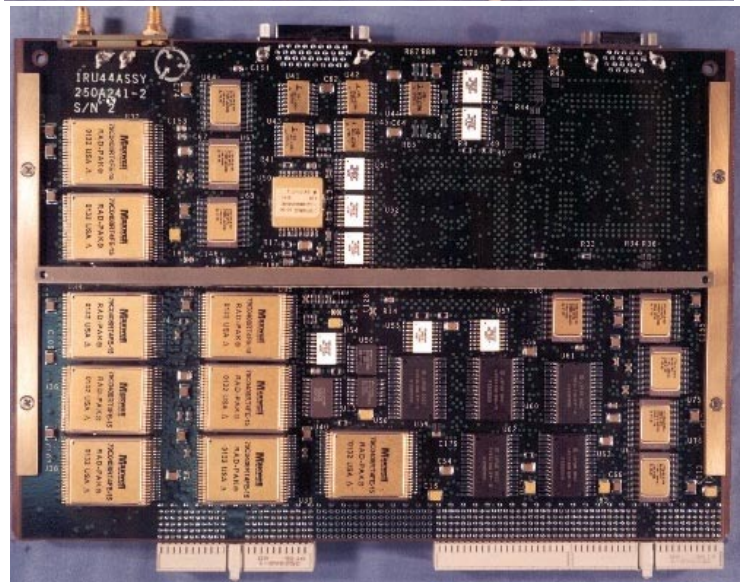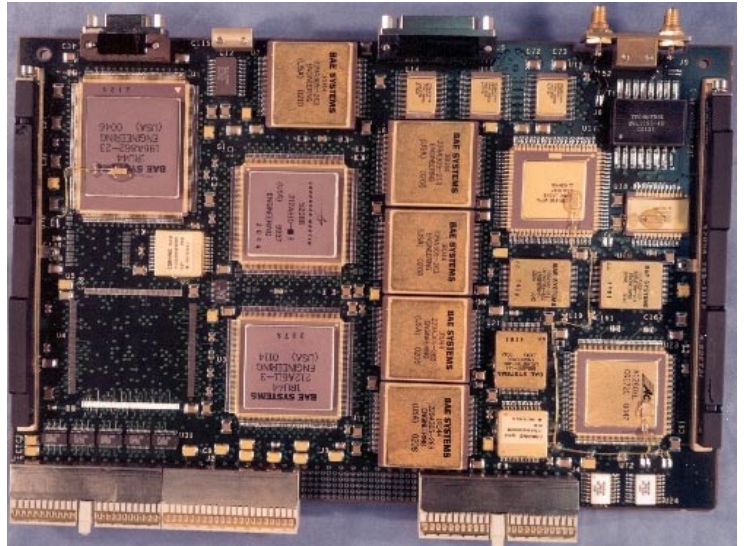# RAD6000 Single Board Space Computer in CompactPCI® Form Factor

BAE SYSTEMS announces a RAD6000 based 6U CompactPCI standard single board computer, available in two configurations. The CompactPCI board employs the RAD6000, the 25 MIPS radiation hardened version of the RS/6000, the predecessor to the PowerPC™. A companion interface ASIC, called the LIO, provides access to 8 Mbytes of error corrected SRAM main memory, 4 Mbytes of Local EEPROM, 512 Kbytes of error corrected Start-up ROM, MIL-STD-1553B transformer coupled interface and the PCI version 2.0 backplane bus. A 16550 compatible UART interface with RS-422 drivers and receivers is also provided. An on-card FPGA provides additional status, discretes and serial interfaces via the backplane connector, but it may be reconfigured before delivery to meet unique user applications.

The engineering configuration incorporates engineering grade components, identical to those of the flight unit, that do not undergo environmental screening. These boards are for use in support of on-orbit troubleshooting or spares. The flight configuration undergoes standard flight acceptance testing prior to shipment. Flight units and engineering units are both provided with as-built manufacturing records and test results.

Start-up ROM and a VxWorks Board Support Package are provided with both board configurations. Hardware reference manuals and a software user's guide are also provided, and downloadable versions are provided via the RAD750™ website.

I/O cards and memory cards developed for the RAD6000 family are also fully compatible with the RAD750.
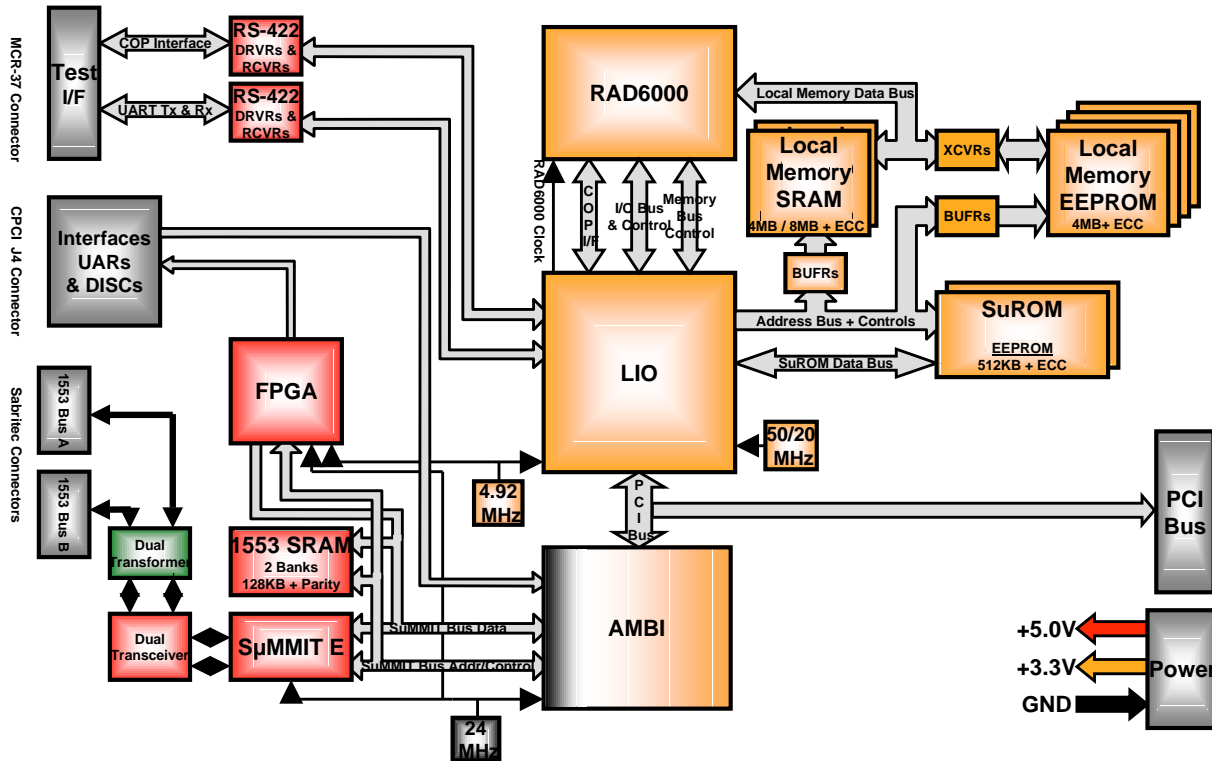
Part Numbers:

- 250A242 Flight configuration
- 250A241 Engineering configuration

BAE SYSTEMS in Manassas, VA. is a leader in the design, development, and manufacture of electronic systems for defense, civil, and commercial markets.

For product information, contact us at 1-800-RAD750s or by e-mail at rad750.manassas@baesystems.com

June 2002

Functional Block Diagram

Specifications

Form Factor	*CompactPCI 6U (233 mm x 160 mm.)* *Weight: 849 grams*
Processor	*RAD6000 25 Dhrystone 2.1 MIPS @ 25 MHz.*
Radiation Hardness	*Total Dose > 100 Krad (Si)* *Latchup immune* *SEU rate < 1E-5 upsets/day @ 90% GEO*
PCI Backplane Bus	*32 bit, 25 MHz., PCI version 2.0*
Power Supply	*3.3 V + / - 5%* *5.0V + / - 5%*
Power Dissipation	*Less than 7.5 W*
Rail Temperature Range	*-30ºC to +65ºC*
Mean Time Between Failures (MTBF)	*Greater than 375K hours*

BAE SYSTEMS

An ISO 9001, AS9000,
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CompactPCI is a registered trademark of the PCI Industrial Manufacturers Group

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