Ampro by ADLINK™ Computer Systems

Ampro by ADLINK™ provides system products that deliver quality, reliability, durability, compatibility, high performance and long product lifecycle. The heart of every one of our systems is a reliable, field-proven single board computer (SBC), now interchangeable with COM Express™ computer-on-modules (COMs).

RuffSystem™

Designed to tolerate the harshest environments, ADLINK's RuffSystem™ is truly rugged by design. This Extreme Rugged™ system provides conductive cooling for the Pentium® M processor to withstand extended temperatures in a sealed enclosure. The RuffSystem™ is designed to meet MIL-STD-810 shock and vibration over wide temperature and humidity ranges. The Ampro by ADLINK™ RuffSystem™ accomodates an EBX LittleBoard™ 800 SBC or for a modular approach, an Extreme Rugged™ COM Express™ module with a rugged EBX baseboard.

EXTREME RUGGED

MilSystem™

The MilSystem™ leverages the proven design of the RuffSystem and uses MIL-STD-D38999 connectors instead of PC-style connectors to maximize the reliability of connections between the computer system and peripherals for the most extreme environmental conditions. The MilSystem™ is a rugged-by-design system which includes a rugged-by-design SBC, and has been tested to MIL-STD-810 for shock and vibration, and tested over a wide temperature range of -40 to +75°C.

EXTREME RUGGED

ReadySystem™ Fanless

The ReadySystem™ Fanless computer, based on the EPIC ReadyBoard™ SBC, is an ideal solution for harsh environments that require dust and dirt resistant enclosure, as well as high reliability and noise free operation. Featuring your choice of ReadyBoards, the ReadySystem™ Fanless includes a robust set of I/O, allowing up to two PCI-104 or PC/104-Plus cards for extraordinary flexibility.

RUGGED

	RuffSystem™		MilSystem™	ReadySystem™
	840	**800**	**800**	**Fanless**
Internal Board	COM 840 with rugged EBX Carrier	LittleBoard™ 800	LittleBoard™ 800	ReadyBoard™ 820 or 620
Form Factor	COM Express™	EBX	EBX	EPIC
CPU	Core™2 Duo	Pentium® M or Celeron® M	Pentium® M or Celeron® M	Pentium® M, Celeron® M or Geode™ LX800
Maximum Memory	4GB DDR2 667	1GB PC2700 DDR333	1GB PC2700 DDR333	1GB (2GB w/RB 820)
Expansion	Mini PCI, Mini PCIe	PC/104-*Plus*	PC/104-*Plus*	PC/104 or PC/104-*Plus*
Maximum Storage	80GB Extended HDD	80GB Extended HDD	80GB Extended HDD	160GB HDD
Optional Drive	Compact Flash	Compact Flash	Compact Flash	Compact Flash
Internal Drive Bay	Single 2.5"	Single 2.5"	Single 2.5"	Single 2.5"
Ethernet	Gigabit and 10/100 BaseT	Gigabit and 10/100 BaseT	Gigabit and 10/100 BaseT	Gigabit or Dual 10/100 BaseT
I/O	4x-USB, 4x-Serial, Parallel, Audio	4x-USB, 4x-Serial, Parallel, Audio	4x-USB, 4x-Serial, Parallel, Audio	3x-USB, 4x-Serial, Parallel, Audio
Standard OS	Linux®, Windows® XP, XPe or CE	Linux, Windows XP, XPe or CE	Linux, Windows XP, XPe or CE	Linux, Windows XP, XPe or CE
Power Supply	Wide range 12V to 24V DC	Wide range 12V to 24V DC	Wide range 12V to 24V DC	Wide range 12V to 24V DC
Cooling	Conductive Cooled	Conductive Cooled	Conductive Cooled	Fanless
Environment	Extreme Rugged™	Extreme Rugged™	Extreme Rugged™	Rugged
Standard Operating Temp.	-20° to +65°C	-20° to +65°C	-20° to +65°C	0° to +60°C
Extended Operating Temp.	-40° to +75°C	-40° to +75°C	-40° to +75°C	N/A
Size (w,h,d)	8x10 x3"	8x10 x3"	8x10 x3"	9.3x10.2 x3.35"
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RuffSystem™ 840

Extreme Rugged™ Core™2 Duo Computer System

Features

- Conductive Cooled Core™2 Duo processor
- Mini PCI and Mini PCIe expansion
- Designed to meet MIL-STD-810 (shock/vibration, temp, humidity) using Ampro by ADLINK™ COM 840
- Wide voltage range 14V to 32V DC input
- Ampro by ADLINK™ Embedded Linux® or Windows® XP embedded
- Optional: Windows® CE, QNX® or VxWorks®

Featuring: COM 840 Core2 Duo 1.6GHz with Intel® 965GME Chipset

Designed to support Ampro by ADLINK™ Extreme Rugged™ COM 840 with EBX baseboard

- Size (w,h,d): 8x10x3”
- IP5x Rated Chassis

Specifications

Board Compatibility

COM 840 with rugged EBX Carrier Board

Processor

1.6GHz Core2 Duo L7500

Chipset – Intel® 965GME/ICH8

Modular/Expandable

Mini PCI and Mini PCI Express Card

I/O

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

SATA – Supports up to 2 drives

Compact Flash on secondary IDE

VGA

Serial – 4 ports, all are RS232/422/485

Parallel – EPP/ECP bidirectional port

Floppy – Supports 1 or 2 drives

USB – 3 USB 2.0 ports (four root hubs)

Keyboard/Mouse – PS/2 interface

Audio – AC97 speaker, mic, headphone

Network Interface

Ethernet - Dual Gigabit Ethernet: Intel® 82572EI and Intel® 82566

MIL-STD-810 Compliance

Designed to meet MIL-STD-810 (shock/vibration, temp, humidity) using Ampro by ADLINK™ COM 840

Operating Systems

Ampro by ADLINK™ Embedded Linux® or Windows® XP embedded

Optional: Windows® CE, QNX® or VxWorks®

Mechanical

Size (w,h,d): 8x10x3”

Environmental

–Temperature

- Standard: –20° to +65°C
- Extended: –40° to +75°C
- Storage: –40° to +85°C

IP5x Rated Chassis

Ordering Information

Model Number	Description/Configuration
RF1-C84-R-32	RuffSystem™ with 1.6GHz Core® 2 Duo CPU, rugged EBX carrier board, dual Ethernet, Video

RuffSystem™ 800

Extreme Rugged™ Pentium® M Computer System

Features

- Low-Power, Conductive Cooled Intel® Pentium® M or Celeron® processor
- Internal PC/104 card standard support for (2) two PC/104(+) expansion cards
- Gigabit Ethernet, 10/100 Ethernet, USB, Serial, Video, Audio, IDE, SATA
- Designed to meet MIL-STD-810 (shock/vibration, temp, humidity) using Ampro by ADLINK™ LittleBoard™ 800
- Standard input voltage: 12V to 25V DC
- Optional wide range: 14V to 32V DC available
- Ampro by ADLINK™ Embedded Linux® or Windows® XP embedded
- Optional: Windows® CE, QNX® or VxWorks®

EXTREME RUGGED

Featuring: LittleBoard™ 800 1.4GHz

Designed to support Ampro by ADLINK™ LittleBoard™ 800

- Size (w,h,d): 8x10x3”
- IP5x Rated Chassis

Specifications

Board Compatibility

LittleBoard™ 800 EBX SBC

Choice of low power, conductive cooled Intel® Pentium® M or Celeron® M processors

–1.4GHz LV Pentium® M 738 (Dothan)

–1.0GHz ULV Celeron® M 373 (Dothan)

Chipset – Intel® 855GME/ICH4M

Modular/Expandable

Internal PC/104 Card standard support for (2) two PC/104(+) expansion cards

I/O

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

Compact Flash on secondary IDE

VGA port

Serial – 4 ports, all are RS232/422/485

Parallel – EPP/ECP bidirectional port

USB – 4 USB 2.0 ports (four root hubs)

Keyboard/Mouse – PS/2 interface

Audio – AC97 speaker, mic, headphone

Network Interface

Ethernet – Dual, Intel® 82541 (Gigabit) and Intel® 82551ER (10/100BaseT)

MIL-STD-810 Compliance

Passed MIL-STD-810 (shock/vibration, temperature, humidity) testing with Ampro by ADLINK™ LittleBoard™ 800 installed

Operating Systems

Ampro by ADLINK™ Embedded Linux® or Windows® XP embedded

Optional: Windows® CE, QNX® or VxWorks®

Mechanical

Size (w,h,d): 8x10x3”

Environmental

–Temperature

- Standard: –20° to +65°C
- Extended: –40° to +75°C
- Storage: –40° to +85°C

IP5x Rated Chassis

Ordering Information

Model Number	Description/Configuration
RF1-L80-R-10	RuffSystem™ with 1.0GHz ULV Celeron® M CPU, PC/104-Plus, dual Ethernet, Video, 4 COM
RF1-L80-R-21	RuffSystem™ with 1.4GHz LV Pentium® M CPU, PC/104-Plus, dual Ethernet, Video, 4 COM
RF1-L80-R-10	RuffSystem™ with 1.0GHz ULV Celeron® M CPU, PC/104-Plus, dual Ethernet, Video, 4 COM, wide voltage input
RF1-L80-R-21	RuffSystem™ with 1.4GHz LV Pentium® M CPU, PC/104-Plus, dual Ethernet, Video, 4 COM, wide voltage input

MilSystem™ 800

Extreme Rugged™ Pentium® M COTS Military Computer

Features

- Low-Power, Conductive Cooled Intel® Pentium® M or Celeron® processor
- Internal PC/104 card standard support for (2) two PC/104(+) expansion cards
- Gigabit Ethernet, 10/100 Ethernet, USB, Serial, Video, Audio, IDE, SATA
- Passed MIL-STD-810 (shock/vibration, temperature, humidity) testing with Ampro by ADLINK™ LittleBoard™ 800 installed
- Wide voltage 14V to 32V DC regulator
- Ampro by ADLINK™ Embedded Linux® or Windows® XP embedded
- Optional: Windows® CE, QNX® or VxWorks®

EXTREME RUGGED

Featuring: LittleBoard™ 800 1.4GHz

Designed to support Ampro by ADLINK™ LittleBoard™ 800

- Size (w,h,d): 8x10x3”
- IP5x Rated Chassis

Specifications

Board Compatibility

LittleBoard™ 800 EBX SBC

Choice of low power, conductive cooled Intel® Pentium® M or Celeron® M processors

–1.4GHz LV Pentium® M 738 (Dothan)

–1.0GHz ULV Celeron® M 373 (Dothan)

Chipset – Intel® 855GME/ICH4M

Modular/Expandable

Internal PC/104 Card standard support for (2) two PC/104(+) expansion cards

I/O

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

Compact Flash on secondary IDE (internal)

MIL-STD-D38999 connectors

VGA

Serial – 4 ports, all are RS232/422/485

USB – 4 USB 2.0 ports (four root hubs)

Keyboard/Mouse – PS/2 interface

Audio – AC97 speaker, mic, headphone

Network Interface

Ethernet – Dual, Intel® 82541 (Gigabit) and Intel® 82551ER (10/100BaseT)

MIL-STD-810 Compliance

Passed MIL-STD-810 (shock/vibration, temperature, humidity) testing with Ampro by ADLINK™ LittleBoard™ 800 installed

Operating Systems

Ampro by ADLINK™ Embedded Linux® or Windows® XP embedded

Optional: Windows® CE, QNX® or VxWorks® BSP

Mechanical

Size (w,h,d): 8x10x3”

Environmental

–Temperature

- Standard: –20° to +65°C
- Extended: –40° to +75°C
- Storage: –40° to +85°C

IP5x Rated Chassis

Power

Wide voltage 14V to 32V DC input

Ordering Information

Model Number	Description/Configuration
MIL-800-R-10W	MilSystem™ with 1.0GHz ULV Celeron® M CPU, PC/104-Plus, dual Ethernet, Video, 4 COM
MIL-800-R-14W	MilSystem™ with 1.4GHz LV Pentium® M CPU, PC/104-Plus, dual Ethernet, Video, 4 COM

ReadySystem™ Fanless

Rugged, Small, Flexible Fanless System

Features

- Designed for IP5x rating
- Minimal overall product size
- Compact Flash accessible externally
- 12V or wide-range 12 to 24V DC power input
- Supports up to two PC/104 I/O expansion modules
- Custom I/O configurations available
- No fans

RUGGED

Choose an Ampro by ADLINK™ ReadySystem™ Fanless for . . .

Industrial embedded applications that benefit from a dust and dirt free enclosure and quiet operation.

Description

The ReadySystem™ Fanless includes a robust set of I/O with a VGA DB15 output, USB 2.0 ports, RS232 Serial ports on DB9 connectors, Audio (In, Out, and Mic), PS/2 keyboard and mouse (shared), and up to two Ethernet interfaces. ReadySystem™ Fanless allows the integration of up to 2x PC/104 cards. This fanless system features the Ampro ReadyBoard™ SBC, up to 1.4GHz Pentium® M processor, and compact housing for limited space embedded fanless applications.

Compact Size: ReadySystem™ Fanless is 236x260x85mm (9.3x10.2x3.35") which qualifies it for space critical applications. The ReadySystem™ Fanless is suitable for desktop, walls, or rack mount use.

Scalable Performance with Managed Power Consumption: Pentium® M class processors achieves high computing performance with low power consumption and allow fanless operation.

Range of Power Sources: The ReadySystem™ Fanless is compatible with 12 to 24 V power modules, offering flexible power options for various environments.

Ampro by ADLINK™ ReadySystem™ Configuration: Ampro by ADLINK™ ReadySystem™ Fanless computers configurations include your choice of memory size, Hard Disk, and/or Compact Flash options.

High Integration: ReadySystems are supplied "Ready to Run" with long life cycle support for product continuity.

Specifications

Board Compatibility

ReadyBoard™ 820 or ReadyBoard™ 620

Up to two PC/104 I/O expansion modules

Memory / Mass Storage

256MB, 512MB, or 1GB SODIMM installed

80 - 160GB Standard hard disk drive installed

40GB or 80GB Extended temp HDD

Compact Flash socket accessible through I/O panel with protective cover

Network Interface

Ethernet - Dual. Refer to specific ReadyBoard™ datasheets.

Video Interface

CRT, DB15 connector

I/O

ReadyBoard™ PC-style connectors protrude through enclosure I/O panel

I/O expansion

Serial – 4 ports, 2 RS232, 2 RS232/422/485, on DB9 connectors

USB – 3 ports, Type B connectors

Keyboard / Mouse – PS/2 connector (shared)

Audio – 3 jacks, line in / line out / mic in

Software

Ampro by ADLINK™ Embedded Linux®, Windows® CE, XP, XPe

Mechanical

Size (w,h,d): 9.3x10.2x3.35"

Input Voltage – wide-range +12V to +24V DC

–Optional AC to DC power adapter available

Regulatory – Designed to achieve ULC, CSA, FCC and IP5x rating

Environmental

- Temperature
  - Standard: 0° to +60°C
  - Storage: –20° to +75°C

Ordering Information

Model Number	Description/Configuration
RS1-R82-R-21	ReadySystem™ Fanless with 1.4GHz Pentium® M 738 CPU, 12V to 25V Power Regulator, FANLESS ReadyBox, Gigabit Ethernet, 0 GB HDD, 0 MB DDR2-RAM, RoHS
RS1-R82-R-10	ReadySystem™ Fanless with 1.0GHz Celeron® M CPU, 12V to 25V Power Regulator, FANLESS ReadyBox, Gigabit Ethernet, 0 GB HDD, 0 MB DDR2-RAM, RoHS
RS1-R62-R-11	ReadySystem™ Fanless with 500MHz AMD Geode™ LX 800, 12V to 25V Power Regulator, FANLESS ReadyBox, Dual 10/100 Ethernet, 0 GB HDD, 0 MB DDR-RAM, RoHS