems everyday – they have civilian technicians that might, but the Soldiers don't."

Burke explained that as a force rotates into a new theater, there are typically two "capstone event" logistics exercises in which they participate. First, before they depart for theater, they conduct a maneuver readiness exercise, and second, after they arrive in theater, is RSOI (reception, staging, onward movement, and integration), in which they stage a STAMIS gunnery.

"During the STAMIS gunnery, the unit puts all of their logistics systems together and 'test fire' the engines to make sure all engines are firing," explained Burke. "Besides providing that STAMIS gunnery experience for the National Guard units, the exercise also will help units in forging relationships with National Guard units of other states – which is a good thing, because disasters don't pick one state."

Another purpose of the exercise, according to Steffan, was to come to grips with the differences between using these systems in the continental United States vs. outside of the continental United States.

"It (these systems) worked in theater, but how will it work in CONUS in support of the goals of the governors?" asked Steffan.

According to Burke said, the difference is two-fold in using these systems in CONUS vs. OCONUS. First, he said, in OCONUS, operations are more focused with clearly defined supply lines, while CONUS



Product Manager, Defense Wide Transmission Systems fielding team member Rick Ackerley (second from right) assists National Guard Soldiers to connect the antenna feed horn assembly to a Combat Service Support Very Small Aperture Terminal on May 10 in Orlando, Fla.

relief operations are a lot more "permeable."

"There's a lot more dispersion of forces in CONUS, without clearly defined supply lines," Burke said.

Second, he said, there is less of an ability to interrogate locations of and information about materiel with radio frequency identification technology in CONUS than in OCONUS.

"In OCONUS, it may take a year or two into an operation, but there is a build-out of RFID in ports, staging areas, and so on – you don't have that latitude in America," said Burke. "BCS3, for instance, doesn't have a good view of road networks and staging areas here."

Steffan recounted how Soldiers repeatedly reported that outside agencies dropped off untagged equipment and supplies at Regional Support Areas during disaster relief efforts.

"There is no guarantee that carriers coming from other states or agencies will have tags," said Steffan. "If the Soldiers have no ability to tag the shipment, or the vehicles carrying the shipment to the next destination, they have no automated means of inventory or shipment control. Many times the Soldiers have no means of communicating with the next destination on the supply route as communications have not been re-established telephonically, electronically. Also, cell phone communications are not always available, or soldiers do not have access to satellite phones. Therefore, shipments may need to be re-inventoried, and manually re-designated at each leg of the journey."

Another issue the National Guard faces in providing relief to CONUS disasters, such as hurricanes, is the availability of sufficient number of systems. For instance, while modular force units such as the 3rd Infantry Division have systems such as CSS VSAT and CAISI at the company level, National Guard units only have enough systems to have these at the battalion level. Burke and Steffan acknowledge this is a funding issue, and Burke added that the Army G4 is in the process of building a pool of equipment to issue to guard units that are mobilizing.

"The pool is to give Army Guard units an area to draw from in case they are deployed," said Steffan, "or they need to draw it to support HLD/DSCA (Homeland Defense/Defense Support to Civil Authorities).

Meanwhile, officials at the National Guard Bureau are doing all they can to equip their units – and equip them in a timely fashion.

"The equipment all compliments each other," said Steffan. "Consider them to be pierces of a recipe. You can't bake the cake without the eggs and the flour and the shortening. To buy one item and not the other two does no good. If spaced out, by the time you get the flour and shortening purchased, the eggs may have gone bad."

The National Guard Bureau is working to be proactive in their response to any calls for support during the 2006 hurricane season. The Florida exercise was a step in that direction, and Steffan rated the support from the PM community as "wonderful."

"They (the PMs) supported us fully in the Florida exercise. If they had the money (funding) coming in, I am sure they would support us fully in our fielding goals."

"The good news story here," Elam said, "is the partnership between the PMs, the National Guard Bureau and the states, all coming together to conduct this exercise. The PMs are all on board, supporting this, getting us systems and training so we can better respond to another Katrina-like incident."

Mr. Larsen is a public affairs officer with Project Manager, Defense Communications and Army Transmission Systems, Fort Monmouth, N.J. Larsen has more than 20 years experience writing about Army systems.

Acronym QuickScan

3ID – 3rd Infantry Division
AKO – Army Knowledge Online
BCS3 – Battle Command Sustainment Support System-3
CONUS – Continental United States
CSS SATCOM – Combat Service Support satellite communications
DSCA – Defense Support to Civil Authorities
HLD – Homeland Defense
MTS – Movement Tracking System
NIPERNET – Non-Classified Internet Protocol Router Network
OCONUS – Outside the Continental United States
PMs – Project Managers
VoIP – Voice Over Internet Protocol
VSAT – Very Small Aperture Terminals
CAISI – CSS Automated Information Systems Interface
NET – new equipment training
PEO EIS – Program Executive Office, Enterprise Information Systems
PEO C3T – Program Executive Office, Command, Control and Communications Tactical
PM DCATS – Project Manager, Defense Communications and Army Transmission Systems
PM DWTS – Product Manager, Defense Wide Transmission Systems
RFID – radio frequency identification
RSA – Regional Support Areas

Circuit check

News and trends of interest to the Signal Regiment

New Vehicle Intercom System production facility helps meet growing demand from Iraq, total force units

By Stephen Larsen

MANCHESTER, N.H. – New Hampshire Congressman Jeb Bradley and Army COL Gale Harrington cut the ribbon to officially open Cobham Defense Electronic Systems' new Vehicle Intercom System production facility Manchester, N.H., May 21, which Army and industry officials agree will help meet growing demand for the highly-coveted VIS both from units in Iraq and for the total force.

The Manchester facility – which actually started the production line going on Jan. 28, 2006 – can each month produce more than 4,000 crew station light boxes, one of the modules used in conjunction with Bose-manufactured Improved Tactical Headsets and other modules to comprise the VIS, which allows Soldiers to communicate in the high-noise environments of tactical vehicles being used by the Army in Iraq. With production of the other modules and headsets roughly pacing what's produced at the Manchester facility, Army officials estimate they can equip more than 2,000 vehicles per month with VIS.

Bradley, Representative of New Hampshire's First Congressional, praised the assembled workers of the facility for their efforts. "I'm a member of the House Armed Services Committee, so I know how important your work is and I thank you for it," he said."

Harrington, the Project Manager, Defense Communications and Army Transmission Systems, whose organization – which is part of the Army's Program Executive Office, Enterprise Information Systems – is acquiring the VIS for warfighters,



Workers assemble a crew station light box – one the modules of the Vehicle Intercom System– at the new Cobham Defense Electronic Systems VIS production facility in Manchester, N.H.

told the workers of a recent temporary duty assignment to Iraq. Soldiers in a unit she visited told her first-hand just how important the VIS is in allowing troops to communicate despite the 95 dB or greater noise levels in M1114 up-armored Humvees, Bradley Fighting Vehicles, and other tactical vehicles.

"At any given time the unit had up to 84 vehicles on the road in Iraq," noted Harrington. "The key to their success is command and control, which the VIS allows them. This is probably one of the most-coveted pieces of equipment in theater, both for convoys and for routine patrols. On behalf of the warfighter, I thank you for everything you're doing here."

After the ribbon cutting, David Gaggin, Cobham's president, and Ralph Marrone, Cobham's general manager, took Bradley on a tour of the Manchester facility, accompanied by Harrington, LTC Clyde Richards, PM DCATS' Product Manager, Defense Wide Transmission Systems, MAJ Ron Claiborne, who manages the effort to acquire VIS for PM DWTS, Suzanne Jenniches and David Watson of Northup Grumman Corporation Electronic Systems, which is the Army's prime contractor and integrator of VIS and Steve Collier and Nick Heyes of Cobham. Gaggin and Marrone took Bradley and the group through the production line as

workers assembled the electronic components into the small, aluminum alloy boxes – which were previously cast and covered with a chemical agent resistant coating paint at a foundry in Blackburn, Lancashire, England, where another Cobham facility manufactures other VIS components.

Gaggin told Bradley that, along with low cost of manufacturing and manufacturing-friendly laws and governing bodies in New Hampshire, the highly-skilled technical workforce available in New Hampshire was key to the decision to open the facility there to assist and supplement the existing UK operation.

"A lot of it is the New Hampshire culture," added Marrone. "The workers here take a lot of pride in what they do. They work late, come in on weekends to get the job done."

Gaggin and Claiborne told Bradley that the next step in the evolution of VIS is the integration of wireless technology to allow Soldiers to dismount from vehicles yet maintain full intercom connectivity with Soldiers in the vehicle from up to 600 feet away.



SPC Robert Cirolia of the 42nd Military Police Brigade holds the VIS headset he was wearing when an improvised explosive device knocked him unconscious in his vehicle in Iraq. Cirolia and his doctors credit the VIS with saving his hearing.

Protects Soldiers' hearing, too

Bradley was pleasantly surprised when Claiborne told him how the VIS not only allows Soldiers intra-vehicular communication through both active and passive noise reduction technology, but that it also protects Soldiers' hearing protection – not only from intra-vehicle noise, but also from improvised explosive device blasts.

"We've been contacted at the VIS program office by Soldiers who have told us how VIS saved their hearing during IED explosions," said Claiborne. "One Soldier said the headset so effectively blocked the noise of the explosion that he only noticed it because of the vibration and shaking of the vehicle."

Claiborne further explained how VIS supports the Army's goal to cut down on the number of Soldiers suffering hearing loss. "The Veterans Administration paid around $1 billion for hearing aids, surgery and treatment for veterans last year," said Claiborne."

A case in point: SPC Robert Cirolia of the 42nd Military Police Brigade was recently wearing a VIS combat vehicle crewman headset, when, as the gunner in the lead vehicle of a convoy in Iraq, an IED blast knocked him unconscious. The convoy commander, 1ST SGT Kelvin Mayes, said "The explosion was so muffled that it didn't affect our hearing at all. The concussion did



New Hampshire Congressman Jeb Bradley (left) and COL Gale Harrington, the Project Manager, Defense Communications and Army Transmission Systems, cut the ribbon to officially open Cobham Defense Electronic Systems' new Vehicle Intercom System production facility in Manchester, N.H., May 21 as workers look on from behind them.

take out my gunner (Cirolia), but his hearing was saved. I believe it was because of the (VIS)."

"The CVC definitely protected my hearing," said Cirolia, and his doctors concurred, reassuring him that he didn't lose any of his hearing during the blast.

"I know that my team will not travel without (VIS)," Mayes said.

Claiborne noted that the industry partners on the VIS production team – including Cobham, which was honored in 2002 with the Queen's Award for Enterprise, the United Kingdom's most prestigious award for business performance, and Northup Grumman and Bose Corporation, which were honored in 2004 with DoD value engineering awards – are well aware of how coveted the VIS is, and have been working with the Army to keep Soldiers supplied with VIS.

"The demand for VIS is increasing," said Claiborne. "The good news is, the dramatically increased production we've been able to achieve thanks to the efforts of our industry partners will allow the Army to meet that growing demand for VIS products for units both in Iraq and for the total force."

Mr. Larsen is a public affairs officer with Project Manager, Defense Communications and Army Transmission Systems, Fort Monmouth, N.J. Larsen has more than 20 years experience writing about Army systems.

LandWarNet–University redefines way Soldiers train

By Steve Brady

The christening of the Army's newest training environment - LandWarNet-University - signals change in the way Soldiers are trained.

LWN-U, a computer-based virtual learning environment, will keep Soldiers relevant in their constantly changing career field. The change is especially important within the Signal Corps.

"The technology changes very fast in the Signal field," said COL Lori Sussman, 15th Regimental Signal Brigade commander. "It used to be we could train Soldiers to turn the right knobs, but we can't do that anymore because we are using more commercial off-the-shelf equipment."

The LWN-U concept is similar to a virtual university where Soldiers will be able to learn online and stay abreast of new technology.

"As those pieces and parts change and adapt with technology, the Soldier can adapt without coming back to school for more training, which is costly to the Army and hard on families," she said.

As commander of the 15th Regimental Sig Bde, Sussman is responsible for the initial entry Soldiers' Advanced Individual Training campus of LWN-U for the Signal Center. Here at Fort Gordon, the Soldiers embark on their career in the Signal field.

"They learn to be expeditionary warriors with the skills to live the Soldier's creed, perform their specialty at the apprentice level, and survive on the modern battlefield; all of which allows them to contribute successfully to their first unit of assignment," she said.

As Soldiers progress in their fields, they will be able to learn through LWN-U at the time, place and pace their career progression demands.

"We can no longer just train people, the pace of technology is moving too fast," she said. "LWN-U will give Soldiers the opportunity to stay relevant as they move up in ranks without coming back to Fort Gordon for training."

Another aspect of LWN-U is the Soldiers' ability to learn about other career fields."The Chief of Staff of the Army expects us all to be pentathletes," she said, and to understand the technology of other career fields. "LWN-U is going to be an enabler of that."

LandWarNet is the Army's portion of the Global Information Grid, a collection of systems that provide information technology around the globe. The GIG also connects the Army to the networks of other services and the civilian sector which provides commanders on the ground improved joint warfighting abilities.

"The LandWarNet is bigger than just Signal - it encompasses all Army (information technology) including the fires, maneuver, intelligence, logistics, and other important applications that run on the networks installed by the Signal Regiment.

"To that end, the Signal Regiment's portion of LandWarNet-University will be to educate Soldiers in IT and networking, providing instruction in everything from



The Signal Regiment's portion of LandWarNet-University will be to educate Soldiers in IT and networking, providing instruction in everything from CISCO (Computer Information Systems Company) routers, to running a SINCGARS (single-channeled ground to air radio system).

CISCO (Computer Information Systems Company) routers, to running a SINCGARS (single-channel ground-to-air radio system) to installing a Joint Network Node," she said. "It will eventually include future technologies like the next generation of commercial IT products, the Joint Tactical Radio, and the Warfighters Information Network-Tactical, better known as WIN-T."

All education about putting in a network will be taught by LWN-U under the Signal Regiment banner. LWN-U will also have IT systems belonging to other regiments so that any Soldier can increase their knowledge in any aspect of IT in order to best support their current mission, she said, without having to leave their duty station for the education.

"LandWarNet-University will provide commanders with better educated and more current Soldiers without taking them out of the fight to go to school," she said.

Mr. Brady was the editor of The Signal *with the Fort Gordon Public Affairs at the time this article was written.*

LWN-U TRAINS FOR GLOBAL COMMUNICATION

By Kristy Davies

It all started with a concept of global communications and the idea of all entities being able to talk to one another.

That is the basis for the Global Information Grid, which LandWarNet will plug into, along with the communication systems for organizations such as the U.S. Air Force, Marine Corps, and Navy.

To get to this point, training is a must. This is where LandWarNet-University comes into play and it is already actively in use.

"LWN-University is our vision to be a community of excellence and to educate Soldiers on LWN," explained LTC Tim Cassibry, officer-in-charge of the Joint Network Node Cell, Directorate of Training, "Where we take what we have, within the school, with the (University of Information Technology) portal and we look at the best ways to provide training and training support to the war fighter on a 24/7 basis."

"LWN-U will leverage enabling communities to provide training to Soldiers and leaders where and when needed," said BG (then colonel), Ronald Bouchard, U.S. Army Signal Center deputy commander.

LWN-U will assist Soldiers in remaining updated on training needed for their military occupational specialty.

"Traditionally, the Army has trained at discreet points in time, such as Advanced Individual Training and Officer Basic Course," explained Cassibry. "Several years later the Army brings you back for Basic Noncommissioned Officer Course or the Captains Career Course. Under the umbrella of LWN-U, we will be providing that updated training whenever the Soldier needs it."

"A good example is a Soldier coming from a (mobile subscriber equipment) unit may go to a (JNN) equipped unit. If the unit has already gone through their new equipment training and it's not time for him to come back to the school house, we do it through LWN-U, through the UIT (University of Information Technology) portal, which is going to become LWNeU (LandWarNetelectronicUniversity)."

The educational opportunities through LWN-U include assistance for Soldiers to obtain a degree, keep Soldiers updated on skills training and Soldiers will be able to access the training anywhere in the world.

"It's bigger than the Signal Center because not only are we going to train Signal Soldiers, but the intent is to train non-Signal who touch the network or who have computer systems or automated systems that go across the network," explained Cassibry. "All these systems impact the network. At the same time we have to make sure that the commander, who now owns this network, understands what it is that he owns and what it will do for him."

Capabilities of accessing LWN-U anywhere in the world will transform Army education and preparedness.

"LWN-U will train and educate Soldiers and leaders from the classroom to the battlefield by integrating training between multiple enabling organizations in order to provide network enable battle command in support of leader centric operations," added Bouchard. "LWN-U will train and educate Soldiers and leaders on all aspects of the network, not just their specific MOS (military occupational specialty) skills."

In addition to being able to tap into LWNeU from anywhere in the world, some of the training may count towards college credits, a great incentive for officer, non-commissioned officers and enlisted Soldiers alike.

"Courses taken here have been evaluated through the American Council on Education and they have some credit that's available to them just on the courses they take now," Cassibry continued.

"Instead of a Soldier just taking college courses for the sake of taking college courses for promotion points, we want to be able to show the Soldier how if they take college courses that support their MOS it will lead towards a degree. It will take the college programs that we already have in place, to the next level."

"An objective of LWN-U is for Soldiers to become network enabled warriors while earning college credits towards a degree that is associated with their MOS," added Bouchard.

The final outcome from LWN-U is very optimistic as a better trained Soldier is produced here.

"It provides the Soldier the ability to train when he needs it," said Cassibry. "It will provide better training for the Soldiers and better trained Soldiers to the units. Fort Gordon is going to be the heart of LWN-U."

Ms. Davies was a staff writer for Fort Gordon Public Affairs Office and The Signal *newspaper at the time of this article.*

Every classroom a command post

By Kristy Davies

BG Ronald Bouchard, U.S. Army Signal Center and Fort Gordon deputy commander, announced that "LandWarNet-University" was officially "stood up." The Army is developing this new Community of Excellence to educate Soldiers and leaders on LandWarNet. LWN is the Army's contribution to the Global Information Grid that will integrate network transport, network services, and network applications, all in support of battle command on future "information battlefields."

The mission of LWN-U is to train and educate Soldiers and leaders from the classroom to the battlefield by integrating training among multiple enabling organizations to provide network enabled battle command in support of leader centric operations, according to LTC Tim Cassibry, LWN-U cell officer-in-charge, Directorate of Training.

To accomplish this mission, LWN-U has adopted five goals.

The first goal is to "Train and Educate Soldiers on LWN." The objective behind this goal is to provide trained and ready Soldiers that have learned both the technical and tactical aspects of LWN by combining technical and warrior skills into their training by leveraging the latest methods of instruction. An example of this is during the Soldier's Advanced Individual Training, classroom use of the Joint Network Node equipment simulations will be immersed with the training of warrior tasks and battle drills in a tactical environment.

"We are updating training and putting new training in place while incorporating warrior skills into the training," said Cassibry.

Every class will approximate the feel of future command posts under LWN.

The second goal is to "Develop and Educate Leaders on LWN." Leaders will be taught the operational/strategic focus of LWN as well as an understanding of the complexity of LWN and the ability to maneuver LWN in support of the warfighter. No longer is the Signal officer just concerned about the network.

"(LWN-U) provides the Soldier the ab to train when he needs it," added Cassibry. "We're examining ways in whic provide the be available to the warfighter when he needs it and we're going to do that with LWN-U."

All users of battle command are impacted, especially commanders that must maneuver their portion of the Network like any other battle system they control.

"LWN exists to enable the warfight through battle command," explained Cassibry.

The third goal is to "Provide LWN education for LifeLong Learning." Key to this goal is making training and education available through the network to support Soldiers and leaders 24/7 throughout all phases of the Army Force Generation Model.

"We take what we have, within the school, with the University of Information Technology portal and look at the best ways to provide training and training support to the Soldier on a 24/7 basis," said Cassibry.

The transformation of the UIT web portal to the LWNeU is the start of expanding LWN to provide Lifelong Learning to all users of LWN. The complexity of information technology and its spiraling advances, requires the need for continual training and 'hands on' knowledge.

"LWNeU is going to be very similar to how (a university) has satellite campuses and distance education programs," Cassibry added. "Right now you can download simulations and reference material, but we want to open it up to the entire Army so they can link into other branches of training.

"We don't want to take over, but provide a common link that everybody can go to."

The fourth goal is to "Provide LWN Training Support to the Warfighter." Central to this providing ining support to the operational Army hrough on-resident training, mobile training teams, distance learning and the providing of network connectivity in support of unit sustainment training. The use of network optimization teams from the Signal Center in support of Iraqi-bound JNN fielded units has been integral in the battle command readiness of these units. In addition, the recent Department of the Army Command Information Officer/G6 support of both the bandwidth management and training support of Ku band satellite connectivity which is a key systems enabler of LWN.

The fifth goal is to "Integrate Combat Development and Research Objectives." Significant to this goal is the rotation of joint operational assignments to instructional assignments and then on into research and development positions.

"Not only are we going to train Signal Soldiers," explained Cassibry. "The intent is to train anyone who touches the network."

Throughout this process the integration of proven lessons learned

in platform instruction and the development and dissemination of emerging LWN doctrine will be critical. Also paramount with this goal is the leveraging of Training and Doctrine Command program integration offices in the development of emerging LWN technologies.

BG Randolph Strong, U.S. Army Signal Center and Fort Gordon commanding general, said LWN-U will be the key to the transformation of the Signal regiment into "the provider and integrator of information through network-centric information technology systems."

"We must become the (Tactical Operations Center) information systems integrator and enable information management and knowledge management for the warfighter."

Ms. Davies was a staff writer for The Signal *newspaper with the Fort Gordon Public Affairs Office at the time this article was written.*



During a joint meeting at Fort Gordon on June 22, *(left to right)* U.S. Marine Corps BG George Allen, director, C4/CIO, LTG Steven Boutelle, G-6/CIO, BG Ronald Bouchard, deputy commanding general, U.S. Army Signal Center and Fort Gordon, and BG Randolph Strong, commanding general, U.S. Army Signal Center and Fort Gordon discuss strategies for incorporating distance learning opportunities into the Marine Corps.

Signal training may add Marines

By Charmain Z. Brackett

Providing training and education to the warfighter was a foremost goal of the Signal Center when establishing LandWarNet's e-University.

At the time, however, they had no idea the group using the knowledge management portal wouldn't be wearing Army green.

"Our mission is to provide continuous training and education for Soldiers and leaders from the classroom to the foxhole. We want to assist the Marine Corps in their training and education of Marines from their classrooms to lifelong learning," said BG Ronald Bouchard, U. S. Army Signal Center and Fort Gordon deputy commander.

"The power of what we are trying to do is just phenomenal," he said.

On June 23, BG George Allen, director for command, control, communications and computers (C4) and chief information officer for the Marine Corps visited Fort Gordon.

"I'm here to take a look at the Army's training and technology and to see how to include it in what we do in Marine Corps schools," he said during his visit.

He met with senior leaders including Bouchard, BG Randolph Strong, Fort Gordon's commanding general, and his Army counterpart, LTG Steven W. Boutelle.

"We're very fortunate (Lieutenant) General Boutelle married us up with (Brigadier) General Allen," said Bouchard.

While continued training has long been important to the Army, Marines don't always have that luxury.

"After their initial training, about 80 percent of Marines don't get to go back to school," said Allen.

The distance learning opportunity provided through LWNe-U is exciting to Allen and his branch of service.

"We're very interested in distance learning," he said.

In addition to meeting with the Army officials, Allen visited the Joint Network Node classrooms and had the chance to view the equipment used by the Army.

The equipment the Marines use is not identical to the Army; however, it is very close, said Bouchard.

As the Army has moved to more commercial, off-the-shelf equipment so has the Marine Corps providing avenues for the two branches to link together. The use of similar equipment not only helps the Marines work with the Army, but it could help in the event a Signaleer is attached to a Marine unit, he said.

Allen said he liked some of what he saw.

"The Army has done a lot of great work," he said.

Bouchard said the next step will be to determine what will work for Marine Corps Signaleers.

Bouchard said the interest of the Marine Corps in LWNe-U has given those at Fort Gordon's Signal Center an added excitement about its future.

"This opens up the door to huge possibilities in the future," he said. "(Brigadier) General Allen was simply amazed at what we had, where it was going and what was on the drawing board."

Ms. Brackett is a contributing writer for The Signal *newspaper, Fort Gordon Public Affairs Office.*

2006 Army Deployment Excellence Awards

By Charles K. Ledebuhr

Competitive year 2006 proved to be another stellar performance of the Deployment Excellence Award Program, with great units and installations setting the pace in deployment operations. The Army's operational tempo, coupled with increased awareness of the DEA program, combined to result in the largest level of participation ever. The program saw significant gains, particularly in the operational, supporting, and installation categories

This year's award ceremony was held at the Hilton Alexandria Mark Center during the afternoon of May 18. Army Deputy Chief of Staff, G4, LTG Ann E. Dunwoody presented the DEA awards to all the honored units. The Army Assistant Deputy Chief of Staff, G3, MG Michael W. Symanski and the Commanding General, U.S. Army Transportation Center, BG Mark Scheid assisted in the presentation of awards.

The awards banquet capped a special day recognizing excellence and success in deployment. GEN Benjamin S. Griffin, commanding general, U.S. Army Materiel Command, provided remarks at the banquet and challenged units and installations to maintain their high deployment standards.

In the DEA program, Army units compete by component (Active, Reserve, and National Guard) in categories of large unit (battalion and above), small unit (company and below), and supporting unit. Installation and operational deployment categories are competed Army-wide. The operational deployment category is open to all Army units that deploy on operational missions like the war on terrorism and peacekeeping. Units can contend for either the large unit (battalion and above) or small unit (company and below).

The Army's uptempo and strong major command involvement brought a number of new units and installations into the competition.

The Installation Management Agency had the best showing ever with the largest number of installations competing.

The winner for the second year running was Fort Hood. Their outstanding support to nine overlapping deployments, coupled with the challenges of dealing with Hurricanes Rita and Katrina resulted in an extremely strong showing. Congratulations to the terrific installation deployment team serving Fort Hood well.

In a very close competition, a newcomer to the competition, Fort Bragg, was the runner-up in the installation category. The Fort Bragg installation team received strong endorsements from its diverse customer base and demonstrated its outstanding capabilities to support scheduled and no-notice deployments.

The Military Surface Deployment and Distribution Command swept the Active Army supporting unit category with the 832nd Transportation Battalion from the Port of Jacksonville, Fla., winning and the 838th Transportation Battalion from the Port of Rotterdam, in the Netherlands coming in a close second.

Eighth United States Army, Korea, a winner last year in the operational deployment category, continued to excel with the 305th Quartermaster Company, Yongsan winning the Active Army small unit category and the 728th Military Police Battalion, Daegu being selected as runner-up in the Active

2006 Winners

40th Signal Battalion
Fort Huachuca, Ariz.
Active - Large Unit

305th Quartermaster Company
Yongsan, Korea
Active - Small Unit

832nd Transportation Battalion
Jacksonville, Fla.
Active - Supporting Unit

483rd Transportation Battalion
Vallejo, Calif.
Reserve - Large Unit

828th Quartermaster Company
Wilkes Barre, Pa.
Reserve - Small Unit

HHC, US Civil Affairs and Psychological **Operations Command**
Fort Bragg, N.C.
Reserve - Supporting Unit

1st Battalion, 151st Infantry Regiment
Indianapolis, Ind.
National Guard - Large Unit

D Company, 113th Aviation Regiment Reno, Nev.
National Guard - Small Unit

Joint Forces Headquarters - Florida
St. Augustine, Fla.
National Guard - Supporting Unit

Fort Hood, Texas
All Army - Installation

426th Brigade Support Battalion
101st Airborne Division (Air Assault) Fort Campbell, Ky.
All Army Operational Deployment
Large Unit

B Company, 1-35 Armor Battalion
1st Armored Division
Baumholder, Germany
All Army Operational Deployment
Small Unit

2006 Runners-Up

728th Military Police Battalion
Daegu, Korea
Active - Large Unit
HHC, 5th Special Forces Group
Fort Campbell, Ky.
Active - Small Unit

838th Transportation Battalion Rotterdam, Netherlands
Active - Supporting Unit

1190th Deployment Support Brigade
Baton Rouge, La.
Reserve - Large Unit
401st Transportation Company
Battle Creek, Mich.
Reserve - Small Unit
643rd Area Support Group
Fort Polk, La.
Reserve - Supporting Unit
224th Engineer Battalion
Fairfield, Iowa
National Guard - Large Unit

41st Adjutant General Company Salem, Oregon
National Guard - Small Unit
Camp Atterbury
Edinburgh, Ind.
National Guard - Supporting Unit

Fort Bragg, N. C.
All Army - Installation

Army large unit category.

The United States Army Network Enterprise Technology Command had its first winner with the 40th Signal Battalion from Fort Huachuca, Ariz., winning the Active Army large unit category.

The Army Reserve had a number of outstanding entries which included HHC, U.S. Civil Affairs and Psychological Operation Command at Fort Bragg, which was recognized as the best Reserve supporting unit. The command formed movement support teams with internal assets and supported a complex operation involving 19 different special operation units, 1,200 Soldiers, and 160 short tons of cargo. The teams ensured deploying Army Special Operation Forces met deployment timelines, prepared timely and accurate movement data, and properly used transportation assets.

The National Guard also had some standout units including Joint Forces Headquarters - Florida. The headquarters, selected as the National Guard's best supporting unit, supported the deployment of 29 units and 1,800 Soldiers in support of the Global War on Terrorism while simultaneously conducting military support to civil authorities during four major hurricane recovery operations.

Winning units did a number of things to stand out in the competition. First they selected an appropriate category – the category that best fit the deployment event. Units planning to compete in 2007 should consider the deploying unit categories which historically have the least amount of units competing and may offer the greatest opportunity. The winners also fully documented and explained their deployment event. Remember the board only knows what they are told, so include a complete description of what your unit accomplished during the deployment phase. Each packet has specific requirements. Make sure to address all of them and finally, support the verbiage with pictures – they really help. The DEA program guidance and evaluation criteria are available on the DEA web page at (http://www.deploy.eustis.army.mil/Default.html).

For additional information contact your MACOM DEA point of contact or the DEA Program Manager, Henry Johnson, DSN 927-1833 or commercial 757-878-1833.

Mr. Ledebuhr is chief of Operations, Deployment Process Modernization Office at Fort Eustis, Va.

59th Signal Soldiers take brigade titles

By Bill McPherson

FORT SHAFTER, Hawaii – Two 59th Signal Battalion Soldiers swept the 516th Signal Brigade Noncommissioned Officer and Soldier of the Year competition conducted in Hawaii March 20-24, according to the 516th's Command SGM James W. Anderson, president of the board.

SSG James W. Fawvor III, a network administrator at the 59th's 507th Signal Company, Fort Wainwright, Alaska, was selected as the brigade's NCO of the Year 2006, while his co-worker, SPC Kelly L. Toney, a communications security and radio equipment repairer at the 59th's Headquarters Detachment, Fort Richardson, Alaska, was named as the brigade's Soldier of the Year 2006.

They competed with eight other NCO's and Soldiers of the Year from the brigade's other units in Japan, Okinawa, and Hawaii, Anderson said.

The week-long competition included personal interviews, a written test, an essay, a physical fitness test, firing at the rifle range, common task training, and skills in land navigation.

As brigade winners, Fawvor and Toney will advance to the U.S. Army Network Enterprise Technology Command NCO and Soldier of the Year competition to be conducted in June at Fort Huachuca, Ariz.

"We're extremely proud of the outstanding performance of SSG Fawvor and SPC Toney," said the 59th Signal Battalion's CSM Michael Steele, who accompanied them to Hawaii and served as one of the members of the selection board. "They are arctic tough warriors, and their studies and hard work paid off."

Fawvor and Toney were honored at an awards luncheon March 24, at which the brigade commander, COL Edric A. Kirkman, awarded each of them an Army Commendation Medal, a $100 gift certificate to the post exchange, and



SSG James W. Fawvor IV (second from left) and SPC Kelly L. Toney (second from right) pose with their chain of command leaders, (from left) the 516th Signal Brigade's Command SGM James W. Anderson, 516th Commander COL Edric A. Kirkman, and the 59th Signal Battalion's Command SGM Michael Steele. Fawvor is the brigade's new NCO of the Year 2006, and Toney is the new 516h Soldier of the Year 2006.

a trophy depicting a Soldier and the United States of America flag.

Fawvor joined the Army in November, 2001, taking basic training at Fort Jackson, S.C. and advanced training at Fort Gordon, Ga. Prior to joining the 507th Sig. Co. seven months ago, he served as the systems administrator for the Army Dental Activities in Alaska.

A 2000 graduate of Humble High School, Houston, Texas, Fawvor has earned an Associate's degree in computer science from the University of Rio Salado.

"The brigade board was very challenging," Fawvor said. "The competitors were an excellent group of Soldiers. The hardest part for me was the land navigation, which is usually easy for me. The favorite part for me was visiting a part of the country I had never been to before. Hawaii is beautiful, and the 516th Signal Brigade Soldiers were very hospitable to all the competitors."

Fawvor said he will begin early preparing for the NETCOM NCO of the Year competition. "I plan to do plenty of studying, physical training, common task training review and practice, and try to work even harder."

Fawvor thanked his chain of command for helping him prepare for the brigade board: SSG Andrewlo Jackson, SFC Class Richard Hawkins, SFC Bruce Beyer, CSM Michael Steele, and CPT Frank Huffman.

Toney joined the Army in August 2003, taking basic training at Fort Jackson and advanced training at Fort Gordon. She's been with the 59th Signal Battalion. since May, 2004 – her first military assignment.

A native of Englewood, Fla., Toney graduated from Lafayette High School, Mayo, Fla. in 2001. She is married to SGT Joshua Toney.

"The brigade competition was great training," SPC Kelly Toney said. "Prior to going to Hawaii, I prepared by studying the *Army Study Guide*, keeping up with my physical training, and practicing various common task training elements. For anyone planning to compete for Soldier of the Year boards, you've got to do your best and give it your all.

"For the NETCOM (Network Enterprise Technology Command) boards in June, I will definitely start focusing more on land navigation, as it was the hardest element for me at the brigade competition," she continued.

Toney thanked her supervisor, SGT Joseph Campbell, and her unit's communication security custodian, SFC Thomas Rayburn, for helping her prepare for the brigade competition.

"While it was a lot of work preparing for the brigade board, it was well worth it to get the chance to visit Hawaii," Toney said. "Now that I won at brigade, I get to travel to Arizona, too."

For more information contact Bill McPherson, Public Affairs Officer at (808) 438-8264; William.mcpherson@us.army.mil.

Mr. McPherson is a public affairs officer with 516th Signal Brigade, Fort Shafter, Hawaii.

Depot Resets Black Hawk avionics systems

By Anthony Ricchiazzi

TOBYHANNA ARMY DEPOT, Pa. — Reset of the first two of 250 complete UH-60 Black Hawk helicopter avionics suites has been completed ahead of schedule.

Repair, overhaul and testing began April 19 and the two suites were shipped May 18, beating the 45-day deadline, said Mike Jones, electronics mechanic supervisor, Transponder Branch, Avionics Division, Command, Control, and Computers/Avionics Directorate. Reset is returning equipment to the condition it was prior to deployment to support future requirements.

"We're working on six suites now," said Chris LaBadie, Navigation Systems Branch chief. "We expect to Reset 52 suites this year after these initial eight are done and 190 more in fiscal year 2007."

The suites are composed of all 59 avionics systems in a Black Hawk helicopter, including AN/APX-100 Identification Friend or Foe Transponders, Doppler radars, stabilator amplifiers (controls the horizontal airfoil at the tail of the helicopter), Aircraft Single Channel Air and Ground Radio Systems, master warning panels and the main command instrument computer processor.

"Most of these items are standard work for us, but an entire suite under a Reset deadline is a new mission. We had no problem meeting the objective," said George Bellas, director of C3/Avionics. "We expect to meet or beat the deadline for the other suites as well."

Components that are not standard, such as marker beacons and compass controllers, are being analyzed by Production Engineering Directorate personnel to give the depot capability to repair, overhaul and test them.

"They helped with items we've never worked on or haven't in a while such as the master warning panel and the IFF transponder antenna," Jones said. "They've also assisted in producing component schematics. Engineering's work has been outstanding."

Program Manager Aviation Reset (Redstone Arsenal, Ala.) assigned this mission to Tobyhanna to ensure the rapid turn around of UH-60 aircraft being reset at Beeville, Texas. Additionally, Tobyhanna supports rapid repair and return of avionics at nearby Corpus Christi Army Depot. Tobyhanna personnel are stationed at CCAD working with CCAD technicians to carry out comprehensive depot-level repair.

In the future, the same process at CCAD will be performed at Beeville until the UH-60 reset mission is completed.

"We sent employees to Beeville to inventory and package the first suites and realized an FRA (Forward Repair Activity) would be very helpful in this mission," Bellas said. "We will open an FRA there for at least two years."

For now, all the work is done at Tobyhanna. Suites are brought into the Avionics Division, broken down and the individual components sent to division branches and the SINCGARS Branch of the Communications Systems Directorate.

"We've applied Lean concepts and expect costs to drop," Jones said. "We've streamlined induction and shipping processes and have become more efficient as the mission progresses. Our induction, inventory and distribution process has dropped from 20 hours to 15. We're looking at our current Lean processes as a benchmark for everything we do. PII (Productivity Improvement and Innovation Direction) through Lean events has been invaluable at helping us evaluate our Lean process so we can work smarter, not harder."

Lean concepts include reorganizing workspace and equipment to increase efficiency, identifying unproductive processes and introducing production control aids.

Tobyhanna Army Depot is the Defense Department's largest center for the repair, overhaul and fabrication of a wide variety of electronics systems and components, from tactical field radios to the ground terminals for the defense satellite communications network. Tobyhanna's missions support all branches of the Armed Forces.

About 4,400 personnel are employed at Tobyhanna, which is located in the Pocono Mountains of northeastern Pennsylvania.

Tobyhanna Army Depot is part of the U.S. Army Communications-Electronics Life Cycle Management Command and Headquartered at Fort Monmouth, N.J., C-E LCMC's mission is to research, develop, acquire, field and sustain communications, command, control computer, intelligence, electronic warfare and sensors capabilities for the Armed Forces.

Mr. Ricchiazzi is a writer with the Tobyhanna Public Affairs Office, Tobyhanna Army Depot, Tobyhanna, Pa.

DEPLOYED COMSEC WORKER EXCELS, EARNS MEDAL

By Kevin Toolan

TOBYHANNA ARMY DEPOT, Pa. — Jim Mason, an electronics mechanic in the Communications Security Division, has earned recognition for exceptional service to warfighters in Iraq. He was awarded the Achievement Medal for Civilian Service by the Army Field Support Battalion-Iraq for his pivotal role as the team leader for establishing the depot's Communications Security Forward Repair Activities in the theater of operations.

Mason led the efforts that established the first FRA in 2004 and the second site late last year. The sites provide sustainment support on more than 20 COMSEC items, to include the repair, testing, software upgrade, and exchange of secure voice, secure data and trunk encryption equipments. "The service we provided was because the depot was behind us," Mason noted. "It really was a depot group effort."

Mason said he had two primary reasons for taking on the assignments.

"These were opportunities to support the Soldier in the field," Mason explained. "The Soldiers are the ones paying the price and I saw the chance to serve those who needed us the most. Secondly, I like a challenge, and establishing repair shops where they hadn't existed before is quite a challenge," Mason added

The depot personnel at the FRAs perform emergency repairs on damaged key generators and racks, and have assisted in the installation of secure communications links. They also arrange for the shipment of components to Tobyhanna that could not be repaired on site.

The FRA support was effective and timely, with more than 90 percent of work orders completed in a 24-hour turnaround period. The FRAs support all branches of the Armed Forces. "Our in-theater presence has resulted in faster



Jim Mason, an electronics mechanic in the COMSEC Division earned recognition for exceptional service to warfighters in Iraq.

turnaround times, reduced maintenance repair costs, and insured compliance with the unique security requirements of COMSEC material. In addition, our presence also eliminated delays associated with the shipment of material back to Tobyhanna," said Jim Powell, chief of the COMSEC Division.

"The Soldiers were pleased with the rapid turnaround that met the units' requirements, and helped reduce expenses since we did not have to maintain a large supply of spares," Mason said. "We were the faces they saw, but again, the whole depot team was backing us up from here."

With their background in electronics, the FRA team members also provided emergency maintenance support on non-COMSEC communications-electronics equipment, such as SINCGARS radios.

Mason's team quickly overcame obstacles in establishing the first FRA, then used lessons learned to even more rapidly get the second FRA operational. Before the first FRA opened for business, a depot team modified and upgraded a 38-foot van that would be the work site in-country. Previously a STAMIS van, personnel in the Systems Integration and Support Directorate refurbished it to meet the unique needs of the mission, including specialized test equipment, tools, reference manuals, and parts.

Setting up the second FRA went more smoothly because of lessons learned from establishing the first FRA," Mason explained. "We did a lot of planning here, and sent a maintenance van a month ahead of us so that our equipment was there when we arrived."

The team quickly set into a typical work pattern of 12-hours-a-day, seven days-a-week. The daily routine was occasionally interrupted by errant mortar rounds from the insurgents. He lived in a trailer near his work site.

"Living and working conditions were pretty decent. Our quarters were laid out like a college dorm," Mason said.

The COMSEC FRAs are among a network of more than 30 FRAs operated by Tobyhanna to provide on-site support of C4ISR systems wherever U.S. forces operate or deploy.

Tobyhanna Army Depot is part of the C-E LCMC. Headquartered at Fort Monmouth, N.J., C-E LCMC's mission is to research, develop, acquire, field and sustain communications, command, control computer, intelligence, electronic warfare, and sensors capabilities for the Armed Forces.

Mr. Toolen is with the Tobyhanna Army Depot Public Affairs Office, Tobyhanna, Pa.

1,000TH NEW SURVIVAL RADIO READY

TOBYHANNA ARMY DEPOT, Pa.— A government and industry team has reached a major milestone in keeping aircrews safe.

Tobyhanna, in partnership with Engineering and Professional Services Inc. (EPS), recently completed the 1,000th AN/PRC-112D survival radio.

The milestone, reached March 24, was marked by a plaque presentation by Francesco Musorrafiti, EPS chairman and chief operating officer, to depot commander COL Tracy Ellis on March 27. EPS is located in Tinton Falls, N.J.

The PRC-112D is a new generation of the PRC radio and offers aircrews significant improvements that increase the probability of being rescued if they bail out.

As part of the modernization program, older version AN/PRC-112 radios were upgraded with newly designed state-of-the-art electronic modules that resulted in significant improvement in the radio's communication technical specifications. Battery life was increased and Soldiers can now determine battery status via a status indicator and radio status via a built-in-test indicator. These modules were also the basis of the new "D" model radio.



Sherry Morrison assembles an AN/PRC-112D survival radio. She assembled the 1,000th PRC-112D radio March 24. Morrison is an electronics worker in the Tactical Radio Branch, Tactical Communications Division, Communications Systems Directorate.

Keith McDonnell, electronics mechanic, Tactical Communications Division, Communications Systems Directorate said they are going to build about 1,500 PRC-112Ds in fiscal year 2006. "There is a proposal to build about 1,600 more in fiscal year 07," he added.

The new-build program was designed to provide survival radio communications until the introduction of combat survivor evader locator radios, said Jack Mulherin, former chief of the Tactical Radio Branch. Richard Henning is the current branch chief. Until the CSEL is fielded, the PRC-112D will fill the gap between it and the older version radios.

As the new-builds are put into service, users receiving the radios turn in inoperable older version radios, which are upgraded to D models, according to Mulherin.

Both Mulherin and McDonnell believe the D-model radio will be around for several years.

Also attending the ceremony from EPS was John Gagliano, chief operating officer, Edmund Tognola, program manager, AN/PRC-112D Survival Radio, Paul Rosengrant, director of contracts and William Otto.

The contract awarded by the to EPS in December 2000 included modernization of older version AN/PRC-112 radios and production of new "D" model radios. This was accomplished by EPS and their partners, Tadiran – Spectralink, Israel; American Competitiveness Institute, Pa.; and Tobyhanna Army Depot.

"With the years of experience Tobyhanna had with the older versions of the AN/PRC-112 radio and (the Communications-Electronics Life Cycle Management Command's) recent task for Tobyhanna to upgrade the older radios with the newly provided EPS kits, Tobyhanna was the right place to come to have the new "D" model radios built," Tognola said. "EPS has a long standing relationship with Tobyhanna that we are very proud of. We hope this relationship will continue for many more years, not just on the survival radio program but on several new initiatives being proposed."

"It was a leak test that started this mission," said George Bellas, then-director of Communications Systems. "We got involved in the PRC-112C to figure out how to keep the radio from leaking."

"They brought two 112Cs to us; we opened them up and they were filled with sea water," Bellas said. "We formed a Tiger Team with CE LCMC and [the former] Kelly Air Force Base, Texas, and we had to figure out where the leak was. Was it the knob? The antenna? The back cover?"

After solving the leak problem, engineers here and at CE LCMC developed a leak test using helium in conjunction with mass spectrometers, instruments which measure the masses and relative concentrations of atoms and molecules, to detect the smallest leak.

"The most challenging part of the mission is the time required to build and test a radio," McDonnell said. "We have a little more than five hours to finish each radio."

"The operations have definitely become more proficient," Mulherin noted. "We're confident we can reduce assembly time further on future projects."

Sherry Morrison, an electronics worker who assembled the 1,000th radio, said she knew it was a milestone. "I didn't think of it as different from any other radio," she said. "They are all the same, they are all important."

Bellas echoed that, citing the work ethic of the technicians and supervisors on the mission. "They know how important the radios are," he said. "Everybody on the line cares. And the mission is more than just Tobyhanna. It's a teaming effort between Tobyhanna, EPS, CE LCMC and all the other companies involved. They are doing a fantastic job; it's a fantastic radio."

NETCOM Soldiers aim for top honors

By SSG Jeff Troth

Fifteen Soldiers from around the world converged on Fort Huachuca to test their skills in the Network Enterprise Technology



SSG Billy Atkinson, 1st Signal Brigade, Korea, takes aim at targets during the M-16 qualification portion of the NETCOM/9th ASC competition.

Command/9th Army Signal Command Noncommisiond Officer and Soldier of the Year competitions July 17 to 21. At the end of the week, SSG Mark Bonaudi, representing 5th Signal Command, Mannheim, Germany, came out as the top NCO and SPC Gregory Blough, 93rd Signal Brigade, Fort Gordon, Ga., earned the title of Soldier of the Year.

They became the top NCO and Soldier for a command that has more than 15,000 Soldiers and civilians in 104 locations around the world operating, sustaining and defending the Army's Global Information Grid, keeping it free from hackers, viruses and other dangers.

Although only two could be earn the title of best in NETCOM/9th ASC, all Soldiers had won several boards before traveling to Fort Huachuca. Each had won NCO or Soldier of the month, quarter, and year boards at each of their companies, then won at their battalions, brigades and for two Soldiers, their command.

But, for all of them this competition was different than the boards they had already won. The previous boards were just like the boards anyone in the Army above the rank of sergeant has attended – answering questions from senior NCOs. The NETCOM/9th ASC competition included the board, but also tested the NCOs and Soldiers on tasks that encompass the total NCO/Soldier.

"This competition shows more of the complete Soldier concept, not just book knowledge," said Bonaudi. "...the skills every Soldier needs to know to survive."

The competitors completed a regular Army Physical Fitness Test which consists of two minutes of pushups and sit-ups, and a two-mile run. They also had to do a land navigation course, take a written exam on general military knowledge, write an essay on Army values or transformation and qualify on the M-16 rifle. Qualifying was different for all of the competitors as none of them had been to the range since the Army qualification standards had changed. Firing from a foxhole is no longer done. Instead they fired from the prone supported, prone unsupported and kneeling unsupported positions.

The competitors were put through their paces on Common Task Testing. The NCOs and Soldiers each had to complete four CTT tasks and a mystery task that would help them survive on the battlefield. The Soldiers had to stop the bleeding on an extremity of a mannequin and decontaminate themselves and their

equipment, while the NCOs had to request a medevac and issue a warning order. All of them had to go through the mystery task which tested their reactions and knowledge of what to do when they encountered improvised explosive devices and an injured Soldier while on patrol.

"The CTT was very pertinent and something every Soldier needs to know," said SPC Nina Gutierrez, 21st Signal Brigade, Fort Detrick, Md. "With the wars we are fighting now, reacting to an IED is something that every Soldier needs to know before they deploy."

Even though the events were difficult, Blough said the most difficult part of the competition was overcoming the fact that he was becoming friends with the others and to compete against them. He also claimed that friendship was the best part of the competition. It seemed like everyone was working together as a team, instead of against each other, to bring the best out of each other.

Even with the help of these new friends, Blough said he was quite surprised to hear CSM Donna Harbolt, NETCOM/9th ASC command sergeant major, call out his name as the Soldier of the Year.

"I thought I had shot myself in the foot with the PT test due to the change in altitude [Fort Gordon is not even 450 feet above sea level, while Fort Huachuca sits above 4,600 feet] and the different format in shooting," Blough said. "I feel that I could have done better at both of these."

Bonaudi said that he was confident on his performance during the competition, although the land navigation portion was the toughest since the canyon where the course was set up does not allow for terrain association, and he had to rely strictly on his pace count and compass azimuth.

"I thought I had it, but I knew SSG [Jaime] Aparicio [11th Signal Brigade, Fort Huachuca] was close," Bonaudi said. "Being able to compete against such fine NCOs was a great part of this competition."

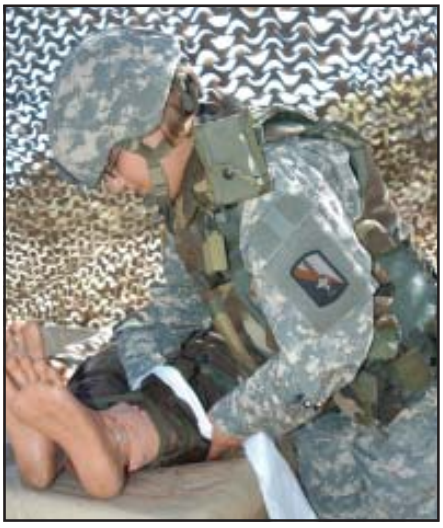


SPC Michael Philbert, 11th Signal Brigade, takes a compass azimuth before heading to his third point on the land navigation course.

While the points were being tallied, the competitors had a chance to unwind and enjoy their new friends. At the same time, they learned about the post and how the Signal Corps played a part of its and the areas history. The Soldiers went to the post museum and to Tombstone where the NETCOM/9th ASC Historian Vince Breslin told them about the early life of the post, the capture of Geronimo and how heliograph stations (mirrors used to communicate) stretching east to central New Mexico and north to Flagstaff allowed the Army to keep in contact over long distances.

Competition activities concluded with a banquet where the competitors were awarded the Army Commendation Medal for making it to this level. First-place runners up for the competition were Aparicio for the NCOs and SPC Daniel Smith, representing the 160th Signal Brigade in Southwest Asia.

Bonaudi and Blough are not finished competing yet. Their next stop is Fort Hood, Texas, to compete in the U.S. Army Forces Command NCO and Soldier of the Year competitions.



SPC Nina Gutierrez, 21st Signal Brigade, applies a pressure dressing to stop bleeding on an extremity of a prone mannequin.



SSG Mark Bonaudi, NETCOM/9th ASC NCO of the Year congratulates SPC Gregory Blough, NETCOM/ 9th ASC Soldier of the Year.



SSG Billy Atkinson, 1st Signal Brigade, salutes as he reports to CSM Donna Harbolt, president of the board.



SGT Doug Jessup, 311th Theater Signal Command, Korea, reacts to a simulated IED as SFC Preston Johnson, 11th Signal Brigade, grades his performance.

NETCOM/9th ASC NCO/ Soldier of the Year competitors

5th Signal Command, Germany
SSG Mark Bonaudi
SPC Tia Hall

311th Theater Signal Command, Korea
SGT Doug Jessup

1st Signal Brigade, Korea
SSG Billy Atkinson
SPC Crystal White

11th Signal Brigade, Fort Huachuca, Ariz.
SGT Jaime Aparicio
SPC Michael Philbert

21st Signal Brigade, Fort Detrick, Md.
SGT John Telesmanick
SPC Nina Gutierrez

93rd Signal Brigade, Fort Gordon, Ga.
SGT German Marrero II
SPC Gregory Blough

160th Signal Brigade, Southwest Asia
SGT Shawn Von der Hellen
SPC Daniel Smith

516th Signal Brigade, Fort Shafter, Hawaii
SSG James Fawvor IV
SPC Kelly Toney

Soldiers test network skills for 21st Century Warfare

By 311th Theater Signal Command

Fort Dix, N.J. – To go from zero to a 21st century electronic infrastructure, give the Army a week.

Exercise Grecian Firebolt, June 10–23, 2006, let Soldiers throughout the United States prove their ability to set up voice, data, and video services to units operating from Massachusetts to California.

"Today's Signal Soldiers know how to turn satellite communications, long-distance radio, cable, and routers into stable and secure networks," said MG Donna Dacier, commander of the 311th Signal Command. The 311th, a U.S. Army Reserve command headquartered at Fort Meade, Md., coordinated the exercise from a field site at Fort Dix, N.J.

"To be able to set up a network quickly, working in tents and trailers rather than air-conditioned offices, proves they're a cut above your standard information technology specialists," Dacier said.

Grecian Firebolt brought together active, reserve, and National Guard Signal units from the Army and Air Force to network several exercises across the country. The exercise also practiced communication between the Army and Federal Emergency Management Agency networks in a homeland security scenario. Supported exercises include Patriot Warrior at Fort McCoy, Wis.; Quartermaster Liquid Logistics Exercise at Fort McCoy and Fort Devens, Mass., and Camp Guernsey, Wyo.; and Golden Medic at Fort Gordon, Ga., and Camp Parks, Calif.

"Grecian Firebolt is important because it gives our Soldiers the opportunity to set up tactical communications as well as strategic communications," said CPT William Callahan, the 311th planning officer for the exercise. "In this exercise, we create and maintain the entire backbone and break it down when it's time. That's why it's quality training."

In the era of the global war on terror, these tasks are essential. "People's lives depend on us to set up communications," Callahan said. "Providing quality communications as quickly as possible saves lives."

For more information, please contact SFC Neal Snyder, 443-866-2086 or 443-987-2153, e-mail neal.snyder@us.army.mil; or SFC Jo Hoots, 703-725-1709, e-mail jo.hoots@us.army.mil.

16 Team Signaleers deploy to Thailand for Cobra Gold

By 1LT Adam C. Wagner

NAKHON NAYOK, Thailand – Fourteen members of the 30th Signal Battalion's command, control, communications, and computers team and two civilians from the U.S. Army Pacific G-6 staff deployed to Thailand this spring with other Signal units from the Pacific Theater to form the Combined Joint Task Force Communications Detachment and C-6 staff in support of Exercise Cobra Gold 2006.

This was the 25th anniversary of Cobra Gold — a U.S. Pacific Command-sponsored, Joint Chiefs of Staff-directed, multinational exercise with Thailand, Singapore, Japan, Indonesia and the United States participating.

The exercise construct was a command post exercise, field training exercise, and humanitarian and civic activities running concurrently from April 24 to May 26 in several locations throughout the Kingdom of Thailand.

This year's priority effort was a CPX focusing on peace enforcement operations with Thailand as lead nation, Singapore, and the U.S., while simultaneously conducting a second CPX, where Japan and Indonesia performed peace-keeping operations under a United Nations peace keeping force headquarters.

The major communications nodes supporting the CPX were scattered across the country in Nakhon Nayok, Sattahip, Sattahip and Utaphao.

The C4 team's mission was to provide the backbone data, voice, and video telecommunications support for the CJTF headquarters and overall exercise—a demand that was insatiable at the least.

Steven Tatum and David Boucher of the USARPAC G-6 staff also deployed to provide host nation planning and information assurance support.

At the peak of the exercise, the three-star-led CJTF included over 5,000 Soldiers, Sailors, Airmen, Marines, and Civilians representing every branch of service from bases



SGT Nicolette Jones and Lee Hatten terminate Category 5 cabling for use with an Air Force phone voice switch.



Signal Row at Cobra Gold: A profile of the 56th Air Communications Squadrons, 30th Signal Battalion C4 team, Trojan Lite, and 804th Signal Company site layout.



Rob Oglesby refines the settings for the C4 team's tri-band satellite terminal.

as geographically local as Okinawa to distant Puerto Rico, all needing real-time exercise connectivity, as well as, real-world communications with their respective home stations. Added to this collage were 23 observer nations.

Three data networks

Summed up, support totaled to over 1,000 computer terminals on three separate data networks, two video teleconference suites, and 500 tactical, Defense Switched Network, and Voice Over Internet Protocol phones — all requiring intra-exercise and worldwide access.

Communications throughout the exercise were conducted mainly on the Coalition Wide Area Network, which provided an automated means to not only collaborate between staff members, but also to monitor the movement of all forces and to observe the operational and simulated environment of the exercise.

The vanguard of the communications detachment, led by the C4 team, arrived in Thailand on April 20 to begin the installation of a robust voice and data network at Nakon Nayok from the ground up.

Led by 1LT Adam Wagner, the team consisted of a mix of 14 Soldiers and Civilian contractors representing three technical fields and a system package including one base band node and one tri-band satellite terminal.

SSG Robert Martin (noncommissioned officer in charge) led the data and switching team consisting of SGT Malcolm Davis, SGT Ashley Hromyak, SGT James Newman, SGT Nicolette Jones, Raymond Doherty, Lee Hatten, Elizabeth Sabog,

Michael Sizemore, and Susan Wright. The transmission team included SPC Douglas Wheat, PFC Sean Lynch, Rich Ashley, and Rob Oglesby.

In addition to the C4 team, elements from the 804th Signal Company, 56th Air Communications Squadron, 142nd Signal Brigade, 3rd Marine Expeditionary Forces, and I-Corps arrived in conjunction with the C4 team to install the intricate data and voice network over a period of 15 days.

Initial support

Besides providing the bandwidth and network support for the successful conduct of the exercise, the C4 team was asked to provide initial services for the personnel already in country prior to the official start of the exercise.

This included Non-secure Internet Protocol Network and Secure Internet Protocol Network cafes, Defense System Network worldwide phone access, and a secure video teleconferncing suite, which enabled key staff members to conduct initial coordination for the exercise, as well as remain current with real-world missions requiring their attention in the rear.

Moreover, the information assurance "red team," whose purpose was to attempt a cyber attack on the Coalition Wide Area Network, found an unexpected home within the C4 Team's tent space.

The C4 team also provided air conditioned work space for other key exercise members, including Defense Information Systems Agency-Pacific representatives and Pacific Command, U.S. Army Pacific Command, Joint Interoperability Test Command, and Communications-Electronics Command liaison officers — gladly appreciated in a country where heat category-5 temperatures are routinely reached by mid-morning.

From the beginning, all units were hampered by being located in a logistically isolated location and cut off from advanced technical and maintenance support.



SSG Robert Martin (background) instructs SGT Malcolm Davis on the signal flow of the C4 team's base band node shelter.

"One Team, One Fight" quickly evolved as the underlying theme, as all units in the communications detachment freely loaned equipment, parts, personnel, and expertise to other services and components to ensure overall mission success.

On any given day, observers could notice Air Force personnel working on Army equipment and a mix of active, reserve, National Guard, and Civilian personnel working to meet an objective together.

General officer support

The culminating experience for the C4 team was to briefly have a three-star guidon positioned outside its operations tent.

After the successful completion of the exercise, and days after all other signal units had packed up, the C4 team stood alone as the last remaining service provider to support the real world communications needs for high profile customers, such as the 3rd MEF deputy commander and the I Corps commanding general and his staff.

Some of the individuals received joint awards and coins from the I Corps commanding general and command sergeant major. During their respective site visits, 30th Battalion Commander LTC Darryl Shaw and 516th Signal Brigade Commander COL Edric Kirkman presented coins to Soldiers and contractors for a job well done.

In all, the Soldiers and Civilians of the 30th Signal Battalion's C4 team did an outstanding job in what LTC Richard Dubriel of the 311th Signal Command (Theater) described as "the heartbeat and soul of the CJTF communications," which means that future Cobra Gold exercises will once again look to "Team Signal" to meet the demands of future operations.

1LT Wagner is with the 30th Signal Battalion.

Warrant Officer Board set for September

By SFC Morales Marcelino

The next and last board for fiscal year 2006 is this September 2006, and the following Warrant Officer military occupational specialties are in critical need for this board.

1. 215D Geospatial Information Technician = 21U and 21S
2. 311A CID Special Agent = 31D
3. 350Z Attaché Technician = All MOSs with ASI 7
4. 351L Counterintelligence Technician = 97B
5. 351M Human Intelligence Collection Technician = 97E
6. 352P Voice Intercept Technician (Korean) = 98G
7. 352S Non Morse Intercept Technician = 98K
8. 880A Marine Deck Officer = 88K
9. 890A Ammunition Technician = 89B and 89D
10. 913A Armament Repair Technician = 45B, 45G, and 45K
11. 914A Allied Trades Technician = 44B and 44E
12. 921A Airdrop Systems Technician = 92R

The Warrant Officer Career Center is giving credit for Basic Non-commissioned Officer Course, Advanced Non-commissioned Officers Course and Primary Leadership Development Course/Warrior Leaders Course graduates towards Warrant Officer Candidate School, instead of six weeks and four days, your class will be four weeks and four days (as of Jan. 1, 2006).

For more information on becoming a U.S. Army Warrant Officer, go to our official website www.usarec.army.mil/warrant or send an e-mail directly to woteam@usarec.army. mil if you have specific questions. Applicants have nothing to lose by submitting an application - the cost is free and it could change the course of your military career.

SFC Marcelino is the non-commissioned officer-in-charge with the U.S. Army Warrant Officer Branch, Headquarters, U.S. Army Recruiting Command, Fort Knox, Ky.

Acronym QuickScan

AKO – Army Knowledge Online
AOC – Area of Concentration
AOR – area of responsibility
AOT – Assignment Oriented Training
ARNG – Army National Guard
BNCPN – Battalion Command Post Node
C4 – command, control, communications, and computers
CARC – chemical agent resistant coating
CBT – computer based training
CCAD – Corpus Christi Army Depot
C-E LCMC – Communications-Electronics Life Cycle Management Command
CISCO – Computer Information System Company
COMSEC – Communications Security
COTS – commercial-off-the-shelf
CPX – command post exercise
CSEL – combat survivor evader locator
CVC – combat vehicle crewman
DCSOPS&T – Deputy Chief of Staff for Operations and Training
DEA – Deployment Excellence Award
DL – Distributed Learning
DSN – Defense System Network
DTFs – Digital Training Facilities
DTOC – Digital Tactical Operations Center
EA – Executive Agent
FAQ – frequently asked questions
FDMA – Frequency Division Multiple Access
FRA – Forward Repair Activities
FY – fiscal year
GIG – global information grid
HCLOS – High Capacity Line-of-Site
HHC – Headquarters and Headquarters Command
IED – improvised explosive device
IFF – Identification Friend or Foe
IT – information technology
ITH – Improved Tactical Headsets
JNN – Joint Network Node
LAN – Local Area Network
LLC – Lifelong Learning Center
LLL – Lifelong Learning
LMS – learning management system
LWN – LandWarNet
LWNeU – LandWarNet electronic-University
LWN-U – LandWarNet University
MACOM – major command
MANSCEN – Maneuver Support Center
MOS – military Occupational Specialty
MOSQ – Military Occupational Specialty Qualified
MRT – Master Reference Terminal
MSSC – Mission Service Support Centers
NIPRNET – Non-secure Internet Protocol Network
OV1 – Operation View 1
PEC – Professional Education Center
PEO EIS – Program Executive Office, Enterprise Information Systems
PM – Program Manager
PM DCATS – Project Manager, Defense Communications and Army Transmission Systems
PM DWTS – Product Manager, Defense Wide Transmission Systems
POM – Program Objective Memorandum
SCORM – Sharable Content Object Reference Model
SINCGARS – single-channeled ground-to-air radio system
SIPRNET – Secure Internet Protocol
SME – Subject Matter Experts
STAMIS – Standard Army Management Information System
TADLP – The Army Distributed Learning Program
TDADD – Training Development and Delivery Directorate
TDMA – Time Division Multiple Access
TIMS – Tactical Internet Management Systems
UIT – University of Information Technology
USAR – U.S. Army Reserve
VC – Virtual Campus
VIS – Vehicle Intercom System
VSAT – Very Small Aperture Terminal
VTC – video teleconferencing
WAN – Wide Area Network
WIN-T – Warfighter Information Network-Tactical



Signal Museum opens new exhibit with 1918 wire cart

By Kristy Davies

In today, communications are set up on the battlefield with mostly wireless technology such as satellite and radios. However, cables and wires must still be strung from one point to another.

Today Soldiers use trucks and modern resources to lay wire, whereas during the World War I era, they used horse-drawn wire reel carts.

The U.S. Army Signal Corps Museum recently opened a new exhibit featuring the largest artifact in the facility: a 1918, type "N" Signal Corps wire cart.

"We picked it up last year and were able to get some funds at the end of last year to get it (restored)," said Bob Anzuoni, director of the Signal Corps Museum at Fort Gordon. "It had to be chemically stripped, primed, and painted and then it was transported back.

"(The wire cart) just came back in the November time frame, but we had to get the whole exhibit done."

The completed exhibit opened in early March and can be seen in the World War I section of the museum.

Army green in color, the cart rests among old black and white photos of its use before, during and after the war.

"There were a number of these used in World War I and up until the beginning of World War II," explained Anzuoni. "There's a clutch system where the operators can engage the clutch and the spools underneath could be released and lay the wire as they move the cart along."

The cart was pulled by two horses and has two wire spools located underneath, where wire was rolled out or rolled up. The reels have a combined capacity to hold approximately 2.75 miles of wire.

Getting the wire cart to the museum was the real journey.

It all started in 1974 when the Smithsonian Institute in Washington, D.C., gifted the wire cart to the National Infantry Museum at Fort Benning, Ga. According to Cedric Yeh, deputy chair, Division of Military and Diplomacy, Smithsonian Institute, that was about the time when the Smithsonian was getting rid of many of its larger artifacts.

The cart sat outside at Fort Benning until 1981 when Frank Hanner, National Infantry Museum director, started working there.

"I decided it needed to be inside to save it and I tried to keep it from falling apart," said Hanner. "Two years ago, Bob (Anzuoni) asked if we would transfer it and he could preserve it."

The cart was transferred to the Signal Corps Museum in June 2004.

"We could have used it, but it was better to give it to (Anzuoni) because it would be better used by the Signal Corps," said Hanner.

The cart symbolizes more than just Signal Corps history; with it is a determination and dedication to preserving history.

The cart symbolizes more than just Signal Corps history, with it is a determination and dedication to preserving history.

"I'm glad we transferred it," added Hanner. "I've seen the before and after photo and they did a good job of refurbishing it."

The exhibit preparation took patience and funding struggles, but in the end Anzuoni and Hanner believe it was all worth it.

"Overall, it's not expensive for a museum exhibit," explained Anzuoni. "Between the transportation, restoration and exhibit work we put about $4,000 into it. That's not a lot considering this may be the last one of its type left in existence."

The rare Signal Corps wire cart can be viewed at the Signal Corps Museum located in Conrad Hall next to Signal Towers on Fort Gordon, Ga. Museum hours are 8 a.m.-4 p.m. Tuesday through Friday and 10 a.m.-4 p.m. on Saturdays.

For information, call 706-791-4793 or 706-791-2818.

MG Grombacher funeral service held at Huachuca



MG Gerd Grombacher (left) and MG (Ret.) David Gibbs, former U.S. Army Chief of Signal, unveil a bronze bust of Adolphus Greely at Fort Huachuca in this undated photo. A funeral service for Grombacher, who commanded the U.S. Army Communications Command from April 30, 1976 to May 29, 1982, was May 17.

FORT HUACHUCA, Ariz. (NETCOM/9th ASC) – A funeral service for MG (Ret.) Gerd S. Grombacher, former commanding general of the U.S. Army Communications Command, was held May 17 at the Main Post Chapel on Fort Huachuca. A graveside service followed at Fort Huachuca's post cemetery.

Grombacher commanded USACC, from April 30, 1976, to May 29, 1982. USACC would evolve into the U.S. Army Information Systems Command, then to Army Signal Command, then finally to U.S. Army Network Enterprise Technology Command/9th Army Signal Command.

Grombacher, a long-time Sierra Vista resident, is survived by his wife, Ellen. Grombacher was an active participant in the community, serving in several key positions on city councils, and national organizations.

The family asks that memorial contributions should be made to the United Way of Sierra Vista and Cochise County, the Sierra Vista Symphony Orchestra, or the Fort Huachuca Museum Society.



MG Gerd Grombacher (left) presents a book to MAJ Robert W. Davis, Canadian Forces Liaison Office from Fort Gordon, Ga., in this undated photo.

ACRONYM QUICKSCAN

USACC – U.S. Army Communications Command
ASC – Army Signal Command

challenging terrain by finding the best way to relay information without human intervention. It also decreases uncertainty in the decision process because it shares pictures instead of words for situation reports based on the commander's critical information requirement, allowing quicker fire and maneuver through known locations, and reducing time for medical evacuation planning and execution.

These new networking radio capabilities also provide information sharing and distribution capabilities that contribute to the fight against our number one killer – improvised explosive devices. They provide deterrence by rapidly exchanging common reports and overlays fostering IED collection management. They also leverage LandWarrior and Force XXI Battle Command Brigade-and-Below-equipped Soldiers for quick and wide-spread distribution of counter-IED intelligence, surveillance, and reconnaissance-related overlays and assessments (information push).

These capabilities help defeat IEDs by enabling the rapid reporting of precise locations of IEDs or the enemy preventing an ambush to friendly ground combat forces. They could also speed sensor-to-shooter information exchange up and down the tactical chain, enabling rapid execution of battle drills, fire and maneuver, and synchronization of fire support.

What does this mean to our Signal leaders? It means that if you are a G6 or S6 you had better be prepared for one of the most demanding and rewarding positions ever experienced in the Regiment. With these changes come a plethora of lessons to be learned and integrated in the way we do business as Signal leaders and as a Regiment. Our non-commissioned corps may operate even more autonomously with the potential advent of company level S6s.

These advances are critical in order to enable our Soldiers and leaders deployed today with the capabilities that they require, and to posture our Army so that these capabilities can grow to meet the needs of the entire Army over time. But in all these changes and new roles we will play, I remain confident that our Signal Soldiers and leaders will continue to "get the message through!"

BG Randolph P. Strong
Chief of Signal

Acronym QuickScan

C2 – command and control
CCIR – Commander's Critical Information Requirement
CP – command post
FBCB2 – Force XXI Battle Command, Brigade-and-Below
FCS – Future Combat Commands
IED – Improvised Explosive Devices
IP – Internet Protocol
ISR – Intelligence, Surveillance, and Reconnaissance
JNN – Joint Node Network
JTRS – Joint Tactical Radio System
SITREP – Situation Report
WIN-T – Warfighter Information Network - Tactical

ARMY *Communicator*

AC readers: Your attention is requested!

Please note that due to budget constraints, the *Army Communicator* Summer Edition is not be available by subscription. We will continue to accept requests for subscriptions for future printing of AC. Until budget constraints are lifted the web sites will be the place to access the *Army Communicator*.

Continue to keep us informed of your address change whenever moving. Simply fill in the form provided below and mail or fax the information. You may e-mail the information to ACeditor@gordon.army.mil. When sending e-mail, please provide information as requested on the form below. Thanks for your help!

Please update mailing address with each move:

Name:_____

Mailing Address:_____

(Old Address)_____

Number of copies requested: _____

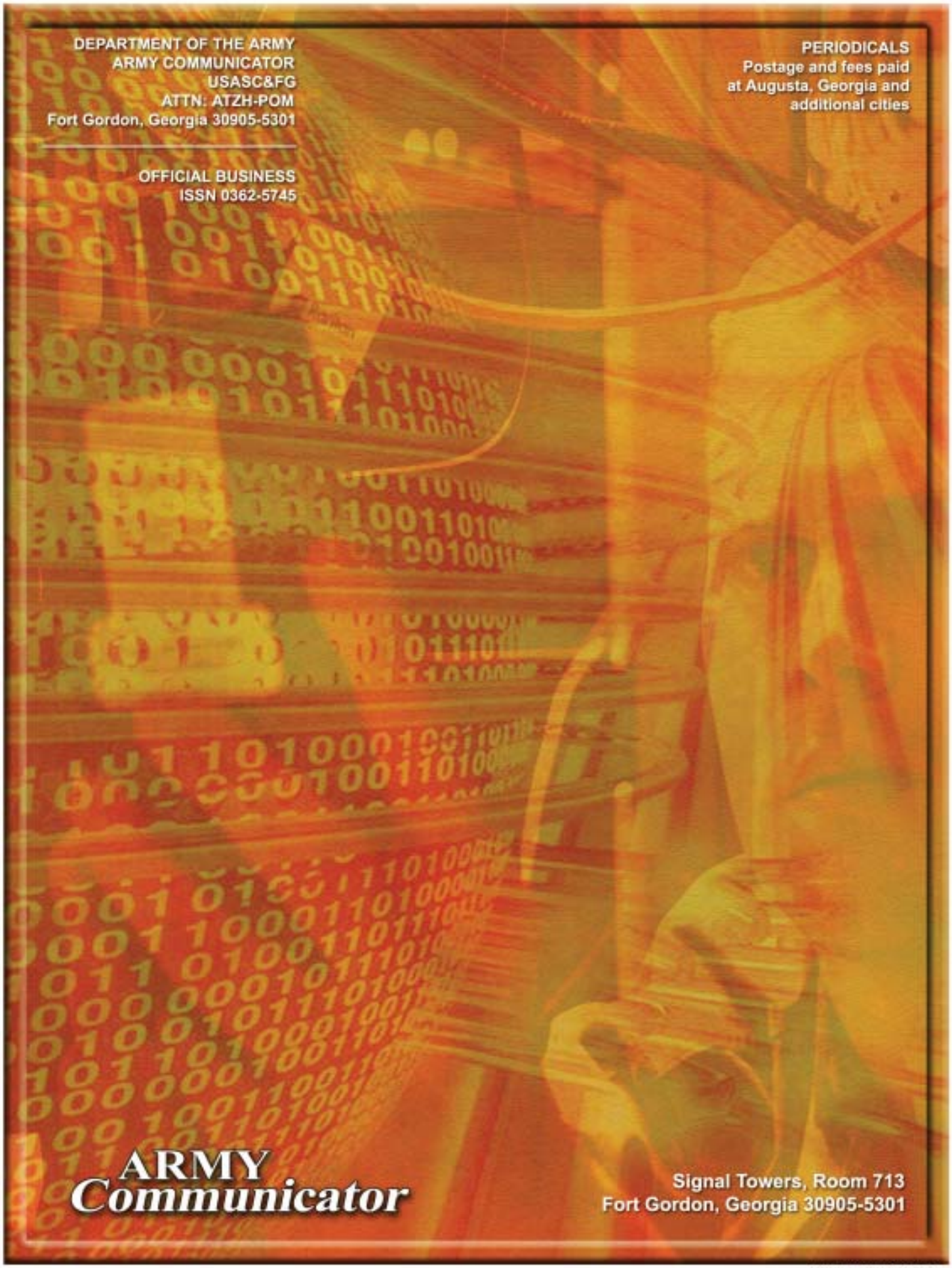
Fax number:706-791-7088/ DSN 780-7088 ❖ Email address: ACeditor@gordon.army.mil

Thanks for taking time to help us get each issue delivered to you and to keep our records current.

DEPARTMENT OF THE ARMY
ARMY COMMUNICATOR
USASC&FG
ATTN: ATZH-POM
Fort Gordon, Georgia 30905-5301

OFFICIAL BUSINESS
ISSN 0362-5745

PERIODICALS
Postage and fees paid
at Augusta, Georgia and
additional cities



ARMY Communicator

Signal Towers, Room 713
Fort Gordon, Georgia 30905-5301

PIN: 083267-000