ASM-BYT

Fanless Intel® Celeron® SoC Ultra Slim PC

Quick Reference Guide

1st Ed – 28 August 2014

Part No. E2017BA90A0R

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 UNDESIRED 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 INSTATLLED 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

Avalue Customer Services

Each and every Avalue's product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Avalue device is destined for the laboratory or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Avalue has come to be known.

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/

Content

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 ASM-BYT Fanless Intel® Celeron® SoC Ultra Slim PC
- 1 x DVD-ROM contains the followings:
  - QRG in PDF file
  - Ethernet driver and utilities
  - VGA drivers and utilities
  - Audio drivers and utilities
  - Chipset drivers and utilities
- Other major components include the followings:
  - Screw kit
  - Adapter
  - Power Cord

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

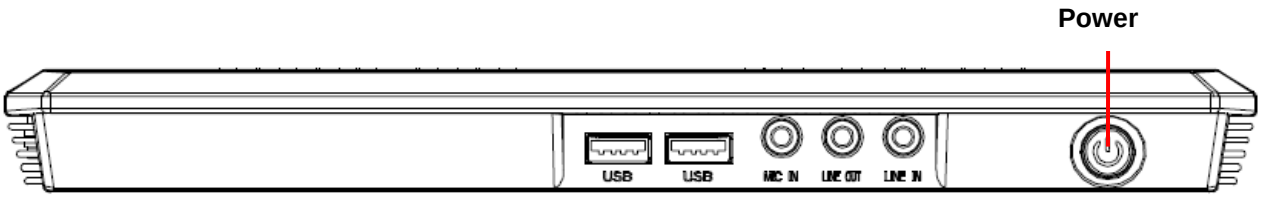
1.3 System Specifications

System	
Board	• EBM-BYT
CPU	• Intel® Celeron® Processor J1900 Family
BIOS	• AMI uEFI BIOS, 64/128Mbit SPI Flash ROM
System Chipset	• Valleyview D SoC Integrated
I/O Chipset	• EC (IT8528E)
System Memory	• One 204-pin SODIMM Socket Up to 8GB DDR3L 1333 SDRAM
Watchdog Timer	• H/W Reset, 1sec. ~ 65535sec./1sec.step
H/W Status Monitor	• Monitoring System Temperature, Voltage with Auto Throttling Control
Storage	
Solid State Drive	• 1 x CF, 1 x SATA, 1 x mSATA
External I/O	
COM Port	• 2 x COM Port supports RS-232/422/485 • COM1 can be set as RS-422/485 via BIOS • COM2 can be set as RS-422/485 via DIP Switch
USB Port	• 4 x USB (2 on front side; 2 on rear side)
Video Port	• 1 x VGA, 1 X HDMI
Audio Port	• Mic-In, Line-Out, Line-In
LAN Port	• 2 x RJ45
Switch	• 1 x Power on/off
Indicator Light	• 1 x Power on/off LED on the rear side • 1 x Storage LED on the rear side
CF	• 1 x CompactFlash Type I/II Socket w/ Cover
Antenna	• 1 x Knockouts for antenna mounting
Expansion Slots	• 1 x Mini PCIe with SIM CArd • 1 x Mini PCIe supports mSATA
Display	
Chipset	• Intel® Celeron® SoC Integrated Graphics
Multiple Display	• Dual Display, HDMI + LVDS
Resolution	• VGA Mode: 2560 x 1600 @ 60Hz • HDMI Mode: 1920 x 1200 @ 60Hz
Audio	
HD Codec	• Realtek ALC892 Supports 5.1-CH Audio
Audio Interface	• Mic-in, Line-in, Line-out
Ethernet	

Chipset	• 2 x Intel® I211AT Gigabit Ethernet Controller
Ethernet Interface	• 10/100/1000 Base-Tx Gigabit Ethernet Compatible
Mechanical	
Power Type	• +12 ~ 26Vdc (Lockable DC Jack)
ACPI	• Single Power ATX Support S0, S3, S4, S5 • ACPI 3.0 Compliant
Power Mode	• AT/ATX (ATX is the default setting)
Operating Temperature	• 0 ~ 50°C (32 ~ 122°F) (w/CF & SSD), Ambient w/Air Flow • 0 ~ 40°C (32 ~ 104°F) (w/HDD), Ambient w/Air Flow
Storage Temperature	• -40 ~ 75°C (-40 ~ 167°F)
Relative Humidity	• 0% ~ 90% Relative Humidity, Non-condensing
Vibration Protection	• With CF/SSD: 1.5Grms, IEC 60068-2-64, Random, 5 ~ 500Hz, 30min/axis
Shock Protection	• With CF/SSD: 10G, IEC 60068-2-27, Half Sine,11ms
Certification	• CE, FCC Class B
Dimension (W x H x D)	• 182mm x 257mm x 25mm
Weight	• 1.2kgs
Color	• Silver and Black
Fanless	• YES
Reliability	
IP Rating	• IP 30

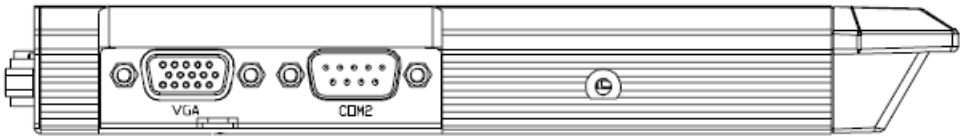
1.4 System Overview

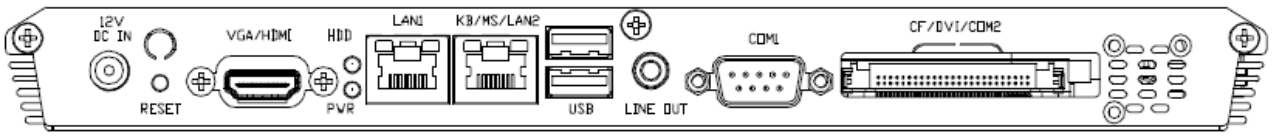
1.4.1 Front View



Connectors		
Label	**Function**	**Note**
POWER	Power on button	
USB	USB 2.0 connector	
MIC IN	Mic-in audio jack	
LINE IN	Line-in audio jack	
LINE OUT	Line-out audio jack	

1.4.2 Side & Rear View



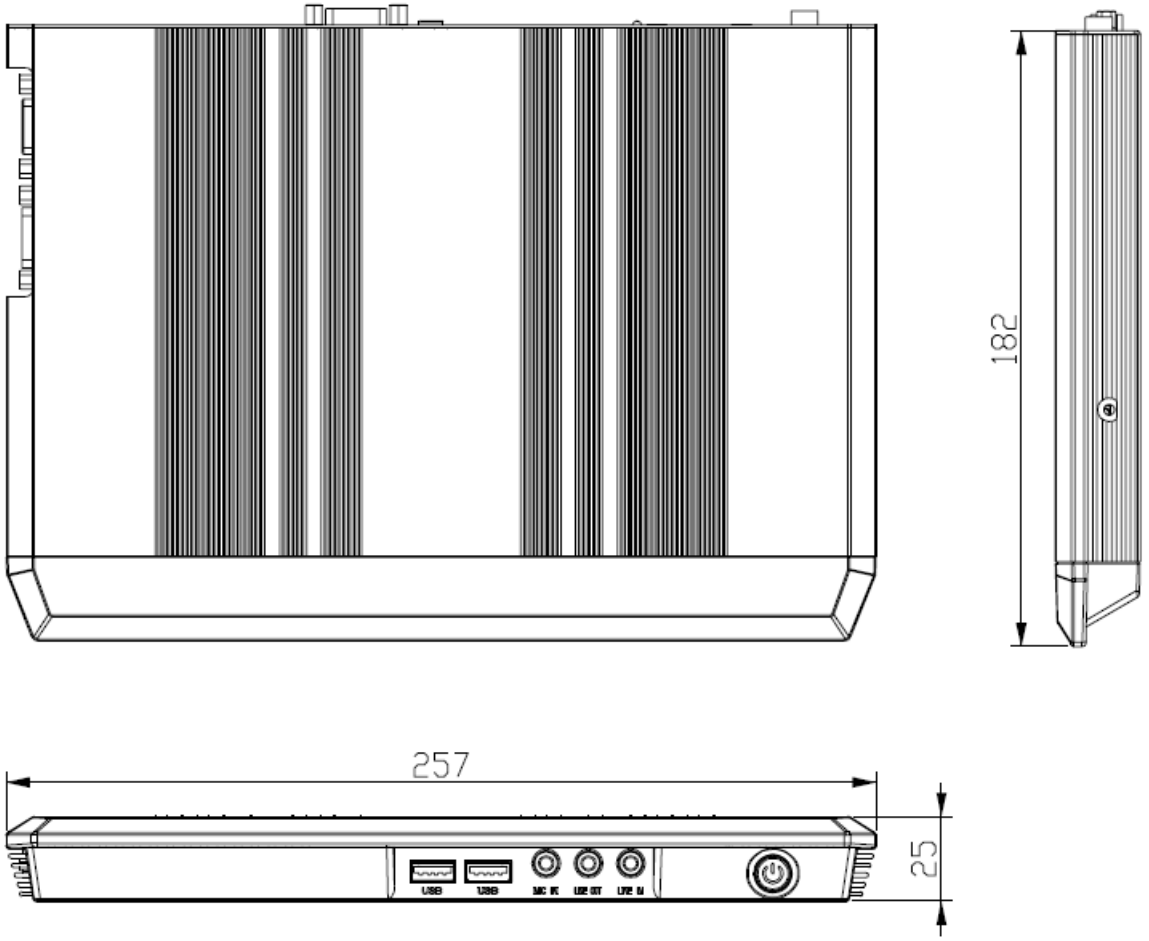


Connectors		
Label	**Function**	**Note**
COM1	Serial port 1 connector	D-sub 9-pin, male
CF/DVI/COM2	Compact Flash card connector DVI connector Serial port 2 connector	
HDD	HDD indicator	
LAN1	RJ-45 Ethernet 1	
KB/MS/LAN2	RJ-45 Ethernet connector 2	

	Optional PS/2	
PWR	System power indicator	
USB	USB 2.0 connector x 1 USB 3.0 connector x 1	
VGA	VGA connector	DB-15 female connector
HDMI	HDMI connector	
DC IN	DC Power-in connector	
RESET	Reset button	
LINE OUT	Line-out audio jack	

1.5 System Dimensions

1.5.1 Front & Top View



(Unit: mm)

2. Hardware Configuration

For advanced information, please refer to:

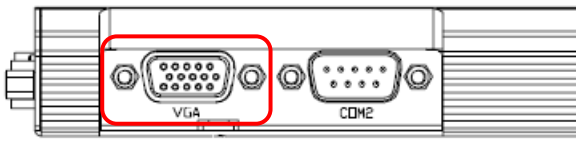
1- EBM-BYT User's Manual

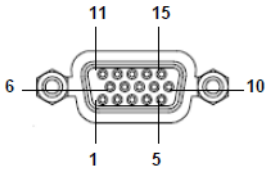
Note: If you need more information, please visit our website:

http://www.avalue.com.tw

2.1 ASM-BYT connector mapping

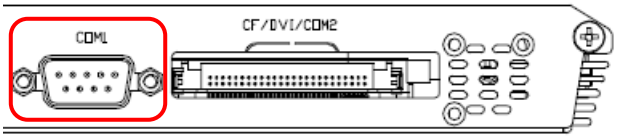
2.1.1 VGA connector (VGA)

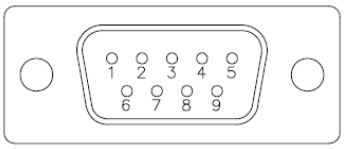




PIN	Signal	PIN	Signal	PIN	Signal
1	R	6	GND	11	NC
2	G	7	GND	12	DATA
3	B	8	GND	13	HSYNC
4	NC	9	+5V	14	VSYNC
5	GND	10	GND	15	CLK

2.1.2 Serial port 1 connector (COM1)



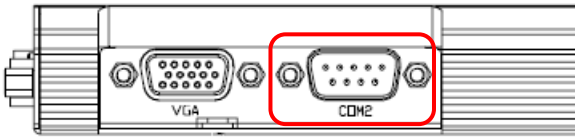


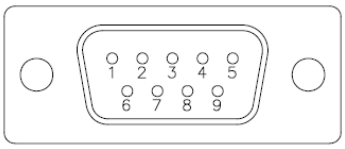
Signal	PIN	PIN	Signal
NDCDA#_485TXN	1	6	NDSRA#
NRXDA_485TXP	2	7	NRTSA#
NTXDA_485RXP	3	8	NCTSA#
NDTRA#_485RXN	4	9	NRIA#
GND	5	10	NC

Note:

COM1 can be set as RS-422/485 vis BIOS.

2.1.3 Serial port 2 connector (COM2)



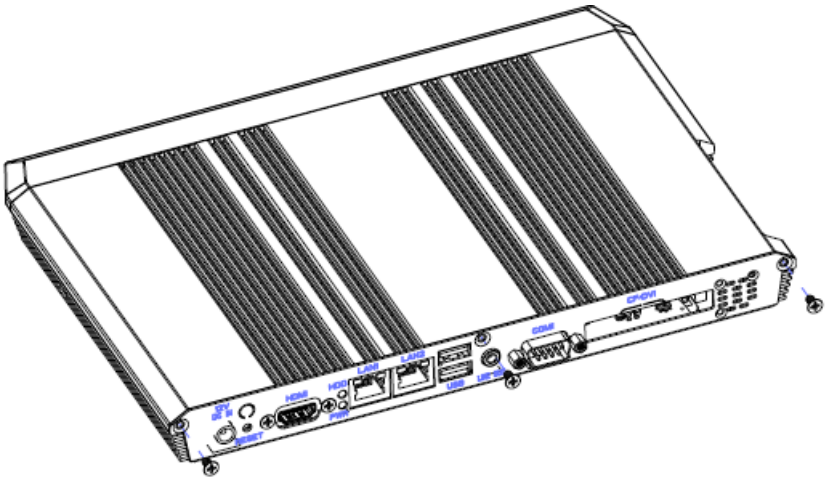


Signal	PIN	PIN	Signal
NDCDA#_485TXN	1	6	NDSRA#
NRXDA_485TXP	2	7	NRTSA#
NTXDA_485RXP	3	8	NCTSA#
NDTRA#_485RXN	4	9	NRIA#
GND	5	10	NC

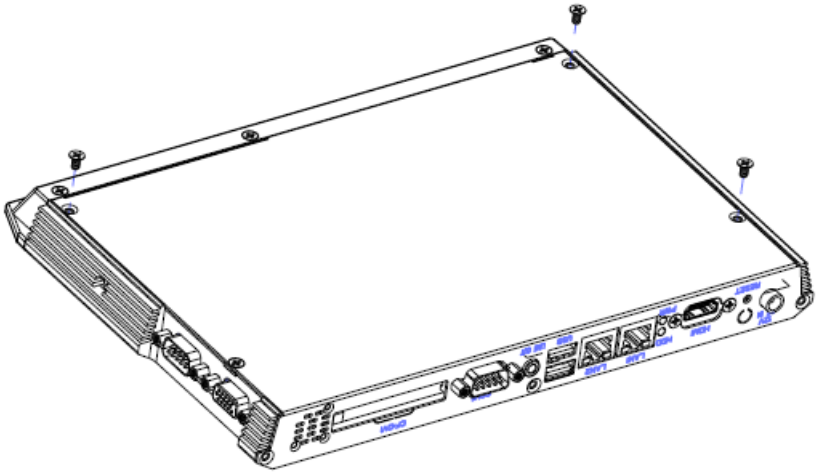
Note:

COM2 can be set as RS-422-485 vis DIP Switch.

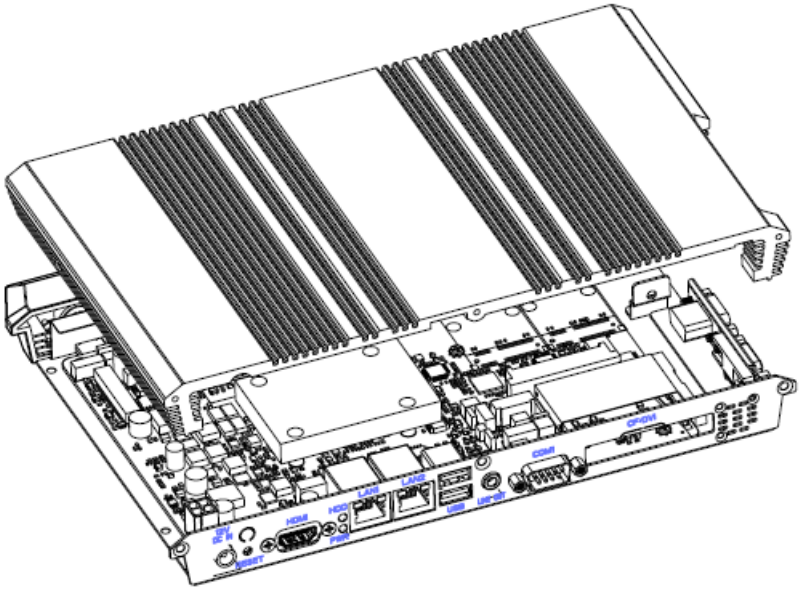
2.2 Remove the Memory (ASM-BYT)



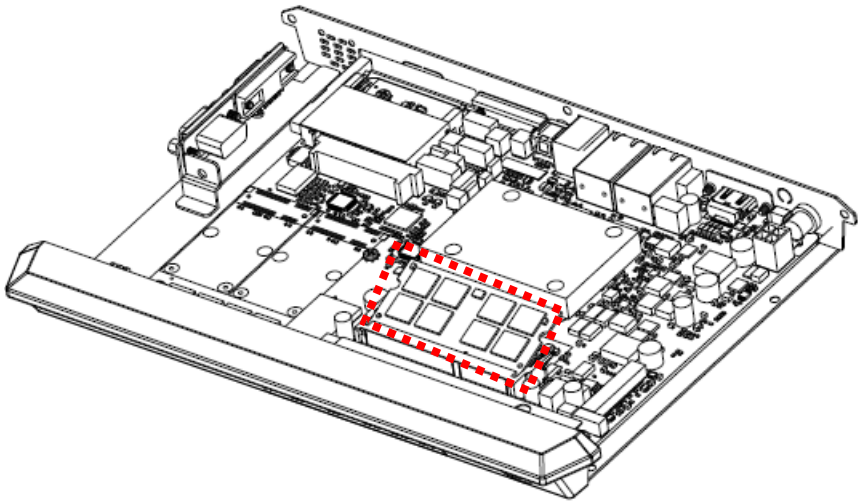
Step1. Remove 3 screws from the rear side before removing back cover.

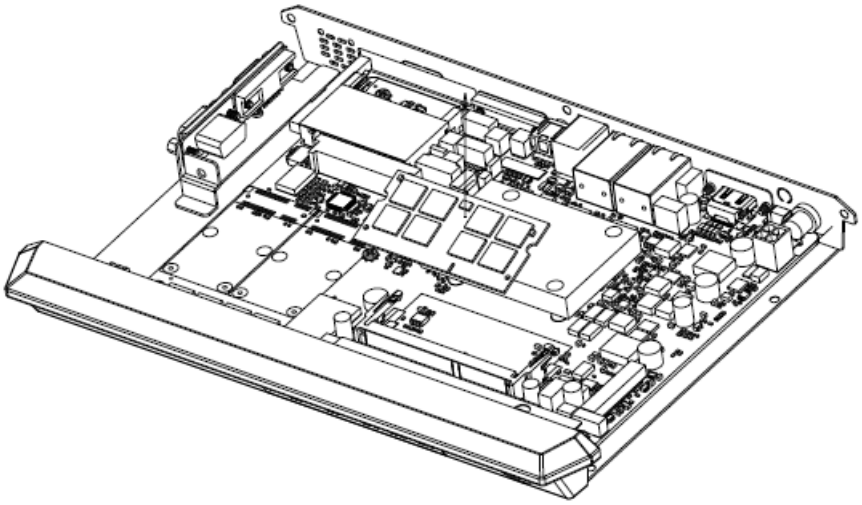


Step2. Remove 3 screws from the bottom of your system.



Step3. Remove the top chassis.





Step4.1 Remove the memory module.

Step4.2 Re-assemble your system back through previous steps to complete the installation.