



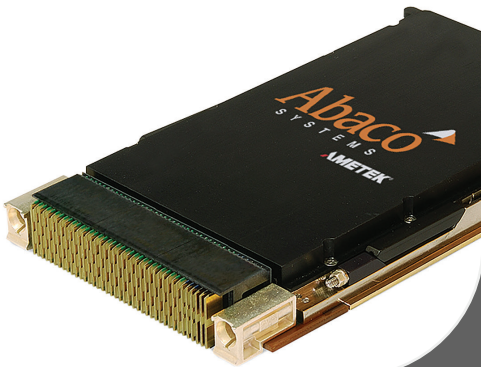
SINGLE BOARD COMPUTERS
ANALOG IO, TIMING AND OPTICAL IO
GRAPHICS & VIDEO
NETWORK COMMUNICATIONS AND TIMING
INTEGRATED SYSTEMS
AVIONICS
PRODUCT LIFECYCLE MANAGEMENT

PRODUCT SELECTION GUIDE

**A comprehensive overview of our
innovative product range**



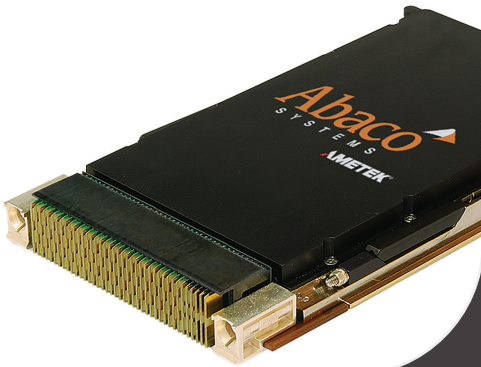
From CMOSS and SOSA to OpenVPX and VME, Abaco Systems offers versatile Single Board Computers tailored for your mission-critical applications. Choose from Intel or Power Architecture in 3U or 6U formats, and take advantage of our long-term support and technology insertion programs designed to future-proof your investment.



SBC3518

The SBC3518 Rugged Single Board Computer (SBC) from Abaco Systems features the new high performance, highly integrated Intel® Core Ultra Series 3 processor (formerly known as ‘Panther Lake’).

- Performance hybrid architecture supporting 16 cores in total.
- Integrated NPU5 for dedicated AI performance.
- Combines next gen CPU, GPU and NPU engines with premium connectivity to deliver exceptional performance.



SBC3215

The SBC3215 from Abaco Systems, a next-generation 3U VPX Single Board Computer engineered for reliability and peak performance in extreme conditions.

- Ready for Linux, Windows, and VxWorks, ensuring broad compatibility.
- Up to 64GB LPDDR5 SDRAM with ECC for critical data protection.
- Utilizing the Intel® 13th Gen Core™ i7 processor, this rugged SBC provides seamless integration.



SBC3801

The SBC3801 is a next-generation SOSA aligned 3U VPX Secure Single Board Computer (SBC) designed to deliver uncompromising security and performance for mission-critical applications.

- Consolidated cryptographic operations on a single platform
- Encryption and secure storage for sensitive mission data
- Secure edge processing for ISR and autonomous platforms

Intel Architecture SBCs

PRODUCTS	FORM FACTOR	PROCESSOR	MAXIMUM MEMORY	MEZZANINE	RUGGEDIZATION
SBC3513	3U VPX	Intel® Core™ i7 Xeon (W-11865MR)	Up to 64 GB DDR4 SDRAM soldered with ECC	1x XMC	Air and Conduction Cooled
SBC3513L	3U VPX	Intel® Core™ i7 Xeon (W-11865MR)	64 GB DDR4 SDRAM soldered with ECC	1x XMC	Air and Conduction Cooled
SBC3518	3U VPX	Intel® Core Series 3	64 GB LPDDR5x SDRAM soldered with ECC	1x XMC	Air and Conduction Cooled
SBC3612D	3U VPX	Intel Xeon D-2700 Processor	64 GB DDR4 SDRAM soldered with ECC	-	Air and Conduction Cooled
SBC329	3U VPX	Intel Xeon E3-1505M, E3-1505L v6	16 GB DDR4 SDRAM soldered with ECC	1x XMC	Air and Conduction Cooled
SBC3215	3U VPX	13th Gen Intel® Core i7	Up to 64 GB LPDDR5 SDRAM soldered with ECC	1x XMC	Air and Conduction Cooled
XVB603	VME	Intel Xeon E3-1505M, E3-1505L v6	16 GB DDR4 SDRAM soldered with ECC	2x PMC/XMC	Air Cooled
SBC6511	6U VPX	Intel Xeon E-2276ME	64 GB DDR4 SDRAM soldered with ECC	2x XMC PCIe Gen3	Air and Conduction Cooled
XVR19	VME6U	Intel Xeon E3-1505M, v6	Up to 32 GB DDR4 SDRAM soldered with ECC	2x PMC/XMC	Air and Conduction Cooled
HPC2812	6U VPX	Dual Intel Xeon D-2796TE	128 GB in total, per node		Air and Conduction Cooled

Power Architecture SBCs

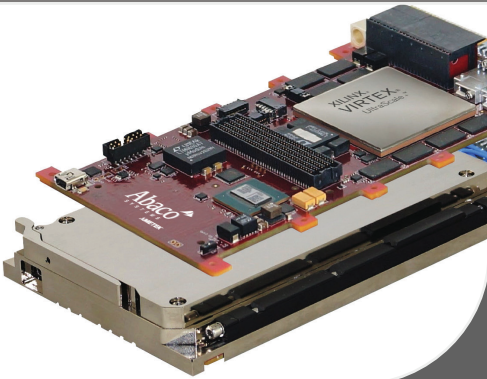
PRODUCTS	FORM FACTOR	PROCESSOR	MAXIMUM MEMORY	MEZZANINE	RUGGEDIZATION
SBC314	3U VPX	QorIQ T2081/T1042 @ up to 1.8 GHz	4 GB DDR3L SDRAM with ECC	1x PMC/XMC	Air and Conduction Cooled
SBC314C	3U VPX	QorIQ T2081 @ 1.8 GHz	8 GB DDR3 SDRAM with ECC	1x XMC	Air and Conduction Cooled
PPC11A	VME	QorIQ T2081/T1042 @ up to 1.8 GHz	8 GB DDR3L SDRAM with ECC	2x PMC/XMC	Air and Conduction Cooled

ARM Architecture SBCs

PRODUCTS	FORM FACTOR	PROCESSOR	MAXIMUM MEMORY	MEZZANINE	RUGGEDIZATION
SBC3801	3U VPX	AMD FPGA SoC	8GB DDR4 ECC for Arm 8GB DDR4 ECC for FPGA 8GB NAND Flash	X4 PCIe Expansion Plane	Air and Conduction Cooled
SBC3901	3U VPX	NVIDIA® Jetson AGX Orin™	64 GB 256-bit LPDDR5	None	Air and Conduction Cooled
SBC3902	3U VPX	NVIDIA® Jetson AGX Orin™	64 GB 256-bit LPDDR5	None	Air and Conduction Cooled
VNX382	VNX+	NXP i.MX95	16 GB LPDDR5 128 MB SPI NOR flash 64 GB eMMC NAND flash	None	Conduction Cooled



Abaco Systems specializes in delivering advanced digital signal processing solutions that enable customers to transform sensor data into actionable insights with minimal latency and maximum bandwidth. Our expertise spans a wide range of digital and analog applications, ensuring reliable, high-performance solutions for mission-critical environments.



VP891

Experience the superior performance and flexibility of the VP891, designed to meet the rigorous demands of contemporary RF and signal processing tasks with advanced security features.

- Leverages Xilinx® Virtex UltraScale+™ and Zynq® UltraScale+™ technology for robust FPGA processing and secure boot.
- Provides extensive I/O options, including up to 100GbE Ethernet and PCIe Gen3 x4 for efficient data management.
- Aligns to the SOSA™ standard, ensuring seamless integration and compatibility.

FMC Products

PRODUCTS	FORM FACTOR	FUNCTION	# CHANNELS	DATA RATE (GSPS)	RESOLUTION (BITS)	SIGNALING	COUPLING
VP430	3U VPX	ADC DAC	8 8	4000 6400	12 14	RFSoc	AC
VP431	3U VPX	ADC DAC	8 8	5000 10000	14 14	RFSoc	AC
FMC116	FMC	ADC	16	125	14	LVDS	DC
FMC120	FMC	ADC DAC	4 4	1000 1250	16 16	JESD204B	DC
FMC126	FMC	ADC	1, 2, 4	up to 5000	10	LVDS	AC
FMC134	FMC+	ADC	2, 4	6400, 3200	12	JESD204B	AC
FMC150	FMC	ADC DAC	2 2	250 800	14 16	LVDS	AC
FMC160	FMC	ADC	1 1	3600 5700	12 14	LVDS	AC
FMC165	FMC	ADC DAC	2 1	2600 5200	14 14	JESD204B (in) LVDS (out)	AC
FMC168	FMC	ADC	8	250	16	LVDS	AC
FMC172	FMC	ADC DAC	1	6000	10	LVDS	AC

FMC Products (continued)

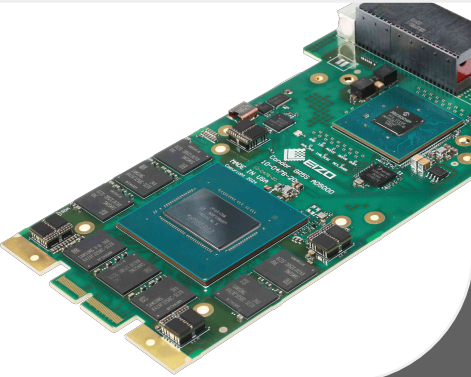
PRODUCTS	FORM FACTOR	FUNCTION	# CHANNELS	DATA RATE (GSPS)	RESOLUTION (BITS)	SIGNALING	COUPLING
FMC176	FMC	ADC DAC	4 2	250 5600	14 14	JESD204B (in) LVDS (out)	AC
FMC216	FMC	DAC	4, 8, 16	1250, 625, 312.5	16	JESD204B	DC
FMC407	FMC	Clock Generation & Distribution	8*	4400*	-	GPIO	-
FMC424	FMC	QSFP+ carrier	2	40 Gbps	-	GBT	-
FMC300	FMC+	ADC DAC	2 or 4 4	Up to 6GSPS Up to 12 GSPS	12 16	JESD204B/C	AC
FMC600	FMC+	PAM4 Fiber-optic FireFly optical	1 or 2 8x channels 1 or 2 4x channels	Up to 56 Gbps/channel Up to 25Gbps/channel		JESD204B/C	Optical

FPGA and SOC Boards

PRODUCTS	FORM FACTOR	FPGA/SOC TYPE	MEZZANINE	COMMENTS
VP461	6U VPX	Dual Zynq UltraScale+ RFSoc Gen 3 Dual Virtex UltraScale+ VU9p or VU13P Zynq UltraScale+ MPSoc ZU5EG	ADC: 16-channel >5.0GSPS 14-bit DAC: 16-channel 10.0GSPS 14-bit Flexible ADC/DAC clocking scheme	Aligned to SOSA standard
VP869	6U VPX	2x UltraScale+ Virtex	2x HSPC FMC+	
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
VP880	3U VPX	Ultrascale Kintex or Virtex and Zynq Ultrascale+	1x HSPC/FMC+	-
VP881	3U VPX	VP880 variant with expanded backplane I/O options	1x HSPC/FMC+	VP880 variant with expanded backplane I/O options
VP891	3U VPX	UltraScale+ Virtex and Zynq UltraScale+ MPSoc	1x HSPC/FMC+	VITA 66 optical options
VP892	3U VPX	UltraScale+ Virtex and Zynq UltraScale+ MPSoc	1x HSPC/FMC+	-
PC820	PCIe	UltraScale Kintex or Virtex	1x HSPC/FMC+, 1x HPC	8x Fiber-optics
PC821	PCIe	Ultrascale Kintex or Virtex	1x HSPC/FMC+, 1x HPC 1x FMC	8x Fiber-optics
VP231	3U VPX	UltraScale+ Virtex and Zynq UltraScale+ MPSoc	1x HSPC/FMC+	-
VP241	3U VPX	Versal Prime, Versal AI Core or Versal AI Edge	1x HSPC/FMC+	VITA 66 optical options
VP430	3U VPX	Zynq UltraScale+ RFSoc	-	8x 12b Analog In up to 4GSPS 8x 14b Analog In up to 6.4GSPS VITA 66 optical options
VP431	3U VPX	Zynq UltraScale+ RFSoc	-	8x 14b Analog In up to 5GSPS 8x 14b Analog In up to 10GSPS VITA 66 optical options



Abaco Systems combines the latest commercial technology with advanced ruggedization techniques to deliver exceptional graphics and video performance. Our solutions are available across a variety of platforms and lightweight, mission-ready subsystems, ensuring reliable, high-performance results in the most demanding environments.



GRA117S

The SOSA-aligned GRA117S is a rugged 3U VPX video graphics and GPGPU processing card designed for demanding applications in military, avionics, and industrial environments.

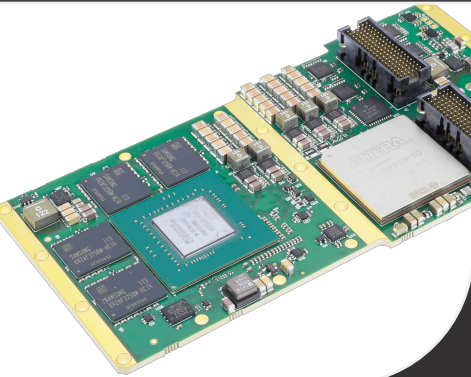
- Powered by the NVIDIA RTX™ 5000 GPU based on the Ada Lovelace architecture
- Supports NVIDIA software stack for the AD5000 GPU including the CUDA, CUDA-X, Open CL, H.264/H.265
- 16 GB of GDDR6 graphics memory equipped with error correction code (ECC)



GRA118SL

The GRA118SL is a rugged, SOSA-aligned 3U VPX graphics and GPGPU card designed for high-performance embedded computing in defense, aerospace, and industrial applications.

- Built on NVIDIA's cutting-edge Blackwell architecture, supporting GDDR7 memory
- PCIe Gen 5, and advanced AI and video processing capabilities
- Supports 9th Gen NVENC and 6th Gen NVDEC engines with 4:2:2 video encoding



NVB2000xX

The NVB2000xX is a rugged, high-performance XMC graphics and GPGPU card featuring the NVIDIA RTX PRO™ 2000 Blackwell GPU, equipped with 3,328 CUDA cores, 104 Tensor Cores, and 26 RT Cores.

- Offers three DisplayPort++/DVI outputs and advanced video encoding/decoding
- Supports 8 GB of GDDR7 ECC memory and PCIe Gen 5 for high-speed data transfer
- Designed for harsh conditions, it meets MIL-STD-810 standards

Graphics & Video Boards

PRODUCT	FORM FACTOR	CHIP SET	I/O	COOLING	CONFORMAL COATING	EXTENDED TEMPERATURE RANGE
NVA2000xX	XMC	NVIDIA Pascal GPU Quadro P2000	Front Panel: One Dual-Link DVI-D* & One DisplayPort++ Rear Pn4 PMC I/O: One Dual-Link DVI-D* & One Single-Link DVI-D	Air and Conduction	YES	From -40° to +85C
NVA2102xX	XMC	NVIDIA Ampere RTX A2000	Four 3G-SDI video inputs and four DisplayPort++, VGA and 3G-SDI outputs	Conduction	YES	From -40° to +85C
NVA2104A	XMC	NVIDIA RTX A2000	Four 3G-SDI video inputs and two CVBS (NTSC/PAL) inputs, four 3G-SD rear outputs	Air and Conduction	YES	From -40° to +85C
NVA500	XMC	NVIDIA Ampere RTX A500	-	Air and Conduction	YES	From -40° to +85C
GRA115Q	3U VPX	NVIDIA QuadroRTX™ 3000 GPU, NVIDIA QuadroRTX™ 5000 GPU	2x DisplayPorts 1.4a outputs, 2x SL-SVI outputs, 4x SL-DVI outputs	Air and Conduction	YES	From -40° to +85C
GRA116S	3U VPX	NVIDIA Quadro Ampere A4500 GPU	x2 DisplayPort outputs (VITA 65 option)	Air and Conduction	YES	From -40° to +85C
GRA1160P	3U VPX	NVIDIA Quadro Ampere A2000 GPU	Choice of 4 options: x2 DisplayPort & x2 Single-Link DVI-D; x4 Single-Link DVI-D; x4 DisplayPort; x2 Single-Link DVI-D & x2 3G-SDI	Air and Conduction	YES	From -40° to +85C
GRA5	3U VPX	NVIDIA Pascal GPU Quadro P2000	2x SL-DVI output ports, 2x DisplayPort 1.2 output ports	Air and Conduction	NO	From -40° to +85C
GRA116SETH	3U VPX	NVIDIA Ampere A4500	Two DisplayPort outputs (VITA 65 option)	Air and Conduction	YES	From -40° to +75C
GRA117S	3U VPX	NVIDIA RTX5000 Ada Lovelace	Optional front DisplayPort	Air and Conduction	YES	From -40° to +71C
GRA118SL	3U VPX	NVIDIA RTX PRO 4000/5000 Blackwell	-	Air and Conduction	YES	From -40° to +85C
NVB2000xX	XMC	NVIDIA RTX PRO 2000	3x DisplayPort++ / DVI outputs	Air and Conduction	N/A	From -40° to +85C
NVB500xX	XMC	NVIDIA RTX PRO 500	3x DisplayPort++ / DVI outputs	Air and Conduction	N/A	From -40° to +85C

GPU Enabled Integrated Systems

PRODUCTS	FORM FACTOR	PROCESSOR	COOLING	OPERATING TEMPERATURE	WEIGHT LB (KG)	DESCRIPTION
novaJET COMING SOON	Small Form Factor	NVIDIA Jetson IGX Thor	Baseplate	-40°C to +65°C	6.8 lbs (3.1 kg)	Premier Edge Inference, 2560 core Blackwell GPU, 14 core Arm® Neoverse® CPU, 128 GB LPDDR5X, 4x 25GB Ethernet
MAGIC2	2 + 1 Slot 3UVPX	Intel Xeon W 11th Gen, Tiger Lake GRA117S NVIDIA ADA5000	Forced Air or Baseplate Cooled	-40°C to 65°C baseplate temperature (base-plate-cooled version); -40°C to 65°C air at 15,000 m altitude (forced-air version)	10.16 lbs / 4.61 KG	High Performance Rugged Dual Intel Xeon Mission Computer and Discrete GPU



Abaco’s expertise in network communications and timing, combined with the versatility of OpenWare COTS switch management software, enables us to deliver tailored solutions for even the toughest networking problems. With over 30 years of industry experience, we offer unmatched reliability and flexibility in critical network environments.



SWE450S

The SWE450S provides robust networking capabilities for tactical environments, featuring SOSA™ alignment and OpenWare™ switch management for ultimate flexibility.

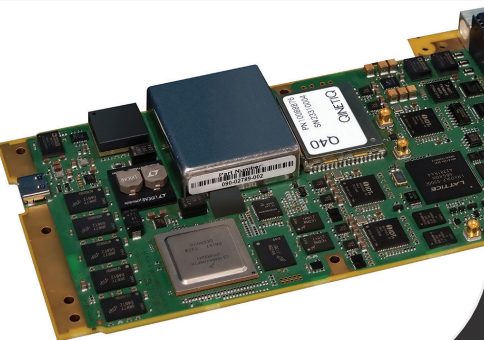
- Configurable 10G, 25G, 40G and 100G including optical ports
- Advanced Layer 2/3 routing for mission-critical applications
- Seamless integration with Abaco’s high-performance computing systems



RES3000

The RES3000 is a lightweight and space-optimized Ethernet switch designed to meet military standards, featuring high port density in a compact form factor.

- Available in 12, 24, and 28-port configurations, supporting 1000BaseT and 10GBASE-SR
- Designed for compliance with military specifications, including support for the VICTORY initiative
- Features OpenWare™ for comprehensive management and configuration options



PNT500

The PNT500 ensures accurate positioning, navigation, and timing even in GPS-denied environments, making it essential for defense and aerospace applications.

- Multi-GNSS capabilities for seamless operation across multiple constellations
- Advanced anti-jamming and interference rejection for reliable data
- Robust design with synchronized timing across systems via IEEE 1588 PTP

Ethernet Switches

PRODUCTS	FORMAT	PORT TYPE	SIZE	SOFTWARE AND MANAGEMENT
RES3000 (12-port)	Packaged System	12x 1GBase-T	148 x 143 x 86mm	Fully Managed Layer-2/3+ with OpenWare
RES3000 (24/28-port)	Packaged System	24x 1GBase-T Optical options: 4x 10GBase-SR or 4x 10GBase-LR	244 x 148 x 86mm	Fully Managed Layer-2/3+ with OpenWare
VSR8000	Packaged System	8x 10/100/1000Base-T	199 x 144 x 90mm	Virtual Firewall (vSRX), Juniper Networks®, Junos®

Embedded Ethernet Switches

PRODUCTS	FORM FACTOR	FRONT PANEL PORTS (in band)	BACKPLANE PORTS (in band)	MANAGEMENT
SWE440A	3U VPX		40GBase-KR4, 10GBase-KX4/KR, 1GBase-T, 1GBase-KX	OpenWare Fully Managed Layer 2/3+
SWE440S	3U VPX	2x SFP (air-cooled only)	1GBase-T, 1GBase-KX, 10GBase-KX4, 10GBase-SR, 10GBase-KR, 40GBase-KR4, 10GBase-LR	OpenWare Fully Managed Layer 2/3+
SWE450S	3U VPX	Optical: up to 8x 25GBase-SR (or 2x 100GBase-SR4)	Up to 32x 25GBase-KX/KR (or 8x 100GBase-KR4)	OpenWare Fully Managed Layer 2/3+
SWE540A	6U VPX	Air-cooled: Up to 4x QSFP+	Up to 20x 1GBase-KX and 40GBase-KR4, 10GBase-KX4, 10GBase-KR	OpenWare Fully Managed Layer 2/3+
SWE550S	6U VPX	Up to 8x 25GBase-SR (or 2x 100GBase-SR4)	Up to 88x 1/10/25GBase-KR (or 22x 40/100GBase-KR4) Up to 28x 25GBase-SR (VITA 66) (or 7x 100GBase-SR4)	OpenWare Fully Managed Layer 2/3+
GBX25	6U VME	Air-cooled: Up to 24x SFP/SFP+ (100Base-FX, 10/100/1000Base-T, 1GBase-SX, 1GBase-LX, 10GBase-T, 10GBase-SR, 10GBase-LR) Conduction-cooled: Up to 8x 1GBase-SR	Up to 24x 10/100/1000Base-T	OpenWare Fully Managed Layer 2/3+

Ethernet Network Interface Cards

PRODUCTS	FORM FACTOR	PORTS	PORT TYPE
XMC477RC	XMC	4x SFP	1GBase-SX, 1GBase-LX, , 1GBase-T, 100Base-FX
PNIC1G	PMC	Air-cooled: RJ45 Conduction-cooled: PMC P14	4x 1GBase-T
XNIC1G	XMC	Air-cooled: RJ45 Conduction-cooled: XMC	4x 1GBase-T
XNIC10G	XMC	Air-cooled: RJ45/SFP+ Conduction-cooled: XMC	2 or 4x 10GBase-T
XNIC1GKX	XMC	Conduction-cooled: XMC	4x 1GBase-KX

Timing Navigation

PRODUCTS	FORM FACTOR	GNSS	MASTER CLOCK REFERENCES	1PPS	REFERENCE CLOCKS	SOFTWARE
PNT500	3U VPX	Multi-band, multi-constellation: GPS, Galileo (Glonass, Beidou, SBAS, via future software updates)	CSAC and OXCO	11x VPX backplane, 1x VITA 67/coax out, 1x VITA 67/coax in	Programmable (typ 25-100MHz) 11x VPX backplane out (individually programmable inc. phase), 1x VITA 67/coax out, 1x VITA 67/coax in	Command Line Interface or DDS/GVA (contact factory for other)

Designed for rapid deployment, Abaco’s Integrated Systems leverage commercial open standards to offer powerful and flexible solutions. Pre-integrated and pre-qualified, they help reduce costs, risks, and lead times, ensuring you can quickly meet your operational needs.



novaJET

Featuring NVIDIA’s Jetson Thor module, the premier edge inference platform for AI and autonomous mission computing supported by NVIDIA’s rich SW development ecosystem.

- 2560 core Blackwell GPU, 14 core Arm® Neoverse® CPU
- 128 GB LPDDR5X unified memory, 4x 25GB Ethernet
- Highly rugged system designed for MIL-STD-810 and DO-160



CERT System

The CERT Systems from Abaco provide safety-certifiable solutions compliant with DO-254 and DO-178C, designed to accelerate the certification of flight systems while ensuring high reliability.

- Includes artifacts for DAL D to DAL A certification, reducing time and cost for customers
- Integrated with Power PC, future ARM, and Zynq UltraScale technologies with diverse I/O options
- Engineered to withstand harsh environments, adhering to MIL-STD-810G and MIL-STD-461G standards



MAGIC

The MAGIC product line is a 3U VPX modular high performance mission computer lineup hosting various options for compute module configurations, I/O panels, cooling, storage, and power supplies.

- Integrates latest compute modules as they are developed by Abaco ensuring rapid access to new technology updates.
- High ruggedization and heat dissipation for maximum performance in low SWAP-C system.
- SOSA and MOSA prioritized design for off the shelf and future modularity.

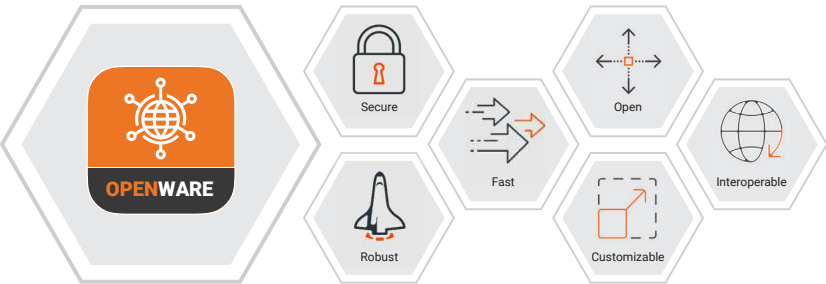
COTS Systems

PRODUCTS	FORM FACTOR	PROCESSOR	COOLING	OPERATING TEMPERATURE	WEIGHT LB (KG)	DESCRIPTION
RES3000	Packaged Rugged System	N/A	Natural Conduction/Convection Cooled and Baseplate Cooled	-40°C to +71°C	3.5 - 6.9 lbs (1.6 - 3.1 kg)	Compact, rugged, fully managed Ethernet switch
novaJET COMING SOON	Small Form Factor	NVIDIA Jetson IGX Thor	Baseplate	-40°C to +65°C	6.8 lbs (3.1 kg)	Premier Edge Inference, 2560 core Blackwell GPU, 14 core Arm® Neoverse® CPU, 128 GB LPDDR5X, 4x 25GB Ethernet
MAGIC2 Alpha	2 + 1 Slot 3UVPX	2x Intel Xeon W 11th Gen NVP2102A NVIDIA A2000 RAR-15 Avionics XMC	Forced Air or Baseplate Cooled	-40°C to 65°C baseplate temperature (base-plate-cooled version); -40°C to 65°C air at 15,000 m altitude (forced-air version)	10.16 lbs / 4.61 KG	High Performance Rugged Dual Intel Xeon W Mission Computer and 3G-SDI Video Processing with Avionics I/O
MAGIC2 Bravo	2 + 1 Slot 3UVPX	Intel Xeon W 11th Gen, Tiger Lake TXMC395 Network Interface Card NVP2102 NVIDIA P2000 XMC PEX431 Carrier	Forced Air or Baseplate Cooled	-40°C to 65°C baseplate temperature (base-plate-cooled version); -40°C to 65°C air at 15,000 m altitude (forced-air version)	10.16 lbs / 4.61 KG	High Performance Rugged Dual Intel Xeon Mission Computer and 3G-SDI Video Processing with Legacy MAGIC1a I/O Compatability
MAGIC2 Charlie	2 + 1 Slot 3UVPX	Intel Xeon W 11th Gen, Tiger Lake GRA117S NVIDIA ADA5000	Forced Air or Baseplate Cooled	-40°C to 65°C baseplate temperature (base-plate-cooled version); -40°C to 65°C air at 15,000 m altitude (forced-air version)	10.16 lbs / 4.61 KG	High Performance Rugged Dual Intel Xeon Mission Computer and Discrete GPU
MAGIC2 Delta	2 + 1 Slot 3UVPX	Intel Xeon W 11th Gen, Tiger Lake RAR-15 Avionics XMC NVP2104 NVIDIA A2000 XMC PEX431 Carrier	Forced Air or Baseplate Cooled	-40°C to 65°C baseplate temperature (base-plate-cooled version); -40°C to 65°C air at 15,000 m altitude (forced-air version)	10.16 lbs / 4.61 KG	High Performance Rugged Intel Xeon W Mission Computer and 3G-SDI Video Processing with Avionics I/O
MAGIC4 Alpha COMING SOON	4 + 1 Slot 3UVPX	SBC3518 Intel Core 9 Ultra VP231 Xilinx ZU11, FMC300 ADC/DAC NVIDIA Blackwell + ConnectX7 SWE450S High Speed Switch	Liquid over Conduction, Forced Air, Baseplate Cooled	-40°C to +65°C	12 lbs / 5.4 KG	High Performance Rugged CPU, GPU, FPGA, FMC, Switch, with high speed NVIDIA Holoscan Sensor Bridge IP

CERT Systems

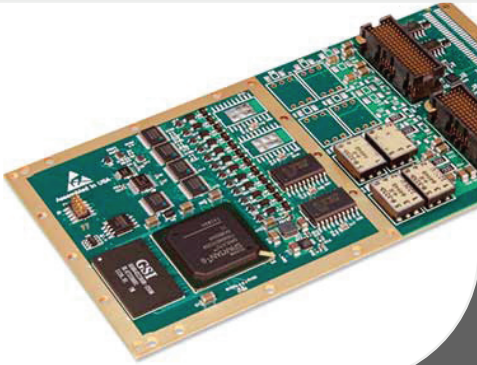
PRODUCTS	FORM FACTOR	PROCESSOR	COOLING	OPERATING TEMPERATURE	WEIGHT LB (KG)	DESCRIPTION
FORCE2C	VPX 3U	QorIQ T2081 @ 1.8 GHz / T1042 @ 1.4 GHz	Base Plate	-40°C to +70°C	7.0 lbs (3.2kg)	Flight certifiable mission computer

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.





Abaco offers a robust range of avionics interfaces that address the entire lifecycle of aircraft systems. From development through testing and embedded deployment to maintenance on the flightline, our expertise ensures effective solutions for diverse aviation needs.



RAR15X

The RAR15X is a versatile avionics interface designed to enhance application development and reduce time-to-market.

- High-level API support for multiple operating systems, including Windows and Linux
- 8 Mbytes of RAM with 64-bit message time tagging for precise data handling
- Multi-function capabilities allowing simultaneous bus controller and bus monitor operations with up to 31 remote terminals



Thunderbolt 3

The Thunderbolt 3 family of products from Abaco provides embedded performance in a portable device, serving as a modern solution for legacy connections.

- Upgraded replacement for ExpressCard, PCMCIA, and USB connections
- Delivers 40Gbps high-speed interface for minimal latency and maximum channel density
- Supports multiple protocols, including ARINC 429 and MIL-STD-1553, for versatile applications



R15 USB

The R15-USB provides a high-speed USB 2.0 connection with dual-redundant channels for MIL-STD-1553A/B systems, designed for versatile application in harsh conditions.

- Configurable for dual-function and multi-function modes, supporting simultaneous operations
- Equipped with IRIG-B signal receiver/generator and 8 bi-directional avionics discretes
- Advanced API software reduces development time, compatible with various operating systems

Embedded I/O

PRODUCTS	FORM FACTOR	PROTOCOL	# CHANNELS	TEMPERATURE RANGE	DISCRETES
RXMC1553	XMC	MIL-STD-1553	MIL-STD-1553 1 or 2	-40°C to +85°C	0, 8 or 12
RXMC21553	XMC	MIL-STD-1553	MIL-STD-1553 4	-40°C to +85°C	12
RAR-XMC	XMC	ARINC 429, 573, 575, 582 2-wire, 717	ARINC 2 To 32	-40°C to +85°C	0 or 2
RAR15X	XMC	ARINC 429, MIL-STD-1553	2 MIL-STD-1553 4 MIL-STD-1553 10 ARINC receive 4-8 ARINC transmit	-40°C to +85°C	0, 6, 12
R15-MPCIE	mPCIe	MIL-STD-1553	MIL-STD-1553 1 or 2	-40°C to +85°C	2
RAR-MPCIE	mPCIe	ARINC 429, 573, 575, 582 2-wire, 717	ARINC 4 to 12	-40°C to +85°C	4

Test, Simulation and Development

PRODUCTS	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

Thunderbolt 3 Portable Devices

PRODUCTS	FORM FACTOR	PROTOCOL	# CHANNELS	APPLICATION	OTHER
QPM-1553-TB	PMC, Thunderbolt 3	MIL-STD-1553	1, 2, or 4	Lab, Simulation, Test, Portable	IRIG, 18 Discretes, Single/Dual/Multi-function operating mode
RCEI-830A-TB	PMC, Thunderbolt 3	429, 573, 575, 582 2-wire	Up to 16 Rx and 16 Tx	Flightline, Maintenance	Conduction cooled, commercial XT temperature range
RCNIC-A2PA-TB	PMC, Thunderbolt 3	AFDX/ARINC 664	2	Flightline, Maintenance	IRIG, AFDX/ARINC 664 Part 7 stack
RAR15XF-TB	XMC, Thunderbolt 3	MIL-STD-1553, ARINC 429	ARINC 10RX 8TX, MIL-STD-1553 2 or 4	Flightline, Maintenance	0 or 6

Databus Analyzer

PRODUCTS	FORM FACTOR	# CHANNELS	APPLICATION
BT-1553	Software	-	Lab Simulation Test Development
BT-ARINC	Software	-	Flightline, Maintenance
BT3-R15-USB	Software & I/O card	MIL-STD-1553 1 or 2	Flightline, Maintenance
BTA-USB		ARINC 16 RX, 5 TX	Flightline, Maintenance

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PRODUCT LIFECYCLE MANAGEMENT

Abaco's dedication to Product Lifecycle Management (PLM) ensures that customer programs receive unwavering support throughout their lifecycle, even if measured in decades. We achieve this by designing successive generations of products to be pin-compatible with their predecessors, facilitating seamless technology insertion for enhanced performance and functionality. For example, our recently introduced 3U VPX SBC3215 maintains form, fit, and function compatibility with our SBC320 from 2008.

Our PLM services are designed to protect customers from obsolescence through a range of standard or tailored solutions. These include proactive product health checks, which monitor the availability of every part we use. This allows us to provide advance notifications and options for managing obsolescence, such as last-time buys, identifying replacement parts, or redesigning products for compatibility.

We also offer secure storage for lifetime buys in our state-of-the-art, environmentally controlled facilities, ensuring components are available when needed. Our commitment extends to maintaining the necessary facilities and personnel to support any product we have ever sold, preserving the expertise required for long-term support. By focusing on minimizing long-term costs of ownership and ensuring compatibility across product generations, Abaco delivers reliable and efficient solutions for your programs.



RUGGED BY DESIGN



Abaco's commitment to rugged design means our products are built to endure the toughest conditions. We achieve this through meticulous part selection, innovative mechanical engineering, and cutting-edge cooling technologies. Our unique approach integrates design evaluation, assembly, and testing with advanced thermal management and mechanical engineering to deliver superior rugged solutions. By upgrading or screening parts for extended temperatures, adding mechanical stiffening bars, and changing substrate materials for thermal conduction, we ensure our products can withstand the most challenging environments.

Our advanced cooling technologies, developed in collaboration with the GE Global Research Center and through DARPA projects, include the Thermal Management Technology Bridge and Dual Cool Jets (DCJ). These technologies provide efficient heat transfer and cooling, allowing our products to

maintain optimal performance even under extreme thermal conditions. This ensures that our rugged solutions not only meet but exceed the performance and reliability standards required for mission-critical applications.



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Abaco Systems is a global leader in commercial open architecture computing and rugged embedded electronics. With more than 30 years of experience in aerospace & defense, industrial, energy, medical, communications and other critical sectors, Abaco's innovative solutions align with open standards to accelerate customer success.

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