Series-5000/Omega NEExT
Network Extensible Telemetry Systems

Smartronix
Telemetry and Data Systems
The Series-5000 telemetry hardware platform is a fifth generation architecture leveraging over twenty-five years of experience and thousands of mission critical telemetry systems delivered worldwide. Based on a commercial off-the-shelf (COTS) open architecture the Series-5000 triple bus design delivers unprecedented speed, configurability and precision.

**SERIES-5000 REAL TIME SYSTEMS**
- Rack Mount
- Native Chapter 10
- Server & Stand-Alone Configurations
- Triple Bus Design
- Up to 16Gbps Data Bus
- 64-bit or 32-bit Operating Systems
- Multi-Core CPUs
- Full Complement of I/O
- RAID, SAN & NAS Archive

**DATABLOCK**
- Portable Battery Powered Ground Station
- Member of DataBrick Family
- 60Mbps Dual Channel Bit Sync & Decom
- Unlimited Embedded Async Processing
- Chapter 10 Ethernet Output
- IA Friendly Firmware Based Design

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**X-5000 NETWORK APPLIANCE**
- Dual Channel PCM Network Appliance
- Chapter 10 Ethernet Output
- Stand-Alone, Rack Mountable, Distributable
- 60Mbps/Channel Bit Sync & Decom
- Unlimited Embedded Async Capability
- IA Friendly Firmware Design
- Low Power, Small Footprint (1U x 12” x 7”)
- Optional Local Output
  - Low Latency DACs
  - CVSD Voice
  - Video
  - Custom

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**NExT Network and Software Services Bus**
Service Oriented Architecture (SOA)

**High Speed Chapter 10 Data Bus**
4Gbps to >16Gbps

- PCM
- Analog
- Video
- Voice
- Network
- Avionics
- Custom

**High Precision Chapter 10 Time Bus**
Sub Microsecond Accuracy

- GPS
- IRIG A, B, G
- IEEE-1588, NTP
SERIES-5000/Omega NExT Telemetry Systems offer an unmatched blend of power, ease of use, flexibility, and affordability.

Building on a native 64-bit multithreaded, multi-core architecture, the intuitive user interface enables users to rapidly configure an unlimited range of processing configurations in minutes.

Intuitive User Interface
Based on a project-oriented design, the NExT user interface steers you through the configuration of your system from beginning to end with simple, easy to use design.

Multi-Threaded & Multi-Core
Speed & scalability are fundamental to the design philosophy of NExT. Able to use 64 or more cores to process data, NExT establishes new benchmarks for speed in the real-time and post-processing domains. Imagine being able to process at data rates in excess of 100 million parameters per second.

Service Oriented Architecture
NExT is designed from its foundation to be a Service Oriented Architecture solution to telemetry processing. Leveraging IT infrastructure it can easily be deployed and provisioned in virtualized environments across the extended enterprise.

Native 64-Bit
Built from the ground up as a Native 64-bit application, NExT is able to leverage tens of gigabytes of memory at rates unheard of with legacy systems. Moreover, challenging double-precision math is no longer an issue making many complex derived parameters a thing of the past.

Visual Processing
NExT offers an incredible pallet of built-in drag and drop libraries for input format conversions, masking, bit concatenation, logic, math, trigonometry, as well as the ability to include an unlimited array of user defined functions. And every step of the data processing is visible and available to other parameters and displays.

Scalable
NExT can be scaled from a simple single stream checkout system, to a full-blown mission control center, all using the same software. Using soft license key technology users can rapidly upgrade their systems simply by purchasing advanced features and enabling them via a new software key.
NETWORK EXTENSIBILITY

No longer is your telemetry infrastructure bound to point solutions. If your test requires assets to be deployed over a wide geographical area, the Series-5000 will deliver unprecedented capability to integrate and merge dispersed data sources in real-time and post mission.

Clarity Display Software

Using the latest vector display technology, Clarity delivers new levels of richness and depth. Clarity Builder allows display designers to quickly define the ultimate user experience. Clarity Clients allow users to view their data and interact with their displays in real-time or playback.

All Clarity displays are open source and are shared/distributed freely via the online Clarity Builder user group. Clarity Clients are free and can be deployed on any desktop. The only items to buy are Clarity Builder, which is used to build and configure displays, and as many Clarity Server Connections as needed. All Series-5000 Server platforms come pre-bundled with a set of Clarity connections.
Smartronix Telemetry and Data Systems Products

REAL-TIME TELEMETRY SYSTEMS & SOFTWARE
- Complete telemetry ground stations
- DataBrick™ portable battery-powered telemetry systems
- Card-level and rack-mount bit synchronizers
- Best source/data selectors

HIGH SPEED RECORDER/REPRODUCERS
- IRIG-106 Chapter 10 format
- PCM, Analog, Video, MIL-STD-1553, ARINC-429, & others
- Integrated real-time processing, best data engine & receivers
- Remote control operation

TELEMETRY RECEIVERS, COMBINERS & DEMODULATORS
- Multi-band: S, L, P, and C-bands available
- ARTM tiers 0, 1 & 2
- Rack-mount, Receiver Brick™, card-level
- Remote control operation

DATA MINING, MANAGEMENT & POST-PROCESSING
- Scalable from desktop to the enterprise
- Search terabytes of raw data in milliseconds
- Permitted access security protection
- Any file format in & any file format out including Matlab and Excel

Telemetry and Data Systems Heritage

Smartronix®, Inc. is a highly reputable information technology and engineering solutions provider specializing in Mission-Focused Engineering, NetOps, Cyber Security, Cloud Computing, Enterprise Software, and Health IT. In today’s demanding and ever-changing technology and warfare landscapes, we continue to provide innovative solutions through our in-depth experience in global and complex enterprise environments and rapid, mission-critical engineering capabilities. Founded in 1995 and headquartered in Maryland, Smartronix has 11 operating offices with more than 600 employees throughout the U.S. and at strategic locations worldwide.

The Telemetry and Data Systems (TDS) business unit was acquired in 2013 and is a world-class provider of telemetry receiving, processing, recording, archiving, and mining solutions to government and industry on six continents. Our range of applications includes flight test, laboratory test, operational test, simulation, satellite command and control, and launch vehicle command and control. Major TDS milestones include:

- 1984 — The first PC-based telemetry system
- 1990 — The first COTS processor-based UNIX/VME telemetry system
- 1998 — The first high performance PCI-based telemetry system
- 2002 — The first battery-powered miniature USB telemetry front end
- 2004 — The first data mining system for large, complex parametric data sets
- 2007 — The first fully integrated 4U rack-mount Chapter 10 ground station in one box
- 2010 — The first native 64-bit, multicore, network extensible, PC-based real time telemetry system

Smartronix products offer our customers unmatched performance and exceptional value backed by global engineering, sales, service, and support.

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