

## In this Issue

- Telemetry Solutions, p1-3
- Space Solutions, p4-5
- Small UAV Solutions, p5
- Contact Information, p6
- President's View, p6

## Featured Facility



## Upcoming Tradeshow

### ITC 2006

(Int'l Telemetry Conference)  
"Enabler of Innovations in Enterprise Architecture"

**When:** 24-26 October 2006

**Where:** San Diego, CA  
Town & Country Hotel

#### Exhibit Schedule:

Tues. 11am-7pm  
Wed. 8am-Noon & 2pm-6pm  
Thurs. 8am-Noon

### L-3 ITC Hospitality Night

Cocktail Reception

#### When:

Tuesday, 24 Oct 2006  
7-10pm

**Where:** San Diego, CA  
Town & Country Hotel  
Terrace Pavilion

### FOCUS - OCTOBER 2006

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

Send feedback to:

[Focus.TW@L-3Com.com](mailto:Focus.TW@L-3Com.com)

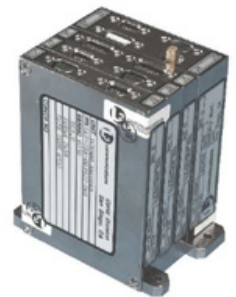
## Airborne Telemetry Solutions

### PCM300 ENCODER SCHEDULED FOR PRODUCTION RELEASE IN JANUARY 07!

The PCM300 encoder is a sub-miniature state-of-the-art programmable data acquisition system. It may be used in a multitude of applications and is ideally suited for small weapons systems that require high data rates due to video and/or digital signal processing requirements. The PCM300 features modular construction and may be easily reconfigured to provide additional measurement capabilities.

Users may select from a large building block library of data acquisition and functional modules to provide an encoder with virtually unlimited capabilities. Most modules can be factory tailored to provide specific measurement capabilities based on the user's mission, and then fine-tuned via a graphical user interface software package furnished with the PCM300.

A custom encoder (CTM [Compact Telemetry Module]-Encoder) similar to the PCM300 was introduced in 2002, and over 400 units have been provided on U.S. smart bomb test programs. The CTM-Encoder has an unmatched history of successful flight performance. The PCM300 superior-quality, high-performance design was based upon knowledge & techniques gained from the CTM-Encoder. It is similar in size and feature set to the CTM-Encoder; however, its performance (max bit-rate >30 Mbps), feature richness and channel capability are greatly improved.



**PCM 300**

*Excellence You Can Measure*

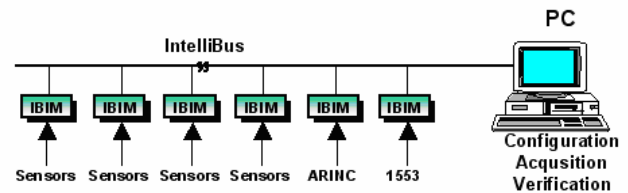


**communications**  
Telemetry-East

## Airborne Telemetry Solutions

### INTELLIBUS™ SELECTED FOR FLIGHT TEST DATA ACQUISITION PLATFORM

L-3 Telemetry East, a division of L-3 Communications has been selected to provide IntelliBus™ hardware in support of a major flight test program. IntelliBus is a high-speed network sensor bus developed by Boeing that allows multiple sensors to be controlled on a single shared communications link, resulting in reduced complexity, cost, and weight in the installation of data acquisition systems. L-3 has been granted an exclusive license to sell and market IntelliBus™ to the airborne flight and ground test community.



**PC-Based IntelliBus System**

Contact L-3 Telemetry & RF Products for more information on how IntelliBus™ can benefit your data acquisition system requirements. A variety of signal conditioning modules are available to support flight test requirements. Network interface controllers have been created for the NetDAS data acquisition system to allow for integration and control of IntelliBus networks in order to provide a comprehensive solution to your flight test needs.

*(IntelliBus is a registered trademark of The Boeing Company)*

## Ground Telemetry Solutions

### 3362 BIT SYNCHRONIZER SUPPORTS SPACE SHUTTLE RETURN TO FLIGHT

The Telemetry-East 3362 Bit Synchronizer has supported the past two Space Shuttle Return To Flight missions. Telemetry-East provided the PMC card version installed in Microdyne DR-2000 Digital Receivers. The units supported data transmitted from external fuel tanks to ensure mission safety. Telemetry-East also provided DR-2000 Digital Receivers to receive NTSC video links from the Space Shuttle.



**3362 Bit Synchronizer**

The 3362 Bit Synchronizer is a dual channel bit synchronizer that supports data rates up to 20 Mbps. The unit also provides Viterbi decoders with user-selectable rates of  $1/3$ ,  $1/2$  and  $3/4$ . The 3362 will also support QPSK applications by providing de-interleavers and ambiguity resolution features. The 3362 is available in a PMC card, PCI Card or a 3U rack mount Model 3362 unit.

The rack mount Model 3362 Dual Channel unit provides complete “stand alone” operation of each bit synchronizer. It is based on the new Telemetry & RF Products MARC-1 chassis, which was designed to provide fast response to custom user applications. The MARC-1 chassis provides local operation via a custom user interface, including an LCD touch screen. Remote control is provided via the integrated Ethernet interface. The Model 3362 is an ideal upgrade for many of the heritage Aydin bit synchronizers that are currently installed in many telemetry ranges. First deliveries of the Model 3362 have already been made in Q4 2006.

## RCB-4000 DIGITAL RECEIVER SYSTEM PROVIDES IRIG TIER II COMPLIANT RECEPTION

Telemetry-East has completed development of the RCB-4000 Digital Receiver System. The RCB-4000 provides full compliance with IRIG 106-05 Tier II phase noise spectral mask, which is required to ensure performance of future modulation formats. The RCB-4000 is an enhancement of the Microdyne digital receiver product line, which is used on most major telemetry ranges in the United States.



**RCB-4000 Receiver**

In addition to providing superior phase noise performance, the RCB-4000 provides independent tuning of both receiver tuners

and dedicated demodulators for each tuner. This allows the unit to operate as two separate receivers during times when diversity combining is not required. The diversity combiner that is included with the RCB-4000 functions as an optimal ratio or optimal select combiner and achieves received Signal-to-Noise (S/N) improvements of up to 3dB. The RCB-4000 includes the latest demodulator technology, including IRIG Tier I demodulators (FQSPK or SOQPSK) and Multi-Symbol Trellis FM Demodulation. The Trellis FM Demodulator can increase link margin gains by close to 3 dB. All units support data rates up to 20 Mbps and include bit synchronizers.

## Ground Telemetry Solutions in the News

### L-3 TELEMETRY-WEST'S SATELLITE CONTROL CENTER SOFTWARE MANAGES LAUNCH AND EARLY ORBIT PHASE OF INMARSAT'S NEWEST SATELLITE

SAN DIEGO, CA, August 2, 2006 – L-3 Telemetry-West, a division of L-3 Communications, announced today that its I4S Satellite Control Center software was successfully used throughout the launch and early orbit phase for Inmarsat's latest satellite, Inmarsat-4 Flight 2 (I-4 F2). The I4S system is based on L-3 Storm's InControl-NextGeneration™ (InControl-NG) software suite integrated with Inmarsat's in-house-developed software.

"The launch and early orbit phase is a crucial part of the mission," said Ruy Pinto, director of satellite control and navigation for Inmarsat. "It is vital we have software systems that are completely reliable and in which we can have absolute faith. The L-3 InControl-NG software suite, integrated with the Inmarsat real-time kernel, gives us a system that manages the LEOP phase very effectively and then transitions smoothly to routine operations with the same system."



### L-3 TELEMETRY-WEST To CONTROL TELENOR SATELLITE FLEET

SAN DIEGO, CA, March 6, 2006 – L-3 Telemetry-West, a division of L-3 Communications, announced today that it has signed a contract with Orbital Sciences Corporation to provide the satellite command and control ground system software for the THOR II-R satellite, which is owned and operated by Telenor Satellite Broadcasting, a division of Telenor Broadcast Holding AS based in Oslo, Norway. L-3's software solution is based on its InControl-NextGeneration™ (InControl-NG) system, which will be used to operate the new satellite and to control Telenor's existing THOR II and THOR III spacecraft.

THOR II-R will be based on Orbital's STAR™ satellite platform and will provide Ku-band fixed telecommunications and direct-to-home television broadcasting services from Telenor's 1-degree west longitude orbital location. The Telenor fleet will utilize primary and back-up control centers in Fornebu and Nittedal, Norway.

"Orbital is pleased to welcome L-3 Telemetry-West as a part of our Thor II-R Program Team," said Al Lewis, Orbital's Thor II-R program director. "We look forward to building on our successful past space hardware relationship with L-3 Telemetry-West to now include the delivery to Telenor of an industry-leading fleet system using InControl-NG."

***"Orbital is pleased to  
welcome L-3  
Telemetry-West as  
part of our Thor II-R  
team."***

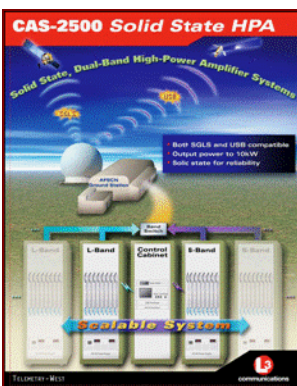
*Al Lewis,  
program director  
Orbital's Thor II-R  
program*



**communications**  
Telemetry-West

*“This award keeps L-3 Communications on the leading edge of space encryption technology...”*

*Burt Smith, president  
L-3 Telemetry & RF  
Products*



## Space Solutions Product News

### CXS-2000 SATISFIES DUAL SGLS AND USB SATELLITE COMMANDING REQUIREMENTS

The CXS-2000 is a Flexible Architecture Secure Transponder designed for satellite TT&C applications. This represents the latest concept in Secure Transponding Modems.

- The CXS-2000 is capable of dual mode SGLS and USB uplink.
- L-3 Telemetry & RF Products is currently supporting multiple programs with this next-generation transponder.



**CXS-2000  
Transponder**

## Space Solutions in the News

### L-3 COMMUNICATIONS AWARDED MULTIMILLION-DOLLAR CONTRACT TO SUPPORT THE U.S. AIR FORCE SPACE TELEMETRY, TRACKING AND CONTROL NETWORK

NEW YORK, NY, August 30, 2006 – L-3 Communications (NYSE: LLL) announced today that its Telemetry-West (L-3 Telemetry-West) division has been awarded a \$9.9 million contract by the U.S. Air Force to provide the next-generation, crypto-modernization-compliant encryptor and decryptor for satellite telemetry, tracking and control (TT&C). This program will include two configurations – an embeddable solution and a standalone end cryptographic unit (ECU). L-3 Telemetry-West has partnered with L-3’s Communication Systems-East (L-3 CS-East) division for this key national security initiative.

As part of the National Security Agency’s (NSA) initiative to modernize Department of Defense (DoD) cryptographic devices, the Space TT&C Cryptographic Modernization (CM) Aerospace Vehicle Equipment Increment 1 (AVE I1) program is acquiring new equipment to meet communication security (COMSEC) requirements for future satellite programs. This next-generation one-time programmable COMSEC device will replace the application-specific integrated circuit (ASIC)-based COMSEC devices being used by existing satellite programs.

The AVE I1 will be an NSA Type 1-certified space flight TT&C COMSEC device. It consists of a hardware solution that can be programmed with different algorithms for command and telemetry applications.

“This award keeps L-3 Communications on the leading edge of space encryption and decryption technology and demonstrates the company’s role as a key contractor in the government’s multibillion-dollar Cryptographic Modernization initiative,” said Burt Smith, president of L-3 Telemetry-West. “We’re excited to maintain our position as the leading supplier of satellite TT&C encryption and decryption devices.”

### L-3 COMMUNICATIONS AWARDED MULTIMILLION-DOLLAR CONTRACT TO SUPPORT THE U.S. AIR FORCE SATELLITE CONTROL NETWORK

NEW YORK, NY, April 13, 2006 – L-3 Communications (NYSE: LLL) announced today that its Telemetry-West (L-3 Telemetry-West) division has been selected to provide High Power Amplifiers (HPAs) to Honeywell Technology Solutions Inc. (HTSI) in support of the U.S. Air Force Satellite Control Network Contract (SCNC). After a rigorous selection process, this award has culminated in an HPA design that will serve the future commanding needs of the Air Force Satellite Control Network (AFSCN) for many years to come.

“This award builds on the already strong relationship developed between the U.S. Air Force, Honeywell and L-3,” said Glenn Flaherty, vice president of business development at L-3 Telemetry-West. “We are ecstatic to be working with Honeywell again to support the U.S. Air Force. This is a growth market for L-3 and the new SCNC award is expected to lead to other ground station HPA contracts.”

## Recent Launches With Our Products Onboard

### FORMOSAT-3/COSMIC – 14 April 2006

The COSMIC constellation of six satellites was launched successfully from Vandenberg Air Force Base in California at 6:40 p.m. PDT (9:40 p.m. EDT) on Friday, April 14, 2006.

The constellation will track radio signals from the Global Positioning System as it passes through Earth's atmosphere.

### CloudSAT – 28 April 2006

The Delta II carrying both the CloudSat and CALIPSO spacecraft was successfully launched from Vandenberg AFB, CA today at 3:02:16.721 a.m. PDT.

The CloudSat mission was selected under NASA's Earth System Science Pathfinder program in 1999. Overseen by NASA's Science Mission Directorate, the Earth System Science Pathfinder Program sponsors missions designed to address unique, specific, highly focused scientific issues, and to provide measurements required to support Earth science research.

### KOMPSAT-2 – 28 July 2006

Rocket successfully launched the KOMPSAT-2 satellite from Plesetsk Cosmodrome in Northern Russia at 11:05 a.m. local time on Friday, July 28, 2006.

KOMPSAT-2 is designed to provide monitoring and mapping services for the Republic of Korea's Geographic Information System (GIS) by employing a multi-spectral camera. Its lifetime is expected to be 3 years, during which the satellite will produce high-resolution images of the Earth's surface.



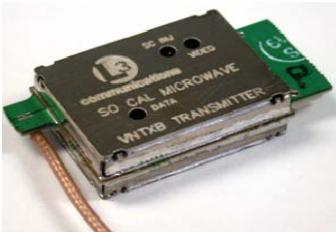
COSMIC launch picture provided by Orbital Sciences Corporation



KOMPSAT-2 successful launch

## High Performance in a Small Package

### VNTXB Series Video Transmitter for Micro Unmanned Systems



VNTXB Series Video Transmitter

Reduced size and weight along with extended flight time are key performance goals for the latest Micro Unmanned Aerial Vehicle (UAV) systems. Programs such as the Air Force's Battlefield Air Targeting Micro Air Vehicle (BATMAV) plan on offering increased endurance in a vehicle that will weigh less and take up less space so that the battlefield airmen can use it on the go more easily.

Ample RF power and small package size combine to make L-3 Southern California Microwave's VNTXB Series Video Transmitter the choice for this type of Micro Unmanned System.

This highly efficient transmitter puts out 400 mW (typical) RF power while using only 195 mA of current. Set up to run on lower voltages, the VNTXB allows system designers to optimize their battery requirements.

Size and weight, major concerns in unmanned systems, are minimized with the 1.7" x .88" x .33" package, which weighs just 8.5 grams.

The VNTXB Video Transmitter provides high-performance video and data in a design based on our proven technology to provide rugged and reliable equipment. Operating across the L-Band, the unit can be tuned using a BCD or Serial TTL Interface for remote programming.

For more information on using the advantages of the VNTXB in your system, contact Curt Buck at L-3 Southern California Microwave, 619-670-3414 or [curt.buck@L-3Com.com](mailto:curt.buck@L-3Com.com).



communications

Southern California Microwave



**communications**  
Telemetry & RF Products

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.

### L-3 Telemetry-West

9020 Balboa Ave.  
San Diego, CA 92123  
Phone: 800-351-8483  
Website: [www.L-3Com.com/TW](http://www.L-3Com.com/TW)



### L-3 Telemetry-East

1515 Grundy's Lane  
Bristol, PA 19007  
Phone: 267-545-7000  
Website: [www.L-3Com.com/TE](http://www.L-3Com.com/TE)



### L-3 Southern California Microwave

2732 Via Orange Way, Suite E  
Spring Valley, CA 91978  
Phone: 619-670-3414  
Website: [www.L-3Com.com/TW](http://www.L-3Com.com/TW)



## President's View

### BURT SMITH REFLECTS ON THE FORMATION OF L-3 TELEMETRY & RF PRODUCTS AND UPCOMING CHALLENGES FACING THE TELEMETRY INDUSTRY



**Burt Smith**

President  
L-3 Communications  
Telemetry & RF Products

L-3 Communications Telemetry & RF Products is led by Burt Smith, who has been president since 2002. We asked Mr. Smith to reflect on the telemetry industry.

**Question:** *Why was Telemetry & RF Products formed?*

**Answer:** The synergies were obvious. Both Telemetry-East and Telemetry-West serve many of the same markets with similar products and technology. Pooling our resources and sharing technology only makes sense. By better coordinating and utilizing our investments, L-3 Telemetry & RF Products will be able to increase product offering capabilities while expanding the scope of research and development.

**Question:** *What changes can customers expect to see as a result of this consolidation?*

**Answer:** Hopefully, they will see a company with the depth of resources and commitment to excellence, and choose us as their preferred supplier, both today and into the future. Additionally, they can expect to see an increase in the quantity and the quality of new product introductions, which includes an improvement in our responsiveness and execution. We not only want to offer the best possible solutions to our customers, but also to instill confidence and loyalty through superior performance.

**Question:** *What changes in the telemetry industry do you foresee over the next 5 years and how will L-3 Telemetry & RF Products respond to them?*

**Answer:** Numerous challenges face the telemetry community in the coming years, from technology transformation and the crowded RF spectrum to the retirement of a large amount of domain knowledge in a relatively short period of time. Here at L-3 Telemetry & RF Products, we will focus on bringing new technologies into our core products at an accelerated pace, while continuing to work on new, efficient modulation schemes and adding true networking capability to our systems.

Having such a broad product portfolio allows us to leverage technology developed in one area across multiple product lines. Recognizing the increased demand placed on Systems Engineering and Software Development, we have begun the process of obtaining CMMI Level 3 accreditation. All the while, we continue to recruit the best and brightest to learn from some of the most respected technical people in all of the telemetry industry.

***We have a lot going on at L-3 Telemetry & RF Products, and at times it can be a challenge, but there is no place else I would rather be.***

***These are exciting times!***