

ETXexpress

Computers on Module

- Compliant with PICMG's new COM Express specification and introducing high speed serial differential signalling as the main means of data transport

From Parallel to Serial

ETXexpress modules are highly integrated off-the-shelf building blocks based on a PCI Express bus architecture that plugs into custom made, application-specific carrier boards. ETXexpress modules measure just 95 mm x 125 mm and include generic functions such as video, audio, Ethernet, storage interfaces and USB ports that are needed for most applications. A custom designed carrier board complements the ETXexpress core module with the additional functionality required for specific applications.

ETXexpress, based on PICMG's new COM Express specification, is a result of the convergence of the latest technology standards based on serial differential signalling such as PCI Express, USB 2.0, Serial ATA, LVDS and Serial DVO implemented on an extremely compact Computer on Module. Moving from parallel busses such as PCI and IDE to serial busses such as PCI Express is a change the scale of which has not been seen since PCI replaced ISA.

PCI Express as central bus

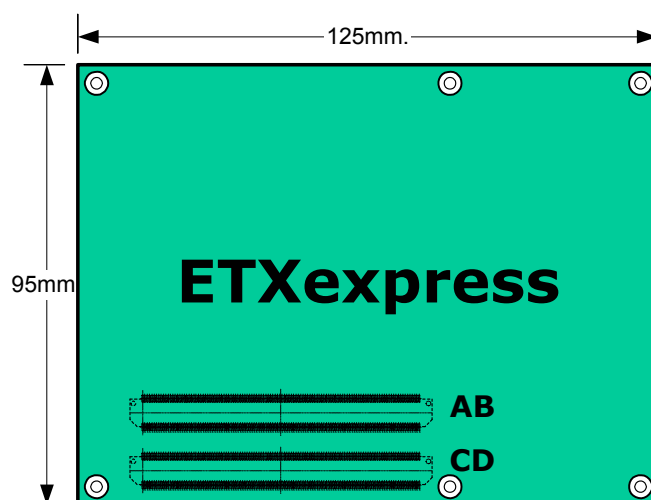
At the core of the new ETXexpress module lies the PCI Express bus. PCI Express is a two-way serial connection that carries data in packets along two pairs of point-to-point data lanes. It can be used as a peripheral device interconnect, a chip-to-chip interconnect, and a bridge to other interconnects like IEEE 1394b, USB 2.0, SATA and Gigabit Ethernet. PCI Express constitutes the most significant PC bus architecture change in over a decade, delivering a huge increase in I/O bandwidth while maintaining software compatibility with the existing PCI infrastructure.

Legacy Support

In an effort to protect existing investments, the initial COM Express standard will maintain support for 32-bit PCI, ISA through LPC and PATA IDE. At a later stage the ETXexpress formfactor will abandon both PCI and IDE legacy signals to make room for two additional Gigabit Ethernet ports and 10 additional PCI Express lanes.



AB Connector
1 Gigabit Ethernet port
LPC interface
4 Serial ATA channels
High Definition Audio
8 USB 2.0 ports
6 PCI Express Lanes x1
Dual 24-bit LVDS channels
Analog VGA
TV-out ports (SDTV/HDTV)
8 GPIO pins
Keyboard
+12V primary power input
+5V standby and 3.3V RTC



Above connector assignments comply with PICMG COM.0 COM Express Module, Basic Formfactor

CD Connector
Parallel ATA, IDE port alternate definition assigns this to 2 additional Gigabit Ethernet ports
32-bit PCI v2.3 bus alternate definition assigns this to 10 additional PCI Express x1 lanes
PCI Express x16 for Graphics these pins can also be assigned to two SDVO extensions (multiplexed)
SMB and I ² C bus
Power / Thermal control
+12V primary power input