ETX-945 COMs

High-performance, low-power ETX Computer-on-Modules featuring Intel Core 2 Duo, Core Duo, and Celeron M CPUs

- ETX 3.0 compliant
- High performance, low power, rugged
- Available with Intel Core 2 Duo, Core Duo, or Celeron M CPUs in standard, LV, and ULV technologies
- SO-DIMM socket supports up to 2GB DDR2 SDRAM
- Hi-res CRT, dual channel 24-bit LVDS video
- SATA, IDE, USB 2.0, serial, AC'97 audio
- 10/100Mbps Ethernet LAN
- Dual expansion buses: 32-bit PCI and 16-bit ISA
- -40°C to +85°C (-40°F to +185°F) enhanced operating temperature

Ideal for Embedded Applications

Diamond's ETX-945 computer-on-modules (COMs) are compact, high-performance embedded cores suitable for powering a wide range of embedded applications. To support real-world applications subject to temperature extremes, the modules are rated for operation over an extended operating temperature range.

Reduce Development Costs

By plugging these high-quality, plug-and-play COMs into standard or custom application baseboards, OEMs can reduce development costs, minimize design risks, and shorten time-to-revenue while benefiting from the latest embedded technologies. The ETX-945 is also available pre-integrated in our Pluto Embedded-Ready Subsystem.

Highly Integrated Module

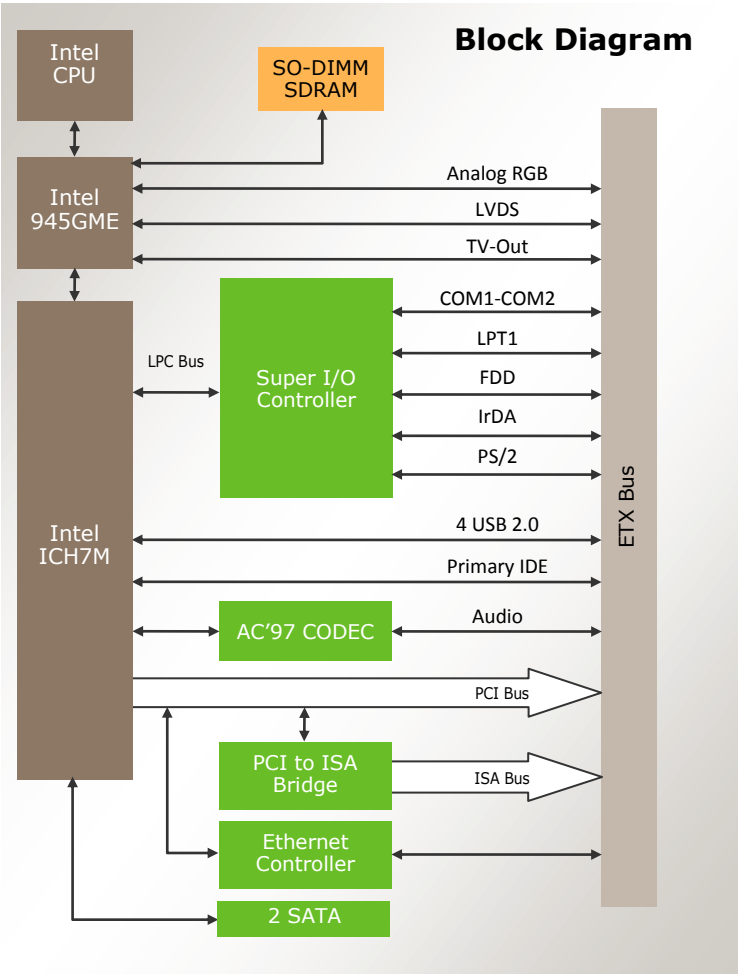
Each ETX-945 integrates a complete set of PC-compatible functions, including a high performance, low-power Intel Atom processor and up to 2GB of high-speed system memory.

In addition, the module also provides interface controllers for high-resolution CRT and LVDS-interfaced displays, 10/100Mbps Ethernet, and both SATA and IDE storage devices, as well as USB 2.0, serial, parallel, audio and PS/2 ports.

Maximum Application Flexibility

For maximum application flexibility, the ETX-945 can be interfaced to application-specific circuitry via both 32-bit PCI and 16-bit ISA expansion buses.

Block Diagram



ETX-945 COMs

Specifications

Processor	Intel Core 2 Duo, Core Duo, or Celeron M in standard, LV, or ULV technologies
Chipset	Intel 945GME with Intel ICH7M
Front side bus	533MHz or 667MHz, CPU dependent
L2 cache	Up to 4MB, CPU dependent
Memory	200-pin SO-DIMM socket support up to 2GB DDR2 SDRAM (400/533/667MHz)
BIOS	Phoenix Award PnP
Graphics	Intel GMA950 graphics core Up to 2048 x 1536 resolution RGB CRT output Dual channel 24-bit LVDS output Supports dual independent displays
Audio	AC'97 CODEC (Realtek ALC655) Mic in, line in/out
USB ports	4 USB 2.0
Serial ports	2 COM ports with logic-level signaling
Networking	10/100Base-T Ethernet (Intel 82562)
Mass storage	2 SATA ports with 150MB/s data rate 1 PATA port, supports 2 IDE devices
Parallel/Floppy	SPP/EPP/ECP or floppy (shared interface)
Keyboard/Mouse	PS/2 keyboard and mouse ports (USB keyboard and mouse also supported)
Other	SMBus, IrDA serial interfaces; PC speaker interface
Expansion buses	32-bit PCI bus (4 PCI masters) 16-bit ISA bus
Form-factor	ETX 3.0 compliant 4.5 x 3.7 in. (114 x 95 mm)
Supply voltage	+5VDC
Power consumption	CPU dependent (see table below)
Operating temperature	-40°C to +85°C (-40°F to +185°F) ETX-945-T7400: -20°C to +71°C
Humidity	0 to 90% non-condensing
Weight	2.8oz / 79g
RoHS	Compliant

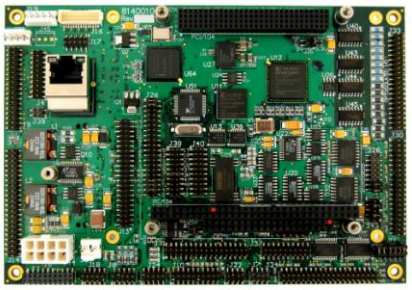
Software Support

The ETX-945 Series COMs are compatible with Windows XP and Linux 2.6.

ETX COM Development Systems

In addition to the ETX-945 COMs themselves, Diamond offers pre-integrated development kits based on generic or application-oriented ETX baseboards. The baseboards provide I/O connectors for quick and easy access to nearly all system interfaces, plus additional serial and digital I/O ports, a second Ethernet interface, a CompactFlash socket, and modular PC/104-*Plus* expansion. They also come with SO-DIMM memory, an extensive set of interface cables, and full documentation and software. The EPIC form-factor Neptune baseboard also adds an industry-leading data acquisition interface.

ETX form-factor baseboard



EPIC form-factor baseboard

Custom Baseboard Designs

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 that implement the processing power needed to drive the application.

Ordering Information

Part Number	Description (* Special Order Only)	CPU Style	FSB Rate	L2 Cache	Power Consumption Idle	Power Consumption Heavily Loaded
ETX-945-T7400	* ETX COM with Intel 2.16GHz Core 2 Duo CPU	Socketed	667MHz	4MB	12W	41W
ETX-945-L7400	* ETX COM with Intel 1.5GHz Core 2 Duo LV CPU	Soldered	667MHz	4MB	12W	24W
ETX-945-U7500	* ETX COM with Intel 1.06GHz Core 2 Duo ULV CPU	Soldered	533MHz	2MB	12W	17W
ETX-945-L2400	ETX COM with Intel 1.66GHz Core Duo LV CPU	Soldered	667MHz	2MB	12W	22W
ETX-945-U2500	* ETX COM with Intel 1.2GHz Core Duo ULV CPU	Soldered	533MHz	2MB	12W	16W
ETX-945-CM423	* ETX COM with Intel 1.06GHz Celeron M ULV CPU	Soldered	533MHz	1MB	12W	13W
MEM-2048-05	2GB DDR2 SDRAM SO-DIMM module					
MEM-1024-05	1GB DDR2 SDRAM SO-DIMM module					
6884020	ETX COM heatspreader for ETX-945 soldered-on CPUs					
6884022	ETX COM heatsink with fan for ETX-945 soldered-on CPUs					
6884024	ETX COM heatsink with fan for ETX-945 CPUs in socket					
DK-N945CDL	Neptune 945 Development Kit: includes ETX-945-L2400, MEM-1024-05, 6884022, Neptune baseboard with all features, cable kit, panel I/O board, drivers for Linux and Windows, and documentation					
DK-P945	Pluto 945 Development Kit: includes ETX-945-L2400, MEM-1024-05, 6884020, Pluto baseboard, cable kit, drivers for Linux and Windows, and documentation					