INTEGRATED AVIONICS UNIT

Moog's Integrated Avionics Unit (IAU) offers solutions for Command and Data Handling/Electrical Power Subsystem (C&DH/EPS) for a full range of spacecraft and payload applications. Configurations include single string and redundant systems. The IAU leverages TRL-9 legacy heritage with options for tailoring and/or customized new designs to meet mission requirements. The IAU is optimized for orbit and radiation requirements and utilizes traditional EEE parts in Level-1, -2, and -3 part grades.

KEY CAPABILITIES

- Integrated C&DH and EPS Sub-System Functionality
- Supports all Sub-System Interfaces:
  - Telemetry, Tracking, & Command (TT&C)
  - Guidance, Navigation, & Control (GNC)
  - Payload
  - Power Distribution
  - Power (Solar Arrays and Batteries)
  - Propulsion
  - Thermal
  - Structures and Mechanisms
  - Launch Vehicle and Ground Support
- Modular and Scalable 3U Form Factor based Architecture
  - Single Board Computer (SBC) with Mission Specific I/O Boards
- SWaP (Dependent on # I/O Boards)
  - Size: Up to 25 x 21 x 12 cm
  - Mass: Up to 8.3kg
  - Power: Up to 37 W (IAU) and 3,000 W (System)
- Orbits: LEO – GEO, Lunar, Interplanetary
- Mission Life
  - Single String: Up to 10 Years
  - Redundant: Up to 15 Years
- Environment: GEVS
- EEE Parts: Level 1, Level 2, Level 3
  - SEL Immune, SEU Mitigated Designs
- BRE440 SBC Based Processor Board
- Uplink Hardware Command Decode
- Variable Downlink Rates and formats (CCSDS, SGLS…)
- Flash or SDRAM based Mass Memory
- Battery Charge Management
- Robust Safety and Fault Interlocks
- Dead Bus Recovery / EOL Disposal Capability

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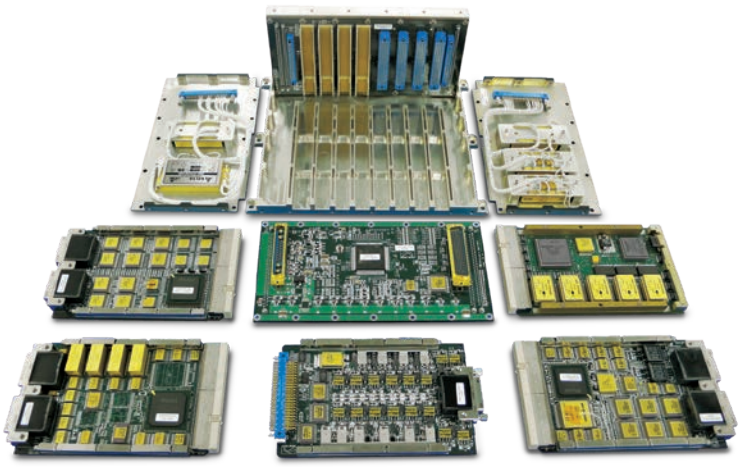

IAU FEATURED SUMMARY

Feature	Specifications	Feature	Specifications
CPU	SBC with on-board memory	+28V Power Distribution	Solar Array Interface
	CPU Boot Memory (EEPROM, KB) - TMR		Battery Charge Management
	CPU System Memory (SDRAM, MB) - EDAC		Current Monitoring
	CPU FSW Storage (FLASH, GB) - TMR		28V Switch Over Current Trip
Payload Processing	Payload Processor Support		28V Arm/Fire Switches (7.0A)
Data Storage	IO Buffer Memory (SDRAM, MB)		28V Arm/Fire Switches (5.0A)
	IO Buffer Memory (SRAM, MB)		28V Arm/Fire Switches (2.0A)
	IO Buffer Memory (FLASH, GB) - TMR or ECC		28V Fire-Only Switches (50.0A)
Communication Interfaces	10/100/1000BaseT Ethernet		28V Fire-Only Switches (30.0A)
	MIL-STD-1553B		28V Fire-Only Switches (20.0A)
	SpaceWire		28V Fire-Only Switches (10.0A)
Digital IO	Total LVDS/RS-422 Transmitters		28V Fire-Only Switches (5.0A)
	Total LVDS/RS-422 Receivers		28V Fire-Only Switches (2.0A)
	Total CMOS Bi-Level Outputs		28V Fire-Only Switches (1.2A)
	Total CMOS Bi-Level Inputs		28V Thruster Driver Switches
	DeSerializers		28V HLD Switches (0.2A)
Analog IO	Analog Voltage Inputs (+/-10V)		28V H-Bridges (Torque Rods)
	AD590 Temperature Inputs		+5V Power Output (IMU Support)
	PRT/Thermistor Temperature Inputs		+/-15V Power Output (IMU Support)
	Coarse Sun Sensor Inputs		3-Phase Motor Control
GPS	GPS Receiver with dual inputs	+28V Power Distribution	28V EMI Filtering
			28V DC/DC Converter (+3V, +5V, ±15V)

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