

BFC-1209

**12.1" PCAP EBM-BYT Celeron J1900/HDMI/2 x MPCIE/2 x
USB 3.0/2 x LAN/FANLESS Panel PC**

Quick Reference Guide

1st Ed –02 July 2018

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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

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/>

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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.

Risk of explosion if battery is replaced by an incorrect type. Dispose of used batteries according to the instructions.

1.2 Packing List

- 1 x BFC-1209 12.1" PCAP EBM-BYT Celeron J1900 / HDMI/ 2 x MPCIE/ 2 x USB 3.0/ 2 x LAN/ FANLESS Panel PC
- 1 x AC/DC adapter 12V/5A 90 Plug Type
- 1 x Power cord



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

1.3 System Specifications

Component	
Mother Board	<ul style="list-style-type: none"> EBM-BYT
CPU	<ul style="list-style-type: none"> Intel® Celeron® J1900 4-Core 2.0GHz processor
CPU Cooler (Type)	<ul style="list-style-type: none"> Heatsink
Memory	<ul style="list-style-type: none"> One 204-pin DDR3L SODIMM Socket, Supports Up to 8GB DDR3L 1333MHz SDRAM
Power Supply	<ul style="list-style-type: none"> DC in
Adapter	<ul style="list-style-type: none"> Input: 100~240 Vdc/ 50~60 Hz Output: +12 Vdc / 5A (ACC-ADP-060N-04R)
System Fan	<ul style="list-style-type: none"> Fanless
Speaker	<ul style="list-style-type: none"> 8ohm 2W x 2
Operating System	<ul style="list-style-type: none"> Windows 7/ 10, Linux
Expansion Card	<ul style="list-style-type: none"> 2 x Mini PCIe slot (1 x SIM Card, 1 x mSATA)
Storage	
Hard Disk Drive	<ul style="list-style-type: none"> Optional 2.5" HDD/ SSD
Solid State Drive	<ul style="list-style-type: none"> Optional 2.5" SSD
Other Storage Device	<ul style="list-style-type: none"> 1 x CompactFlash Type I/II Socket
Panel	
LCD Panel	<ul style="list-style-type: none"> 12.1" 1024 x 768 XGA CMO G121X1-L03
LCD Control Board	<ul style="list-style-type: none"> Built-in
Touch Screen	<ul style="list-style-type: none"> 12.1" PCAP H8573A
Touch Controller	<ul style="list-style-type: none"> EETI EXC3188
External I/O	
Serial Port	<ul style="list-style-type: none"> 1 x RS-232/422/485 (default 232)
USB Port	<ul style="list-style-type: none"> 1 x USB 2.0, 1 x USB 3.0
Video Port	<ul style="list-style-type: none"> 1 x HDMI
Audio Port	<ul style="list-style-type: none"> 1 x Line-out (audio jack)
LAN Port	<ul style="list-style-type: none"> 2 x Gigabit LAN
Others	<ul style="list-style-type: none"> 1 x CF Card Slot
Mechanical	
Power Type	<ul style="list-style-type: none"> AT/ATX
Power Connector Type	<ul style="list-style-type: none"> Lockable DC in
Dimension	<ul style="list-style-type: none"> 292.9 x 225.4 x 49 mm
Weight	<ul style="list-style-type: none"> 3.02 Kg

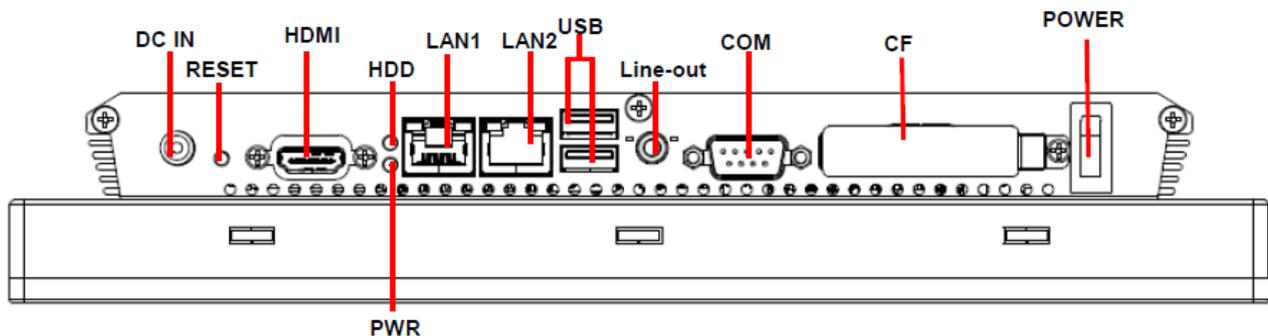
Color	<ul style="list-style-type: none"> • Silver/Black
Fanless	<ul style="list-style-type: none"> • Yes
OS Support	<ul style="list-style-type: none"> • Windows 7/ 10, Linux
Reliability	
EMI Test	<ul style="list-style-type: none"> • CE FCC class B
Dust and Rain Test	<ul style="list-style-type: none"> • Front Panel IP65
Vibration Test	<ul style="list-style-type: none"> • Random Vibration Operation <ol style="list-style-type: none"> 1 PSD: 0.00454G²/Hz , 1.5 Grms 2 Operation mode 3 Test Frequency : 5-500Hz 4 Test Axis : X,Y and Z axis 5 30 min. per each axis 6 IEC 60068-2-64 Test:Fh • Sine Vibration test (Non-operation) <ol style="list-style-type: none"> 1 Test Acceleration : 2G 2 Test frequency : 5~500 Hz 3 Sweep : 1 Oct/ per one minute. (logarithmic) 4 Test Axis : X,Y and Z axis 5 Test time :30 min. each axis 6 System condition : Non-Operating mode 7. Reference IEC 60068-2-6 Testing procedures • Package vibration test <ol style="list-style-type: none"> 1. PSD: 0.026G²/Hz , 2.16 Grms 2. Non-operation mode 3. Test Frequency : 5-500Hz 4. Test Axis : X,Y and Z axis 5. 30 min. per each axis 6. IEC 60068-2-64 Test:Fh
Mechanical Shock Test	<ul style="list-style-type: none"> • With CF/SSD: 10Grms, IEC 60068-2-27, Half Sine, 11ms
Drop Test	<ul style="list-style-type: none"> • 1 One corner , three edges, six faces • 2 ISTA 2A, IEC-60068-2-32 (96.5cm) Test:Ed
Operating Temperature	<ul style="list-style-type: none"> • 0 to 40°C
Operating Humidity	<ul style="list-style-type: none"> • 0% ~ 90% relative humidity, non-condensing
Storage Temperature	<ul style="list-style-type: none"> • 0°C to 70°C



Note: Specifications are subject to change without notice.

1.4 System Overview

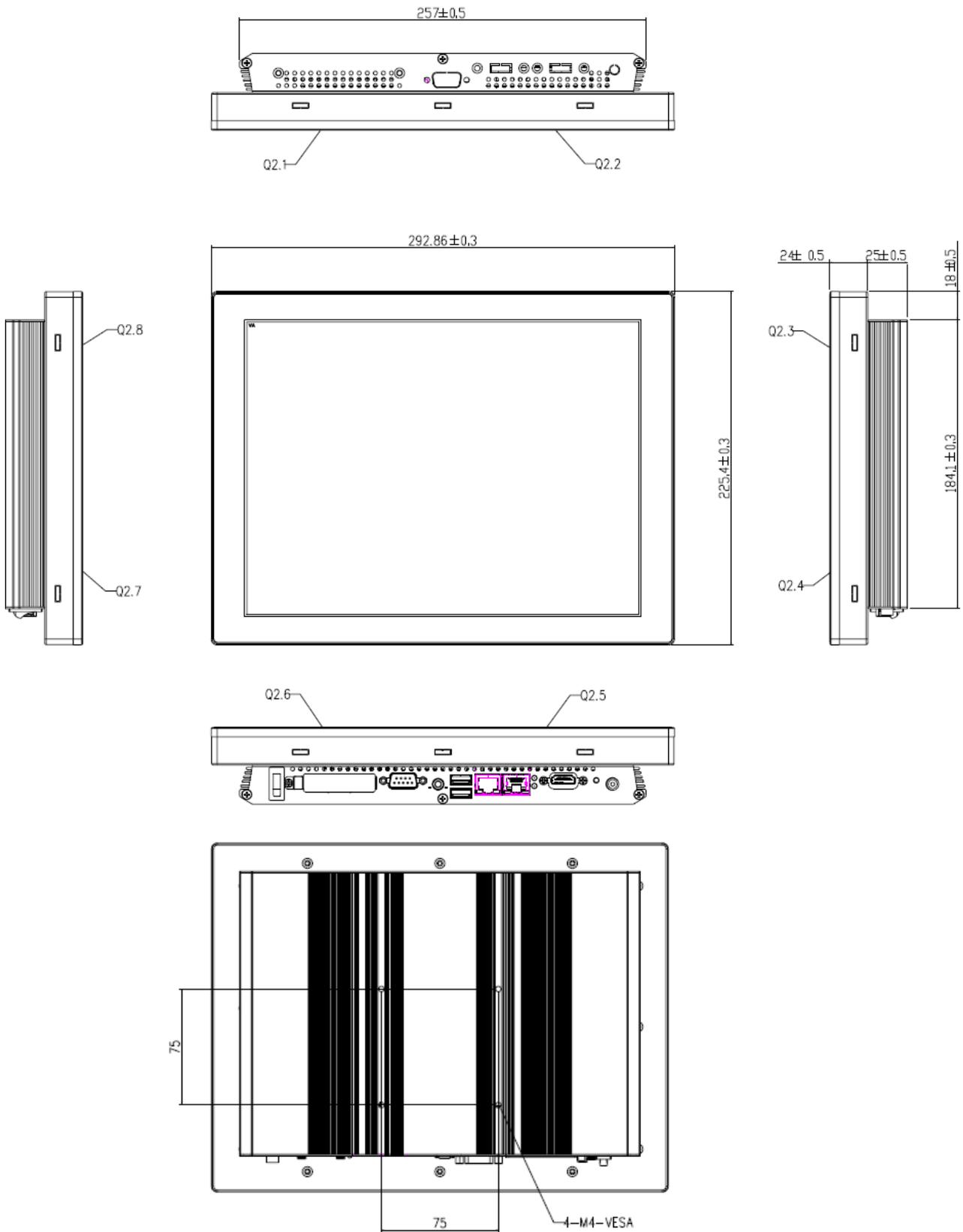
1.4.1 Rear View



Connectors

Label	Function	Note
COM	External Serial Port connector	DB-9 male connector
HDMI	HDMI connector	
LAN1/2	RJ-45 Ethernet 1/2	
Power	System power switch	
DC IN	DC Power-in connector	
RESET	Reset button	
HDD	HDD LED	
PWR	Power LED	
Line-out	Line-out audio jack	
CF	Compact Flash card	
USB	USB 2.0 connector x 1 USB 3.0 connector x 1	

1.5 System Dimensions



(Unit: mm)

2. Hardware Configuration

For advanced information, please refer to:

- 1- EBM-BYT User's Manual

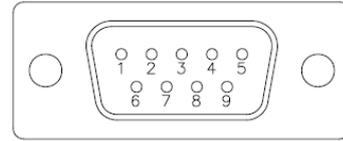
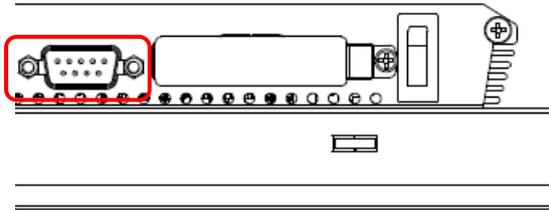


Note: If you need more information, please visit our website:

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

2.1 BFC-1209 connector mapping

2.1.1 External Serial Port connector (COM)



RS-232

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

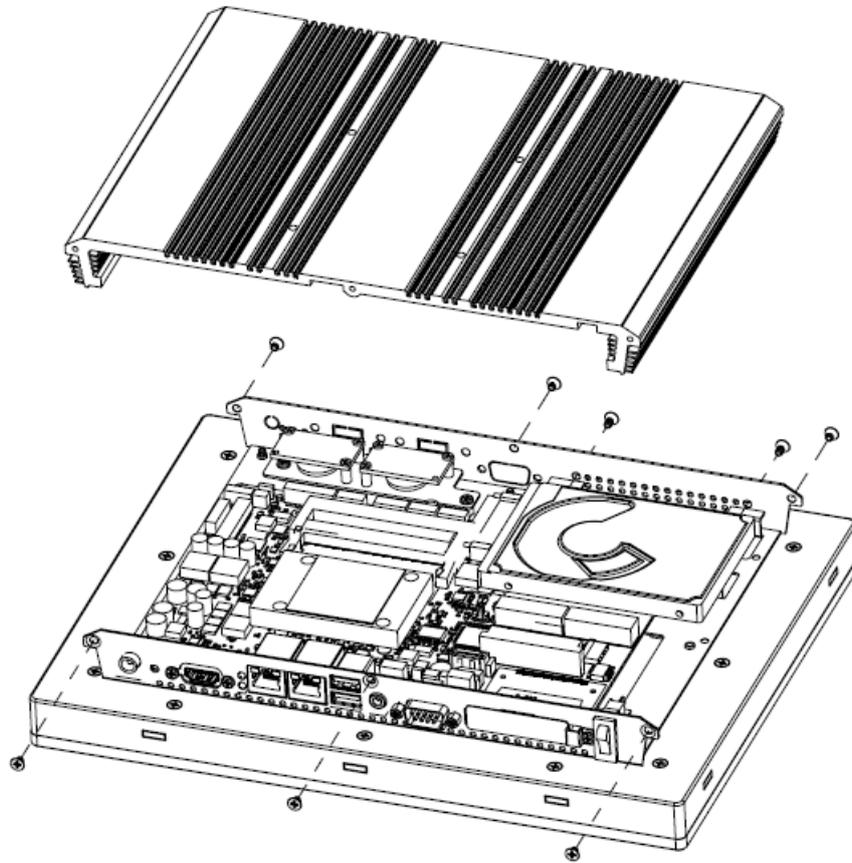
RS-422

Signal	PIN	PIN	Signal
TX-	1	6	NC
TX+	2	7	NC
RX+	3	8	NC
RX-	4	9	NC
GND	5		

RS-485

Signal	PIN	PIN	Signal
DATA-	1	6	NC
DATA+	2	7	NC
NC	3	8	NC
NC	4	9	NC
GND	5		

2.2 Installing Hard Disk & Memory (BFC-1209)



- Step 1.** Remove 6 screws to release the chassis cover, and remove it.
- Step 2.** Remove 2 screws to release the HDD bracket.
- Step 3.1** Slide HDD into its bracket until properly seated.
- Step 3.2** Secure HDD by means of 2 screws.
- Step 4.** Slide the DDR3L SODIMM into the memory socket and press it down until properly seated.

