

ETX Computer-on-Modules

COM CORES FOR CUSTOM EMBEDDED SYSTEMS

Diamond's ETX Computer-on-Module (COM) family provides a series of compact, plug-compatible, embedded computing cores for powering a wide variety of custom embedded applications. The modules are intended to be plugged into application-specific baseboards to create a customized embedded computing subsystem—an approach that minimizes product development investments and risks, and shortens time-to-revenue.

Each Diamond ETX COM integrates a complete set of PC-compatible functionality, including a high-performance processor, up to 2GB of DDR2 SDRAM (SO-DIMM), and an extensive set of system controllers and peripheral interfaces. CPU options range from the low-power Intel Atom to the high-performance Intel Core2Duo, enabling

an optimal match to the application's performance, power, and cost requirements.

By virtue of their conformance to the ETX 3.0 specification, Diamond's ETX COMs provide a consistent set of on-board controllers and I/O interfaces, and are essentially interchangeable with one another. The modules include CRT and LVDS video, 10/100Mbps Ethernet, SATA, IDE, USB 2.0, audio, serial, parallel, and PS/2 ports. Additionally, they offer both 32-bit PCI and 16-bit ISA buses, allowing maximum flexibility of application development. To accommodate harsh outdoor environments, the modules also support extended operating temperatures.

FEATURE	ETX-N270-1600	ETX-945-xxxxx
Processor	Atom N270	Core2Duo, CoreDuo, Celeron M
Mounting	Soldered	Socketed
Speed	1.6GHz	Up to 2.16GHz
Chipset	945GSE/ICH7M	945GME/ICH7M
SDRAM max	2GB	2GB
SDRAM type	DDR2	DDR2
	400-533MHz	400-667MHz
Graphics	CRT 2048x1536	CRT 2048x1536
Capabilities	Dual 18-bit LVDS SDVO	Dual 18-bit LVDS Dual display support
Mass Storage	2x SATA, 2x IDE	2x SATA, 1x IDE
USB Ports	(4) USB 2.0	(4) USB 2.0
Ethernet	10/100Mbps	10/100Mbps
Serial Ports	2	2
LPT Port	1	1
Kybd / Mouse	PS/2	PS/2
Audio	AC97	AC97
PCI expansion	√	√
ISA expansion	√	√
Power Consump.	13W	5.5W to 34W
Operating Temp.	-20 to +70°C	-40 to +85°C



ETX-N270-1600 COM with Atom CPU



ETX-945-T7400 COM with Core2Duo CPU

ETX COMS VALUE-ADDED SERVICES & SUPPORT

In addition to the ETX COMs themselves, Diamond offers a range of development, customization, and support services to further ensure timely completion of embedded development projects that meet or exceed their specified requirements. These include standard, semi-custom, and full-custom ETX baseboard designs combined with carefully selected COM CPUs.

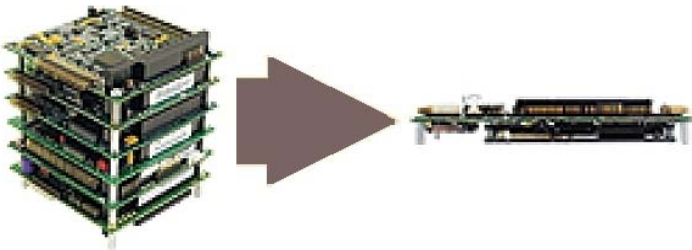
CUSTOM BASEBOARD DESIGNS

Through more than 20 years of experience producing industry-leading data acquisition I/O on PC/104 and PC/104-Plus modules and single-board computers, Diamond has developed an extensive library of analog, digital, and I/O interface technology. This expertise is now available in the form of application-specific baseboards tuned to fit precise customer requirements, coupled with ETX COMs implement the processing power needed to drive the application.

AVAILABLE BASEBOARD TECHNOLOGIES

Technologies available for integration into customized application-specific ETX baseboards include:

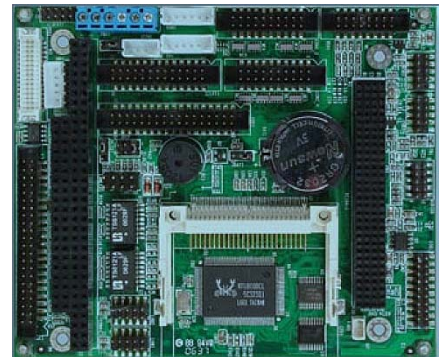
- Analog and digital I/O
- Counters and timers
- Field buses (CAN, MIL-STD-1553, etc.)
- Ethernet
- Serial ports (RS-232/422/485)
- USB 2.0
- Framegrabbers
- Wireless (GPS, cellular, Wi-Fi, Bluetooth, etc.)
- Relays and opto-isolation
- DC/DC converters
- PC/104 (ISA), PC/104-Plus (PCI), and PCI Express expansion buses



Diamond's industry-leading I/O expertise and rapid design methodology combine to create custom application ETX baseboards that minimize development cost, risk, and time.



EPIC form-factor Custom Application Baseboard with ETX COM installed on top



PLT-BASE ETX form-factor baseboard

A PC/104-Plus module position plus a full set of I/O headers are located on the top side of the board (shown); the ETX COM installs on the reverse side

ADDITIONAL DEVELOPMENT SERVICES

Other value-added services offered to ETX COM customers include:

- Operating system, device drivers, and BIOS customization and support
- Addition of latching connectors
- Burn-in and screening
- Conformal coating
- Extended temperature testing
- Full systems integration
- Program management