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Featured Facility



Upcoming Trade Shows

ISCe (International Satellite Communication Exchange)
When: 6-7 June
Where: San Diego, CA
URL: www.isce.com

NATIA (National Assoc. of Technical Investigators)
When: 24-26 July
Where: Pittsburgh, PA
URL: www.natia.org

AUVSI (Assoc. for Unmanned Vehicle Systems Intl)
When: 6-9 August
Where: Washington, DC
URL: www.auvsi.org

FOCUS - JUNE 2007
 Published for customers of L-3 Telemetry & RF Products.
 Send feedback to:
Focus.TW@L-3Com.com

L-3 Southern California Microwave – Pioneers in Surveillance & Detection Products

In January 1998 , Southern California Microwave (SCM) became part of L-3 Communications. From a small 3 person shop operation started in the early 1970s, L-3 SCM has grown into a major contributor in the UAV, Law Enforcement, and Military Video and Telemetry industries. The current staff of 30 engineers and production personnel continue to focus on miniaturizing Video Data Links while maintaining their expertise in more conventional systems.

Small UAV's

Markets – Combat Surveillance, Situational Awareness

Products – Transmitters, Receivers



Law Enforcement

Markets – Covert Evidence Collection, Area Surveillance, Tactical Situational Awareness

Products – Transmitters, Receivers, Repeaters, Antennas

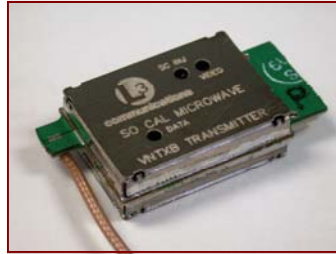


Excellence You Can Measure

Small UAV Solutions - Product Updates



Doing Big Things with Small UAV's — VNTX Transmitter



VNTXB Transmitter



As the leading supplier of Video Data Links for Small Unmanned Aerial Vehicles (UAV), L-3 SCM has built a reputation on quality and reliability while creating solutions to support Operation Iraqi Freedom and Operation Enduring Freedom. L-3 SCM provides the video links for the Raven and DragonEye Small UAVs, enabling our troops to utilize real-time reconnaissance and tactical situational awareness data to carry on highly effective and safer missions.

For Small UAVs the VNTX Transmitter provides 1 or 2 Watts of output power at L-, S-, or C-Bands, typically providing about 10 km of range. The new VNTXB, about half the size and weight of the VNTX, is ideally suited for Micro UAVs such as the BATMAV. Both of these designs are built to optimize power consumption, thus extending the flight time available for the UAV.

System integrators needing high quality video links consistently turn to L-3 SCM for big solutions, no matter how small they need to be.

Honey, I shrunk the Receiver —

VNRX Series Video Receiver Optimizes Performance and Minimizes Size

No, it's not another fantasy Disney feature, but a bona fide reality. L-3 SCM has developed a receiver for Small UAV Systems and Remote Video Terminal applications that is a quarter of the size of the previous model. Imagine getting a small, lightweight receiver with minimal current draw and footprint.

L-3 SCM's new VNRX Video Receiver provides high-performance video and data reception in a package designed for handheld and man portable applications. This design is based on proven technology providing rugged and reliable equipment that delivers clear images and solid telemetry data. The unit operates to the same specs as our larger receivers ensuring great range at the system level.

Operating at L- S-, and C-Bands, the receiver can be tuned using a Binary Coded Decimal (BCD) or Serial TTL/RS232 Interface for remote programming or a Rotary Switch for local operation. When using the serial interface, 10 kHz tuning steps are available.

Additionally, a subcarrier is provided to receive a data stream of up to 20 kbps NRZ-L. The VNRX includes a Relative Signal Strength Indicator output and can be configured with a remotely commanded Sleep mode.

For portable applications where battery life is at a premium, the VNRX draws less than 230 mA. The receiver can also be operated over a wide range of supply voltages. Space and weight are minimized by use of a small 3" x 1.75" x 0.44" package.

For more information on using the VNRX in your system, contact Curt Buck (curt.buck@L-3Com.com) or Dennis Burman (dennis.burman@L-3Com.com) at L-3 SCM, 619-760-3414.



VNRX NANO Video Receiver

L-3 Communications President & CEO Speaks at Telemetry-West



11 May 2007 – Michael Strianese, CEO & President of L-3 Communications spoke to an audience of nearly 400 at the Telemetry & RF Products facility in San Diego, CA. Mr. Strianese spoke to the enthusiastic crowd where he discussed a broad range of topics including: L-3 Telemetry-West's heritage (a founding L-3 Division), the transition since Frank Lanza's passing, how our size has changed us, synergies moving forward and a variety of other lateral and interesting topics. Speaking to the crowd for almost 45 minutes, the ever articulate and engaging CEO was able to pass along some of his barely containable energy and positive views on the future for L-3, while also answering questions from the audience.

Intel Solutions

ENTR (Embedded National Tactical Receiver) – Clearing the Fog of War



New tactical data terminal being used by our warfighters.

- 4 Channel Reception
- Dynamic Channel Reconfiguration
- Any Combination of Data Channels (IBS-S, IBS-I, TADIXS-B)
- Embedded, Programmable COMSEC
- PCI and cPCI Form Factors
- User Installable
- Programmable Demodulator Decoder and I/O Sections
- Viterbi Decoder Bit Error Rate can be displayed by Host
- Software Controlled





"We are excited to partner with Boeing in fielding this new technology and providing key flight test hardware for the P-8A program."

*Marc Lienard
Vice President/
General Manager
L-3 Telemetry-East &
Global Network
Solutions*

L-3 Telemetry-East In The News

L-3 COMMUNICATIONS TELEMETRY-EAST AWARDED CONTRACT TO SUPPORT THE BOEING COMPANY ON THE P-8A POSEIDON FLIGHT TEST PROGRAM

L-3 Communications Telemetry-East (L-3 TE), a division of L-3 Communications, announced that it has been awarded a contract from Boeing Integrated Defense Systems to provide a variety of IntelliBus™ hardware in support of the U.S. Navy's P-8A Poseidon/MMA (Multi-mission Maritime Aircraft) flight test program. This hardware will be integrated into the flight test instrumentation system to verify aircraft performance.

The P-8A Poseidon is a long-range anti-submarine warfare, anti-surface warfare, intelligence, surveillance and reconnaissance (ISR) aircraft. It possesses an advanced mission system for maximum interoperability in battle space. Capable of broad-area, maritime and littoral operations, the P-8A Poseidon is expected to influence how the U.S. Navy's maritime patrol and reconnaissance forces train, operate and deploy. The U.S. Navy plans to purchase 108 Poseidons to replace its fleet of P-3 aircraft, with the first flight test aircraft delivery scheduled for 2009.

IntelliBus is a high-speed network sensor bus technology developed by Boeing that allows multiple sensors to be controlled on a single, shared communications link, resulting in reduced data acquisition system complexity, weight and cost. This technology has been applied to the P-8A program to fully instrument the various flight and ground test articles in a more efficient manner than legacy aircraft data acquisition systems provide. An extensive library of signal conditioning and avionics bus input modules are available to support all flight test requirements. L-3 TE and Boeing have been collaborating under a licensing agreement to develop, market and produce IntelliBus components and systems since 2003.

L-3 TE is the preeminent supplier of airborne telemetry products and systems for the aircraft and missile flight test, airborne telemetry and ground receiver markets. With core capabilities in engineering design, software engineering, program management and manufacturing, Telemetry-East has over 100 years of combined telemetry experience in serving commercial and military organizations – both domestic and foreign.

Ground Systems – New Products

NOW SHIPPING - PMC Analog-Digital Input-Output Module (ANZ572)

The PMC Analog-Digital Input-Output Module (ANZ572) is a powerful multifunction board that combines 16-bit digital-to-analog converters (DAC) with 12-bit analog-to-digital converters (ADC). 16 independently configurable analog input/output channels sample and hold simultaneously with independent output voltage ranges for each port.

A total analog input rate of 16 million samples per second, an analog output rate of 16 million samples per second, and a digital output throughput rate of 2 million parameters per second make the ANZ572 one of the highest performing input-output boards on the market today.



**PMC Analog-Digital
Input-Output Module**

How do we measure up? (<http://www.l-3com.com/TW/VOC/index.htm>)

AVAILABLE Q3 2007 – PMC IRIG Time Code Generator/Translator (TCZ542)

The PMC IRIG Time Code Generator/Translator (TCZ542) module combines the functions of a time code decoder, generator, and digital tape search control unit to provide complete system time capabilities. It accepts a serial time signal, creates a synchronous clean modulated output, and supports internal parallel time for time tagging external events and MUXbus data words, including PCM or 1553 data.

The TCZ542 time code module can be operated in four modes:

1. **Decode:** Accepts an external serial time signal and operates at the real-time rate or at 1/4, 1/2, 1, 2, 4, 8, or 16 times the real-time rate to allow playback of a tape at multiples of the recorded rate.
2. **Generate:** Generates an IRIG time signal that is output through a rear panel port, making the Time Code module a serial IRIG time source.
3. **Decode/Generate:** Accepts an external serial time signal at the real-time rate. This mode also provides a synchronous modulated output that repeats and adds an offset to the incoming time signal, or translates it to another IRIG time type.
4. **Internal:** The internal reference crystal on the TCZ542 generates a stable IRIG time code and outputs the signal onto the MUXbus. In all modes, the time signal is available to the MUXbus for time stamping.



PMC IRIG Time Code Generator/Translator

AVAILABLE Q4 2007 – JADE

L-3 Communications Telemetry & RF Products proudly announces the release of **Jade™ - Java Display Engine**, a groundbreaking data visualization & analysis package for the telemetry and avionics industry.

Fully integrated with L-3's flagship **Vista™ Enterprise Telemetry Software**, Jade provides unprecedented freedom to create, save, share, and reuse advanced custom data displays. Create unique views of your data from a rich palette of drawing primitives and graphical display widgets and animate displays with live data through an intuitive drag-and-drop interface.

HIGHLIGHTS

- 100% Java
- WYSIWYG drawing interface
- Monitor data while drawing
- Easily configure widgets
- Extensible Widgets, data sources
- Integrate into custom apps

APPLICATIONS

- Real-Time Telemetry Processing
- Heads-Up Dashboard Design
- Avionics Test Prototyping
- Easily configure widgets
- Multivariate Data Analysis
- Environmental Simulation

Jade™
JAVA DISPLAY ENGINE

Airborne Telemetry Products – PCM330E

NOW AVAILABLE – PCM330E ENCODER



PCM330E

The PCM330E encoder is a sub-miniature state-of-the-art programmable data acquisition system. The thirty (30) in PCM330E stands for 30 Mbps which is the specified upper bit-rate while the 'E' stands for enhanced. This unit is 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 PCM330E features modular construction that can easily be 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 excellent conditioning, measurement and packaging capabilities. Most modules can be tailored by the user to provide specific measurement capabilities based upon mission requirements, and then fine-tuned via a robust graphical user interface software package (VistaTec) furnished with the PCM330E.



Recent Launches With Our Products Onboard

THAAD – 26 JANUARY 2007 WWW.SPACEFLIGHTNOW.COM

The Terminal High Altitude Area Defense (THAAD) missile defense system had another successful mission on January 26, 2007. The test was conducted at the Pacific Missile Range Facility off Kauai in Hawaii. This test resulted in a successful endo-atmospheric intercept of a SCUD-type target in the early evening hours.



THAAD

L-3 Telemetry-East provided key telemetry elements of the test vehicle. The telemetry is an integral part of evaluation of the missile performance. The L-3 TE equipment includes the *Telemetry Master Encoder and Remote Subsystem (TMERS)*, *Interface Support Package*, and *RF Transmitter*.

ORBITAL EXPRESS – 17 APRIL 2007 WWW.BOEING.COM

In its first on-orbit demonstration 300 miles above the Earth, Boeing's [NYSE: BA] Orbital Express system autonomously transferred propellant fuel and a battery from one spacecraft to another, marking industry firsts for the revolutionary system.



L-3 Telemetry-West provided 2 CXS-810C SGLS Transponders.



CXS-810C
Transponder

NFIRE – 24 APRIL 2007 WWW.SPACEFLIGHTNOW.COM

A data-gathering research satellite for the U.S. missile defense program successfully launched into space from the Virginia coast aboard an Orbital Sciences Minotaur 1 rocket early this morning.

The Missile Defense Agency's Near Field Infrared Experiment, or NFIRE, spacecraft lifted off from the Mid-Atlantic Regional Spaceport on Wallops Island at 2:48 a.m. EDT (0648 GMT).

The 1,089-pound spacecraft was deployed from the rocket about 9 minutes after liftoff, becoming the 25th satellite deployed by Minotaur.



Minotaur Launches
with NFIRE

L-3 Telemetry-West provided a total of 8 units including: TT&C Transponders, Command Receivers, High Data Rate Transmitter, Encryptors, and Decryptors.



CTX-886
Transmitter

Space Product News

CXS-2000 – OVER 20 UNITS SOLD

A fourth satellite program has ordered the CXS-2000; L-3 TW's dual band SGLS/USB TT&C (Telemetry, Tracking and Commanding) transponder.

After a successful product launch just 5 years ago, the CXS-2000 has quickly become an industry standard for missions with high-rel/radiation requirements. The dual band SGLS/USB transponder is designed to meet SGLS and USB commanding requirements.

The standard CXS-2000 also has the capability of providing ranging and embedded COMSEC. The entire unit is space qualified and radiation hardened to meet a typical 15 year satellite mission. It continues to provide size weight and power advantages to programs with dual SGLS and USB commanding needs.

L-3 TW has over 300 flight qualified products launched and has been providing space qualified hardware for over 40 years!



CXS-2000
Transponder



communications
Telemetry & RF Products

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Spring Valley, CA 91978
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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.

General Manager's View



Steve Patten

General Manager
L-3 Communications
Southern California Microwave

L-3 Southern California Microwave (L-3 SCM) is led by **Steve Patten** who has been General Manager since 2002. Mr. Patten reflects on the current and future state of the Unmanned Aerial Vehicle (UAV) industry and L-3 SCM's position and technology base.

Question: What is the general difference between the transmitter/receiver products L-3 SCM makes and the similar products from your sister divisions at Telemetry-West/East?

Answer: L-3 SCM traditionally made products very similar and complementary to those once offered by Telemetry-West and Telemetry-East. We have always provided high quality, reliable true FM analog Video and Telemetry Transmitters, Receivers, and Power Amplifiers for use on Test Ranges throughout the services. However, over time, we have focused on applications that call for small, light weight, battery operated transmitters and receivers in the Law Enforcement and UAV Markets. Our units tend to be used in either covert operations or on Small and Micro UAVs which typically have a wing span of a few feet or less.

An emerging application for L-3 SCM's products is the Video Link to get cockpit targeting images to Forward Air Controllers. Originally, the F-18 and SNIPER Targeting Pods were looking at using "elegant" digital solutions to provide a video downlink to the Rover III Remote Video Terminal (RVT). Using our equipment, customers have made this video available for a fraction of the cost and development time initially projected. Seeing this success, other platforms have begun to adopt our equipment to communicate with the Rover and other RVTs.

Question: What changes in the UAV industry do you foresee over the next 3 - 5 years and how will L-3 SCM respond to them?

Answer: UAVs are becoming more integrated into the standard operation procedures of the military. This is causing tremendous growth, especially for small handheld UAVs. The Air Force's BATMAV program has just been awarded and there are ongoing requirements from the Marines and Army for the Raven Small UAV. Additionally, we see programs like the MAV and ScanEagle coming on line. As these additional resources are fielded, the services will continue to find new ways to effectively use the assets. L-3 SCM stands ready with products, both in the near and far term, which will provide spectral efficiency and new frequency bands, while maintaining the small footprint and power consumption we are known for.

Question: Finally, what are the biggest changes coming for L-3 SCM over the next 2 - 3 years?

Answer: We will offer new capabilities and we will grow. But, we will continue to provide products that meet our customers' system level requirements with the built in performance and reliability needed for mission critical assets. It is this long standing heritage that gives our customers the confidence to use our hardware.