

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
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Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
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- ITAR-certified secure asset solutions

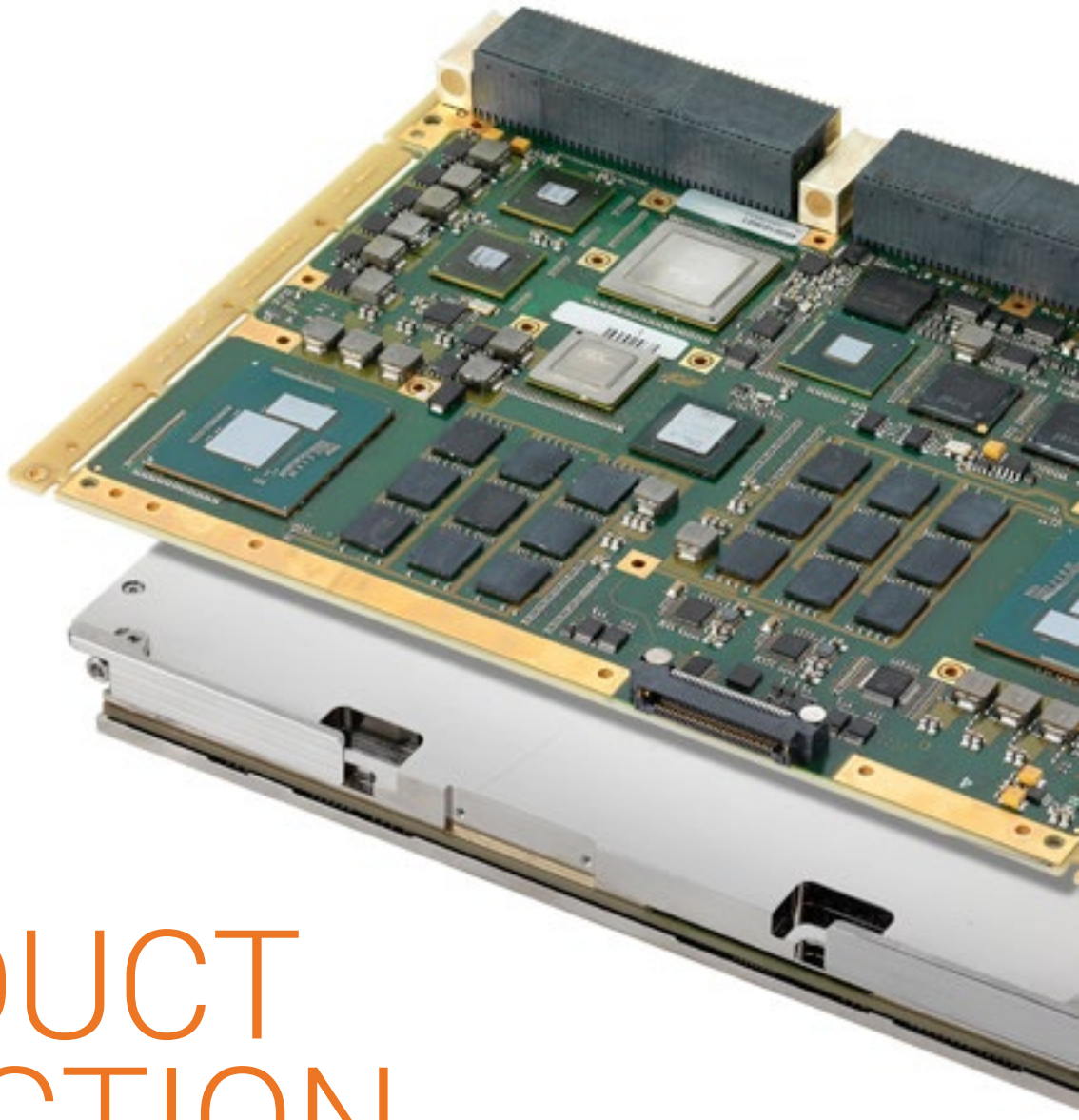
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WE INNOVATE. WE DELIVER.
YOU SUCCEED.





PRODUCT SELECTION GUIDE

REIMAGINING WHAT'S POSSIBLE WITH COTS OPEN PLATFORMS

abaco SYSTEMS

OUR PORTFOLIO



AXIS SOFTWARE

ADVANCED INTEGRATED SOFTWARE DEVELOPMENT TOOLS
The industry's most advanced, most intuitive embedded software development tool suite, AXIS enables rapid software development.

MISSION READY SYSTEMS

From deployment-ready platforms to pre-integrated application-ready subsystems and completely custom configurations.





AVIONICS

Broad range of embedded ARINC, MIL-STD-1553 and AFDX interfaces as well as databuses, analyzers and software for avionics test and measurement.

NETWORK COMMUNICATIONS

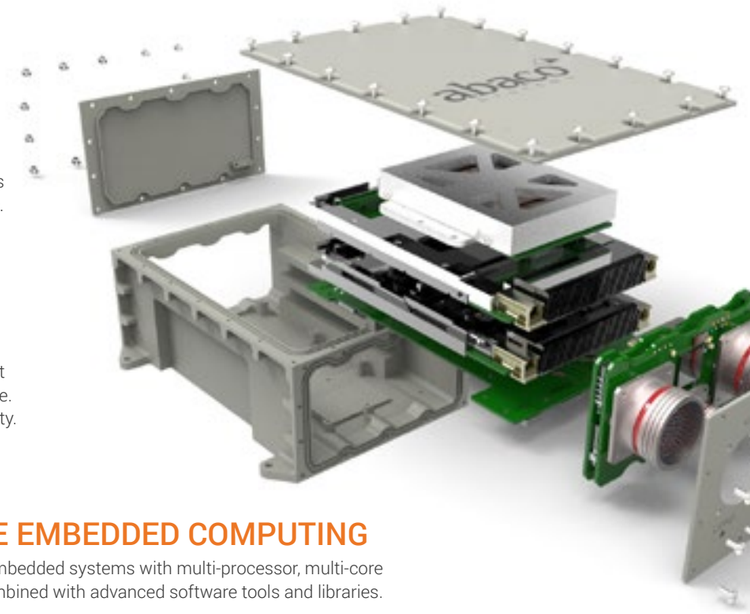
Rugged, secure switches and routers in a broad range of port counts and media options, combined with advanced management and security.





GRAPHICS AND VIDEO

High resolution video display and image processing solutions for mission critical applications.



ADVANCED RF AND DSP SOLUTIONS

Leading edge sensor processing solutions that rapidly turn sensor-acquired data into actionable intelligence while minimizing communications bandwidth.





I/O AND STORAGE

The industry's broadest range of options offered in a broad array of form factors and port configurations as well as rugged/secure storage. Now including MMS for maximum configurability.

SINGLE BOARD COMPUTERS

Latest generation Intel, PowerPC and GPGPU compute platforms with advanced thermal capabilities to maximize performance in SWaP-constrained environments.





HIGH PERFORMANCE EMBEDDED COMPUTING

Bringing data center performance to embedded systems with multi-processor, multi-core and many-core compute platforms combined with advanced software tools and libraries.

FPGA SYSTEM CARDS

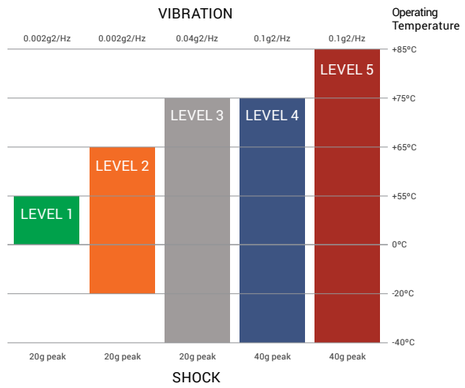
Advanced DSP capabilities combining FPGA boards and mezzanine cards (FMC) along with IP cores and software tools for demanding signal processing applications.



RUGGEDIZATION LEVELS A TO E

As well as Ruggedization Levels A to E, Abaco also offers Ruggedization Levels 1 to 5. These are identical in every respect, except that for the 1-5 scale, the upper operating temperature limits are defined on a product-by-product basis for maximum performance without fixed temperature limits. Please refer to the product manual.

FULL DETAILS: abaco.com/rugged-systems



PRODUCT LIFECYCLE MANAGEMENT

For multi-year program deployments, obsolescence mitigation can be a significant challenge. In addition to designing in compatibility across generations of our products, Abaco's industry-leading Product Lifecycle Management program provides a flexible, cost-effective range of choices. Our experience enables us to advise on the most appropriate strategies.

SINGLE BOARD COMPUTERS

Commercially available OpenVPX 3U and 6U. VME. 3U and 6U CompactPCI. Intel or Power Architecture. Whatever's right for your program – and backed by our long term support and technology insertion programs to maximize return on investment.



SBC329 3U OpenVPX Single Board Computer

Big performance in small spaces

- Leverages greater performance of Intel Xeon E3 'Kaby Lake' processors
- Designed for demanding, SWaP-constrained mission critical military/defense applications
- Provides enhanced support for customers planning to implement advanced security capabilities such as anti-tamper and information assurance including a secure FPGA solution, and support for Intel's Trusted Execution Technology

SBC314 3U OpenVPX Single Board Computer

Integrated, secure, tailored solution

- Choice of low power or high performance Power Architecture processors allows optimum solution to be configured for specific application requirements
- Support code for Wind River VxWorks653 eases path to certification, reducing time, effort and cost and minimizing time-to-deployment
- VITA 48 formats support 2-level maintenance for cost-effective deployment and minimal in-theatre downtime





PPC11A 6U VME Single Board Computer

Extended availability

- Latest upgrade for 20+ year PowerXtreme family, providing customers with long term program support to maximize performance and return on investment, minimize lifetime cost
- Extended in-deployment lifetime enhanced by processors from NXP 15-year Longevity Program, FPGA-based VME support, Abaco Product Lifecycle Management services
- Available in two versions, providing customers with the ability to choose the best power/performance match for the planned application

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Intel Architecture SBCs

PRODUCT	FORM FACTOR	PROCESSOR	MAXIMUM MEMORY	MEZZANINE	AXIS SUPPORT	RUGGEDIZATION
SBC329	VPX 3U	Intel Xeon E3-1505M, E3-1505L v6	16 GB DDR4 SDRAM soldered with ECC	1x XMC	Yes	Level 1-5 Air, Conduction Cooled
SBC328	VPX 3U	Intel Xeon E3-1505M, E3-1505L v5	16 GB DDR4 SDRAM soldered with ECC	1x XMC	Yes	Level 1-5 Air, Conduction Cooled
SBC347D	VPX 3U	Intel Xeon D	32 GB DDR4 SDRAM soldered with ECC	-	Yes	Level 1-5 Air, Conduction Cooled
SBC627	VPX 6U	5th Gen. Intel Core i7 4-core up to 2.7 GHz	2 GB DDR3 SDRAM	2x PMC/XMC	Yes	Level 1-5 Air, Conduction Cooled
XVR19	VME	Intel Xeon E3-1505M, E3-1505L v6	32 GB DDR4 SDRAM soldered with ECC	2x PMC/XMC	-	Level 1-5 Air, Conduction Cooled
XVB603	VME	Intel Xeon E3-1505M, E3-1505L v6	16 GB DDR4 SDRAM soldered with ECC	2x PMC/XMC	-	Level 1-2 Air Cooled
XCR15	cPCI 6U	3rd Gen. Intel Core i7 2/4-core up to 2.5 GHz	6 GB DDR3 SDRAM soldered ECC	2x PMC/XMC	Yes	Level 1-5 Air, Conduction Cooled

Power Architecture SBCs

PRODUCT	FORM FACTOR	PROCESSOR	MAXIMUM MEMORY	MEZZANINE	AXIS SUPPORT	RUGGEDIZATION
SBC314	VPX 3U	QorIQ T2081/T1042 @ up to 1.8 GHz	4 GB DDR3L SDRAM with ECC	1x PMC/XMC	Yes	Level 1-5 Air, Conduction Cooled
SBC312	VPX 3U	QorIQ P4080 @ 1.5 GHz	4 GB DDR3 SDRAM with ECC	1x PMC/XMC	Yes	Level 1-5 Air, Conduction Cooled
PPC11A	VME	QorIQ T2081/T1042 @ up to 1.8 GHz	8 GB DDR3L SDRAM with ECC	2x PMC/XMC	-	Level 1-5 Air, Conduction Cooled
PPC10A	VME	QorIQ P4080 @ 1.5 GHz	8 GB DDR3 SDRAM with ECC	2x PMC/XMC	-	Level 1-5 Air, Conduction Cooled
PPC9B	VME	QorIQ P2020 @ 1.2 GHz	4 GB DDR3 SDRAM with ECC	2X PMC	-	Level 1-5 Air, Conduction Cooled
IMP3A	cPCI 3U	QorIQ P2020 @ 1.2 GHz	4 GB DDR3 SDRAM with ECC	1x XMC	-	Level 1-5 Air, Conduction Cooled



MISSION READY SYSTEMS

Powerful, flexible and based on commercial open standards, Abaco's Mission Ready Systems are pre-integrated and pre-qualified so that they're ready for immediate deployment – minimizing cost, risk and program leadtime.



GVC2000 Graphics/Mission Computer

Lightning-enabled small form factor mission/graphics computer

- Latest processing technologies from Intel and NVIDIA with path to next generations
- Flexible I/O customization with patented MMS I/O technology
- Selected MIL-STD-810G/DO-160G/MIL-STD-461E environmental qualification: -40°C to 71°C, shock, vibe, and EMI
- Opening the world of AI to embedded customers with full support for the NVIDIA Deep Learning SDK

FORCE2C Mission Computer

For certifiable applications

- FACE support with roadmap to DO-178/DO-254 certification provides compliance with industry initiatives, mitigates time and cost burden of certification
- Multiple configurations for mission and flight computing, together with minimal SWaP, provide optimal flexibility for a broad range of applications
- DO-160G, MIL-STD-704F, MIL-STD-461G and MIL-STD-810G qualification increases confidence, reduces risk, minimizes NRE





Custom Systems

Designed by you, built by us

- 30+ years of experience at your service
- Choice of packaged systems appropriate for range of applications
- Pre-integrated, pre-validated for minimal NRE, risk, time-to-market
- Custom design/build available for application-specific requirements

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Mission Ready Systems

PRODUCT	FORM FACTOR	PROCESSOR	COOLING	OPERATING TEMPERATURE	WEIGHT LB (KG)	DESCRIPTION
GVC2000	VPX 3U	Intel Xeon D-1559, NVIDIA GM107 GPU	Base Plate	-40°C to +71°C	11.5 lbs (5.22 kg)	Ideal for applications where top end data- or display processing and I/O flexibility is required
MCS1000	VPX 3U	Intel Xeon E3-1505, CoreAVI or AMD E8860	Base Plate	-40°C to +71°C	11.5 lbs (5.22 kg)	Ideal for I/O-rich avionics and graphics processing applications where I/O flexibility and processing capability are a must
AERIAL1	VPX 3U	QorIQ T2081 @ 1.8 GHz / T1042 @ 1.4 GHz	Base Plate	-40°C to +70°C	7.0 lbs (3.2kg)	Open reference computing environment for FACE applications
RES3000	-	-	Base Plate/ Natural Conduction / Convection Cooled	-40°C to +71°C	3.5 - 6.9 lbs (1.6 - 3.1 kg)	Compact, rugged, fully managed Ethernet switch
CRS-D8I-3VF1	VPX 3U	3rd Gen. Intel Core i7	Conduction Cooled (Forced Air)	-40°C to +55°C	22 lbs (9.98 kg)	COTS, half ATR application-ready data processing system
CRS 48.5	VPX 6U	Intel Quad Core i7	Air-Flow Through Cooled	-40°C to +55°C	61 lbs (28 kg)	High performance embedded computing VITA 48.5 prevalidated COTS rugged system
VPX167	VPX 3U	Intel Quad Core i7	Conduction Cooled	-40°C to +70°C	40 lbs (18.1 kg)	Airborne electronic warfare
DAQMAG2A	VPX 3U	Intel i7-3612QE, ICS-8580 video compression	Base Plate	-40°C to +85°C	9 lbs (4 kg)	Ideal for applications with diverse video conversion applications
MAGIC1	VPX 3U, Boxed	Intel i7 i7-47000EQ, NVIDIA GM107 GPU	Base Plate	-40°C to +70°C	9 lbs (4 kg)	Display computer, based on combination of CPU and GPU technology, for the most demanding applications
FORCE2C	VPX 3U	QorIQ T2081 @ 1.8 GHz / T1042 @ 1.4 GHz	Base Plate	-40°C to +70°C	7.0 lbs (3.2kg)	Open reference computing environment for FACE applications



GRAPHICS AND VIDEO

Leading edge commercial technology coupled with Abaco's ruggedization expertise delivers blazing graphics and video performance from a range of platforms and small, lightweight mission-ready, pre-integrated subsystems.

XMCGA8 Video/Graphics Processor

Certifiable, flexible

- With high performance video/graphics technology from AMD and CoreAVI, the XMCGA8 offers blazing performance for the most demanding applications
- For certifiable applications, the XMCGA8 can be provided with DO-178 and DO-254 certifiable artefacts, reducing cost, risk and time to market
- Available with a choice of graphics chipsets, the CoreAVI-based XMCGA8 benefits from up to 20 years support, providing peace of mind and low cost of ownership





GRA113 Video/Graphics Processor

Powerful, high-performance

- A high end NVIDIA GPU delivers unparalleled throughput in the toughest environments that are constrained in size, weight and power (SWaP)
- Dual, quad and legacy video options – all highly configurable – bring flexibility that can translate into an optimum lower cost solution
- Form-, fit- and function compatible with its predecessors, the GRA113 provides a straightforward, cost-effective upgrade path

DAQMAG2A

Video Processing Powerhouse

- Designed for sophisticated high performance video capture, processing and transmission applications with rich video I/O requirements
- Qualification to DO-160G standard assures robust reliability in airborne environments
- High Technology Readiness Level 9 means systems integrators can select it with confidence to concentrate on solving more important challenges such as integration into higher level system, application development/port and so on



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Graphics & Video Boards

PRODUCT	FORM FACTOR	CHIP SET	I/O	COOLING	CONFORMAL COATING	EXTENDED TEMPERATURE RANGE
GRA113	VPX 3U, VPX REDI	NVIDIA GM107 GPU	Up to 4x DVI	Air, Conduction	Option	Yes
XMCGA8	XMC	AMD/CoreAVI E8860 GPU	4x DVI, 2x VGA	Air, Conduction	-	Yes
ICS-8580	XMC	TI TMS320DM6467 DSP	Analog Video, Digital Video, PCIe, Ethernet	Air, Conduction, Spray	Option	Yes
IPN252	VPX 6U	NVIDIA GM107 GPU	COM, DVI, GbE, PCIe, USB, SATA, GPIO, Audio, TV Input, RGB, SATA, USB	Air, Conduction	-	Yes

Rugged Display

PRODUCT	FORM FACTOR	PROCESSOR	I/O	COOLING	MAXIMUM STORAGE	ENVIRONMENTAL
AERIAL1	3U Boxed, VPX 3U	Qualcomm QorIQ T2081 @ 1.8GHz / T1042 @ 1.4GHz, AMD Radeon GPU	ARINC 429, DVI, Gigabit Ethernet, MIL-STD-1553, USB, logic level discrete ports, RS-232, RS-422, extended RS-232	Base Plate	1 TeraByte	MIL-STD-810G, DO-160G, MIL-STD-461G, MIL-STD-704F
DAQMAG2A	3U Boxed, VPX 3U	Intel i7-3612QE, ICS-8580 video compression	COM, Gigabit Ethernet, NTSC, PAL, RGB, USB, VESA	Base Plate	Up to 64GB	DO-160G, MIL-STD-704
MAGIC1	3U Boxed, VPX 3U	Intel i7 i7-4700EQ, NVIDIA GM107 GPU	Audio, DVI, Gigabit Ethernet, Keyboard and Mouse, Serial, SSD, USB, VGA, Video/TV	Base Plate	Up to 256 GBytes	Level 4-5 Conduction Cooled
daq8580	Standalone	Dual ARM 9	Analog Video, Digital Video, Ethernet, RS-422, Cameralink	-	-	MIL-STD-704F, MIL-STD-1275B
FORCE2C	3U Boxed, VPX 3U	Qualcomm QorIQ T2081 @ 1.8GHz/T1042 @ 1.4GHz,	ARINC 429, DVI, Gigabit Ethernet, MIL-STD-1553, RGB, USB, logic level discrete ports, RS-232, RS-422, extended RS-232	Base Plate	16GB	DO-160G, MIL-STD-810G, MIL-STD-461G, MIL-STD-704F, DO-254 Artefacts



ADVANCED RF AND DSP SOLUTIONS

Abaco's commercial off-the-shelf solutions have an extensive track record in helping our customers turn sensor-acquired data into actionable information in the shortest time and at the lowest bandwidth in a broad range of digital and analog applications.



VP430 Direct RF Processing System

High channel density, high performance RFSoC

- Reduce RF signal chain complexity - direct RF sampling implemented in the digital domain means more flexibility and less DUC/DDC
- Maximize input/output channel density. With 8-channels in and 8-channels out, existing solutions would take four times as many slots for comparable performance
- Offload data more efficiently with up to 12 GB/s transfer via FireFly optical backplane

VP889 FPGA Board

Flexible, high performance

- Our modular approach is your lower cost of ownership. Why upgrade a whole system when Abaco lets you upgrade only the elements you need?
- State of the art FPGA technology for rapidly changing applications
- The flexibility you need for the system you want. Choose your FPGA. Choose your I/O. Configure to your requirements.





FMC134 Direct RF Conversion Mezzanine Card

High bandwidth. High resolution. High channel count.

- Four 12-bit ADC channels up to 3.2GSPS or two ADC channels up to 6.4GSPS make the FMC134 ideal for multi-channel radar applications
- FMC stacking enabled for increased I/O density
- Multi-function capability makes it applicable to a wide range of applications

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FMC Products and Parameters

PRODUCT	FUNCTION	# CHANNELS	DATA RATE (MSPS)	RESOLUTION (BITS)	CONNECTOR	SIGNALING	COUPLING
FMC120	ADC DAC	4 4	1000 1250	16 16	HPC	JESD204B	DC
FMC150	ADC DAC	2 2	250 800	14 16	LPC	LVDS	AC
FMC170	ADC DAC	1 1	5000 5000	10 10	HPC	LVDS	AC
FMC163	ADC DAC	1,2 2	4000, 2000 2850	12 14	HPC	LVDS	AC
FMC104	ADC	4	250	14	LPC	LVDS/LVCMOS	AC/DC
FMC116	ADC	16	125	14	HPC	LVDS	DC
FMC216	DAC	4, 8, 16	1250, 625, 312.5	16	HPC	JESD204B	DC
FMC424	Digital Communications	2	40000	-	HPC	GBT	-
FMC134	ADC	2,4	6400, 3200	12	FMC+	JESD204B	AC
FMC230	DAC	2	2850	14	HPC	LVDS	AC
FMC40X	Clock Distribution	2	40000	-	HPC	GBT	-
FMC422	CameraLink	2	-	-	LPC	LVDS	-

FPGA and SOC Boards

PRODUCT	FORM FACTOR	FPGA/SOC TYPE	FMC/ADC AND DAC	COMMENTS
VP430	3U VPX	Zynq Ultrascale+ RFSoC	ADC: 8-channel, 4GSPS 12-bit DAC: 8-channel, 6.4GSPS 14-bit	-
VP889	3U VPX	Virtex Ultrascale+, Zynq Ultrascale+ MPSoC	1x HSPC/FMC+	-
VP868	6U VPX	2x Ultrascale Kintex or Virtex	2x HSPC FMC+	Optionally 1x Virtex and 1x Zynq
VP881	3U VPX	VP880 variant with expanded backplane I/O options	1x HSPC/FMC+	VP880 variant with expanded backplane I/O options
VP880	3U VPX	Ultrascale Kintex or Virtex and Zynq Ultrascale+	1x HSPC/FMC+	-
PC821	PCIe	Ultrascale Kintex or Virtex	1x HSPC/FMC+,1x HPC	-
VP780	3U VPX	Virtex 7	1x HPC	-
FM780	XMC	Virtex 7	Optional	FMC site takes second slot space

HIGH PERFORMANCE EMBEDDED COMPUTING

Our COTS solutions help you take your lab-developed performance-intensive application and, using our experience and advanced software tools, optimize it for real world deployment in constrained spaces and the harshest environments.



DSP282A Multiprocessor

Low latency, high performance

- Dual Intel Core i7 processors combine to deliver 600+ GFLOPS of throughput from a single 6U card slot for blistering performance
- High inter-processor bandwidth at extremely low memory-to-memory latencies enables sensor-acquired data to be delivered in real time
- Large radar systems and SAR/GMTI applications benefit from support for 40 Gigabit Ethernet, providing optimum scalability

IPN252 Multiprocessor

Blending the best

- Intel Core i7 processor and 640-core NVIDIA Maxwell GPU team to provide an unprecedented 1.4 TeraFLOPS of compute capability/slot in demanding DSP applications
- GPUDirect support streams data direct to GPU memory, resulting in significantly lower latency and higher throughput
- Innovative, advanced cooling enables maximum, no-compromise performance – with ultimate reliability



DSP & Multiprocessing

PRODUCT	FORM FACTOR	MAXIMUM MEMORY	MEZZANINE	AXIS SUPPORT	RUGGEDIZATION	OTHER
IPN252	VPX 6U	16 GB DDR3 SDRAM with ECC	1x XMC	Yes	Level 1-5 Air, Conduction Cooled	Intel+NVIDIA technology based multiprocessor
DSP282A	VPX 6U	16 GB DDR3 SDRAM per node	-	Yes	Level 1-5 Air, Conduction Cooled	10/40 GbE, multi-core, multiprocessor
SBC627	VPX 6U	32 GB DDR3 SDRAM	2x PMC/XMC	Yes	Level 1-5 Air, Conduction Cooled	10/40 GbE single board computer
SWE540A	VPX 6U	-	-	Yes	Level 1-5 Air, Conduction Cooled	Fully managed 10/40 GbE Ethernet switch

AXIS SOFTWARE TOOLS

An integrated, sophisticated yet easy to use commercial off-the-shelf software development tool suite that has led to software development time being halved, and to software testing beginning 30% sooner than would have achieved with a 'hand-crafted' solution.

AXIS Pro

Powerful, intuitive

- Powerful and flexible yet intuitive, easy to learn, easy to use, AXIS Pro simplifies and speeds complex application development for reduced cost, faster time to deployment
- Specifically designed for demanding, sophisticated embedded applications where the requirement is to maximize performance while minimizing SWaP
- Minimal system overhead delivers optimum throughput, while scalability, portability and hardware/software independence deliver complete flexibility





AXIS ImageFlex

Portable, Low overhead, high performance, easy to use

- Easy to use framework for developing real-time image processing, visualization and autonomy applications utilizing the power of modern GPU architectures.
- Optimized, high quality image manipulation, fusion, stabilization and distortion correction / morphing algorithms.
- Comprehensive reference applications: AI classifier and object detection, target tracking, stabilization, "SkyBox" spherical situation awareness, LiDAR data viewer, autonomous visualizer.
- Utilities: AI annotator and Caffe to TensorRT converter, SkyBox configurator, Image fusion and morph grid configurators.

AXIS Software

PRODUCT	SHORT DESCRIPTION
AXIS ImageFlex	High performance image processing, visualization and graphics toolkit.
AXIS Pro	HPEC application development tool; greatly improving application efficiency; reducing development time.
AXISLib-AVX 2.6 DSP and Math Libraries	Supports 5th generation Intel Core i7 and Xeon-D architecture processors.
AXISLib-PPC	AXISLib-PPC 2.6 DSP and math libraries support e600 and e6500 core support for Power architecture processors.
AXIS DataView Toolkit	Facilitates fast development of GUIs.
AXIS EventView	Detailed, Visual Performance Analysis.
AXIS MPI	Industry standard API provides compatibility, interoperability.

NETWORK COMMUNICATIONS

Abaco's unique OpenWare COTS switch management software provides an extensive, powerful and flexible feature set that, together with our 30+ years of experience, means we can solve our customers' toughest networking problems.



SWE540A 40 Gigabit Ethernet Switch

Low latency, optimum flexibility

- Provides high speed, low latency interconnect across a 6U backplane
- Only fully managed Layer 2/3 40 GigE embedded switch offering Layer 3 forwarding in the fabric, providing dynamic routing support using standard routing protocols.
- With patent-pending thermal management for even greater reliability
- Extensive support for a broad range of security measures

RES3000 Gigabit Ethernet Switch

Flexible, secure, powerful and tiny

- At just 148 x 131 x 86mm, and weighing just 1.4Kg, the rugged 12-port RES3000 is designed for the most confined spaces typical of today's ground, air and sea vehicles
- With Abaco's uniquely powerful and secure OpenWare switch management software, and the option of 28 ports of which 4 are 10GigE, the RES3000 is a flexible solution to fit most applications
- VICTORY switch compliance comes built-in, enabling the RES3000 to easily and quickly function as the data distribution heartbeat of modern army platforms





SWE440 40 Gigabit Ethernet Switch

Ultimate bandwidth, low power

- Fully managed 3U VPX 10/40 Gigabit Ethernet switch consuming less than 40 watts
- OpenWare switch management software delivers the fully managed Layer 3 routing and customization needed to create almost any network topology
- Includes comprehensive military-grade security features such as Denial of Service, multi-level passwords and sanitization for maximum protection of sensitive data

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Ethernet Switches and Routers

PRODUCT	PORT TYPE	MANAGEMENT TYPE	PORTS	MANAGEMENT SOFTWARE	NETWORK OPERATIONS
RES3000	10/100/1000BaseT, 10GBASE-SR	Fully Managed Layer-2/3+	12, 24, 28	OpenWare	L2 & L3 switching and routing (IPv4 & IPv6)

Embedded Ethernet Switches

PRODUCT	FORM FACTOR	PORT TYPE	MANAGEMENT TYPE	PORTS	NETWORK OPERATIONS
SWE540A	VPX 6U	40GBase-KR4, 10GBase-KX4, 1000BaseKX	Fully Managed Layer -2/3+	Up to 39	Wire speed switching and routing including IPv6
SWE440	VPX 3U	40GBase-KR4, 10GBase-KR & KX4, 10GBase-T, 1000BaseKX	Fully Managed Layer -2/3+	Up to 32	Wire speed switching and routing including IPv4/IPv6
NETernity™ GBX411	VPX 3U	10GBASE-SR/LR, 1000BaseT, 1000BaseKX, 10GBASE-KX4	Fully Managed Layer-2/3+	Up to 28	Wire speed switching and routing including IPv6
NETernity™ RM921NB	VME 6U	10/100/1000BaseT, 1000BaseLX, 1000BaseSX, 100BaseFX	Fully Managed Layer-2/3+	12, 24	Wire speed switching and routing including IPv6
NETernity™ RM980RC	VME 6U	10/100/1000BaseT	Unmanaged Layer-2	12 or 24	L2 switching at wire speed
NETernity™ RM981RC	VME 6U	10/100/1000BaseT, 1000BaseLX, 1000BaseSX	Unmanaged Layer -2	8, 12 or 24	L2 switching at wire speed
NETernity CP980RC	cPCI 6U	10/100/1000BaseT	Unmanaged Layer 2	24	L2 switching at wire-speed

Ethernet Network Interface Cards

PRODUCT	FORM FACTOR	PORTS	PORT TYPE	FRONT PANEL I/O CONNECTORS	REAR PANEL I/O CONNECTORS
NIC10GBT, NIC1GBT	XMC	2 or 4	10GBase-T, 1GigE	-	10GBase-T, 10/100/1000BaseT
PMC676RC	PMC	2	1000BaseLX, 1000BaseSX, 10/100/1000BaseT	LX, SC, RJ-45	-
NIC10G, NIC10GFT, NIC1GFT	XMC	2 or 4	10GigE, 10GBase-T, 1GigE	SFP+, RJ-45	10GBase-KX4 & 10GBase-CX4

OpenWare™

The industry's most flexible network management software. OpenWare is a GNU/Linux-based firmware, bringing together the best of open source and in-house developed switch control, routing and protocol standards, providing users with an Ethernet switch that can be easily configured for any network requirement.

- Open, scalable
- Multi-level security
- Customizable
- Multi-Fabric Support
- Fast start-up times
- Abaco owned, supported and maintained

AVIONICS

Our commercially available avionics interfaces product portfolio and expertise span the entire aircraft lifecycle from development, through test and simulation to embedded deployment – even in the lab and on the flightline for maintenance and troubleshooting.



RAR15-XMC Embedded Avionics I/O

Rugged, reliable and secure

- Direct supplier-to-user support provides fast-turn expertise to shorten problem-solving, minimize development time and decrease time-to-market
- No-cost board support package – complete with source code – provides developers with the easy API visibility that facilitates problem solving and shortens lead-time
- FPGA-based designs mitigate the impact of obsolescence, delivering longer deployed lifetimes while minimizing impact on customer architectures and designs

RPCIE-1553 Test, Simulation and Development Avionics I/O

Feature rich, flexible and configurable

- With extensive and feature-rich functionality and a highly flexible API, operational test envelopes are maximized for optimum usability
- Provision of on-board management capability offloads tasks from the host, enabling more powerful, higher performance processing
- API compatibility across all hardware formats/families reduces learning curve, delivers greater efficiency





1553, ARINC and AFDX Databus Analyzers

Easy to use, low cost, portable and rugged

- Suite of software and hardware bundles with a range of features and pricepoints enabling you to choose the right analyzer for your needs
- Easy to use, powerful GUI tool provides instant visibility, enabling faster resolution of user interface issues
- Real-time acquisition of analysis information pre-acquisition, during acquisition and post-acquisition delivers instant actionable intelligence for both data and interface

For latest product releases and information visit: **abaco.com/portfolio**

Embedded I/O

PRODUCT	FORM FACTOR	PROTOCOL	# CHANNELS	TEMPERATURE RANGE	DISCRETES
RAR15-XMC-IT	XMC	MIL-STD-1553, ARINC 429	ARINC 10RX 8TX, MIL-STD-1553 2 or 4	-40°C to +85°C	0, 6 or 12
RXMC1553	XMC	MIL-STD-1553	MIL-STD-1553 1 or 2	-40°C to +85°C	0, 8 or 12
RAR-XMC	XMC	ARINC 429, 573, 575, 582 2-wire, 717	ARINC 2 To 32	-40°C to +85°C	0 or 2
RCEI-830A	PMC	ARINC 429, 573, 575, 582 2-wire, 717	ARINC 2 to 16	-40°C to +85°C	0 or 2
R15-MPCIE	Mini PCI Express	MIL-STD-1553	MIL-STD-1553 1, 2 or 4	-40°C to +85°C	2+1
RAR-MPCIE	Mini PCI Express	ARINC 429, 573, 575, 582 2-wire, 717	ARINC 4 to 12	-40°C to +85°C	4

Test, Simulation and Development

PRODUCT	FORM FACTOR	PROTOCOL	# CHANNELS	TEMPERATURE RANGE	DISCRETES
RPCIE-1553	PCI Express	MIL-STD-1553	MIL-STD-1553 1, 2 or 4	-40°C to +70°C	18
RAR-PCIE	PCI Express	ARINC 429, 573, 575, 582 2-wire, 717	ARINC 2 to 16	-40°C to +75°C	16
RCNIC-A2PAU4	PCI Express	AFDX/ARINC 664	AFDX/ARINC 664 2 ports	0°C to +70°C	-
RAR-USB	USB	ARINC 429, 573, 575, 582 2-wire, 717	ARINC 4 to 21	-40°C to +75°C	8
R15-USB	USB	MIL-STD-1553	MIL-STD-1553 1 or 2	-40°C to +75°C	8
RAR15-XMC-FIO	XMC	MIL-STD-1553, ARINC 429	ARINC 10RX 8TX, MIL-STD-1553 2 or 4	-40°C to +70°C	0 OR 6

Databus Analyzer

PRODUCT	FORM FACTOR	# CHANNELS	APPLICATION	DESCRIPTION
BT-1553	Software	-	Lab Simulation Test Development	Windows based Avionics databus GUI analyzer
BT-ARINC	Software	-		
BT3-USB-MON	Software and USB	MIL-STD-1553 1, Scope output 1		Windows based Avionics databus GUI analyzer combined with bus monitoring hardware with a built in scope output
BT3-R15-USB	Software & I/O card	MIL-STD-1553 1 or 2		Windows based Avionics databus GUI analyzer combined with protocol I/O hardware
BTA-USB	Software & I/O card	ARINC 16 RX, 5 TX		

I/O AND STORAGE

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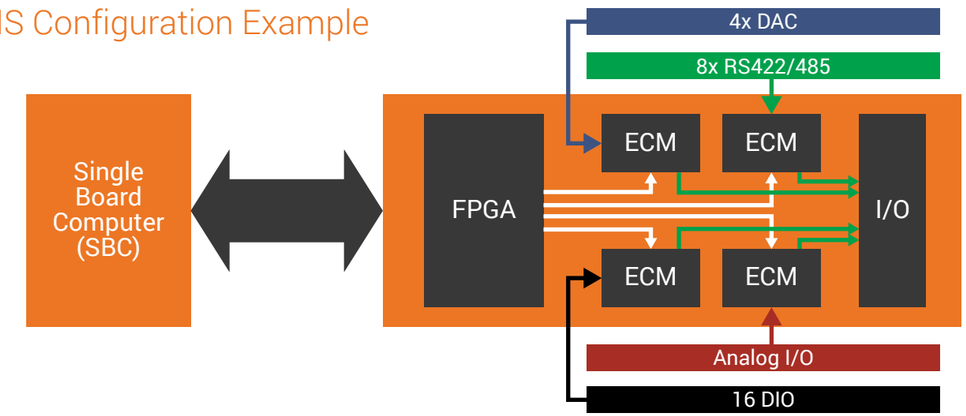
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MMS Configuration Example





VME-6500 Analog/Digital Processor

Multifunction I/O

> Single board supporting 16 analog and 32 digital channels delivers maximum functional density, saving slots and minimizing SWaP while optimizing performance
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> Enables data acquisition as close as possible to sensors, minimizing latency and delivering actionable information faster

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MMS Carrier Cards

PRODUCT	FORM FACTOR	FPGA	ECM I/O SITES	DESCRIPTION
MMS8010	3U VPX	Altera Cyclone V	6	6 backplane user I/O to P1 and P2
MMS6245	XMC	Altera Cyclone V	4	4 front panel user I/O

MMS ECM Tiles

PRODUCT	CATEGORY	FUNCTION	TECHNICAL PARAMETERS	FEATURES
5081	Analog Conversion	DAC	4-channel, 12-bit, 100KHz	Software selectable output voltage ranges
3564	Analog Interface	Cross point switch	250MHz BW -3.75 to 3.75 V range	8 inputs can be connected up to 8 outputs in any configuration
5158	Serial Interface	RS-232 Async converter	4 inputs, 4 outputs	-
5235	Digital I/O	16-bit single ended DIO	3.0V to 5.0V operation	I/O FET buffered
3556	Storage and I/O	Dual microSD memory	14-bit DIO at 5V or 3.3V	-
5174	Clock	Programmable, precision clock	0 to 45HMz, 0.028 Hz	Onboard 20MHz VCO

Multifunction I/O

PRODUCT	FORM FACTOR	SPECIAL CHANNELS	STANDARD CHANNELS	OTHER
VME-6500 6U VME Multifunction I/O Board	VME 6U	8 Input & 8 Output Analog I/O	16 Input & 16 Output Discrete Digital I/O	16-bit ADC, 16-bit DAC, Discrete I/O
VME-6600	VME 6U	8 Thermo Input or 8 RTD Input	16 Input & 16 Output Discrete Digital I/O	Temperature measurement, Discrete I/O
VME-6700	VME 6U	12 Input & 12 Output	16 Input & 16 Output Discrete Digital I/O	Pulse Measurement/ Generation, Discrete I/O

Test, Simulation and Development

PRODUCT	FORM FACTOR	CHANNELS	FUNCTION	OTHER
VME-1128 Digital Input Board	VME 6U	128 Input	Voltage sourcing or contact sense inputs	1.25 to 66 VDC Range
VME-2128 Digital Output Board	VME 6U	128 Input	High-voltage outputs, 600 mA Sink, 22 mA Source	5 to 55 VDC Range
VME-3122B	VME 6U	64 Input	16-bit ADC	100 kHz scan rate, Multiplexed inputs
VME-3123A	VME 6U	16 Input	16-bit ADC	Simultaneous sample-and-hold, one ADC per channel
VME-4145	VME 6U	4 Output	16-bit ADC	Waveform Generator, Up to 2.5 million samples/sec

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