

EPS-PNV

Fanless Intel® Atom™ D525 Dual-Core Rugged Embedded System with Intel® ICH8-M Chipset and 2 PCI

Quick Reference Guide

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Part No. E20173831A1R

FCC Statement



THIS DEVICE COMPLIES WITH PART 15 FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

(1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE.

(2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THIS EQUIPMENT HAS BEEN TESTED AND FOUND TO COMPLY WITH THE LIMITS FOR A CLASS "A" DIGITAL DEVICE, PURSUANT TO PART 15 OF THE FCC RULES.

THESE LIMITS ARE DESIGNED TO PROVIDE REASONABLE PROTECTION AGAINST HARMFUL INTERFERENCE WHEN THE EQUIPMENT IS OPERATED IN A COMMERCIAL ENVIRONMENT. THIS EQUIPMENT GENERATES, USES, AND CAN RADIATE RADIO FREQUENCY ENERGY AND, IF NOT INSTALLED AND USED IN ACCORDANCE WITH THE INSTRUCTION MANUAL, MAY CAUSE HARMFUL INTERFERENCE TO RADIO COMMUNICATIONS.

OPERATION OF THIS EQUIPMENT IN A RESIDENTIAL AREA IS LIKELY TO CAUSE HARMFUL INTERFERENCE IN WHICH CASE THE USER WILL BE REQUIRED TO CORRECT THE INTERFERENCE AT HIS OWN EXPENSE.

A Message to the Customer

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Your satisfaction is our primary concern. Here is a guide to Avalue's customer services. To ensure you get the full benefit of our services, please follow the instructions below carefully.

Technical Support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. These answers are normally a lot more detailed than the ones we can give over the phone. So please consult the user's manual first.

To receive the latest version of the user's manual; please visit our Web site at:

<http://www.avalue.com.tw/>

If you still cannot find the answer, gather all the information or questions that apply to your problem, and with the product close at hand, call your dealer. Our dealers are well trained and ready to give you the support you need to get the most from your Avalue's products. In fact, most problems reported are minor and are able to be easily solved over the phone. In addition, free technical support is available from Avalue's engineers every business day. We are always ready to give advice on application requirements or specific information on the installation and operation of any of our products. Please do not hesitate to call or e-mail us.

Headquarters and Branch

Avalue Technology Inc.

7F, 228, Lian-cheng Road, Chung Ho City, Taipei,
Taiwan

Tel: +886-2-8226-2345

Fax: +886-2-8226-2777

Information: sales@avalue.com.tw

Service: service@avalue.com.tw

BCM Advanced Research BCM Advanced Research an Avalue Company

7 Marconi, Irvine, CA92618

Tel: +1-949-470-1888

Fax: +1-949-470-0971

Information: BCMSales@bcmcom.com

Web: www.bcmcom.com

Avalue China

Avalue Technology Inc.

Room 805, Building 9, No.99 Tianzhou Rd.,
Caohejing Development Area,
Xuhui District, Shanghai

Tel: +86-21-5169-3609

Fax: +86-21-5445-3266

Information: sales.china@avalue.com.cn

Service: service@avalue.com.tw

Avalue USA

Avalue Technology Inc.

9 Timber Lane, Marlboro, NJ 07746-1443

Tel: (732) 414-6500

Fax: (732) 414-6501

Information: sales@avalue-usa.com

Service: support@avalue-usa.com

Avalue Europe

Avalue Europe A/S

Moelledalen 22C, 3140

Aalsgaarde, Denmark

Tel: +45-7025-0310

Fax: +45-4975-5026

Information: sales.europe@avalue.com.tw

Service: service.europe@avalue.com.tw

Avalue Japan

Avalue Technology Inc.

2F keduka-Bldg, 2-27-3 Taito,

Taito-Ku, Tokyo 110-0016 Japan

Tel: +81-3-5807-2321

Fax: +81-3-5807-2322

Information: sales.japan@avalue.com.tw

Service: service@avalue.com.tw

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1. Getting Started

1.1 Safety Precautions

Warning!



Always completely disconnect the power cord from your chassis whenever you work with the hardware. Do not make connections while the power is on. Sensitive electronic components can be damaged by sudden power surges. Only experienced electronics personnel should open the PC chassis.

Caution!



Always ground yourself to remove any static charge before touching the CPU card. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components in a static-dissipative surface or static-shielded bag when they are not in the chassis.

1.2 Packing List

- 1 x Fanless Intel® Atom™ D525 Dual-Core Rugged Embedded System with Intel® ICH8-M Chipset and 2 PCI.
- 1 x Quick Reference Guide
- 1 x DVD-ROM contains the followings:
 - User's Manual (this manual in PDF file)
 - Ethernet driver and utilities
 - VGA drivers and utilities
 - Audio drivers and utilities



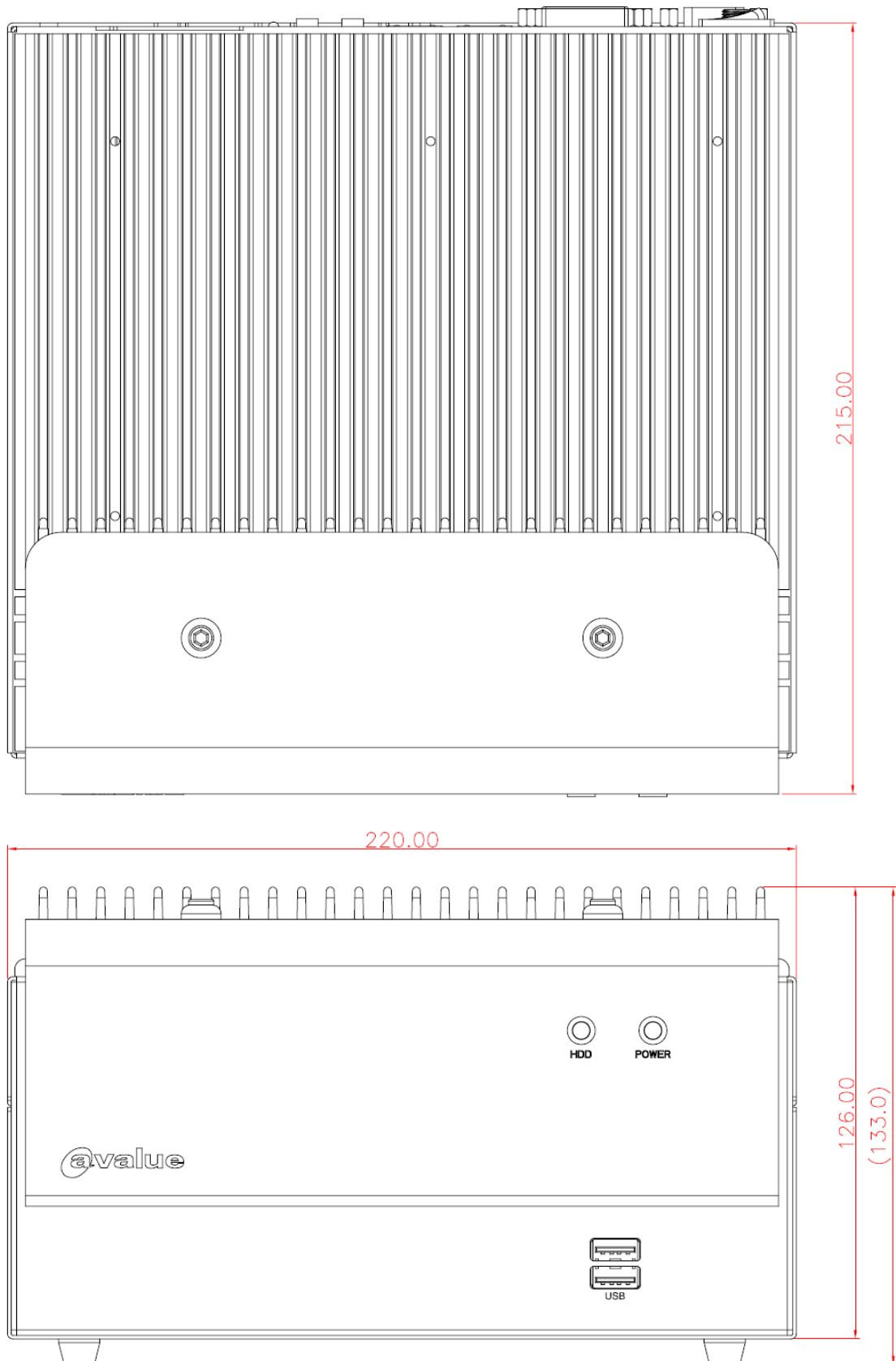
If any of the above items is damaged or missing, contact your retailer.

1.3 System Specifications

System	
CPU	Onboard Intel® Atom™ D525 Dual-Core 1.8GHz CPU
BIOS	AMI 8 Mbit Flash BIOS
System Chipset	Intel® ICH8-M Chipset
I/O Chip	ITE IT8712F-S
System Memory	One 200-pin SODIMM socket supports up to 2 GB DDR2 667 SDRAM
SSD	1 x CompactFlash Type I/II socket
Watchdog Timer	Reset: 1 sec.~255 min. and 1 sec. or 1 min./step
H/W Monitor	Monitoring system temperature, voltage, and cooling fan status
External I/O	
COM Port	4 x RS232 (COM1-4) ; 2 x RS422/485 (COM5-6)
LAN Port	2 x RJ45
VGA/DVI Port	1 x VGA
Audio Port	1 x Line out
USB Port	5 x USB 2.0 (Rear 3 ; Front 2)
SSD	1 x CompactFlash Type I/II socket
Expansion slot	2 x PCI slots (AUX-039 + new version of AUX-028)
Antenna	1 x (for USB Wi-Fi)
Display	
Chipset	Intel® Pineview Integrated, GMA3150 @ 400MHz
Resolution	CRT mode: 2048 x 1536 @ 60 Hz
Audio	
Audio Chipset	Realtek ALC888 HD Audio codec
Audio Interface	1 x Line-out
Ethernet	
LAN Chip	Dual Intel® 82574L Gigabit Ethernet, supports Wake on LAN
Ethernet Interface	10/100/1000Base-Tx Fast Ethernet compatible
Mechanical & Environmental	
Power Requirement	9 ~ 32V Wide Range DC Power Input
ACPI	Single power ATX Support S0~S5 ACPI 2.0B
Operating Temp.	-20 ~ 55°C (HDD), ambient w/ air flow
Storage Temp.	-40 ~ 75°C (-4~167°F)
Operating Humidity	0%~90% relative humidity, non-condensing
Vibration Protection	With CF/SSD: 5Grms, IEC 60068-2-64, Random, 10 ~ 500Hz, 1hr/axis With HDD: 1Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 1hr/axis
Shock Protection	With CF/SSD: 50G, IEC 60068-2-27, Half Sine, 11ms With CF/SSD: 20G, IEC 60068-2-27, Half Sine, 11ms
Size (L x W)	220x215x126mm (WxDxH)
Weight	3.5 Kg

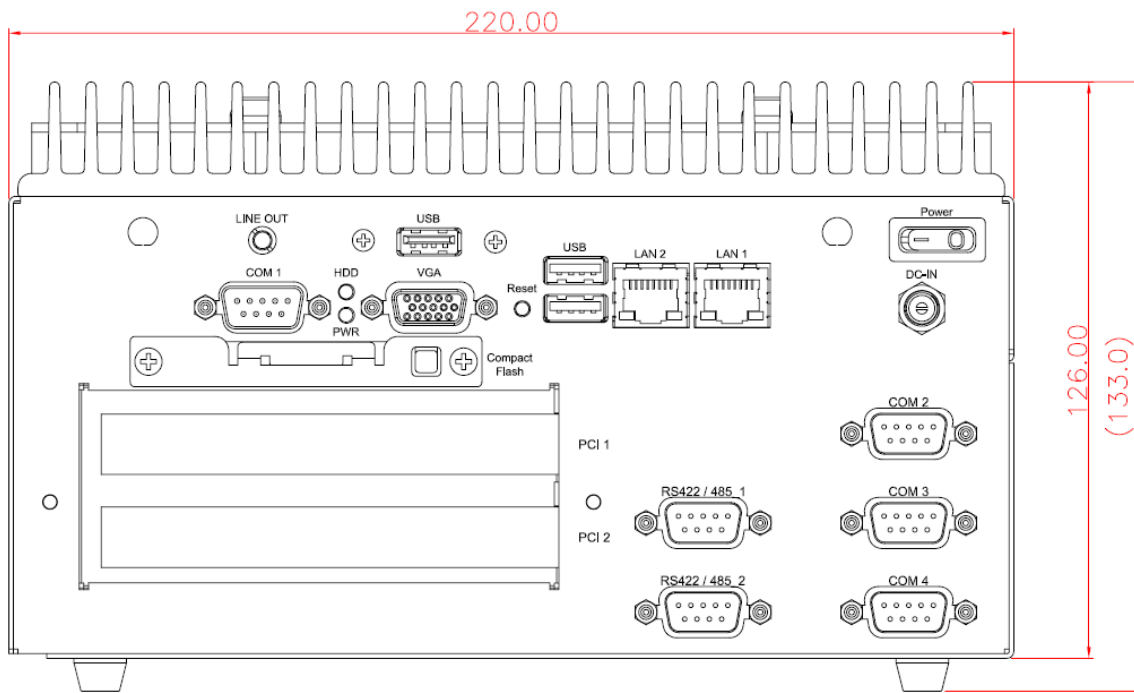
1.4 System Overview

1.4.1 Front & Top View



EPS-PNV

1.4.2 Rear View



2. Hardware Configuration

Jumper and Connector Settings

For advanced information, please refer to:

- 1- ECM-PNV (A1 version) Quick Installation Guide or User's Manual
- 2- AUX-039 + AUX-028 daughter boards included in this manual.



Note: If you need more information, please visit our website:

<http://www.avalue.com.tw>

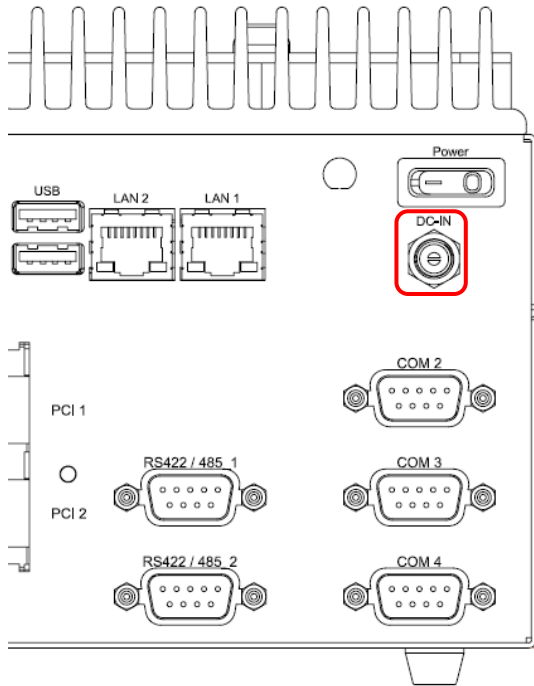
2.1 EPS-PNV connector list

Connectors

Label	Function	Note
COM1~4	Serial port connector 1~4	D-sub 9-pin, male
RS422/485 1	Serial port connector 1 in RS422/485	D-sub 9-pin, male
RS422/485 2	Serial port connector 2 in RS422/485	D-sub 9-pin, male
Compact Flash	Compact Flash slot	
DC-IN	DC power-in connector	
HDD	HDD Indicator	
PWR	Power Indicator	
LAN1	RJ-45 Ethernet 1	
LAN2	RJ-45 Ethernet 2	
LINE OUT	Line-out audio jack	
Power	System power switch	
PCI1/2	PCI connectors 1/2	
Reset	Reset Button	
USB1~5	USB connector 1~5	
VGA	VGA connector	

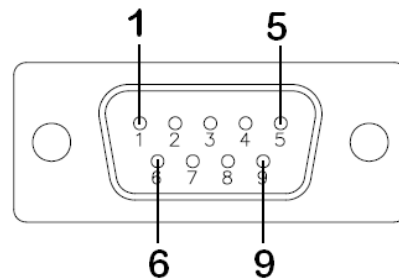
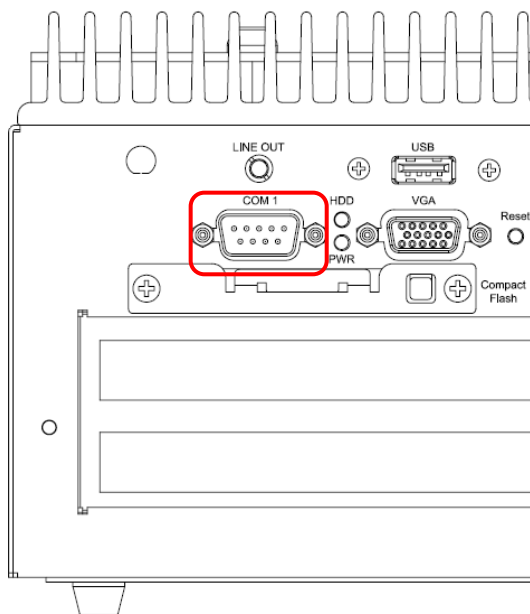
2.2 EPS-PNV connector mapping

2.2.1 DC power-in connector (DC-IN)



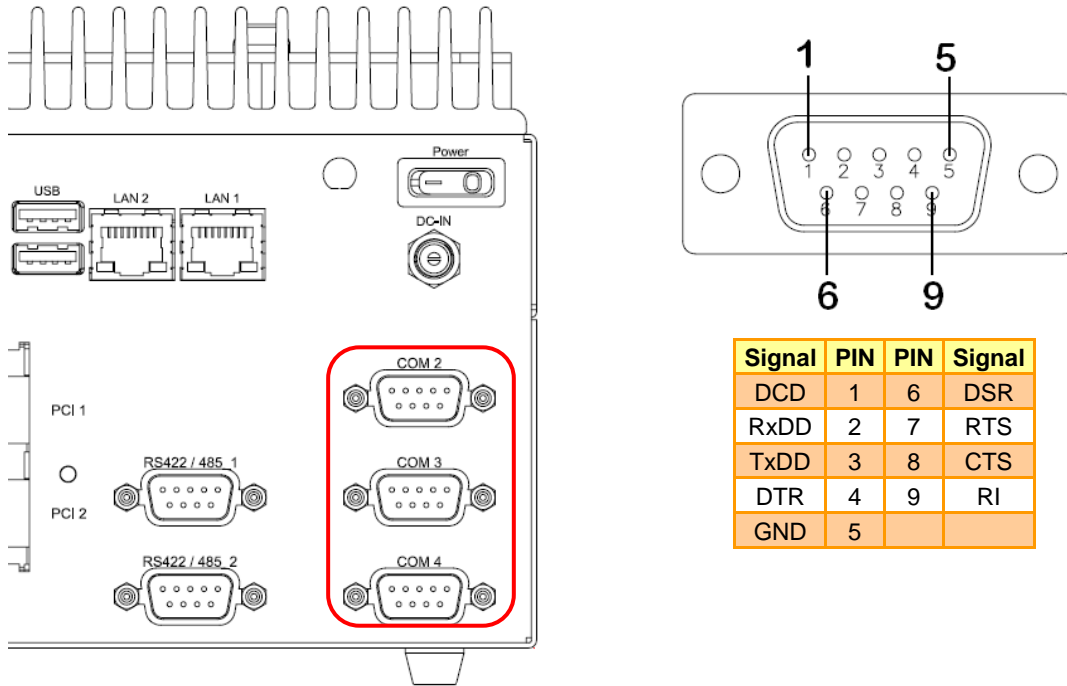
DC-IN 9 ~ 32V

2.2.2 External Serial Port 1 connector (COM1)

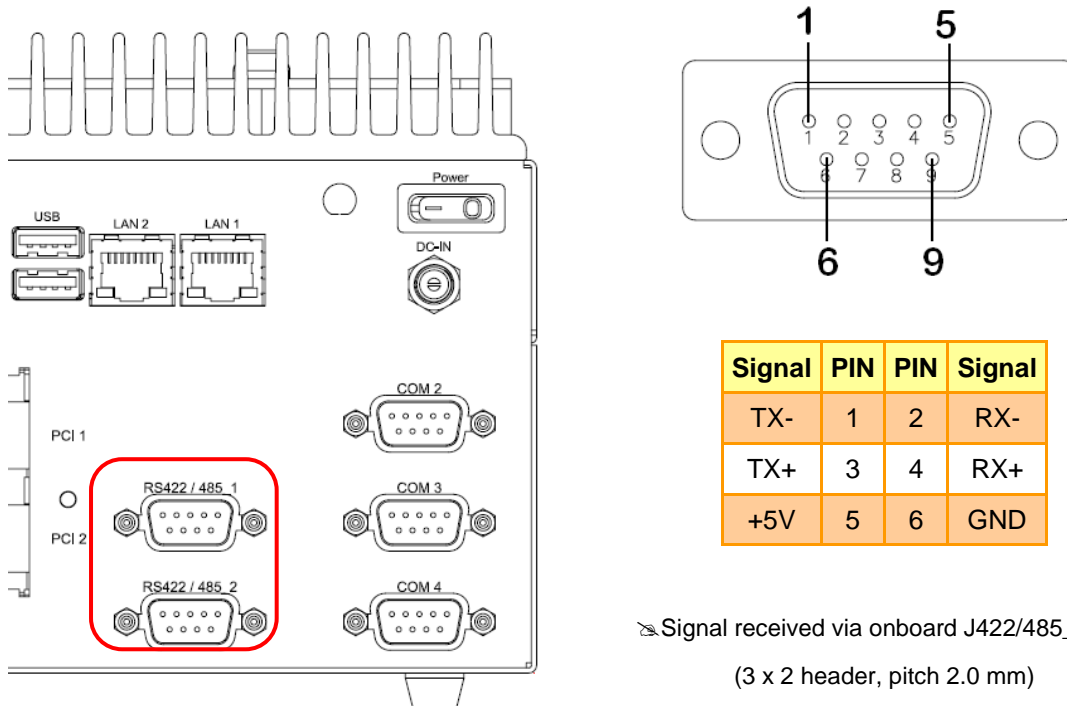


Signal	PIN	PIN	Signal
DCD	1	6	DSR
RxDD	2	7	RTS
TxDD	3	8	CTS
DTR	4	9	RI
GND	5		

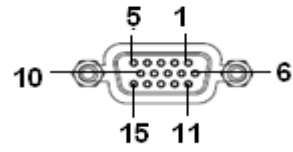
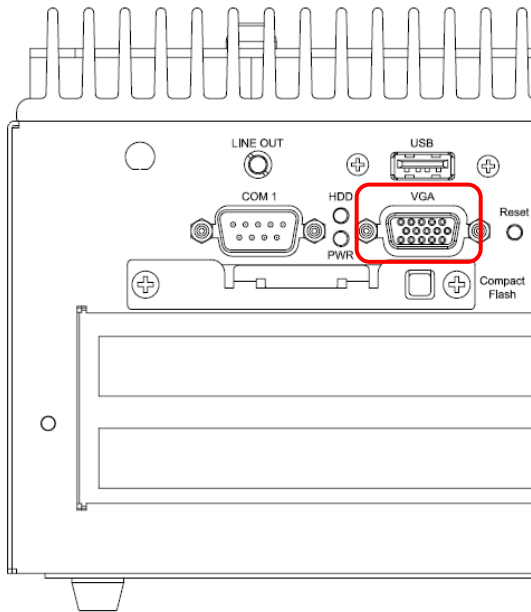
2.2.3 External Serial Port 2/3/4 connector (COM2/3/4)



2.2.4 External Serial Port 1/2 connector (RS422/485 1/2)



2.2.5 VGA connector (VGA)



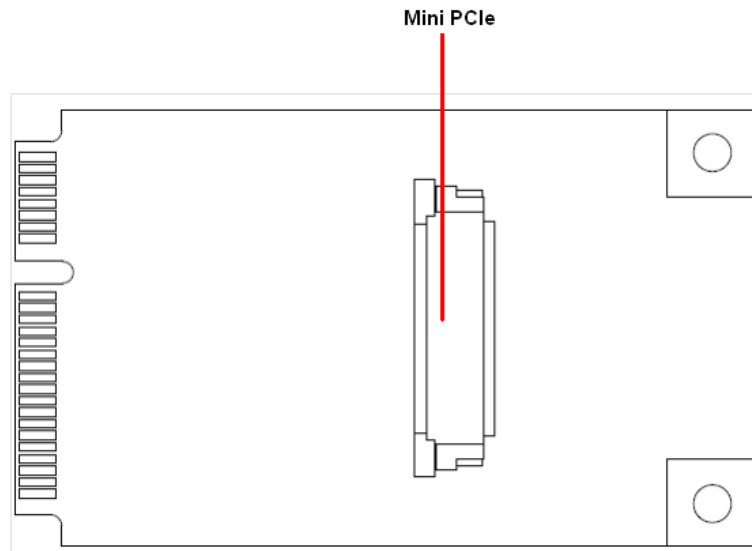
PIN	Signal	PIN	Signal	PIN	Signal
1	R	6	GND	11	NC
2	G	7	GND	12	DATA
3	B	8	GND	13	HSYNC
4	NC	9	+5V	14	VSYNC
5	GND	10	EN#	15	CLK

2.3 Daughter Boards (AUX-039 – AUX-028)

2.3.1 AUX-039

Connectors

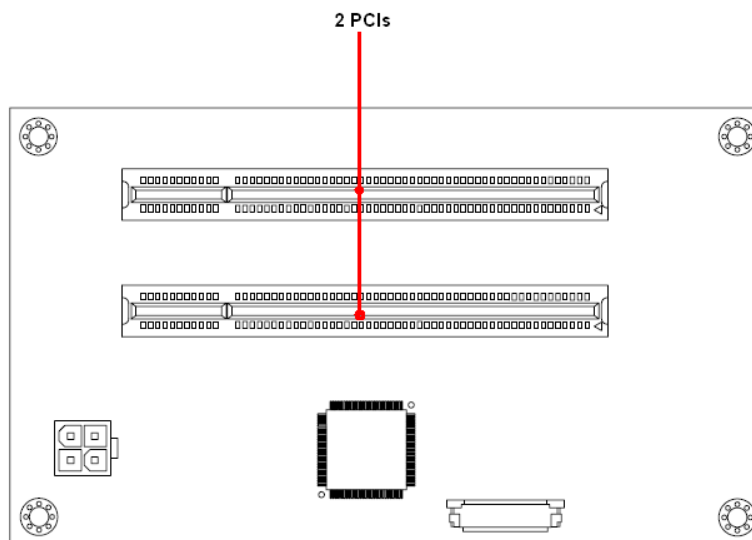
Label	Function	Note
Mini PCIe	Mini PCI express connector	30 header, pitch S0.5mm



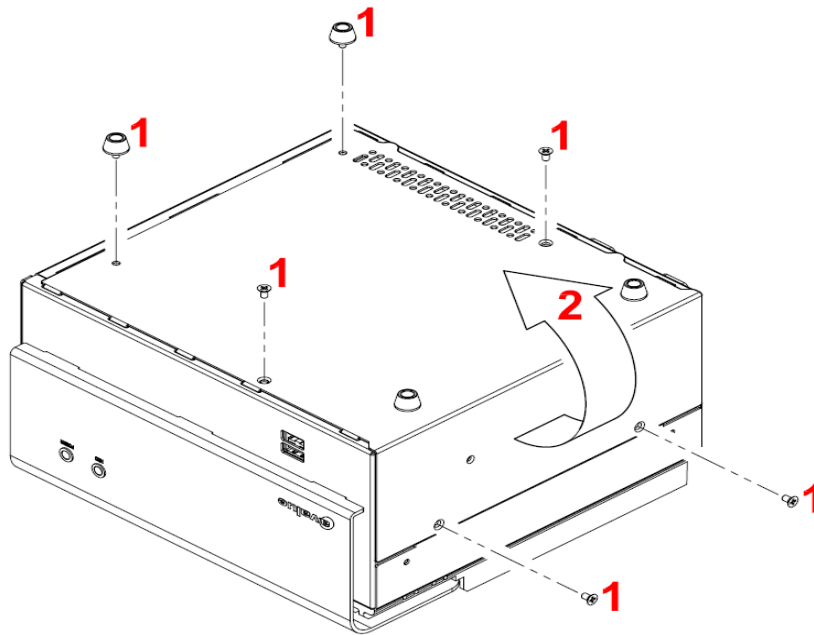
2.3.2 AUX-028

Connectors

Label	Function	Note
PCI 1/2	PCI connector 1/2	Pci slim slot

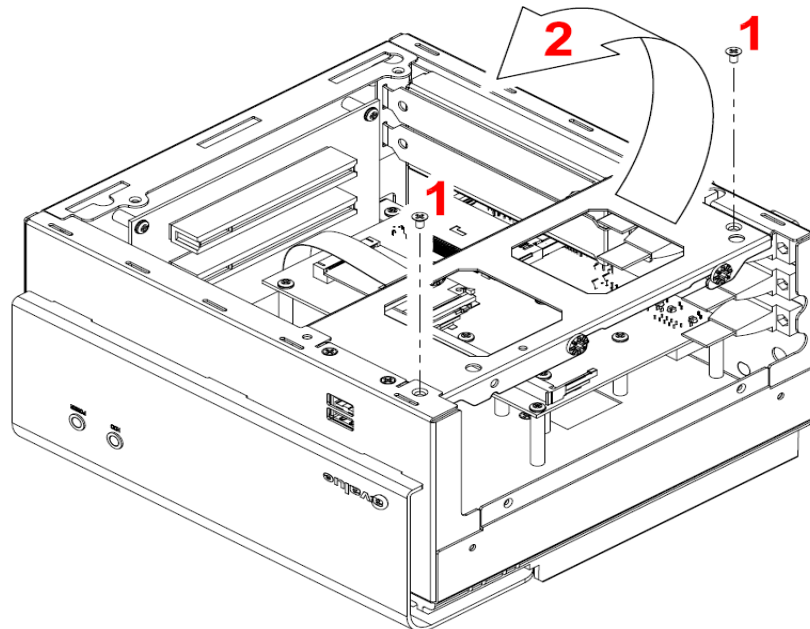


2.4 Installing Hard Disk & Memory (EPS-PNV)



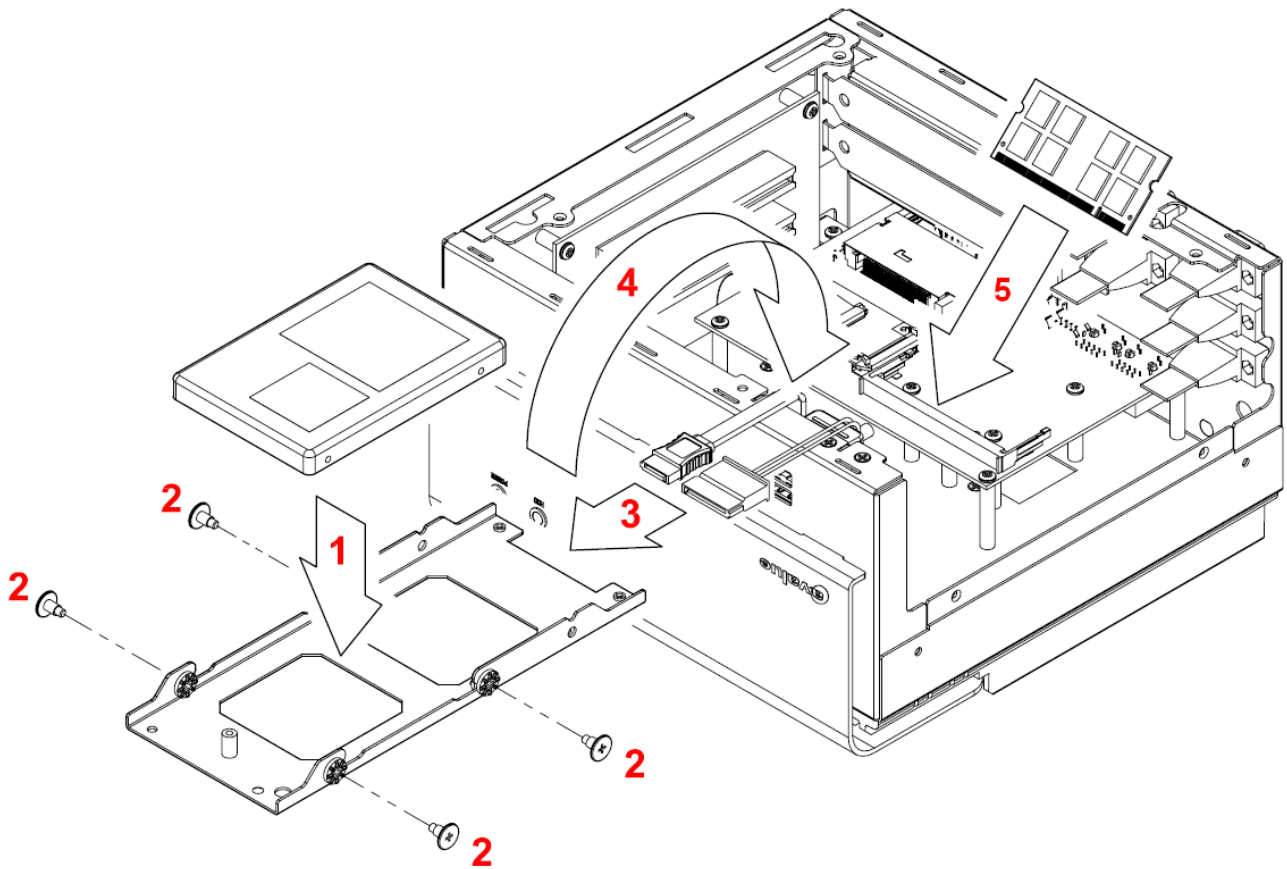
Step 1. Remove 4 screws from the bottom & 2 screws for the side of your system.

Step 2. Pull chassis cover upward for removal.



Step 1. Remove 2 screws to release the HDD bracket

Step 2. Pull the HDD bracket upward for HDD installation



- Step 1.** Slide HDD into its bracket until properly seated.
- Step 2.** Secure HDD by means of 4 screws.
- Step 3.** Connect necessary cables to the HDD
- Step 4.** Return the HDD bracket to initial position to complete
- Step 5.** Slide the SODIMM into the memory socket and push it down until properly seated

