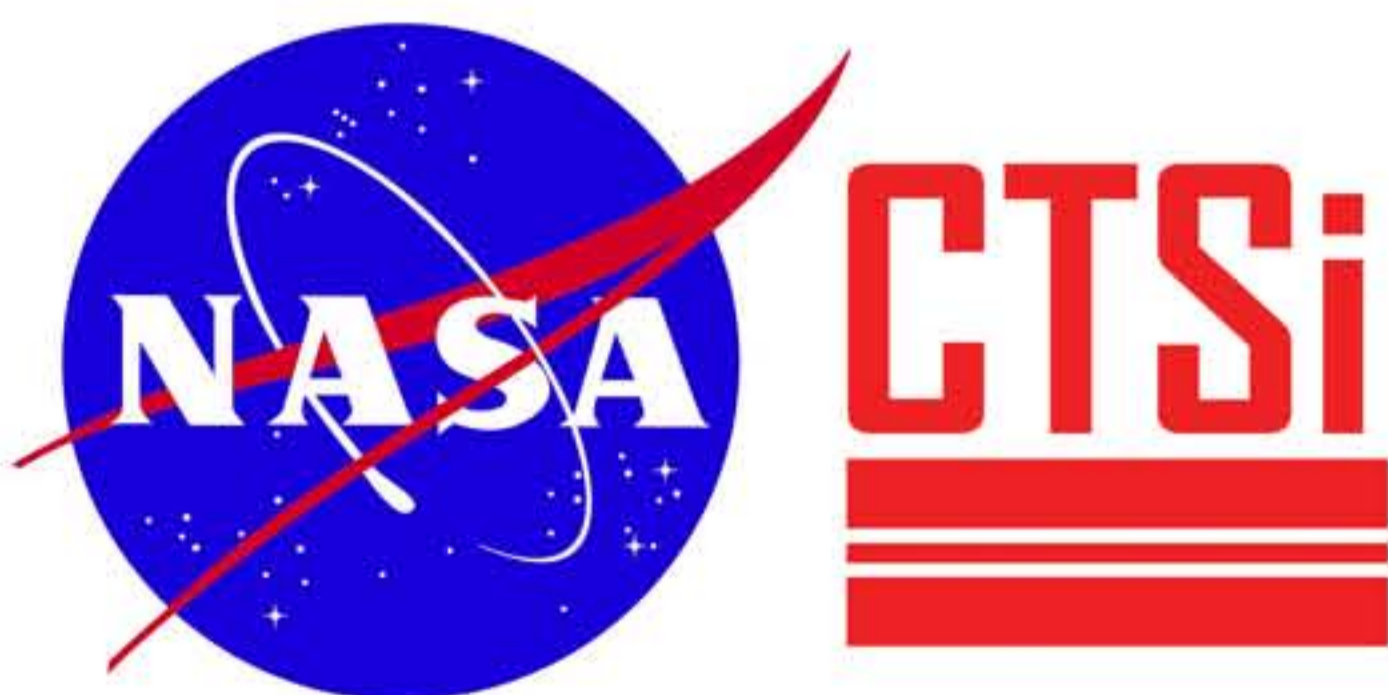
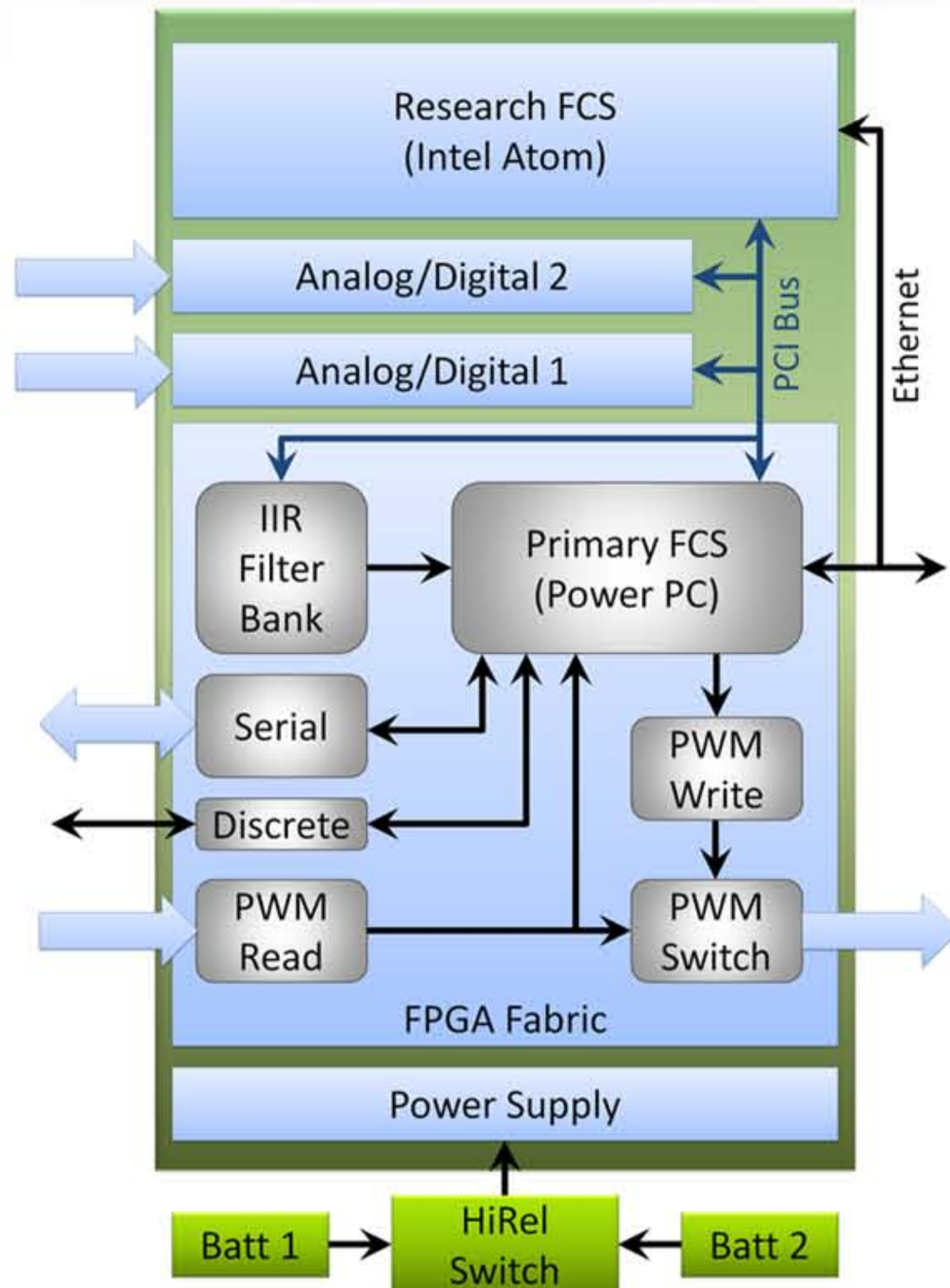


ASROV™

Avionics System for Remotely Operated Vehicles



The ASROV is an open-architecture, open-source, high-throughput instrumentation and control system built on the PCI-104 hardware platform. ASROV by design meets the demanding needs of unmanned aircraft research programs and can be readily adapted to the universe of potential applications within the RDT&E community.

ASROV integrates multiple processors with high-density analog, serial, and digital interfaces that can be rapidly configured by the customer to integrate sensors, data links, and PWM-based servo actuators. The design features multiple safety partitions to enable rapid integration of software and algorithms from multiple disparate sources without affecting safety-critical functions.

Serial stream parsing and encoding are configured using XML in text file or table format, or by direct source-code editing. New serial devices can be fully integrated within a matter of days. ASROV implements the Point-to-Point Protocol (PPP) protocol over serial, enabling customers to rapidly build custom messages with definable priorities for transfer over any commercial serial data link. Pre-built parsers are available for the Rockwell GuS and Gladiator Landmark AHRS/IMU devices, as well as the NASA Mobile Operations Station (MOS) control and telemetry messages. Future releases are anticipated for STANAG 4586 and IRIG-106 data formats.

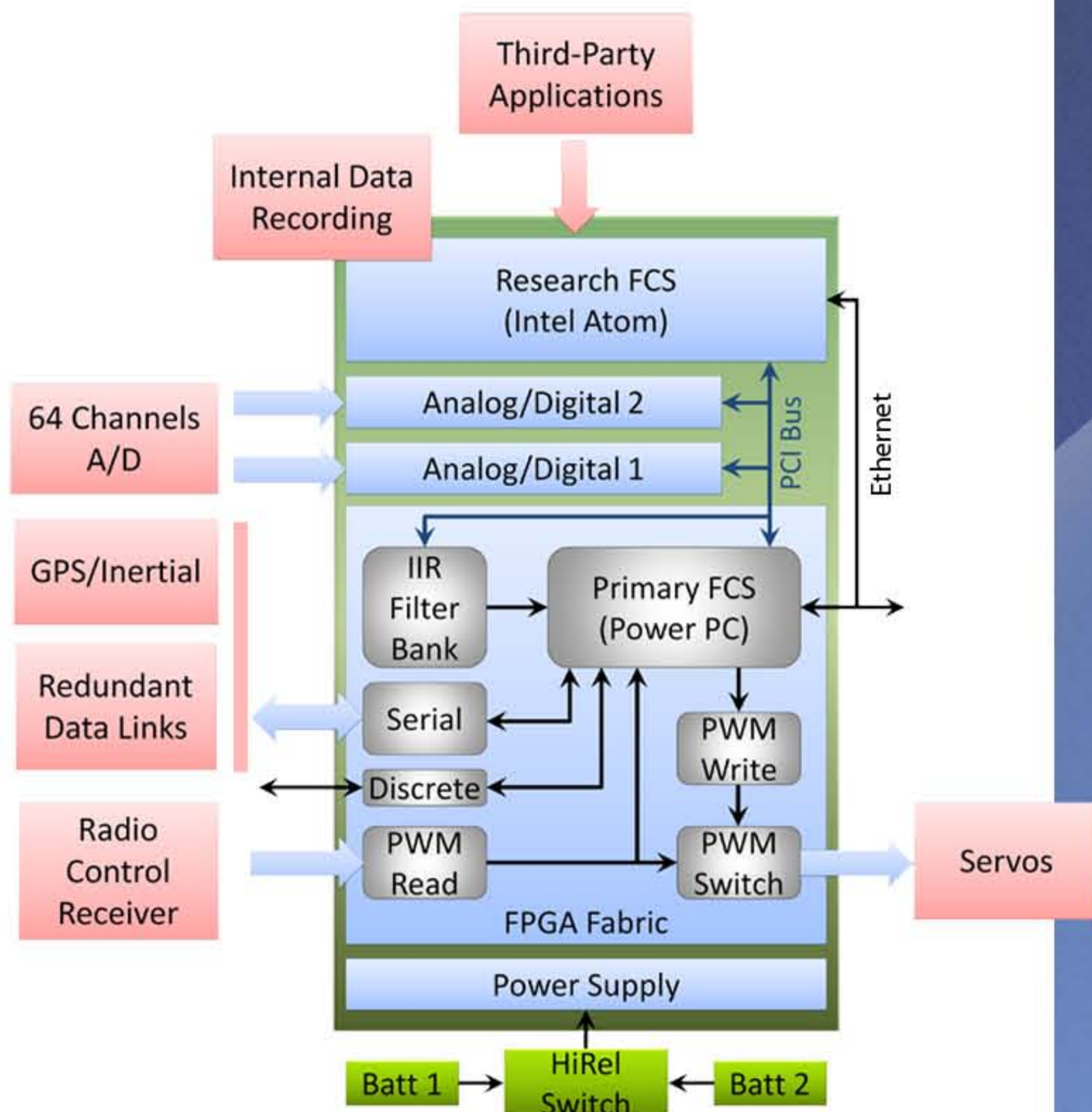
Customers are provided all source code and can write software from the device-driver level all the way up to complex applications built in the Simulink® environment. For users accustomed to writing in Simulink®, ASROV strives to provide true "pushbutton" operation. Users with a Real-Time Workshop® license from the Mathworks™ can generate their code in ANSI-C, which plugs right in to the ASROV source code library.

ASROV Product Line Manager
Coherent Technical Services, Inc.
46591 Expedition Drive, Suite 300
Lexington Park, MD 20653
(301) 880-3341
www.GoCTSi.com
asrov-info@gocpsi.com



Features Specifications Benefits

ASROV™



Ordering Information

ASROV-1 Single A/D Board (32 ch)	ASRV08-02
ASROV-2 Dual A/D Board (64 ch)	ASRV08-03
Software	Open Source



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Up to 64 channels each of PWM input and output	Reprogrammable to user-defined channel density
PWM Switch in FPGA hardware	Safety-critical switching of commercial PWM signals between external pilot and automation
PWM update rates up to 275 Hz (50 Hz default)	Full performance with advanced digital servos
32 channels differential analog input per A/D board 200 ksp raw, 30 ksp block rate, programmable FPGA-based IIR digital filter per channel	High density, high sample rate, low latency A/D Hardware-based filtering eliminates filtering load to system CPUs
RS-232 (2), RS-422 (2) and RS-485 serial available Table- and XML-based configurable parsers	New serial devices can be integrated reliably in a matter of days with little or no software coding
10/100/1G Ethernet	Network enabled instrumentation and control
8 GB on-board Flash memory	Several hours persistent recording time for typical high-throughput applications
PowerPC and Intel Atom CPUs running Linux with Real-Time Extensions	Widely used programming platform with common open-source tools
Latency less than 25 nsec PWM pass-through, less than 1 msec serial IMU-to-PWM command register	Fast response times and low latency
FCS Update rate 200 Hz (1000 Hz demonstrated)	High throughput sensing and control
Temperature	-20C to +65C
Shock and Vibration	COTS qualifications suitable for rapid prototyping
Enclosure	5.5" (W) x 5.75" (H) x 7" (L)
Weight	3 lbs
Power	Max 6 Amps at +5VDC

