

# AMC304/305 PRODUCT SHEET

## Quad T1/E1/J1 Communications Controller

### FEATURES

Quad T1/E1/J1  
Communications Controller

Mid-Size, Single AMC Module

Full Compliance with AMC  
Specifications

Freescale™ MPC8560  
PowerQUICC® III Processor

PCI Express® and Gigabit  
Ethernet Connectivity

Telco Clock Support for TCLKA  
and TCLKB and Optionally  
TCLKC/D

NexusWare® Core CGL OS and  
Development Tools

NexusWare WAN Protocol  
Software:

- HDLC
- X.25
- Frame Relay

NexusWare SIP  
Session Initiation Protocol  
(SIP) Stack and API

NexusWare C7  
SS7 MTP-2

Broad Operating System  
Support includes Solaris™,  
Windows®, and Linux®



The use of AdvancedTCA® and MicroTCA® systems for telecommunications, aerospace and defense, as well as commercial markets will require high-density, highly advanced I/O solutions for use in these form factors. As a long-time contributor to industry standards and emerging technologies, PT provides a powerful combination of hardware and advanced software that enables its customers to fully leverage AdvancedTCA and MicroTCA capabilities.

PT's AMC304/AMC305 AdvancedMC™ T1/E1/J1 communications controllers deliver a comprehensive high-capacity connectivity solution for use with AdvancedTCA or MicroTCA platforms. Coupling the AMC304 (or AMC305) with PT's extensive software offering provides the ability to deliver a wide range of Voice over IP (VoIP), Wireless, and IP Multi-Media Subsystem (IMS) infrastructure application elements.

### Hardware Features

The AMC304/AMC305 provides a high-capacity solution for signaling and media applications and enables optimization of slot usage. The specialized architecture leverages the power of a Freescale MPC8560 Quad Integrated Communications Controller (PowerQUICC III) to deliver high-performance and high-capacity processing. With four T1/E1/J1 interfaces, support for high-performance PCI Express interfaces, and Gigabit Ethernet, the AMC304/AMC305 modules enable rapid exchange of payload information and represent the ideal solution

for a wide range of applications requiring T1/E1/J1 connectivity. Specific to the AMC305 is the ability to transmit TDM traffic over I-TDM. This ability allows for the AMC305 to transmit TDM traffic to other modules via the I-TDM interface over Ethernet.

### NexusWare Software Support

NexusWare is a family of Linux software products that enable users of PT's broad range of COTS embedded hardware solutions to rapidly develop and deploy value-added capabilities with their solutions. This powerful combination of software and hardware enables system engineers, architects, and designers in telecommunications as well as aerospace and defense markets, to create applications and bring to market solutions such as WiMAX, media gateways, managed WAN gateways, Voice over IP, lawful intercept, radar servers, signaling gateways, and base station controllers.



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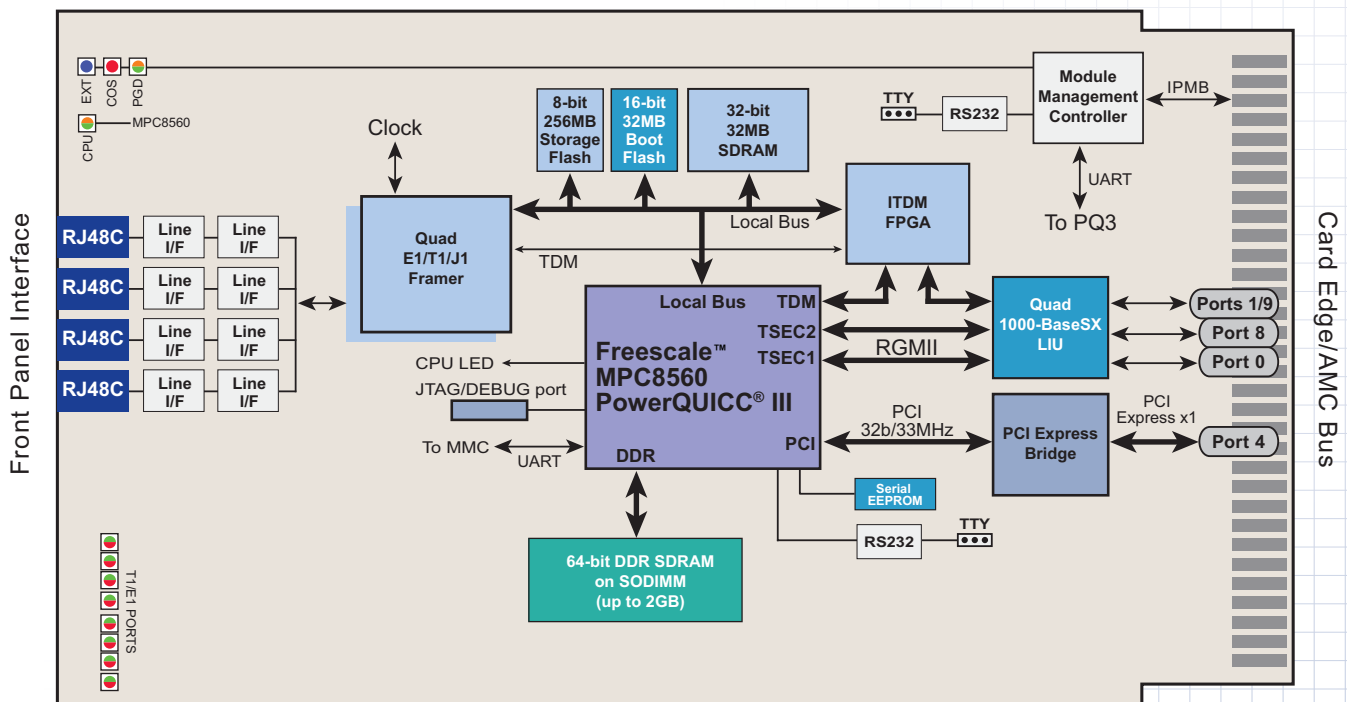
The NexusWare® family of products supported on the AMC304/ AMC305 include:

**NexusWare Core:** At the very center of the NexusWare Software Suite is NexusWare Core. NexusWare Core is a complete Carrier Grade Linux® (CGL) distribution. In addition to being a Linux distribution, NexusWare Core also provides a complete development environment.

**NexusWare WAN:** NexusWare WAN protocols provides a wide range of WAN protocols which allows OEMs and System Integrators to create flexible and efficient radar gateways, converged serial gateways, and front-end I/O systems. NexusWare WAN software products are offered both as installable software packages for NexusWare Core and as turn-key packages for those developers interested in the protocol package by itself. Whether the installable or the turn-key solution is chosen, developers will be provided with a well-documented and powerful API to assist the development process.

**NexusWare SIP:** NexusWare SIP is an installable Session Initiation Protocol (SIP) stack and API software package that provides a powerful foundation for application developers for building SIP proxy servers, SIP location servers, SIP registrar servers, and SIP media gateways for wireless and IP telephony systems.

**NexusWare C7:** NexusWare C7 is a comprehensive SS7 MTP-2 installable software package that provides a powerful foundation for building SS7 applications for wireless and IP telephony systems. NexusWare C7 provides extensive system scalability. The distributed processing architecture of NexusWare C7 allows the addition of SS7 links into existing equipment without compromising overall host system performance.



AMC304/305 – Mid-Size, Single AMC Module

## Technical Specifications

### Performance

- Four individually software selectable T1/E1/J1 lines. PCI Express® x1 link on AMC port 4 (AMC.1 Type 1)
- 2 Gigabit Ethernet links on AMC port 0 (AMC.2 Type E1) and 8 (AMC.2 T1)
- I-TDM Gigabit Ethernet link on AMC port 1 or 9 (AMC305 only)
- Telecom clocks on TCLKA and TCLKB, optionally TCLKC/D
- PCI Express 100 MHz clock input on AMC FCLKA
- T1/E1/J1 line signals on AMC port 20-12 towards 3rd-party Rear Transition Module

### Processor

- 833 MHz Freescale™ MPC8560 PowerQUICC® III

### Memory

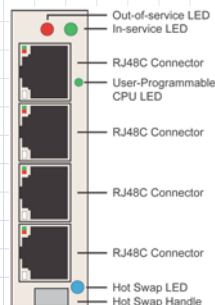
- 128 MB shared SDRAM on SODIMM (up to 1GB)
- 64 MB downloadable 8-bit Flash memory

### Telecom Clock Management

- Line interfaces configurable LT (slave) or NT (master) mode
- Three synchronization modes supported
- Free running internal clock
- Recovered clock (loop back timing) from any T1/E1/J1 line
- System telecom clock reference (via AMC TCLKA or TCLKC)
- Clock can be forwarded to AMC TCLKB or TCLKD

### Front Panel Interfaces

- Front access on 4 RJ48C connectors
- LEDs
  - Out-of-Service
  - In-Service
  - CPU
  - Hot-Swap
- Hot Swap Handle



### Power Consumption

- Payload power: +12 V
- Management power: +3.3 V
- Typical: 20 W
- Maximum: 24 W

### Mechanical

- Mid-size, single AMC.0 form factor
- Dimensions: 73.5 mm (W) x 180.6 mm (D) x 15.59 mm (H) (2.9 in. x 7.1 in. x 0.61 in.)

### Environmental

- Operating: 0 to 55°C (32 to 131°F)
- Non-operating: -40 to 80°C (-40 to 176°F)
- Humidity: 5% to 95% non-condensing

### Agency Certifications

- FCC 47 CFR Part 15 Subpart B, Class A
- ICES- 003, Issue 3 November 22, 1997, Class A
- ETSI EN-300 386-1 and EN-300 386-2 V1.1.3 (2003-05)
- EN55022:1998+A1:00+A2:03
- EN55024:1998+A1:00+A2:03
- UL60950 / EN 60950
- CSA C22.2 No.60950-1
- TBR 12 (O.J. 29 July 1994), TBR 12: December 1993, including Amendment 1, 1996
- TBR 13 (O.J. 7 August 1997), TBR 13: January 1996

### MTBF

- 602,825 hours per Bellcore SR-332 Issue 2

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## Quad T1/E1/J1 Communications Controller

### ORDERING INFORMATION

**PT-AMC304-12339**

4-port T1/E1/J1 w/o I-TDM

**PT-AMC305-12340**

4-port T1/E1/J1 with I-TDM

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