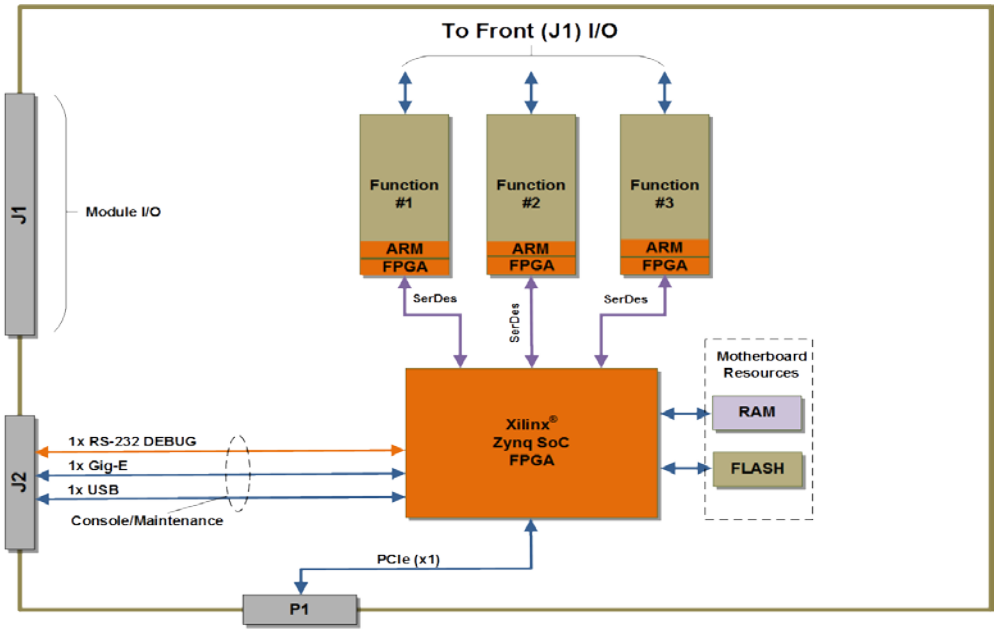
79G5 PCIe Multifunction I/O & Communications Board

Three I/O and Communications function module slots –
Over 70 different functions to choose from

Configure to Customize

The 79G5 is a full-height, half-length PCIe board that can be configured with up to three NAI smart I/O and communication function modules. Ideally suited for commercial laboratory and testing environments, the 79G5 provides measurement, simulation and communications functions that can be configured for your requirements.



Features

- Up to 3 independent smart I/O function modules supported
- Front high density rugged Micro-D I/O receptacle connector
- Independent internal x1 SerDes interface to each function module slot
- Continuous Background Built-in-Test (BIT)
- PCIe 2.0 (x1), (up to 5 GT/s)
- Single slot, full height, half-length PCIe 4.2” (107 mm) h x 6.6” (175 mm) l (env.)
- Low power dissipation (< 3.5 W (typ. For motherboard) plus module power)
- Maintenance/Console interface includes:
  1x Gig-E, 1x RS-232 and 1x USB
  (pending) Dedicated mini-HDMI type-C receptacle
- COSA® Architecture
- Intelligent NAIBrd I/O library and API support included
- Operating temp: 0° C to +70° C

Select up to 3 independent functions for your application

I/O		Measurement & Simulation	
A/D	±1.25 VDC to ±100 VDC or 0-25 mA; 16 or 24-Bit; 12 or 16 Ch.	Synchro/Resolver-Digital	16-Bit; ±1 Arc-Min accuracy; 4 Ch. (Measurement)
D/A	±1.25 VDC to ±80 VDC or ±25 mA to 100 mA; 16-Bit, 4-16 Ch.	LVDT/RVDT-Digital	16-Bit resolution; 4 Ch. (Measurement)
Discrete	0 to 60 VDC; Sink, source or push/pull; up to 24 Ch	Digital-Synchro/Resolver	16-Bit; Up to 3 VA; 1-3 Ch. (Simulation)
Isolated Discrete	0 to ±80 VAC or VDC; 16 Ch.	Digital-LVDT/RVDT	16-Bit; Up to 3 VA; 1-3 Ch. (Simulation)
Relay	SPDT; non-latching or latching versions, 4 Ch.	AC Reference	2 to 115 V_{RMS}; Up to 6 VA; 1 Ch.
TTL	0 to 5.5 VDC; 24 Ch.	RTD	16-Bit; 2, 3 or 4-wire; 8 Ch.
Differential Transceiver	Up to ±12 V; 422/485 Pulse Gen/Meas; 16 Ch.	Thermocouple	J, K, T, E, R, S, B, N; 4 Ch.
Communications		Strain Gage	16-Bit; 4 Ch.
MIL-STD-1553	Quad Ch. Dual Redundant; Transformer or Direct		
RS-232/422/423/485	4 Ch.		
ARINC 429/575	12 Ch.		
CANBus	8 Ch.		

Architected for Versatility

NAI's Configurable Open System Architecture™ (COSA®) offers a choice of over 70 smart I/O, communications, or Ethernet switch functions, providing the highest packaging density and greatest flexibility of any multifunction I/O board in the industry. Preexisting, fully-tested functions can be combined in an unlimited number of ways quickly and easily.

Software Support

Software Support Kits (SSKs) for multiple operating systems are supplied free of charge, with source code and board-specific library I/O APIs, to facilitate system integration. Each I/O function has dedicated processing, unburdening the system SBC from unnecessary data management overhead.

Background Built-In-Test (BIT)

BIT continuously monitors the status of all I/O during normal operations and is totally transparent to the user. SBC resources are not consumed while executing BIT routines. This simplifies maintenance, assures operational readiness, reduces life-cycle costs and– *keeps your systems mission ready.*

One-Source Efficiencies

Eliminate man-months of integration with a configured, field-proven system from NAI. Specification to deployment is a seamless experience as all design, state-of-the-art manufacturing, assembly and test are performed– by one trusted source. All facilities are located in the U.S. and optimized for high-mix/low volume production runs and extended lifecycle support.

Product Lifecycle Management

From design-in to production, and beyond, NAI's product lifecycle management strategy ensures the long-term availability of COTS products through technology refresh, configuration management and obsolescence component purchase and storage.

Made in the USA
Certified Small Business