Calvin Haden - Graphic Design

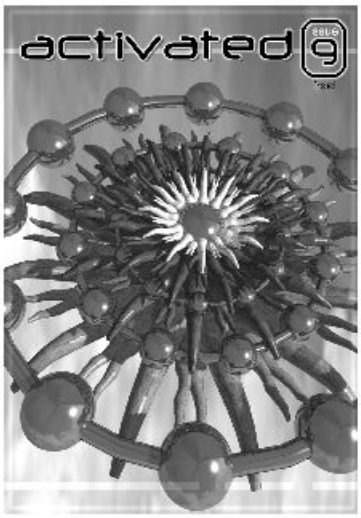
Logo Design

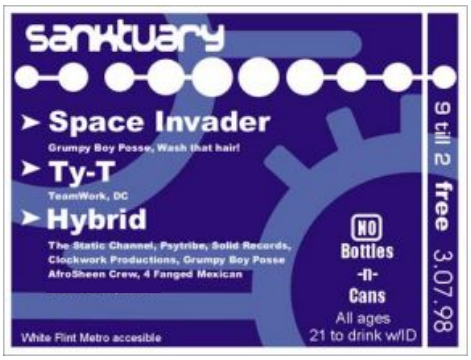
activated MAGAZINE

Physician Assistants PA PArtners in Medicine

SPECworks

Print Design





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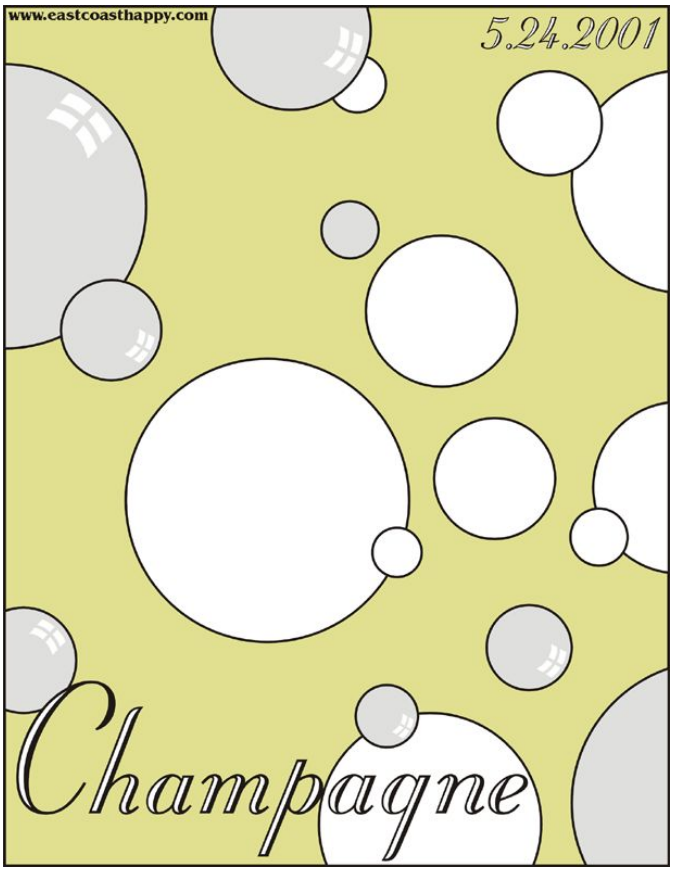

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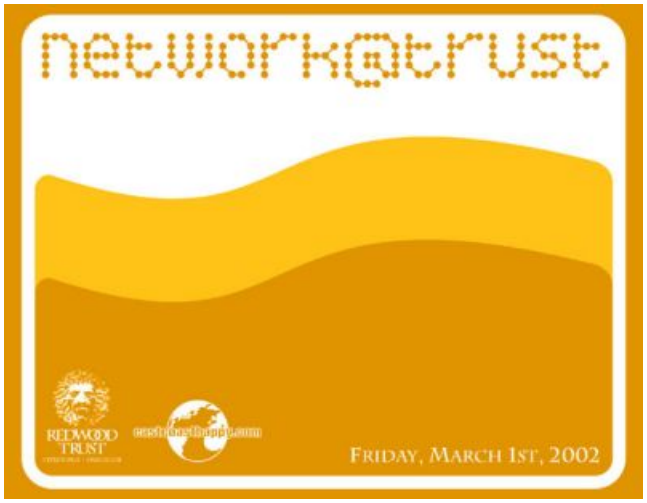

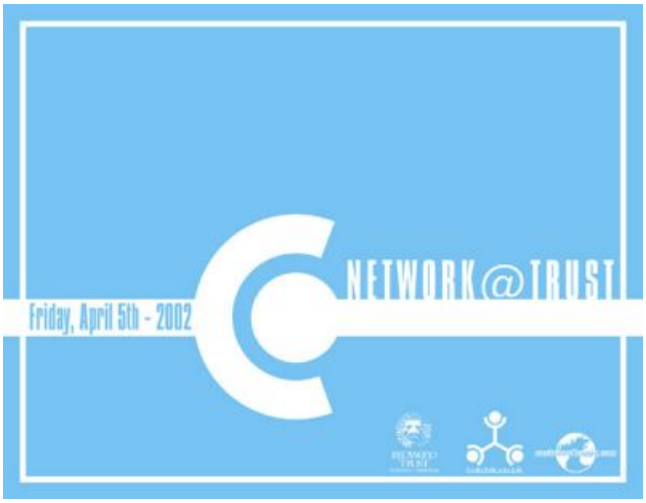

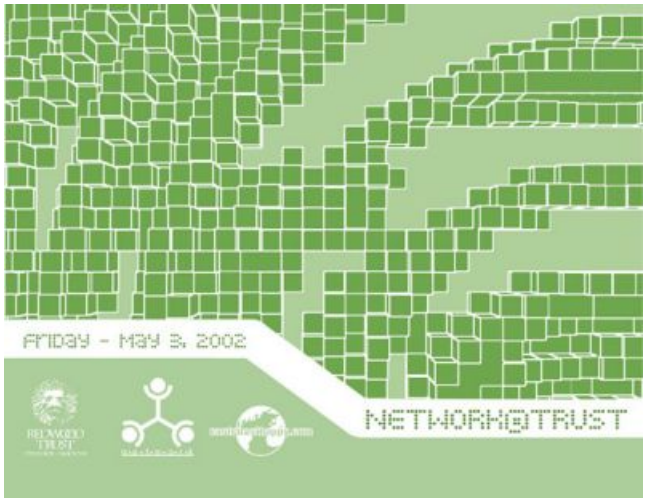

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3D Design

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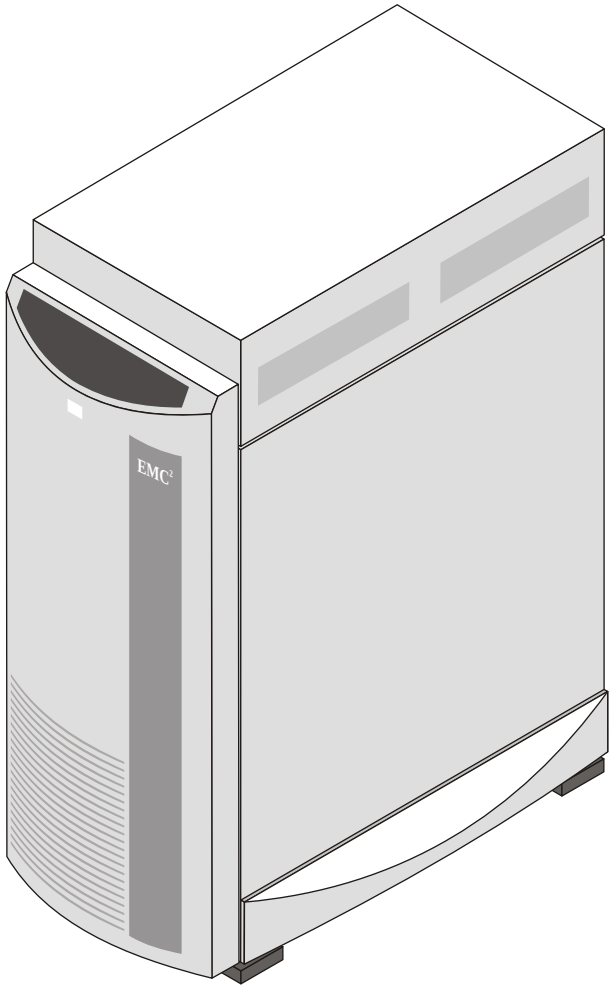
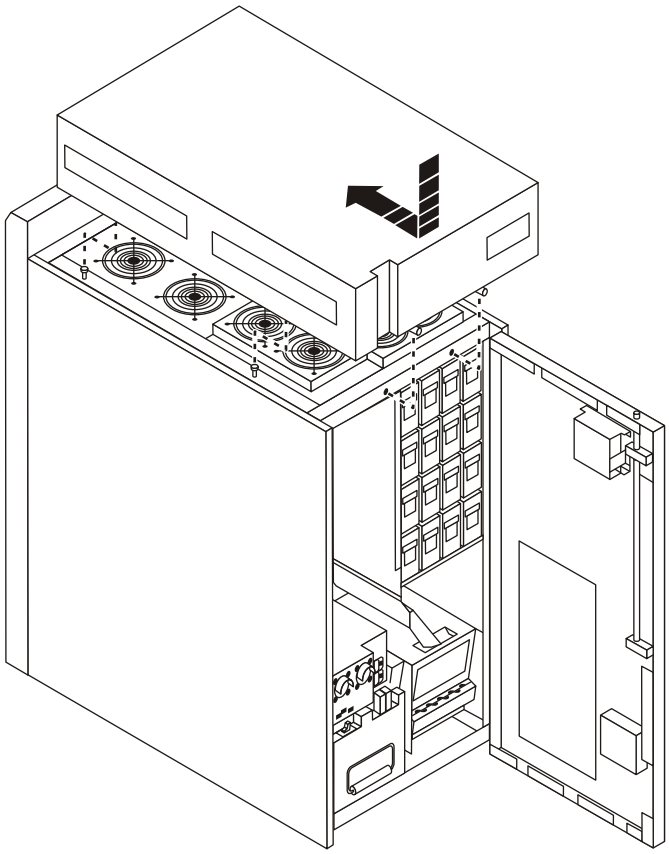
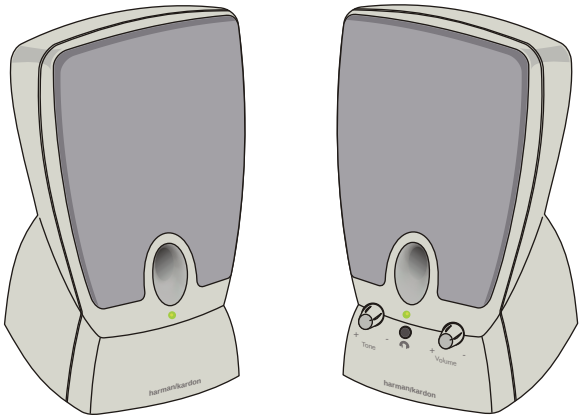
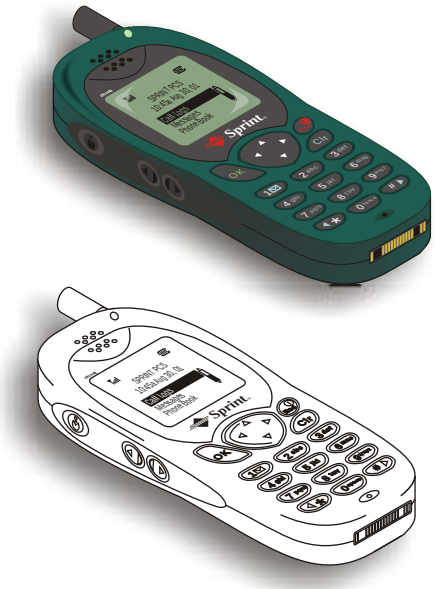
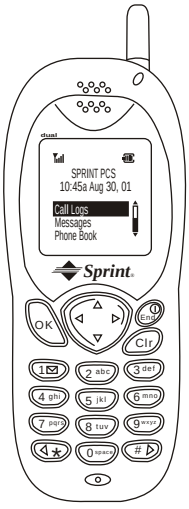
Technical Illustration











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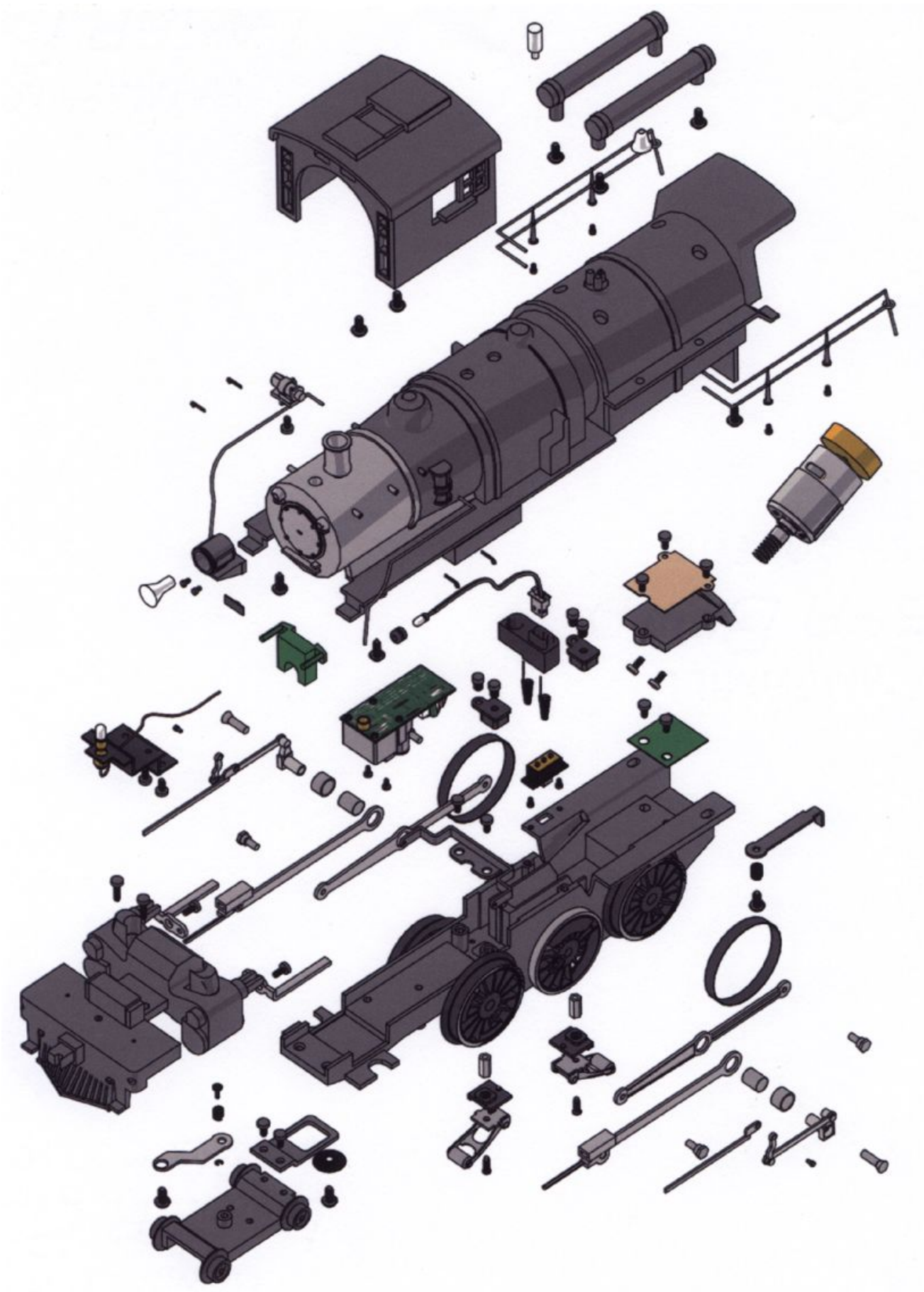
Technical Illustration cont...



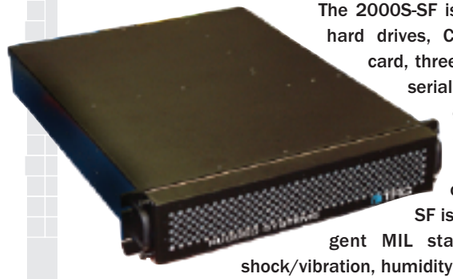
BLACK WATCH

What's Hot in Special Operations Gear

Compiled by KMI staff

Rugged Server

TAG Computers has released the 2U 2000S-SF, a new rugged server designed for warfighters running UNIX applications in combat situations. Unlike many other servers that are based on the Ultra SPARC IIIi processor, the 2000S-SF's standard configuration provides a full array of peripherals in a compact 2U 21.5-inch deep, rugged chassis. Although the system is comprised of all OEM components, TAG's patented and proven cooling technology enables the server to operate at temperatures of 60 degrees Celcius. The cooling technology offers a unique capability option for SOF when considering the harsh environments they find themselves in.



The 2000S-SF is available with two removable hard drives, CD-DVD/RW, PCI 2-D graphics card, three PCI slots, as well as Ethernet, serial, SCSI and USB ports. Available options include an EMI/dust cover and an external SCSI-SCSI RAID subsystem. Like all TAG computer systems, the 2000S-SF is designed to meet various stringent MIL standards including sand/dust, shock/vibration, humidity and temperature.

Vehicle Search Kit

Zistos Corp. offers a complete vehicle search kit for use at security check points. This kit features the WalkAbout portable video display unit along with other modular accessories including: the under vehicle inspection trolley, telescoping pole, self-illuminating cameras, chest harness, batteries and battery charging unit. The entire package is contained in one portable carrying case.

The WalkAbout vehicle search kit allows the user to change from a pole camera configuration to look high on top of vehicles and in cargo areas to a rolling trolley camera to look at the vehicle's undercarriage. These tools allow an inspector to safely search all of these different areas without climbing or kneeling. Other optional adapters can be added to use for inspecting areas such as under seats and up in wheel wells. The interchangeable color video cameras have high resolution with excellent low light sensitivity and are submersible and self-illuminating.

Diode Flashlight

Pelican, a manufacturer of technologically advanced flashlights and watertight protective cases, has released the new M6 LED flashlight. The M6 LED is a water resistant, LED flashlight powered by two CR123 Lithium cells with a CNC-machined aluminum body. The M6 LED houses a one-watt Luxeon LED, which endures about 10,000 hours of lamp life and provides 41 lumens of light output. Users can activate the light by clicking the rear button tail-cap switch to turn on, off, or utilize the momentary action feature. The M6 LED is able to continuously operate under extreme abuse along with its weapon recoil resistance. The M6 LED is constructed of CNC machined aluminum, which provides durability that can withstand high impact situations.

Black Digital Interface Terminal

General Dynamics' Sectéra BDI (black digital interface) terminal is a compact, lightweight, portable device that provides end-to-end high assurance voice and data security for both analog and digital communications. The initial release provides secure communications for Iridium Satellite Solutions. The Sectéra BDI terminal connects to a Motorola Iridium portable satellite phone for global mobility and FNBDT security over the Iridium constellation.

Featuring General Dynamics' Sectéra interoperable security architecture, this terminal helps protect classified information in remote areas where terrestrial communications are not available. The Sectéra architecture is employed by a family of products and offers high assurance security solutions that are totally software programmable, algorithm agile, compatible with interoperability standards and are application/network/media independent.

The software programmable interface allows for future secure digital applications, including Inmarsat, SHF/EHF or other satellite communication systems and digital trunks.

Rugged Connectivity

USSOCOM mobility platforms (land, air and sea) require a system that seamlessly integrates various command and control capabilities and allows for their intuitive display, immediate access, and user-friendly function. Tactronics' TAC-4 integrates those multiple systems into a single integrated, scalable, modular system that will allow for a "plug-and-play" capability of those components required for unique mission assignments. The system enables SOF to operate in a common environment with a "single integrated tactical picture" by integrating and allowing for data fusion from multiple data sources. This results in a totally interoperable force structure with the individual components basing.

The system as configured utilizes two ruggedized CROW 3000 computers interfaced to a ruggedized Ethernet Hub. Each CROW 3000 computer displays information to the user via a multi-function display. The multi-function display allows the end user to program hot keys for use in the field eliminating the requirement for keyboard and/or mouse. Each display is sunlight readable and dimmable while being compliant for use with night vision imaging systems.

Currently the TAC-4 system allows remote control and data transfer via the AN/PRC-117-F, AN/PSC-5D and AN/PRC-148 (with VDC 400 interface) tactical radios. Any remote functions exposed to provide control of the radio are available through a common radio Graphic User Interface (GUI). This approach shall permit future expansion (such as JTRS) seamlessly.

Side-by-Side

All Terrain Vehicle (ATV) Corporation has unveiled a side-by-side version of its Prowler ITV (Internally Transportable Vehicle) Light Tactical Wheeled Vehicle. The new Prowler II Side-by-Side Tactical/Assault Platform was introduced at USSOCOM's Advance Planning Briefing.

The Prowler II Side-by-Side Tactical/Assault platform was designed to satisfy the military's need for a vehicle with the same general physical dimension as the Prowler ITV but able to handle more payload and crew. Prowler II features the same characteristics as the Prowler ITV: reliability, stability, rugged endurance, speed, power, and unique operator protection. Like the Prowler ITV, the Prowler II is multi-mission configurable and easily deployed to operate easily in any terrain or climate.

The Prowler II is purpose built, like the Prowler ITV, to overcome the severe limitations of generic ATVs regarding operator safety, vehicle reliability, rugged endurance and operator control. The Prowler is not a recreational ATV modified for military use. For example, the Prowler is designed so that it can be operated with one hand and driven like a car. This contrasts with an ATV, which requires the operator to straddle the machine, steer with handlebars, use both hands to control brakes and throttle, and use his body to maintain stability.

PTT Switch

Designed to allow a shooter to still communicate via their radio without having to take their hands from the weapon, the RP-7 from Television Equipment Associates is small and easy to operate. A sturdy, reliable molded rubber thumb actuates a press-to-talk (PTT) switch supplied with an 18-inch cable that fits over the index finger and positions the PTT button just under left thumb when holding a handgun in Weaver position or for sniper weapons. The open ring is adjustable to any index finger size. The switch is actuated using the left thumb and the button has positive reinforcement providing confidence that the radio has been keyed. A Velcro strap is supplied to dress the cable to the operator's forearm.

The RP-7 switch can be supplied either to plug into the side of switch D or as the principal PTT switch for Invisio Bone mic headsets.

Toolkit Aids Air Attack Planning

Master Air Attack Plan toolkit marks major change in the time-consuming process used by the Air Force to develop air battle plans.

By Mickey McCarter
MIT correspondent

One of the many technological advances on display during Operation Iraqi Freedom was a major change in the time-consuming process used by the Air Force to develop air battle plans. The Master Air Attack Plan (MAAP) toolkit, developed over the past few years, made its combat debut in March during Air Force operations in Iraq. Combined aerospace operations centers used MAAP toolkit in Saudi Arabia and at the Al Udeid Air Base in Qatar.

The toolkit has been completely integrated into the Theater Battle Management Core Systems (TBMCS), the Air Force combat information and decision system that provides support for combined and joint air operations for the joint forces commander. TBMCS is a high-level software package that coordinates command, control, communications, computer and intelligence (C4I) systems to design and carry out theater-level air operations.

The inclusion of MAAP toolkits in TBMCS marked the final hurdle for universal acknowledgement of its accomplishments, according to Colonel Jon Krenkel, commander of the Air Force Command and Control Battlelab (AFC2B) at Hurlburt Field, FL.

"It has brought the ability to decrease the time required to plan air missions," Krenkel said. "In the past, these missions were planned in such a way that after getting targets down, planners would have to use yellow 'stickies' and big tables of maps and large maps on the walls. They would literally build the air plan by hand, using little notes and long lists of assets and weapons and targets. This process was very laborious."

By comparison, MAAP toolkit allows users to plan the air battle on their workstations, creating files that are fed into a system to generate air tasking orders. Previously, air planners had to write out individual worksheets that were fed into the other system, which would then generate an air tasking order. The toolkit, which runs on Microsoft Windows 2000, now generates a file to do that.

The system retrieves information on available aircraft and munitions, theater maps, weather and potential targets from other databases provided by the intelligence, surveillance and reconnaissance communities. It displays a map of the theater, highlighting coordinates provided by ISR sources. Windows on one side of the map display the available aircraft and the available munitions, while another window shows specific packages representing combinations of multiple aircraft with munitions.

Air battle planners can drag and drop aircraft and munitions, as well as other assets, in the toolkit from one location to another, thus assigning packages, times and targets for an air battle. The targets highlighted on the map change color as packages are assigned to them, and the software reduces the number of assets available as they are assigned to targets.

Temporal Analysis System

The toolkit is not a standalone application, explained Lieutenant Colonel Douglas Combs, chief of the AFC2B concepts-execution division. Instead, it is integrated into the Air Force's Web-enabled Temporal Analysis System (WebTAS), which was developed by the Air Force Research Laboratory. WebTAS allows users to examine disparate databases in different ways.

"WebTAS is a suite of tools that is able to mine databases and display that information for you visually and graphically," Combs said. "With MAAP toolkit, it's just an additional layer of code that basically says that given this software code, 'I want you to do this to it.' It's an additional layer of code right on top of WebTAS."

Operators in the field may or may not have access to the toolkit if they are using WebTAS, Combs said, since access depends on the function of the end user. WebTAS provides many functions, including the display of charts, tables, graphs and timelines, as well as the display of information on a map. Different users can view the same data in different ways simultaneously on WebTAS, depending on their mission or preferences.

WebTAS has been so successful that it is used by organizations outside of the military, including law enforcement agencies. Commands in the Pentagon, joint task forces and intelligence communities use the software as well. Central Command has been using WebTAS for data-mining missions.

"WebTAS is a completely government-owned piece of software," Combs said. "It's really a success story from the Air Force Research Laboratory."

Combs estimated that the total cost of development of the toolkit, which was first fielded in December, has been about $550,000 so far. When the battlelab decided to automate large parts of the air battle planning process, it saw WebTAS as the method of distributing the software quickly and efficiently. Developers sought help from Colorado Springs, CO-based Intelligent Software Solutions (ISS), to write the MAAP toolkit code to reside within WebTAS. ISS and Northrop Grumman jointly developed WebTAS.

ISS announced in March that it had received an 18-month contract from AFC2B to provide continuing technical support for WebTAS and MAAP toolkit. The company said it would work with AFC2B to develop the capabilities of the applications to match the needs of Air Force operations and joint activities. Now that MAAP toolkit

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Users Flock to Satellite Phone System

Enhanced Mobile Satellite Services provide voice and data communications from mobile terminals. By Sylvie Ellen

A medevac touches down in an isolated valley and rescues an injured warfighter.

After an explosion possibly caused by terrorists, commercial communications are down or overrun with users. But personnel on the scene are able to contact those with the ability to lend assistance in a time of crisis.

A soldier on deployment in Afghanistan has a spare moment and is able to speak to his wife and children with all the clarity and ease of a local telephone call.

These three separate scenarios are representative of how the Enhanced Mobile Satellite Services (EMSS) communication system operated by the Defense Information Systems Agency (DISA), is helping U.S. forces with improved satellite communications.

The EMSS Iridium handset is a satellite-based personal communications system that utilizes the Iridium satellite infrastructure. It provides voice and low-rate data services from mobile, lightweight terminals through a Department of Defense (DoD) dedicated gateway. It accesses the Defense Information Services Network (DISN) and is capable of providing secure services, in addition to non-secure access to commercial telephone services.

"When DoD got involved with this system, they never said that this was a tactical only system," said Lieutenant Commander Augustine J. Ponturiero, chief of operations for EMSS at DISA. "We leave the usage of this system up to the unit commander. What we are seeing in usage right now out in the field is that it is being used for tactical operations—for logistics, medevac support, morale, welfare and recreation calls. We're seeing this one system being used across the entire spectrum of need for the deployed user."

The EMSS gateway was activated in 1998 as part of the global Iridium network. The satellite constellation owner and operator, however, filed for bankruptcy protection the following year. The resources were then purchased by Iridium Satellite in November 2000 and returned to commercial service in April 2001.

The Iridium satellite constellation consists of six polar orbital planes, with 11 satellites in each plane, plus one in-orbit spare. This 66-satellite low-earth orbit constellation provides global coverage pole-to-pole, with direct satellite-to-satellite cross-links to minimize voice transmission delay and provide alternate routing. Although the system is designed and optimized for voice transmission, it also offers data service up to 10 kilobits per second.

"We wanted a system that was global, that was hand-held and that could support encryption, voice and data transmission over the globe," Ponturiero said.

Department officials determined that Iridium would meet these and other goals. "DoD figured that we could get more of our goals met by having our own gateway. We built our own purpose gateway on the Iridium system," he said.

Secure service is made possible through DoD's own gateway, because a call made on the system never touches ground until it gets to the DoD-owned and operated gateway in Hawaii. Calls are routed to the FTS2001 system, the Defense Switch Network (DSN), the standard commercial long-distance network, the international long-distance network, local 1-800 access networks and NIPRNet, the sensitive but unclassified defense-wide network, Ponturiero explained.

"That's where we are today," Ponturiero said. "We're hoping to expand that into allowing connectivity to the SIPRNet, which is our classified network. It's actually been quite good at meeting all of those requirements."

System Constraints and Solutions

Although EMSS is very advanced, it does have some constraints. The units must have a line of sight to a satellite to fully operate, for example, so the product is geared more towards outdoor use. There are indoor solutions to make the system work in almost any situation, however, and Ponturiero said that new ways to improve reception capabilities are in the works.

"There's about three or four different ways, at least, that we can hook up a solution to a building," he said.

The phone's low data rate—from 2.4

Continued on page 6