AMC720 / AMC720C – PrAMC based on Intel Xeon E3-1125, PCIe

PrAMC, PCIe

AMC720

AMC720C

KEY FEATURES

- Intel® Xeon™ E3 processor
- Conduction cooled version available
- Single module, mid-size per AMC.0
- PCIe Gen2 (Gen3 on v2 option) x4 on ports 4-7 and 8-11 or single PCIe x8 on ports 4-11 (AMC.1)
- GbE to port 0 and 1 (AMC.2) and SATA to port 2 and 3 (AMC.3)
- Dual GbE to the front panel
- Up to 16 GB of DDR3 w/ ECC and 32 GB Flash
- Option for 32 GB SATA drive
- Serial over LAN
- IPMI 2.0 compliant

AdvancedMC™

Benefits of Choosing VadaTech

- Quad core Xeon for data processing with dual GbE ports
- Optional SSD for local storage
- Flexible boot options
- Strong mil/aero support
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

The AMC720 is a flexible processor AMC for general purpose processing. The AMC720 has quad-core Xeon and Linux support, it can act as system host and data processing engine. The dual front-panel GbE ports provide simple network connectivity, so while the unit is designed for embedded processing (i.e. typically without a monitor), it is straightforward to use with a virtual desktop on a remote PC/laptop for development and setup.

The AMC can be used in MicroTCA chassis from 2 to 12 slot, where virtual domain configurations can support multi-host implementations. The PCIe Gen3 option on the v2 processor allows the AMC to be used with the latest interface modules.

The BIOS allows booting from on-board Flash, on- or off-board SATA, PXE boot, and USB, providing flexibility in deployment model used.

The AMC720 is available in both air-cooled (MTCA.0 and MTCA.1) and rugged conduction-cooled (MTCA.2 or MTCA.3) versions.
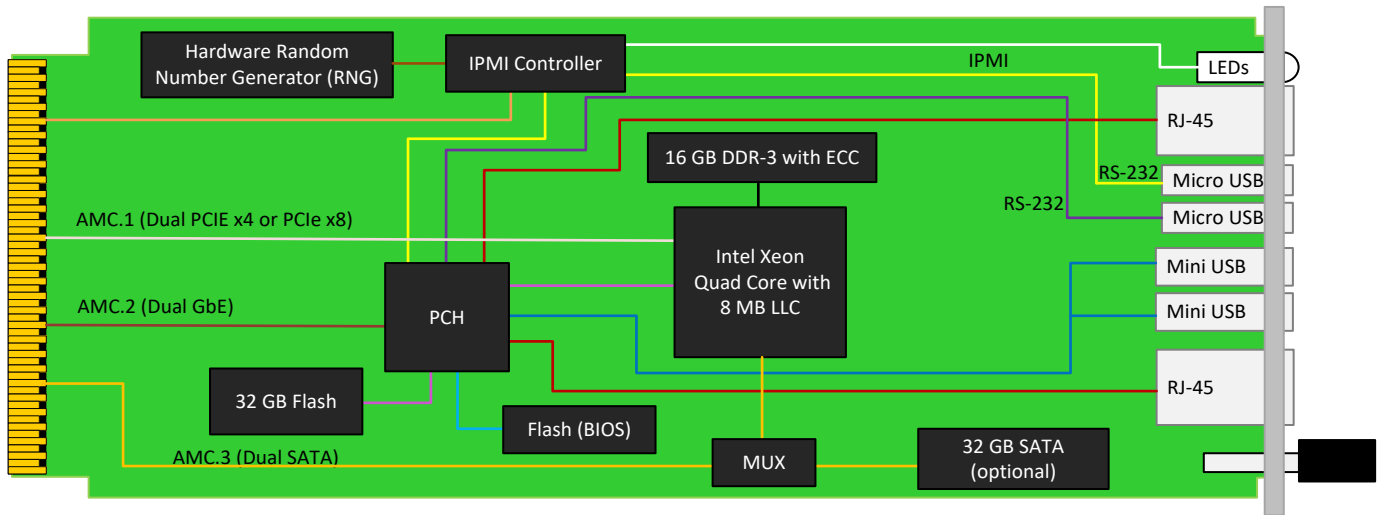
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AMC720

BLOCK DIAGRAM

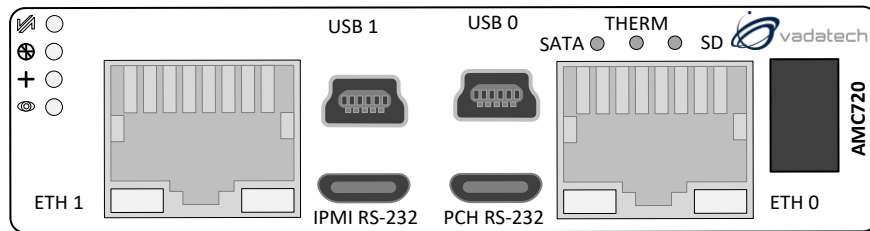**Figure 1: AMC720 Functional Block Diagram**

FRONT PANEL

Figure 2: AMC720 Front Panel

Figure 3: Front Panel with Single Latching Flange (Optional)

AMC720C

VadaTech offers the AMC720 in a rugged clamshell variant, available as either MTCA.3 (conduction cooled) or MTCA.2 (hybrid cooled, forced air and conduction). For these versions of the module the ground planes are extended into the wedge lock region of the clamshell to enhance thermal transfer. Such units are typically used in ATR style chassis such as the VT87x series.

Note that for clamshell-encased variants the front panel connectors differ slightly from the standard product described in this datasheet – contact VadaTech sales for details and for specific product order codes.
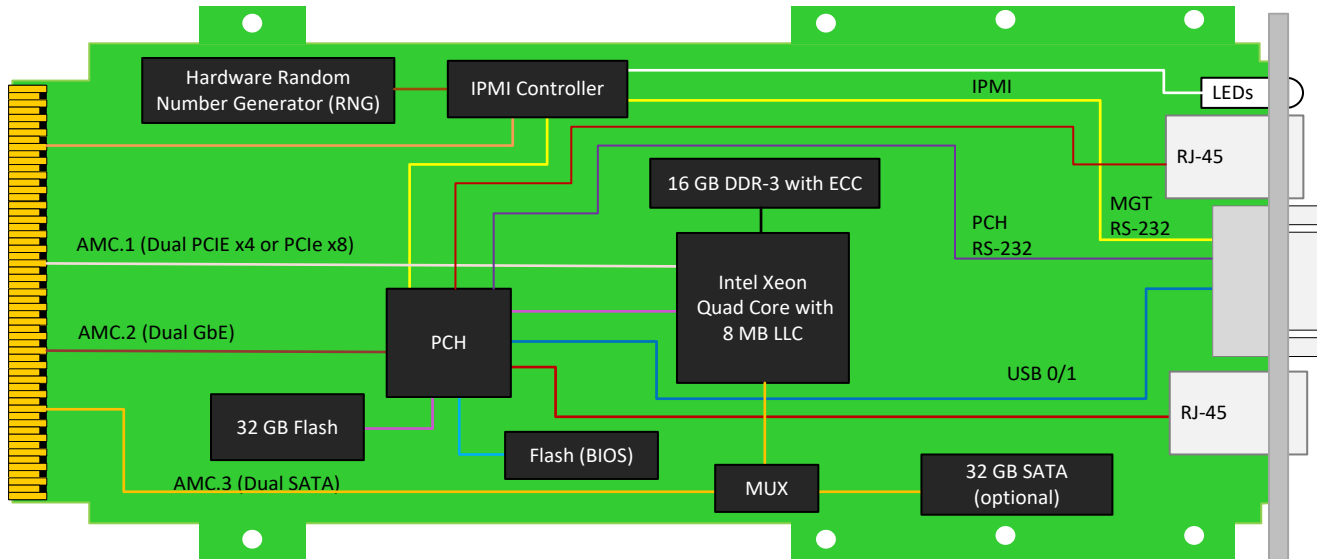
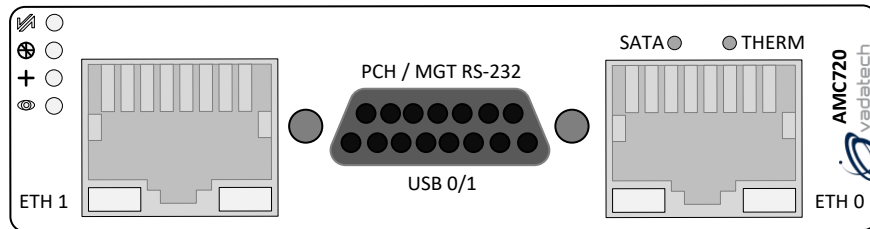## BLOCK DIAGRAM

Figure 4: AMC720C Block Diagram

FRONT PANEL

Figure 5: AMC720C Front Panel

SPECIFICATIONS

Architecture		
Physical	Dimensions	Single module, mid-size (full-size optional)
		Width: 2.89" (73.5 mm)
		Depth 7.11" (180.6 mm)
Type	AMC Processor	Intel® Xeon™ with up to four core at 2.0 GHz and 8 MB LLC

Standards		
AMC	Type	AMC.0, AMC.1, AMC.2 and/or AMC.3
Module Management	IPMI	IPMI version 2.0
PCIe	Lanes	Dual x4 or single x8 as PCIe

Configuration		
Power	AMC720	18W to 48W (CPU dependant)
Environmental	Temperature	Operating temperature: -5° to 45° C (55°C for limited time, performance restrictions may apply), industrial versions also available (See environmental spec sheet)
		Storage Temperature: –40° to +85°C
	Vibration	Operating 9.8 m/s^2 (1G), 5 to 500Hz on each axis
	Shock	Operating 325G / 2 ms, 160G / 1 ms
	Relative Humidity	5 to 95 per cent, non-condensing
Front Panel	Interface Connectors	Dual GbE via RJ-45
		Dual USB via mini USB
		Dual RS-232 via microUSB
	LEDs	IPMI management control
		Activity / Link user LEDs
	Mechanical	Hot swap ejector handle (AMC720); wedgelocks (AMC720C)
Software Support	Operating System	Linux (consult factory for VxWorks, Windows, or other options)
Conformal Coating		Humiseal 1A33 Polyurethane (Optional)
		Humiseal 1B31 Acrylic (Optional)

Other	
MTBF	MIL Hand book 217-F@ TBD hrs
Certifications	Designed to meet FCC, CE and UL certifications, where applicable
Standards	VadaTech is certified to both the ISO9001:2000 and AS9100B:2004 standards
Warranty	Two (2) years

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of ATCA and µTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTM), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

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ORDERING OPTIONS

AMC720 – ABC – DE0 – 0HJ

COMMON CONFIGURATIONS

AMC720-1xx-300-000
AMC720-722-300-000

A = CPU Core, Speed, Cache
1 = 4C, 2 GHz, 8 MB LLC (Xeon E3-1125)
2 = Reserved
3 = Reserved
4 = Reserved
5 = Reserved
6 = Reserved
7 = 4C, 2.5 GHz, 8 MB LLC (Xeon E3 1125 v2)

B = DDR3 ECC Memory
0 = 4 GB
1 = 8 GB
2 = 16 GB

C = Front Panel Size
0 = Reserved
1 = Reserved
2 = Mid-size
3 = Full-size
4 = Mid-size, SLF*, single screw

D = Flash Memory
0 = None
1 = Reserved
2 = Reserved
3 = 32 GB**

E = SATA Drive
0 = No drive
1 = 32 GB SATA
2 = 64 GB SATA

H = Temperature Range
0 = Commercial (–5 to +55° C)
1 = Industrial (–20 to +70° C)

J = Conformal Coating
0 = None
1 = Humiseal 1A33 Polyurethane
2 = Humiseal 1B31 Acrylic

The VadaTech SLF (Single Latching Flange) design provides one latching flange and screw on the left side of the AMC front panel – the opposite side of the standard AMC latching handle.
** VadaTech reserves the right to supply larger capacity unless specifically stated otherwise on the Purchase Order.

AMC720C – ABC – D00 – 0HJ

A = CPU Core, Speed, Cache
1 = 4C, 2 GHz, 8 MB LLC (Xeon E3-1125)
2 = Reserved
3 = Reserved
4 = Reserved
5 = Reserved
6 = Reserved
7 = 4C, 2.5 GHz, 8 MB LLC (Xeon E3 1125 v2)

B = DDR3 ECC Memory
0 = 4 GB
1 = 8 GB
2 = 16 GB

C = Ruggedization Level*
0 = None
1 = Contact Vadatech
2 = Contact Vadatech
3 = Contact Vadatech

D = SATA Drive
0 = None
1 = Reserved
2 = Reserved
3 = 32 GB**

H = Temperature Range *
0 = Commercial (–5 to +55° C)
1 = Industrial (–20 to +70° C)

J = Conformal Coating
0 = None
1 = Humiseal 1A33 Polyurethane
2 = Humiseal 1B31 Acrylic

* Ruggedization level is per the uTCA.2 and uTCA.3 specifications
** VadaTech reserves the right to supply larger capacity unless specifically stated otherwise on the Purchase Order.
*** Edge of module

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RELATED PRODUCTS

VT811 MicroTCA.4 Chassis

AMC520 MicroTCA.4 A/D Converter

VT872 ½ ATR Short, 6 AMC Conduction Cooled Chassis

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