

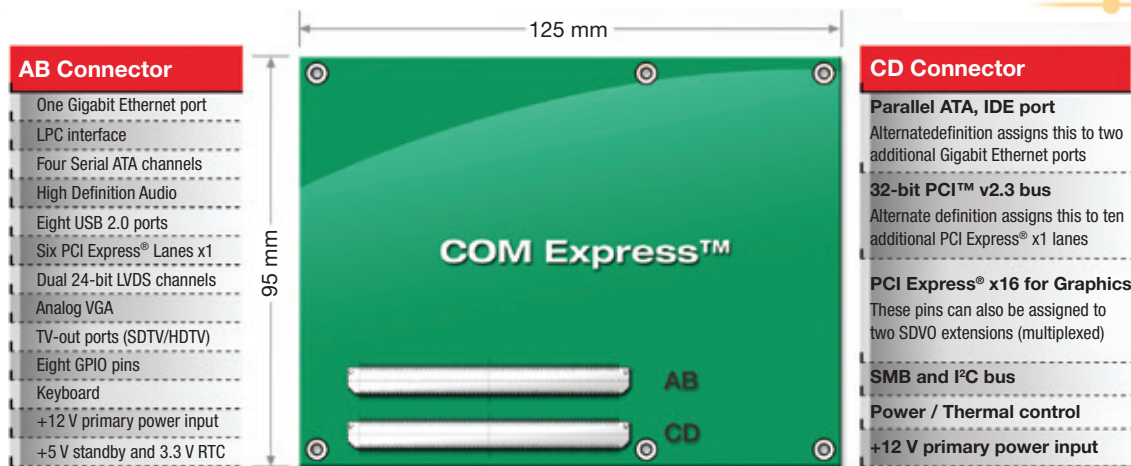
Computer-on-Modules

General Overview

Ampro by ADLINK™ products include the most rugged computer-on-module (COM) offerings in the industry, featuring the most popular form factors and designed to provide fast time-to-market. Our ETX® modules are available for Extreme Rugged™ applications, with an array of different features all the while providing the ability to upgrade ETX® baseboards without a complete redesign. Based on the PICMG® COM Express™ specification, ADLINK's COM Express™ modules feature the latest technology such as Intel's Core™2 Duo and GME965/ICH8 chipset. This chip combination provides an Extreme Rugged™ version uniquely suited for applications in harsh environments.

COM Express™

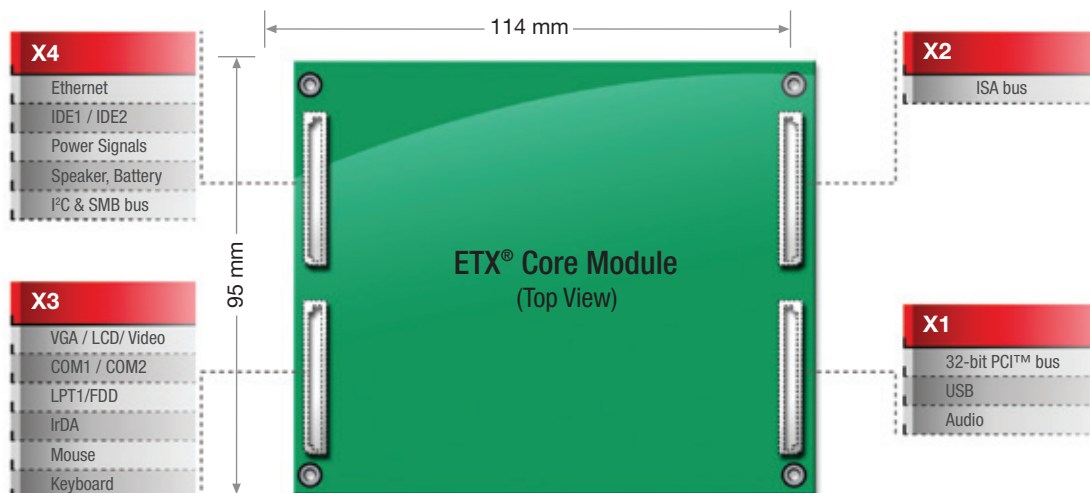
COM Express™ offers the modular architecture for the latest and next generation technologies, giving OEMs the flexibility to optimally design systems based on current and future applications. It is suited for high-end graphics applications, military computers, high speed communications and other applications. ADLINK offers the COM Express™ form factor in an Extreme Rugged™ version with Type II pinout.



Above connector assignments comply with PICMG® COM.0 COM Express™ Module, Basic Form Factor

ETX®

Ampro by ADLINK™ ETX® products are designed for Extreme Rugged™ applications. Our ETX® COMs are for applications that use an ETX® footprint enabling short time-to-market and with future upgradeability. The Extreme Rugged™ Ampro by ADLINK™ modules are designed specifically for harsh environments and are placed through a series of tests including the Highly Accelerated Life Test (HALT) and MIL-STD-202F shock and vibration methodologies.





Features

- Up to 4GB DDR2 memory
- True PICMG COM Express™ COM.0 compliance
- PCI Express, SATA II
- ACPI 2.0 with S3 support
- x16 Graphics on the baseboard
- 50% thicker PCB



Choose Ampro by ADLINK™ COM 840 for ...

Modular, ultra high performance applications that require high end graphics.

Description

Ampro by ADLINK™ COM 840 is a small, ultra high performance module, supporting Intel® Core™2 Duo processor, with Gigabit Ethernet and high end chipset graphics or x16 PCI Express graphics on the baseboard.

Specifications

Processor

Choice of
 - 1.6GHz Core™2 Duo L7500
 - 1.06GHz ULV Core™2 Duo U7500
 Cache – 4MB, 1MB Level 2
 Chipset – Intel® GME965/ICH8
 FSB – 800MHz
 System Controllers – PC-compatible DMA and interrupt controllers and timers
 Watchdog Timer

Memory

DRAM – Up to 4GB DDR2 667 SODIMM

Bus Interface

PCI Express 5 x1, 1x16, PCI and LPC

I/O

EIDE – Single PCI-bus Enhanced Ultra DMA 66/100 Synchronous IDE Interface supports up to two hard drives
 SATA II – 2 ports
 USB – 8 USB 2.0 ports
 Audio – AC97/HD

Network Interface

Ethernet – One Intel® 82566 Gigabit port

Video Interface

Intel® GMA X3100, 384MB (DVM T 4.0)
 3D and 2D engine, HW rotation
 Intel® Clear Video Technology: MPEG-2 HW acceleration and decoding
 WMV9 HW acceleration, sharpness enhancement, film mode detection
 Dual panel display with independent pipes, HD TV support, supports PCIe x16 graphics
 CRT resolution up to 2048 x 1536 @ 60Hz

Software & Development Tools

OS Support – Ampro by ADLINK™ Embedded Linux®, Windows® CE 6.0, 5.0, XP, XPe, VxWorks® 6.6 (see website for details)
 BIOS – AMI with ACPI 2.0 including S3

Mechanical

Size – 95x125mm (3.7x4.9”); COM Express™ form factor, type II pinout
 Power Requirements (with 2GB RAM, 100% Loaded)
 -1.6GHz 1.8A @ 12V
 -1.06GHz 0.8A @ 12V
 Environmental
 -Temperature (with adequate thermal solution and air flow)
 • Standard: -20° to +70°C
 • Extended: -40° to +85°C
 • Storage: -55° to +85°C
 Board Thickness – .093” (2.36mm)

Ordering Information

Model Number	Description/Configuration
COM-840-R-32	COM 840, 1.6GHz Core™2 Duo CPU, 4MB L2 Cache, PCI Express, PCI, LPC
COM-840-R-12	COM 840, 1.06GHz ULV Core™2 Duo CPU, 4MB L2 Cache, PCI Express, PCI, LPC, 2 SODIMM sockets
COM-840-R-11	COM 840, 1.06GHz ULV Core™2 Duo CPU, 4MB L2 Cache, PCI Express, PCI, LPC, 1 SODIMM socket
COM-840-L-32	1.6GHz QuickStart Kit (R-32 Module, 2GB RAM, Software, Documentation, Baseboard, Fansink)
COM-840E-L-32	1.6GHz QuickStart Kit (R-32 Module, 2GB RAM, Software, Documentation, EBX Baseboard, Fansink)
COM-840E-L-12	1.06GHz QuickStart Kit (R-12 Module, 2GB RAM, Software, Documentation, EBX Baseboard, Fansink)

EBX Baseboard

EBX Carrier Board for COM Express™ Type II Module



Features

- COM Express™ carrier board accepts Ampro by ADLINK™ Type II COM Express™ modules
- EBX form factor for compact designs
- 2 SATA, 1 PCIe x1, MiniPCI, MiniPCle
- Dual independent LVDS, DVI
- IEEE 1394
- HD Audio 7.1 channel
- Legacy super I/O



Specifications

Form Factor

EBX 5.75x8"
Supports COM Express™ Basic Type II

Bus Interface

PCI Express x1

Expansion

Compact Flash Socket
PCI Express Mini Card Socket
Mini PCI Socket

I/O

EIDE – One EIDE device with Ultra DMA 100/66/33
SATA – 2 ports
PC Style connectors:
–IEEE 1394 single port
–2 SATA
–2 Gigabit Ethernet with PXE
On Pin Header
–8 USB 2.0–1 dedicated to Mini PCle
–Serial – 4 ports; 2 RS-232, 2 RS-232/422/485
–Parallel Port
–1 IDE supports 2 devices
Keyboard/Mouse – PS/2 interface
Audio – High-definition 7.1 channel

Network Interface

Ethernet - Dual Gigabit: one from the module and one Intel® 82572EI on PCIe x1 lane; dual RJ-45 connectors with two LED indicators

Video Interface

Supports VGA, dual LVDS interfaces with dual display capability, SDVO-DVI, TV-out-composite, S-Video component

Other features

System front panel connector
–System speaker, HDD LED, Pwr LED, Reset
3 Fan Headers (CPU, NB & System)
ACPI w/S3 support
SMBus support

Software & Development Tools

BIOS – AMI (on COM Express™ module)

Mechanical

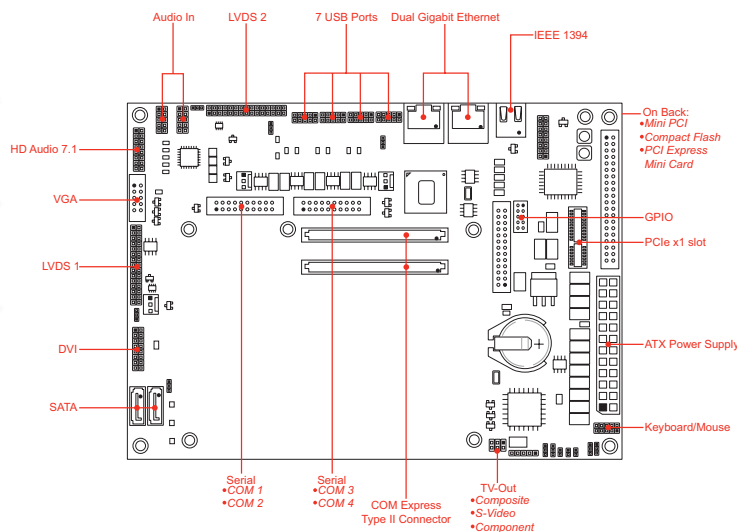
Size – 146x203mm (5.75x8"); EBX form factor
Power Requirements – ATX power supply
Environmental
–Temperature
• Standard: –20° to +70°C
• Extended: –40° to +85°C
• Storage: –40° to +85°C
Board Thickness – .093" (2.36mm)

Ordering Information

Model Number	Description/Configuration
COM-EBX-R-00	EBX form factor board for COM Express™ Type II module

Supported COM Express™ Module

Model Number	Description/Configuration
COM 840	Extreme Rugged Intel® GME965 Core™2 Duo COM Express™ module





Features

- Up to 1GB DDR memory, ECC support
- On-board ISA bridge and legacy I/O
- 50% thicker PCB
- ACPI 2.0 with S3 support
- Industry's lowest ETX[®] S3 current draw



Choose Ampro by ADLINK™ ETX[®] 802 for...

Extreme Rugged™, ultra high performance applications that require a 5-volt supply, legacy I/O, and full notebook-style power management.

Description

Ampro by ADLINK™ ETX[®] 802 is a small, ultra high-performance, low-power Centrino[®] processor module with advanced networking and high-performance graphics in a modular format that plugs into your custom baseboard.

Specifications

Processor

Choice of

- 1.4GHz LV Pentium[®] M 738
- 1.0GHz ULV Celeron[®] M 373
- 800MHz ULV Celeron[®] M

Cache – 2MB, 512kB or 0kB Level 2

Chipset – Intel[®] 855GME/ICH4M

FSB – 400MHz

System Controllers – PC-compatible DMA and interrupt controllers and timers

Watchdog Timer

Powerfail Reset – Triggers when input voltage drops below predetermined threshold

Memory

DRAM – Up to 1GB PC2700 DDR333 SODIMM, ECC or non-ECC

Bus Interface

ISA and PCI

I/O

EIDE – Dual PCI-bus Enhanced Ultra DMA 33/66/100 Synchronous IDE Interface supports up to two hard drives

Serial – 2 ports, TTL, transceivers on baseboard

Parallel – EPP/ECP bidirectional port

Floppy – Supports 1 or 2 drives, shared with parallel

USB – 4 USB 2.0 ports (four root hubs)

Keyboard/Mouse – PS/2 interface

Audio – AC97 speaker, mic, headphone

Network Interface

Ethernet – Intel[®] 82551QM (10/100 BaseT) Ethernet with wake-on-LAN

Video Interface

Controller – Integrated Intel[®] Extreme Graphics 2

- AGP 128-bit 3D engine
- Supports resolutions to 2048x1536
- Up to 64MB UMA Frame Buffer
- Dual channel LVDS flat panel support

Software & Development Tools

OS Support – Ampro by ADLINK™ Embedded Linux[®], VxWorks[®] v5.5.1, QNX[®] v6.3, Windows[®] CE 5.0, XP, XPe (See website for details)

BIOS – AMI with ACPI 2.0 including S3

Mechanical

Size – 95x114mm (3.7x4.5"); ETX[®] form factor

Power Requirements (with 128MB RAM, 100% Loaded)

- 1.4GHz 3.3A @ 5V
- 1.0GHz 2.8A @ 5V
- 800MHz 2.7A @ 5V

Environmental

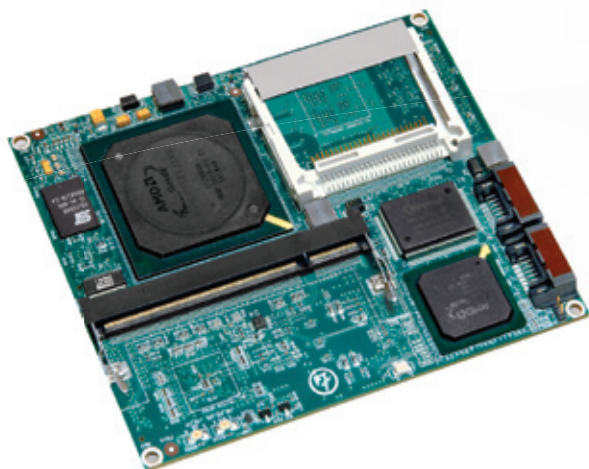
- Temperature (100 LFM system air flow)*
 - Standard: -20° to +70°C
 - Extended: -40° to +85°C
 - Storage: -55° to +85°C

Board Thickness – .093" (2.36mm)

* As measured with Ampro by ADLINK™ Heatsink Kit and 100 LFM or adequate thermal solution

Ordering Information

Model Number	Description/Configuration
ET1-802-R-08	ETX [®] 802, 800MHz ULV Celeron [®] M CPU, 0KB L2 Cache, ISA, PCI, ACPI
ET1-802-R-12	ETX [®] 802, 1.0GHz ULV Celeron [®] M CPU, 512KB L2 Cache, ISA, PCI, ACPI
ET1-802-R-22	ETX [®] 802, 1.4GHz LV Pentium [®] M CPU, 2MB L2 Cache, ISA, PCI, ACPI
ET1-802-L-08	800MHz 0kB Cache QuickStart Kit (R-08 Module, 512MB RAM, Software, Documentation, Ampro by ADLINK™ AC Baseboard)
ET1-802-L-12	1.0GHz QuickStart Kit (R-12 Module, 512MB RAM, Software, Documentation, Ampro by ADLINK™ AC Baseboard)
ET1-802-L-22	1.4GHz QuickStart Kit (R-22 Module, 512MB RAM, Software, Documentation, Ampro by ADLINK™ AC Baseboard)



Features

- Up to 1GB DDR Memory
- PCI, ISA* with DDMA
- LVDS and TTL models
- Compact Flash Socket
- Industry's Best Legacy IRQ Assignment
- SATA optional



Choose Ampro by ADLINK™ ETX[®] 620 for...

Low-cost applications that require a custom footprint and connectorization, but with short time-to-market compared to a full custom solution. ETX[®] 620 is a great migration solution for EOL modules.

Description

Ampro by ADLINK™ ETX[®] 620 is a small, moderate performance, low-power processor module with networking and graphics in a modular format that plugs into your custom baseboard.

Specifications

Processor

500MHz Geode LX 800
Cache – 128kB Level 2
Chipset – AMD CS5536
FSB – Integrated Northbridge
System Controllers – PC-compatible DMA and interrupt controllers and timers
Watchdog Timer

Memory

DRAM – Up to 1GB DDR 333 SODIMM

Bus Interface

PCI and 16 BIT ISA*

*ISA support is implemented with an on-board PCI-to-ISA bridge.

I/O

EIDE – Single PCI-bus Enhanced Ultra DMA 66/100 Synchronous IDE interface supports up to two hard drives
SATA optional
Serial – 2 ports, TTL, transceivers on baseboard
Parallel – EPP/ECP bidirectional port
Floppy – Supports 1 drive, shared with parallel
USB – 4 USB 2.0 ports
Keyboard/Mouse – PS/2 interface
Audio – AC97 speaker, mic, headphone

Network Interface

Ethernet – Intel[®] 82551QM (10/100BaseT)

Video Interface

Controller – Integrated 2D graphics
–Supports resolutions to 1600x1200
–LVDS flat panel support, TTL interface optional

Software

OS Support – Ampro by ADLINK™ Embedded Linux[®], Windows[®] CE 6.0, 5.0, XP, XPe
(See website for details)
BIOS – AMI with Ampro by ADLINK™ extensions including ISA DMA

Mechanical

Size – 95x114mm (3.7x4.5"); ETX form factor
Power Requirements – (with 512MB RAM, 100% Loaded) – 2.7A@5V
Environmental
–Temperature (100 LFM system air flow)
• Standard: –20° to +70°C
• Extended: –40° to +85°C
• Storage: –55° to +85°C
Board Thickness – .093" (2.3mm)

Ordering Information

Model Number	Description/Configuration
ET1-620-R-11	ETX [®] 620, 500MHz CPU, PCI, ISA, TTL LCD
ET1-620-R-14	ETX [®] 620, 500MHz CPU, PCI, ISA, LVDS LCD, SATA
ET1-620-L-11	500MHz QuickStart Kit (R-11 Module, 512MB RAM, TTL, Software, Documentation, ETX [®] baseboard)
ET1-620-L-14	500MHz QuickStart Kit (R-14 Module, 512MB RAM, LVDS, Software, Documentation, ETX [®] baseboard)