Multi-platform Data Acquisition System - DRS Technologies is a recognized leader in Condition Based Maintenance (CBM) and Vehicle Health Management System (VHMS) markets. DRS adds to this leadership the BlueRing® Data Acquisition Controller, which is an off-the-shelf product line developed to meet the data acquisition, processing, storage, and diagnostics needs of a broad array of DoD CBM+ and VHMS initiatives.

- Multiple discrete processors allow for simultaneous real time data acquisition
- Graphics co-processor provides near zero latency video support
- Acquisition of data within one second of power application to see critical information during OS boot time*
- Low power monitoring provides battery monitoring and periodic environmental checks while the vehicle is off-line*
- Single board computer can host Linux and WinCE applications
- USB powered memory port allows upload and download of data without powering up vehicle

- Multiple video switching distributes graphic information, like health and utilization to display where it is needed

The BlueRing® family of products build upon the data acquisition, collection, processing, and storage capabilities of other DRS products and adds a multitude of additional data acquisition resources. This comprehensive set of capabilities provides a seamless growth path for VHMS data acquisition at a lower cost and lower size, weight, and power consumption.

The BlueRing® product family consists of a stand-alone Line Replaceable Unit (LRU) version and a VME circuit card assembly version. All product variants use the same architecture and common board support packages, which allows it to support cross-platform applications. Designed to grow and adapt to current and future needs, the BlueRing® offers the flexibility needed for CBM and VHMS on the modern battlefield.
HIGHLIGHTS

• Three independent processors
  – Xscale application processor @ 400MHz
  – DSP @ 75MHz
  – NXP 2368 microcontroller @ 75MHz
• Graphics Co-processor
• Ultra low power monitor mode with wake up option*
• Linux or Microsoft® Windows® CE Real-Time operating system.
• USB powered data upload or download via memory port
• Graphics matrix video switching and overlay support
• Integrated Mil-spec power supply in rugged water proof enclosure

ANALOG INPUTS/OUTPUTS

• Up to 60 analog measurement channels for sensor interfaces and DSP processing
• 6 Dynamically adjustable sensor excitation analog outputs

COMMUNICATIONS INTERFACES

• 3 - CAN 2.0b/J1939
• 1 - Optional dual redundant MIL-STD-1553 with instant on Bus monitor capability
• 1 - 10/100 BT Ethernet IEEE 802.3
• 1 - RS422, 2 - RS485, 3 - RS232
• 2 - SAE J1708
• 3 - USB (Host, Function, Memory Port)
• 1 - IEEE 802.15.4 (ZigBee® Capable)
• 2 - I2C
• 8 - TTL GPIO ports
• 1 - Audio input, 1-audio output
• PCMCIA Slot for expansion capabilities such as 802.11 WIFI

VIDEO CAPABILITIES

• 7 - RS-170 NTSC video inputs switchable to 5 outputs (LRU version)
• 4 RS170 video outputs switchable to 1 RGB (VGA/ SVGA) video output
• Dedicated video co-processor capable of graphics overlays on a single channel at a time
• Optional integrated 8.4 inch TFT LCD with touchscreen (LRU version)

POWER

Input voltage: 16-32 Vdc
Input current @ 24 Vdc: 0.6 Amps typical (1.25 Amps max)

ENVIRONMENTAL

Operating Temp -40°C to +71°C
Shock per MIL-STD-810
Submersion (LRU version) 1.0m (for 4hours)
MTBF 15,000 hours @ +30°C

PHYSICAL (LRU)

Length 9.625 inches
Width 6.75 inches
Height 2.15 inches
Weight 5 lbs
Cooling Conduction/Convection

PHYSICAL (VME)

Size 6U VME64x card
Weight 2 lbs
Cooling Conduction/Convection

* Feature in development and testing

* Specifications subject to change without notice. Export of the commodities described herein is strictly prohibited without a valid export license issued by the U.S. Department of State, Directorate of Defense Trade Controls, prescribed in the International Traffic in Arms Regulations (ITAR), Title 22, Code of Federal Regulation, Parts 120-130.