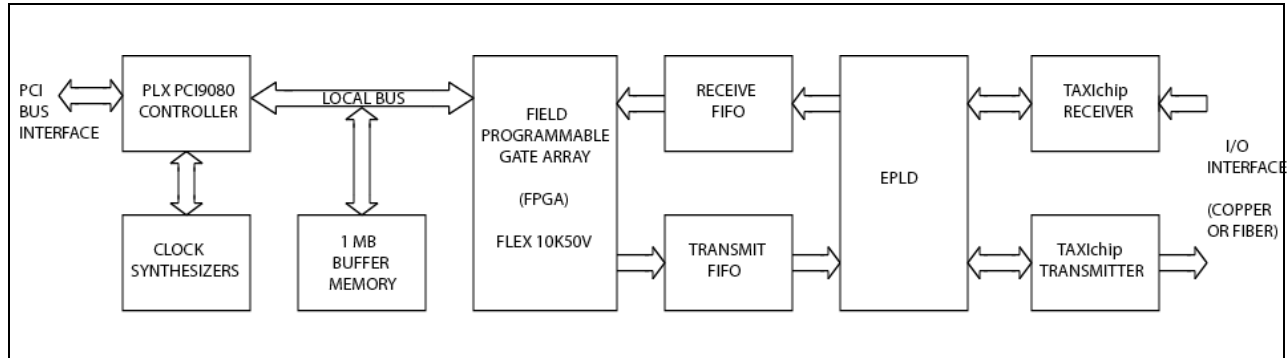


## FastPMCs / TAXI Protocol FPMC-TAXI



**FPMC-TAXI Block Diagram**

Tekmicro's FastPMC family of AMD TAXIchip-based modules – FPMC-TAXI175 and –TAXI125 – are recommended when high speed communications between two systems without the software overhead or integration costs of network protocols is required.

The FPMC-TAXI175 and FPMC-TAXI125 modules use the AMD TAXI Protocol for transmitting and receiving data. This protocol is widespread and can be found in use in everything from Network Interface Cards to the space station. Using SMA coaxial connectors or 1300nm ST fiber optic connectors, the card is easily integrated into either copper or fiber systems. Users may also be interested in Tekmicro's FastPMC TAXI200 module which uses Cypress TAXI-compatible HOTLink transceivers to achieve TAXI Protocol communications. Optimized for simple point-to-point data transfer, the FPMC-TAXI supports up to 175 Mbps of full-duplex communications between two PMC or PCI subsystems with low latency – and no software overhead.

These FastPMC TAXI modules use AMD TAXI chip interfaces which support 8 or 9 data bits per byte. Data bytes are encoded and serialized at the transmitter, and recovered and decoded at the receiver, resulting in a single serial bitstream between modules.

For custom applications, the FPGA may be reprogrammed over the PMC bus to implement application-specific protocols such as CCSDS telemetry packets or other message-based formats.

Like all FastPMC products, FPMC-TAXI is sold with a 30-day satisfaction guarantee and a 1 year limited warranty.

Feature	Benefit
Fully compliant with PCI 2.1 specification	Interoperable with all PMC carriers
PLX 9080 PCI interface	High performance 32-bit 33 MHz PCI interface, supports 132 MB/s burst throughput using integrated DMA controllers
Copper and fiber options available	Cost-effective copper media solution for distances up to 50 meters. Fiber optic interface available for longer distances.
Onboard clock synthesizer	Supports exact generation of arbitrary clock frequencies to match interface requirements
1 MB buffer memory	Allows zero wait state DMA block transfers; supports custom applications which require lookup or temporary memory
Free demo logic programs and software available	Rapid "drop-in" integration into your application
Supported by Tekmicro's Captor CORE drivers	<i>Instant Integration</i> with RACEway and MC/OS using PowerRACE carrier card

## FastPMCs / TAXI Protocol

### FPMC-TAXI

#### Specifications

<b>I/O Interface</b>	AMD TAXIchip 40 - 125 or 125 - 175 Mbps
<b>Copper Interface</b>	50 Ohm differential, SMA connectors
<b>Fiber Interface</b>	ST-type, 1300 nm
<b>Data Rate</b>	17.5 MB/s in 8-bit mode
<b>Data Modes</b>	8-bit vs 9-bit Control/Data vs Data Only 1, 2 or 4 bytes/word MSB vs LSB first
<b>Bus Interface</b>	32-bit, 33 MHz PCI 2.1
<b>Bus Throughput</b>	132 MB/s
<b>Mechanical</b>	Single-wide PMC module
<b>FPGA Logic Capacity</b>	36K to 116K gates
<b>Memory Capacity</b>	1 MB buffer memory, 256K x 32
<b>Interrupt Support</b>	Programmable through FPGA
<b>DMA Support</b>	Two integrated linked-list DMA controllers
<b>Power Requirements</b>	+5 Volts, 900 mA
<b>Operating Temperature</b>	0 to +55 degrees C
<b>Storage Temperature</b>	-40 to +85 degrees C

#### I/O Pinout:

**Copper:**  
**RX:** Dual SMA  
**TX:** Dual SMA  
**Fiber:**  
**RX:** ST-type  
**TX:** ST-type

#### Ordering Information

<b>FPMC-TAXI125-C</b>	FastLink PMC module, copper, 50 Ohm differential coax, 40 – 125 Mbps
<b>FPMC-TAXI125-F</b>	FastLink PMC module, fiber, ST duplex, 40 – 125 Mbps
<b>FPMC-TAXI175-C</b>	FastLink PMC module, copper, 50 Ohm differential coax, 125 – 175 Mbps
<b>FPMC-TAXI175-F</b>	FastLink PMC module, fiber, ST duplex, 125 – 175 Mbps

All models include ANSI C demonstration software and VxWorks drivers at no additional cost. Development of new custom logic programs requires Altera's MAX+Plus II software.

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