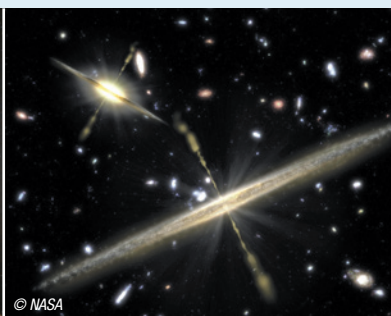




Integrated Avionics Unit

Moog Broad Reach designs 3U-based advanced avionics systems for spacecraft and payload applications. We offer solutions for C&DH, EPS, integrated C&DH & EPS, and payload applications. Design options include single string and redundant systems. All avionics leverage heritage systems with tailoring and/or new designs as needed to meet mission requirements. All Avionics designs adhere to the highest standards in space flight hardware design. Moog Broad Reach hardware uses all space qualified parts (unless special requirements dictate otherwise) and design methods tailored specifically to space flight environmental and functional requirements.



Integrated Avionics Unit

Key Capabilities

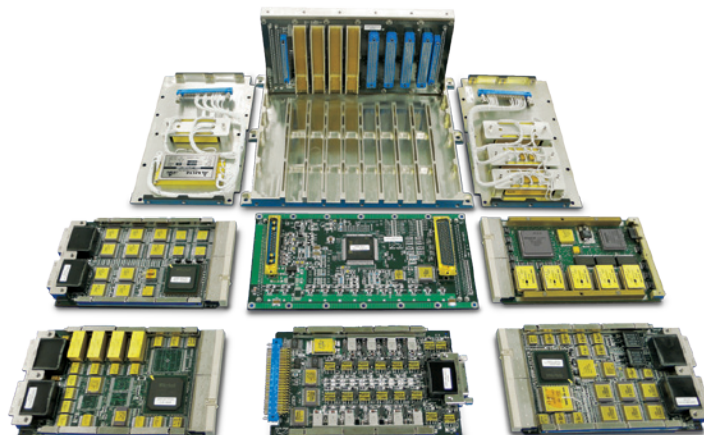
- BRE440 Based Processor Board
- CPU Board has 512 Mbytes DDRAM, 512 kB EEPROM
- Solid State Recorder Boards with 6 GBytes of Shared SDRAM
- 16 MBytes Flash Memory with TMR
- 3U Form Factor, 33/66 MHz, 32/64bit PCI Bus I/F
- 24 RS-422 Receiver – Transmitter I/Fs
- 2x 640 Mbps LVDS I/F
- 32 Digital, 8 High Voltage Discrete Inputs
- 24 Digital Discrete Outputs
- Autonomous SOH Data Acquisition 64 Analog Channels
- 12-Bit A/D Converter
- Uplink H/W Command Decode
- Variable Downlink Rates, CCSDS, SGLS & Other Formats
- EPS Supports 48x 5 Amp and 9x 25A 28V Switches
- Total Current Supported max 30A
- Battery Charge Management, Current Set Points, VT Option
- Solar Array Interface for 8 Segments ~300 W
- All Parts SEL Immune
- SEU Mitigated Design
- Al, Magnesium, or Composite Chassis
- 100 kRad Option

Typical Integrated Avionics Unit

- <5 kg
- <32 W @ 28V
- 750 W Solar Array Input
- 90 Power Switches
- 32-Ch RS-422
- MIL-STD-1553 BC/RT
- High-Speed LVDS I/O
- 12-Bit A/D
- 112 Analog Inputs
- 16 MB NVRAM
- 512 MB SDRAM
- 512 MB DDR RAM
- >266 MIPS/266 MFLOPS CPU
- CCSDS Cmd/Tlm Support

Typical C&DH Avionics Unit

- <3 kg
- <25 W @ 28 V
- 24-Ch RS-422
- CCSDS or SGLS Support
- MIL-STD-1553 BC & RT Support
- 12-Bit A/D
- 64 Analog Inputs
- 16 MB TMR FLASH
- 512 MB DDR RAM
- >266 MIPS BRE440 SoC
- 30 kRad (100 kRad Option) - SEL Immune



Exploded view of a typical 1kW Integrated Avionics Unit including a BAE RAD750 processor board



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