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Featured Facility



L-3 Telemetry-East Staff Celebrates AS9100 Certification

Upcoming Trade Shows

ITC (Int'l Telemetry Conference)

When: 23-25 October
Where: Las Vegas, NV
URL: www.ITC.org

MILCOM (Military Com. Conf.)

When: 29-31 October
Where: Orlando, FL
URL: www.milcom.org

AFCEA TECHNET ASIA PACIFIC

When: 6-8 November
Where: Honolulu, HI
URL: expo.jspargo.com

FOCUS - OCTOBER 2007

Published for customers of L-3 Telemetry & RF Products.

Send feedback to:
Focus.TW@L-3Com.com

L-3 Telemetry-East – Leaders in Airborne & Ground Telemetry

The consolidation of three premier telemetry companies established L-3 Telemetry-East (L-3 TE) as a preeminent supplier of airborne telemetry products and systems for the Aircraft, UAVs & Targets, Weapons Flight Test and Launch Vehicle markets. L-3 TE's standard product offerings encompass three major product areas: RF, Advanced Data Acquisition and Ground Products.

In addition to standard products, L-3 TE also has a successful history of providing custom solutions to unique testing requirements. With core capabilities in digital, RF and software engineering design, program management and manufacturing, Telemetry-East has over 100 years of combined telemetry experience in serving commercial and military organizations around the world.

AIRBORNE TELEMETRY SOLUTIONS

Markets — Aircraft, UAVs & Targets, Weapons Flight Test and Launch Vehicles

Products — Data Acquisition, Encryption, Decryption, Transmitters, Receivers, Transponders, Data Processing Systems, Software

GROUND TELEMETRY SOLUTIONS

Markets — Flight Test Training, Space Launch, Boards & Instruments

Products — Receivers, Decryptors, Ground Support Computers, Data Processing Systems, Software Applications

Excellence You Can Measure

L-3 Telemetry-East In The News

L-3 TELEMETRY-EAST PROVIDES AMRAAM TELEMETRY DATA ACQUISITION SYSTEMS



L-3 Telemetry-East (L-3 TE) has been selected to provide the Telemetry Data Acquisition System (DAS) for Raytheon's AMRAAM (Advanced Medium Range Air to Air Missile) Lot 20 Program. L-3 TE already provides a host of various telemetry components and systems to Raytheon for a multitude of different programs and applications including Paveway, Tactical Tomahawk, SM-1, ACM, SM-3, and others. These items include multiple technologies ranging from RF and DAS solutions to customized platforms and COMSEC solutions for secure data transmission.

"This represents a major weapons test program win for our premier NetDAS platform" said Todd Warton, Director of Business Development at L-3 TE. "Raytheon has come to rely on the responsiveness and flexibility of L-3 TE in supporting their various telemetry program requirements, while furthering their transition to L-3 TE's industry leading Encoder platform. The L-3 TE team is very proud of this accomplishment, and looks forward to being a supplier Raytheon can count on for years to come."



The NetDAS platform is L-3 TE's newest and most advanced DAS system. It has been qualified, flown and deployed on a number of weapons and airframe programs including AMRAAM, ATL (Airborne Tactical Laser), 747 Flying Test Bed (Trent 1000), Flexible Targets, Very Light Jet (VLJ), Minuteman III, Falcon Launcher, F-16 POD and others.

"The good news for our Customers is that the NetDAS platform will be the flagship DAS product for L-3 TE for years to come," said Bill Wargo, VP of Business Development for L-3 TE. "Our customers will benefit from adopting this platform since it is supported, enhanced, and maintained with a focus of assuring its presence and continued suitability for the telemetry marketplace. We are very pleased with Raytheon's selection of L-3 TE for this important requirement."

L-3 TELEMETRY-EAST EQUIPMENT CONTRIBUTES TO SUCCESS OF HIGH ALTITUDE MISSILE DEFENSE SYSTEM

The Terminal High Altitude Area Defense (THAAD) missile defense system has had numerous successes over the last year, including successful intercepts of missiles on a variety of test ranges. In fact, all flight tests during the Engineering and Manufacturing Development (EMD) phases have proven successful. L-3 TE is proud to have been part of this story with our telemetry components providing vital data on vehicle performance.

Integral to Lockheed's and the government's evaluation of missile performance, are L-3 TE key telemetry elements including the Telemetry Master Encoder/Remote Subsystem (TMERS), the Interface Support Package, and the RF transmitter.

In 2001, L-3 TE developed, qualified and delivered flight worthy hardware in support of the THAAD program. The development/qualification phase is completed and the delivery of all equipment supporting the EMD phase is nearly finished.

L-3 TE will be supporting a reduced-function encoder that is to be integrated into fielded THAAD vehicles. This reduced-function unit will provide vehicle health monitoring during THAAD production missile check-out testing. This is a great opportunity for L-3 TE to provide continued support of the THAAD program as it enters the deployment stage.

Our Telemetry Master Encoder/Remote Subsystem was engineered specifically for the THAAD application. This encoder set collects digital and analog data from the vehicle, packages the data in a customer-defined format and outputs a 14 Mbps PCM stream. The Interface Support Package provides the data conditioning and control required for transmission. This unit is based on L-3 TE's standard Interface Support Module (ISM) design. The RF transmitter provided is a Synthesized Serial configurable unit that is based on other L-3 TE standard transmitters.



THAAD Launch and Intercept

INTERNATIONAL TELEMETERING CONFERENCE (ITC) 2007 - PREVIEW



ITC 2007

RIVIERA HOTEL &
CONVENTION CENTER

OCT 23-25

L-3 TELEMETRY & RF PRODUCTS PAPERS PRESENTED

- Multi Platform Data Display
By: **Bob Ross**
- Design Trade-Offs for Real-Time Chapter 10
Reproduction
By: **Gilles K/Bidy**
- Range Safety Case Study: A Large Distributed Ground
System
By: **Jon Mather**
- Long Term Vehicle Health Monitoring
By: **Chris Dehmelt/Doug Cridland**
- Meta-Data Versioning
By: **Greg Adamski**
- Benefits and Techniques for Increased Power Efficiency
in Modern Telemetry Transmitters
By: **Don Bozarth/Gregg Horcher**
- A Common Solution to Custom Network Applications
By: **Chris Dehmelt/Jennifer Yin**
- XML Meta Data Experiments
By: **Gilles K/Bidy**



ALL THE DATA, ALL THE TIME.

When there is no margin for failure.

With the world's largest selection of COTS and custom telemetry solutions available today, L-3 continues to offer the telemetry community, leading-edge products and services for its mission critical requirements. Whether you need individual components or integrated solutions, L-3 can provide you a path to success. Thousands of installations worldwide prove the telemetry community relies on L-3 to lead the way.

Telemetry & RF Products
Communication Systems-East
Cincinnati Electronics
Datron Advanced Technologies
Nova Engineering
ESSCO

>>See us in booth 702.



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C*ISR > GOVERNMENT SERVICES > AM&M > SPECIALIZED PRODUCTS

Airborne Telemetry & RF Products -Product Updates

NOW AVAILABLE – ST-4000 TRANSMITTER



ST-4000

L-3 Telemetry-East (L-3 TE) announces the launch of their new SOQPSK transmitter; the ST-4000. This new Transmitter will feature SOQPSK and PCM/FM capabilities in the same platform.

Unique to the ST-4000 is a proprietary isolated switching power supply technology, which provides for a true ultra-high efficient transmitter. This reduces the need for excessive heat sinking, while significantly enhancing weapons battery life, which is vitally important to the weapons test community.

The ST-4000 offers customers a fully configurable isolated ground scheme where customized grounding options can be easily accommodated including DC input power isolation from chassis, modulation input isolation, a fully isolated control interface and others. No isolation plates are used. The ST-4000 can also provide, as an option, built-in status capabilities where the monitoring of critical parameters such as temperature, forward power, DC current, internal power supply voltages and internal fault signals can be offered to the customer.

The ST-4000 accommodates SOQPSK data rates of 20 Mbps and greater, and can be easily configured for full S-band; 2200 to 2400 MHz capabilities. L-3 TE has also maintained the same product footprint in the ST-4000 for ease of program transition where current customers are already using other L-3 TE transmitter products.

NOW AVAILABLE—DIGITAL MODEM SOLUTION FOR UNMANNED VEHICLES

L-3 Southern California Microwave (L-3 SCM) recognized the need to develop a robust and highly integrated digital solution that greatly increases video and telemetry data throughput supported by UAV FM analog downlinks. The resulting comprehensive L-3 SCM solution, being released as the **Digital Modem Solution (DMS)**, enables very efficient RF Bandwidth utilization through JPEG2000 video compression techniques. Additionally, it provides for a secure encrypted transport stream with robust forward error correction (FEC). Video and Data Link requirements for small Unmanned Air Vehicles (UAV) continue to increase the demand for higher throughput while at the same time frequency congestion issues in combat theaters are pushing for narrower channel bandwidths to carry this information. These two requirements are typically at odds with each other and can only be mutually satisfied through innovations in digital transmission systems. The end goal of supporting higher data rates in narrower channel bandwidths has driven the need and utilization of digital video compression and FEC to the UAV communications platform.



Digital Modem Solution

Flexible Video, Audio and Data Transport

- Configurable Transport Stream - Compressed NTSC/PAL Analog Video, Audio (2-channels), and Data (3-channels) to 115 kbps
- JPEG2000 Compression Advantage – Complete Image Information in every frame
- JPEG2000 Compression Ratio & Frame Decimation Rate Fully Programmable
- Full-motion Video, Audio & Data in less than 8 MHz Occupied RF Bandwidth
- Encryption & Forward Error Correction (FEC) for secure, long range performance
- High speed data-only option up to 20 Mbps

Low Power and Small Size

- DMS Modules Operate on +8 to +28 VDC Supplies
- Typical Power Consumption – 2.4 Watts at 12 VDC
- Small Size – 2.5" x 1.25" x .75"
- Weighs in at 30 grams



Ground Telemetry Solutions

NOW AVAILABLE—Vista 4.0

L-3 Telemetry-West (L-3 TW) announces the release of **Vista 4.0**, the fastest and highest performing Vista software ever! We are now accepting orders for Vista 4.0 with Jade 1.0 Java Display Engine Editor and Viewer for immediate shipment.

Selected enhancements include:

- Faster startups – up to 66% faster than previous versions
- Up to 1 million telemetry processing tags per project
- Built-in Project Database Version Control
- Simple Common Installation Wizard for both Windows and Linux
- Embedded SQL Database providing transparent User/Connection Management
- Convenient System Tray icon launch; Runs as a service – can launch at system startup
- Remembers project and module status from previous session
- Automatically loads saved overlays from System Manager upon login
- Configuration files available by right-click from Project Tree
- Patches one bundle at a time with System Update without a complete reinstallation
- Add new licensed/optional modules on-the-fly without reinstalling software
- Dynamically changes properties files from within running applications without restarting
- Remote control interacts with the project by batch files from an offsite location
- Improved granularity of Log Viewer – alarms, events, queries, warnings, debug, and status



Vista 4.0

L-3 TELEMETRY-WEST'S INCONTROL SOFTWARE NOW LIVE ON BOTH SKYNET 4 AND 5 AT SKYNET SATELLITE CONTROL CENTRES

SAN DIEGO, CA, August 21, 2007 – L-3 Telemetry-West (L-3 TW), a division of L-3 Communications, announced today that with Astrium's successful launch and initialization of Skynet 5A for the UK MoD, its *InControl* satellite command and control software is now operational in both the Skynet 4 and Skynet 5 Satellite Control Centres (SCC). *InControl* is a robust system leveraging many years of operational satellite support and designed specifically to support satellite fleets of heterogeneous spacecraft. Having recently successfully supported the launch and early orbit phase for Skynet 5A, *InControl* will now continue to support the on-station operations for both Skynet 4 and Skynet 5.

"This demonstrates the continued success of *InControl* as the leading software system for the safe and efficient monitoring and control of satellite fleets," said Burt Smith, president of L-3 Telemetry-West. "L-3 Telemetry-West is delighted to continue our successful relationship with Astrium on this important and strategic program."

L-3 Telemetry-West and Inmarsat have provided the software for a number of SCCs at several locations in the United Kingdom. The software provides support for control Centres for the existing Skynet 4 and the new Skynet 5 system. The Skynet 4 & 5 systems provide secure communications for the UK's armed forces, with Skynet 5 significantly expanding this role.

"This demonstrates the continued success of InControl as the leading software system for the safe and efficient monitoring and control of satellite fleets."

*Burt Smith
President
L-3 Telemetry-West*

InControl™

Ground Telemetry Solutions – Product Update



NOW AVAILABLE – PCI-2070 TELEMETRY RECEIVER

L-3 Telemetry-East (L-3 TE) announces the release of the PCI-2070 PCI Telemetry Receiver with tracking capabilities. The receiver will support operations in lower L-Band (1429-1545 MHz), upper L-Band (1700-1850 MHz) and full S-Band (2185-2485 MHz). The receiver can be configured as a single band or multi-band tuner unit.

The tuner will down-convert an RF signal to a 70 MHz IF signal. The IF signal will be filtered by user-selectable digital Finite Input Response (FIR) filters and routed to a digital FM only or multi-mode demodulator. Using the multi-mode demodulator will provide reception of FM, PM, BPSK, QPSK or OQPSK modulated signals. The demodulator will feed a variable-gain video section complete with user-selectable FIR filters. Data rates from 30 kbps to 20 Mbps are supported with output levels up to 5 V_{pp}.



PCI-2070

For tracking applications, the PCI-2070 will provide a 2 V_{pp} AM output for signals modulated with 50% AM. In addition, a linear AGC output provides a 20 dB/V output which can be routed to an antenna control unit. The AM & AGC outputs are available in all operating modes.

Application software is provided to operate the unit in Windows 2000 Pro and XP Pro operating systems. The user GUI interface will provide configuration and status for multiple units. Operating status includes dynamic FFT images of both the input RF signal and the demodulated data output.

The PCI-2070 is ideally suited for small portable applications, such as flight-line quick-look applications, small transportable systems, factory integration support and applications that require multiple receivers.

Space Product News



MSX-765 TRANSCEIVER – UPGRADES

Overview

Telemetry & RF Products is an acknowledged leader in providing mission critical Transponders and Transceivers to numerous domestic and foreign satellite manufacturers. One of our latest products, the MSX-765 is designed to provide basic S-Band Telemetry and Commanding functions in a compact and lightweight housing. It was originally designed for the ROCSAT 3 (COSMIC) program (launched in April 2006) and recently upgraded to support quick reaction operationally responsive space (ORS) programs.

Upgrades Include:

- Rx/TX frequency agility
- Addition of decoder for MCU-110 Comsec compatibility
- Rate ½ convolutional encoding
- Standard 28V BUS compatibility



MSX-765
Transceiver

Recent Activities

The US Air Force and Lockheed Martin Visit L-3 Telemetry –West



Byron Frankenburger introduces Vince Ciampa (LMSSC) and Lt. Colonel Donald Ruffin (USAF), from the AEHF Program.



R to L: Vince Ciampa (LMSSC) and Lt. Colonel Donald Ruffin (USAF), from the AEHF Program, presenting Burt Smith with a plaque in appreciation of L-3's support on the AEHF Program.

L-3 TELEMETRY-WEST RECOGNIZED FOR OUTSTANDING PROGRAM EXECUTION

Lockheed Martin Space Systems Company (LMSSC), represented by several members from their Advanced Extremely High Frequency (AEHF) Program, and the United States Air Force, represented by Lt. Colonel Donald Ruffin, visited L-3 Telemetry-West on September 4th, 2007, to show their appreciation to L-3's AEHF Team for overall Program support, and particularly to the small team of L-3's Operations, Engineering, and Quality Assurance personnel that were responsible for working long hours and weekends, through July and August, in order to meet the critical need-date of 8/14 for delivery of AEHF DTU S/N 105.

L-3 Telemetry-West has been under contract with Lockheed Martin since late 2001 to provide CXS-2000 Transponders for AEHF, an Air Force satellite system that will provide twice as many tactical networks, as well as providing 10-12 times the capacity and 6 times higher data rate transfer than that of the current Milstar II satellites. Launch date for AEHF-1 is expected to be in April of 2008.



L-3 Telemetry-West AEHF Program Team Members

How do we measure up? www.L-3Com.com/TW/VOC



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Spring Valley, CA 91978
Phone: 619-670-3414
Website: www.L-3Com.com/TW



Today, Telemetry & RF Products serves commercial, military, and civilian customers worldwide, with a product offering that includes TT&C satellite transponders, high data rate satellite transmitters, high-power amplifiers, high-reliability receivers/transmitters, encryption/decryption units, video compression/decompression units, tactical intelligence radios, tactical HF/SSB and microwave radios, telemetry ground system components and solutions, and specialized telemetry and surveillance products.

Vice President's View

L-3 Telemetry-East (L-3 TE) is led by **Marc Lienard** who has recently been appointed Vice President & General Manager. Mr. Lienard reflects on the current and future state of Airborne and Ground Telemetry industries and L-3 TE's position and technology base.



Marc Lienard

Vice President &
General Manager

L-3 Communications
Telemetry-East

Question: With the recent addition of IntelliBus to your portfolio of Data Acquisition Solutions, how do you see the progression of industry adoption taking place and where would you envision L-3 TE to be in 3-5 years relative to it?

Answer: The Poseidon (MMA) program has provided the first opportunity to prove the unique benefits of an IntelliBus-based data acquisition system for a major flight test program. We are very confident that the success of this program will accelerate the adoption of this industry changing technology. We expect IntelliBus to play a substantial role in our NetDAS and AirDAS based data acquisition systems, providing a majority of signal conditioning functions.

Question: With the continued industry movement towards more open source solutions being adopted by the primes and government agencies, how is L-3 TE preparing for this change?

Answer: L-3 TE is concentrating on developing products that address our customers' needs while maintaining compatibility with industry standards. We believe that open sourcing helps the industry to more quickly adopt innovations. Successful products must have the innovations that customers desire.

Question: What do you see as the most relevant technologies that will change the market segments L-3 TE serves?

Answer: Wireless networking has the potential to dramatically change the face of instrumentation within 10 years. Of course, this includes many underlying technologies in everything from digital communication and RF transmission to the software to manage complex systems. A company must have technical strength in all of these areas and L-3 TE has the right foundation.

Question: As the world leader in specialized transmitters for telemetry systems, what do you see as the largest changes moving forward?

Answer: The movement towards quadrature modulation is well underway. Frequency changes are on the horizon, due to re-allocation of the RF spectrum. Reduced size, increased frequency response, and greater power efficiency will be on-going developments. The biggest change will be the operation in a networked environment, with the managing of packetized data and bi-directional communication. This will transform the function of this unit into a true transceiver, and a network node.