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L-3 Telemetry-West

L-3 Telemetry-West (**L-3 TW**) is the world's premier provider of custom flight hardware and systems solutions for missile and spacecraft telemetry, tracking and control (TT&C), as well as tactical intelligence receivers, terrestrial HF/microwave radios and unmanned vehicle communication/data links.

Additionally, L-3 TW leads the telemetry and test industry in the design and manufacture of advanced real-time commercial-off-the-shelf ground hardware and software solutions for spacecraft command and control, satellite manufacturing and on-orbit operations, launch testing and monitoring, flight test, weapons test and development, surveillance and detection, and general-purpose data acquisition. All solutions are offered with complete systems engineering and integration services; backed by a global customer support organization.

The company has more than 50 years of experience in telemetry, radio and data acquisition technology and serves the world's major aerospace and telecommunications organizations.

Upcoming Tradeshows

AUVSI - Unmanned Systems

When: 10-12 June
Where: San Diego, CA

ISCe Int'l Satellite Comm. Exchange

When: 10-12 June
Where: San Diego, CA

Int'l Microwave Symposium

When: 16-19 June
Where: Atlanta, GA

NATIA Nat'l Assoc. Tech. Investigators

When: 14-17 July
Where: San Jose, CA

FOCUS - JUNE 2008

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

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



L-3 TELEMETRY-WEST BUSINESS AREAS

Airborne Telemetry — Data Acquisition Systems, Flight Test, Video Compression, Data Links

Ground Telemetry — Bit Syncs, Boards, System 550, Vista, VTS

Intel Solutions — Tactical Receivers

Radios — HF-SSB Systems, Microwave Radios

Space — Encryption, Transmitters, Transponders/Transceivers, High Powered Amplifiers, Satellite Command & Control Software

Excellence You Can Measure

Space Solutions



L-3 Telemetry-West Provides Satellite Command and Control Software for the Johns Hopkins University/Applied Physics Lab

SAN DIEGO, February 28, 2008 – L-3 Telemetry-West (L-3 TW) announced today that it has signed a contract with the Johns Hopkins University/Applied Physics Lab (JHU/APL) to supply core software for the Radiation Belt Storm Probes (RBSP) Mission Operations Center (MOC). The software is centered on L-3 Telemetry-West's *InControl* software product, a robust system designed to support satellite test and on-orbit operations. *InControl* will be the test executive for RBSP bench-level testing and Assembly, Integration and Test (AI&T), as well as the platform used for on-orbit operations.

L-3's *InControl* software was selected after a competition that included an on-site installation of a demonstration system at JHU/APL facilities. This installation gave RBSP MOC program engineers the opportunity to evaluate *InControl* while actually operating the software.

"The selection of L-3 Telemetry-West for the RBSP program shows *InControl*'s flexibility to operate in every phase of a satellite mission—from bench-level testing through on-orbit operations," said Jim Presnell, L-3 TW vice president of engineering. "We are extremely pleased to be participating in this exciting satellite mission."

L-3 Telemetry-West will provide *InControl* for all three phases of the RBSP program. Key features of the software include routine satellite fleet and ground station control, use of flexible open system standards, such as CORBA, Java and Linux, and single or multiple operator control of multiple entities. Archiving, archive retrieval and data analysis are also integrated within the functionality of the *InControl* software suite. Key features for test include straightforward database integration, rapid development and validation of test sequences and automated report generation.

InControl

"The selection of L-3 Telemetry-West for the RBSP program shows InControl's flexibility to operate in every phase of a satellite mission—from bench-level testing through on-orbit operations."

Jim Presnell

L-3 Telemetry-West
Vice President, Engineering

Programs with Our Products On-Board

C/NOFS – 16 APRIL 2008 WWW.SPACEFLIGHTNOW.COM

An experimental Air Force satellite designed to monitor the Earth's ionosphere and foresee impending communication disruptions was successfully deployed into space by an Orbital Sciences air-launched Pegasus rocket.

An L-1011 carrier jet hauled the winged rocket over the mid-Pacific Ocean at the U.S. Army's Reagan Test Site in the Kwajalein Atoll, then released the booster at approximately 1:01 p.m. EDT (1701 GMT) to begin an eight-minute ascent to orbit.

The three-stage rocket successfully delivered the Communication/Navigation Outage Forecasting System (C/NOFS) spacecraft into an elliptical orbit with a high point of about 525 miles and a low point of 250 miles, with an inclination traveling 13 degrees north and south of the equator.

"Everything went extremely well," Col. Stephen Hargis, director of the DoD Space Test Program, said in a post-launch telephone interview from Kwajalein.

The launch marked the 25th consecutive successful flight for the Pegasus over the past decade. C/NOFS is a joint project of the DoD Space Test Program, Space and Missile Center's Space Development and Test Wing and the Air Force Research Laboratory. General Dynamics built the satellite.

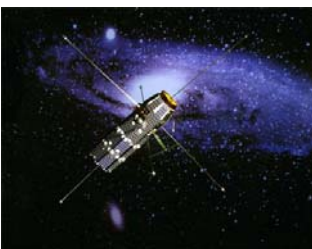
"It is an experiment, so AFRL is going to be running the payload, receiving the data and processing it and passing that to the warfighter," Hargis said.

Controllers plan to spend the next month checking out the satellite before a 12-month data collection mission commences to determine if the satellite instruments can help forecast the onset of the communication outages.

The combined cost of the satellite development and construction, the Pegasus rocket and the 13 months of in-space operations total about \$135 million, Hargis said.

It was a long road to get C/NOFS assembled and launched. Original plans called for the craft to fly several years ago.

L-3 Telemetry-West provided a CXS-810C (secure SGLS Transponder) and custom secure SGLS receiver.



An artist's concept of the C/NOFS satellite deployed in space. Credit: Air Force

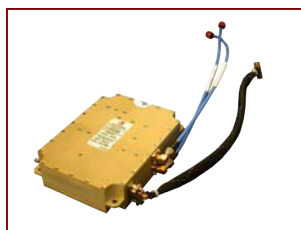
Airborne Telemetry Solutions

NOW AVAILABLE—NEW LINE OF HIGH POWER VIDEO TRANSMITTERS

L-3 Southern California Microwave (L-3 SCM) introduces an expansion to their line of high-power video transmitters. The VTX36CA Exciter in combination with the PA33C Power Amplifier provides two independent transmitter paths covering the 4400 - 5000 MHz and the 5250 - 5850 MHz C-bands, with each path capable of transmitting 55 Watts minimum RF output power.

The VTX36CA Exciter can also be used as a stand-alone transmitter when combined with an external Low Pass Filter, providing 15 Watts minimum RF output power in each band. Additional features are available such as a Data Subcarrier, Serial Programming, Dual Power, Built-In-Test, and Over-Temp Protection.

Typically used in applications requiring Full Motion Video to be transmitted over significant distances, the VTX36CA and PA33C deliver unmatched performance and reliability in a package that provides easy integration into a user's system.



VTX36CA Exciter



PA33C Power Amplifier





Intel Solutions

NOW AVAILABLE – USB ENTR (Embedded National Tactical Receiver)

L-3 Telemetry-West's **USB (Universal Serial Bus) ENTR** receives the Integrated Broadcast Service (IBS) UHF SATCOM signals. It simultaneously receives and processes four IBS channels, each of which can be IBS-Simplex, Tactical Data Information Exchange System Broadcast (TADIXS-B) and one channel of IBS-interactive. The channel scheme can be reconfigured dynamically without interfering with operations and USB ENTR provides isolation between channels to preclude mutual interference. USB ENTR is designed to interface to any host platform that has a USB port. With its small form factor the USB ENTR is ideal for use with a desktop or laptop computer.

USB ENTR interface software is compatible with all the mainstream message processing and control software. It is software-programmable allowing changes or improvements to be made by upgrading the firmware or software. These upgrades and new releases can be distributed via electronic media.

USB ENTR can be integrated in a variety of operational and tactical weapons systems cutting across service lines. USB ENTR can be used in intelligence and operation centers, in aircraft from tactical to support, mobile and maritime environments, as well as dismounted and special operations applications.



USB ENTR



Key Features

- Receipt of near real time intelligence
- Battlefield and situational awareness
- Threat assessment data
- Targeting and retargeting information
- 4-Channel Reception
- Software-Controlled
- Embedded Decryption
- USB Interface
- User Installable
- Embedded Firmware/Software Upgradeable via electronic media
- Crypto Programmable
- NSA Certification

L-3 GIVES BACK



L-3 TELEMETRY-WEST & SOUTHERN CALIFORNIA MICROWAVE RAISE THOUSANDS FOR THE AMERICAN CANCER SOCIETY

L-3 TW/SCM raised \$2,955 for the American Cancer Society Daffodil Days program.

The money raised helps the American Cancer Society provide assistance to those facing cancer, save lives, and empower people to fight back against the disease.

For more information see: www.daffodil.acsevents.org

*"Together, we are making a difference.
By giving daffodils, we're giving hope."*

The American Cancer Society

Daffodil Days

Give Daffodils. Give Hope.™



RECENT ACTIVITIES

L-3 TELEMETRY-EAST/GLOBAL NETWORK SOLUTIONS DEVELOPING ROHS EXPERTISE

L-3 Telemetry-East/Global Network Solutions (L-3 TE/GNS) took another step towards achieving full compliance with the Reduction of Hazardous Substances (RoHS) mandate from the European Union (EU). The commercial manufacturing team recently underwent training entitled "Lead Free Soldering in a Production Environment." Individuals involved in the sessions included personnel from Quality, Operations, Component Engineering, and Process Engineering. The training covered topics related to RoHS and lead-free compliant materials, processes, handling and inspection. Subsequent to the training, special manufacturing areas or "green-zones" have been created exclusively for work and re-work of RoHS assemblies. These lead-free zones are part of an effort to ensure that contamination does not occur on a certified board.

In conjunction with the training, new procedures have been adopted for handling, receiving, and inspecting RoHS components and assemblies. The Component Engineering group initiates this process by ensuring that only compliant parts are added to the bill-of-materials (BOMs). Certificates-of-conformance (C of C) are obtained for each component on the BOM. A state-of-the-art X-RF chamber, that provides the composition of individual components, is also used to perform further validation. The measured composition of a suspect part is compared to the allowable limits for the banned substances, to ensure compliance.

Although RoHS was intended for commercial products, the effect it has had on the supply-chain has been dramatic. As a consequence, many exempted telecom, medical, military and aerospace programs are now being forced to use RoHS parts. This has created an opportunity for companies like L-3 that serve the defense and aerospace markets to develop processes that use RoHS components but still meet the high reliability requirements of those programs. Techniques to mitigate or eliminate "tin-whisker" growth, component stress from high-temp processes, and other similar topics are being addressed by the team.



L-3 TE/GNS RoHS Team

L-3 TELEMETRY & RF PRODUCTS WELCOMES REPRESENTATIVES FOR SEMI-ANNUAL MEETING

Bristol, PA April 29th, 2008 L-3 Telemetry & RF Products (L-3 T&RF) welcomed 39 of its sales representatives from eight countries to its L-3 Telemetry-East/Global Network Solutions (L-3 TE/GNS) facility in Bristol, PA, for two days of in-depth product training and exchange of ideas on how to serve customers better. Our reps are our primary "face to the customer," and they brought their wealth of insight and experience to the meeting. Twenty-three members of L-3 T&RF Products staff, representing leadership, customer support, sales, and marketing participated in the event.

The meeting comprised ten individual sessions and provided training in every product line of the business. The training was conducted in small-group settings to allow for a full and open exchange of information. Sessions were also held for the reps to provide feedback to the L-3 T&RF Products leadership, based on experiences in the field.

Commitment to improving the level of service to our customers is our highest priority. In support of this, the "rep" meeting will now be held semi-annually.

"We are very fortunate to have a dedicated and talented network of sales representatives in the L-3 T&RF Products organization," said Marc Lienard, President of L-3 TE/GNS.



Glenn Flaherty Opens Session



Training in Progress

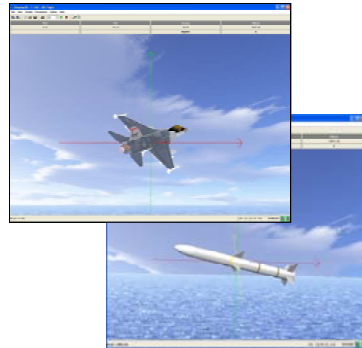
How do we measure up? www.L-3Com.com/TW/VOC



Ground Telemetry Solutions

NOW AVAILABLE - VISTA ADVANCED DISPLAYS (VISTA-DISP-ADV)

A bundle of four powerful advanced display options tailor Vista's visualization capabilities to exact mission needs.

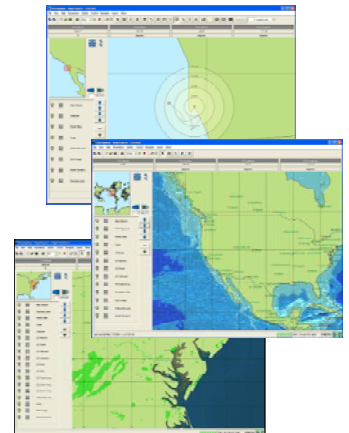


3-D DISPLAYS

- Realistic Test Article Display
- Pitch, roll, and heading
- Altitude Perspective
- Realistic Rendering and Rotation
- Import Standard Format 3D Models
- Interactively Change User Perspective
- Point of View and Zoom

MOVING MAP DISPLAYS

- **Show Vehicle Position and Track**
 - Latitude, longitude, and heading
 - Altitude numeric display
 - Interactively pan and zoom
- **Distance Tool**
 - Nautical Miles, latitude, longitude angle
 - Multiple points
- **Select Desired map Projection**
 - Mercator, Orthographic, LLXY, CADRG, Gnomonic
- **Import GIS Data**
 - Use GIS layers
 - Change layer ordering
- **Add User Drawing Layers**
 - Lines, text, polygons
 - Concentric circles and distances

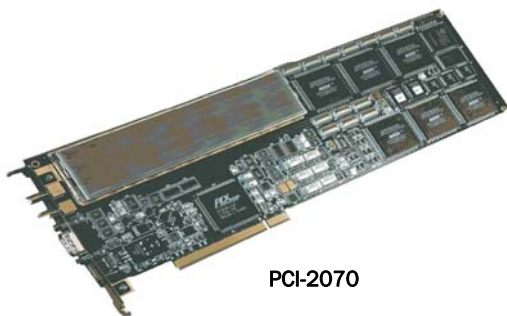


NOW AVAILABLE - PCI-2070

THE PCI-2070 Meets ALL CUSTOMER EXPECTATIONS

The development of the PCI-2070 is complete and the performance is meeting all of the specification requirements; the first two cards have been delivered to customers. The board has been re-spun to incorporate all the changes found during development and regression testing.

Cards are in stock and ready for immediate delivery!



PCI-2070

HIGHLIGHTS

- Two available configurations:
 1. Single band (1429-1550 MHz, 1700-1850 MHz, 2185-2485 MHz).
 2. Tri Band
 - Demodulators: FM, FSK, PM, BPSK, QPSK

CONTACT INFORMATION

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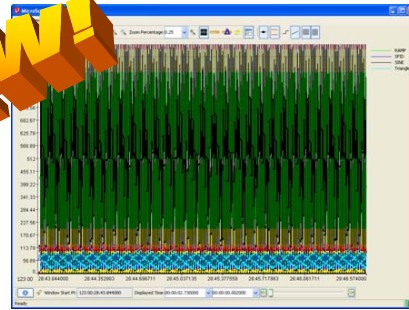
NOW AVAILABLE – VISTA MICROSCOPE

MicroScope Substitutes for MATLAB in Post-Mission Multivariate Analysis at Microsecond Resolution, with Print and Export Features

MicroScope is a powerful post-mission processing tool ideal for graphical viewing and analysis of pre-recorded high-frequency parameter data. Plot multiple parameters in a single strip chart or in a series of stacked strip charts, then manipulate and compare parameter data against a common time axis. Progressively zoom in to examine specific data points in precise detail by specifying a time interval with microsecond resolution.

HIGHLIGHTS

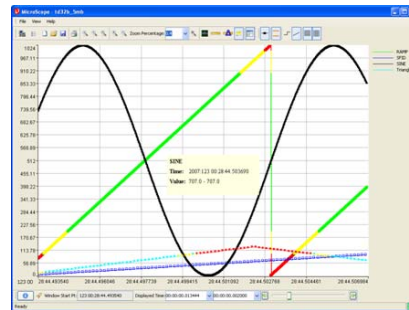
- View very large data sets on any time scale
- Zoom into a few desired data points among millions
- Search by time or parameter value
- Track up to 8 parameters simultaneously on 1 display
- Correlate time using datagram header, time table header, or IRIG time words
- Use a common strip chart or several stacked charts
- Measure delta values and times between data points
- Overlay ruler control for precise point-in-time values



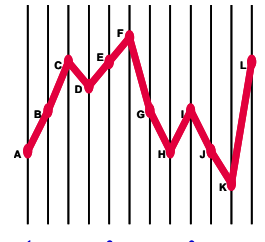
Original Data Set (Unscaled Time Axis)



Original



Identical Data Set (Adjusted Time Axis)



Adjusted Time Axis



VISTA'S JAVA DISPLAY ENGINE—JADE

Vista's Java Display Engine application uses standard drawing application style features to create objects that are animated and driven by Vista parameter data.

- Interactively design your view and monitor live data simultaneously
- Rich set of drawing primitives and graphical display widgets – Drag and drop parameters to instantly animate displays with live data
- Add custom data display widgets and external data sources
- Jade Core – Develop your own custom data display applications
- Jade View Widget – Easily integrate finished displays into any Java application



HIGHLIGHTS

- 100% JAVA
- WYSIWYG drawing interface
- Monitor data while you draw
- Easily configure widgets
- Extensible widgets
- External data sources
- Integrate into custom applications

APPLICATIONS

- Real-Time Telemetry Processing
- Avionics Test Prototyping
- Multivariate Data Analysis
- PCM/MIL-STD-1553/ARINC429
- Environmental Simulation

SUPPORT PLATFORMS

- Windows 2000/XP
- Linux

L-3 Telemetry-West

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L-3 Telemetry-East/Global Network Solutions

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Bristol, PA 19007
Phone: 267-545-7000
Website: www.L-3Com.com/TE
www.L-3Com.com/GNS



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



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, telecommunications products, and specialized networks.

President's View

L-3 Telemetry & RF Products is led by Burt Smith, who has been president since 2002. We asked Mr. Smith to reflect on a variety of topics.



Burt Smith

President
L-3 Telemetry & RF
Products

Question: Defense budgets are tight. What is the impact to your business portfolio?

Answer: L-3 Telemetry & RF Products is a diversified group with products and services across eight different market segments. We service the defense, civil and commercial markets both domestically and internationally. When any one market area has a budget decrease, many of our other areas show increases. So we try not to be too dependent on one particular segment or customer set.

Question: What value do you place on trade shows? Where does your group use trade shows as a marketing tool?

Answer: We make every effort to select the right events that correspond with our product specialties as well as events that have the right audience in attendance. We try to avoid the events where our customers are the minority. That said, we do participate in over twenty such events each year and with multiple customer meetings held at each venue, we ultimately save travel money.

Question: In prior issues you've discussed the growth within the L-3 Telemetry & RF Products Group. What's next?

Answer: We're always looking at growth opportunities in existing markets, adjacent markets, and new markets. We try to strike the right balance between high/low risk/payoff opportunities. But most of all, we try to provide what our customers need. We're here to solve their problems.

Question: You've got facilities on both the East and West coasts. Is there any plan to consolidate these facilities into one location?

Answer: No. Although we're always looking for ways to work together across long distances, we have no plans to move any of our facilities.

Question: It's an election year. Any predictions?

Answer: The World Series may be more predictable. But however the elections turn out, L-3 Telemetry & RF Products is diversified and ready to respond to market ups/downs. We're here to support our customers for the long haul.

"We're here to support our customers for the long haul."
