

V8200

10GbE Development Platform for High-Bandwidth Applications

Benefits

- Enables rapid development of real-time 10GbE line-rate applications
- Easily extends and scales to new applications
- Open-standards based platform maximizes flexibility and mitigates risk
- Ensures application portability among AdvancedIO platforms

Key Features

- Fully integrated development platform featuring Intel® based system controller and high performance FPGA processing modules
- Versatile architecture runs the expressXG™ Framework for rapid application development and deployment
- Linux Fedora Core 11 64-bit operating system
- Four 10GbE ports
- Industry standard MicroTCA® platform
- High-bandwidth inter-module control and data communications planes
- Dedicated low-latency direct slot-to-slot high-speed backplane connection
- Includes optical and debug cable kit

Applications

- Network Monitoring
- Network Security
- Sensor Systems

Overview

AdvancedIO Systems' V8200 10GbE Development Platform is designed to enable customers to rapidly develop real-time 10GbE line-rate applications for network monitoring, security and sensor system applications. Geared towards emerging high-bandwidth network situational awareness and monitoring applications, the V8200 Development Platform has many features that make the system attractive to those involved in R&D initiatives with 10 Gigabit protocols. The modular architecture of the platform and its software, expressXG Framework, ensures the entire system is scalable and expands to include other applications.

The expressXG Framework software included with the V8200 Development Platform is a feature-rich solution that is ideal for the development of network monitoring and security applications and high-bandwidth communication applications on FPGAs. The framework allows developers to focus on implementing their applications and DPI algorithms rather than on creating platform infrastructure. In addition, running expressXG Framework significantly speeds the development process and enables application portability among AdvancedIO platforms, safeguarding an organization's investment in application development. For more details on the capabilities of expressXG Framework, please see the expressXG Framework and the expressXG Framework Lite data sheets.



> V8200 10GbE Development Platform

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Built on the Open Standards-based MicroTCA Form Factor

The V8200 conforms to the MicroTCA standard and provides hot-swap control and system management functionality to accommodate reconfiguration or updates in the field. The V8200 includes:

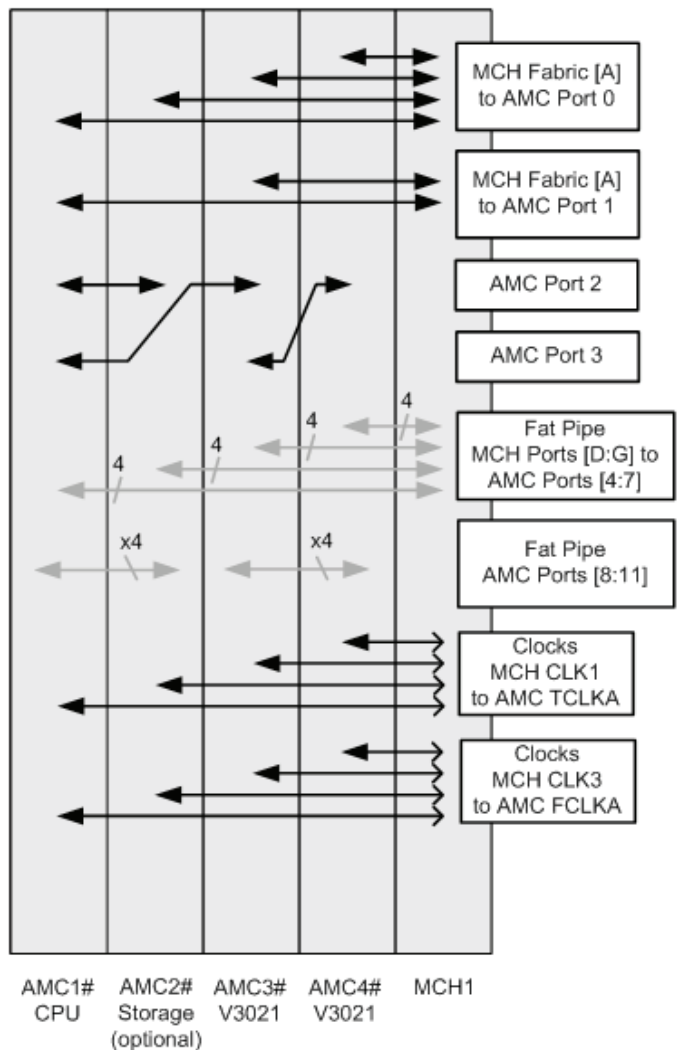
- two AdvancedIO V3021 network monitoring AdvancedMC™ (AMC) modules, each supporting 2 front-panel SFP+ 10GBASE-SR optical Ethernet interfaces and one front-panel RJ-45 10/100/1000BASE-T Ethernet interface
- a high-performance system controller AdvancedMC module, featuring the Intel® Core 2 Duo processor and Intel 3100 Chipset
- a MicroTCA Carrier Hub (MCH) module for central management and data switching functionality for XAUI and Gigabit Ethernet backplane switching fabrics
- a dedicated fat pipe connection on the backplane between adjacent slots providing ultra low-latency data connection between AMC modules

AdvancedIO's V3021 AMC Module

The V3021 module, a member of AdvancedIO's V3000-Series family, supports XAUI switching on the backplane and uses SFP+ technology to implement front panel optical 10GbE interfaces. The Xilinx® Virtex®-5 FPGA-based technology integrated into each V3021 module is capable of performing a combination of intelligent packet and signal processing of data streams at wirespeed, supplementing host processor performance. The module also provides various types of high-speed memory for packet buffering, lookup and other processing operations.

System Controller

The V8200 default system controller is a high-performance processor module, running a standard 64-bit Linux distribution pre-configured with expressXG Framework and all required software tools so you can quickly develop and later operate and manage your applications in the network. Through the system controller, the expressXG framework enables remote programmability, set-up and control functions for the platform's modules, and simple access to V3021 results for use in additional host-level processing and display.



> V8200 Platform backplane connections, illustrating slot-to-slot dedicated link

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MicroTCA Carrier Hub Module (MCH)

The MCH module supports XAUI fat-pipe on the backplane and provides high performance, low latency and robust Ethernet packet switching. It also provides centralized clock distribution to all AMC modules in the system.

Technical Specifications**CHASSIS**

MicroTCA chassis supporting up to four full-size AMC modules
Backplane with star connections for 1GbE and fat pipe
MCH supporting XAUI fat-pipe on the backplane

10GbE FPGA PROCESSING MODULES

V3021 Dual Channel 10GbE module comprises:

- SFP+ transceiver MMF 850nm LC optical ports supporting 10GBASE-SR
- RJ-45 10/100/1000Base-T Ethernet port
- Xilinx® Virtex®-5 FPGAs (options include LX110T, LX220T, LX330T, SX240T)
- 1GB SDRAM and 72 Mbit SRAM

SYSTEM CONTROLLER

Intel® Core2 Duo Processor running Fedora Core 11 64-bit Linux

POWER REQUIREMENTS

Maximum power consumption: 250W
Input voltage: 120V, 60Hz

REGULATORY & ENVIRONMENTAL COMPLIANCE

PICMG MTCS.0 R1.0 for MicroTCA
IEEE 802.3ae 2002 10GBASE LAN
RoHS Directive 2002/95EC
FCC 47 CFR Part15 Class A (USA)
ICES-003 Class A (Canada)
EN 55022 Class B (EU)
UL/EN 60950-1

SYSTEM DIMENSIONS

156.75mm W x 150mm H x 250mm D

ENVIRONMENTAL

Operating Temperature: 0°C to 45°C
Storage Temperature: -40°C to 85°C
Relative Humidity: 10 to 90% non-condensing

ORDERING INFORMATION

The V8200 10GbE Development Platform runs expressXG Framework

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