BFC-1208

12" Multifunctional Full Flat Multi-Touch Panel Computer

Quick Reference Guide

1st Ed –16 May 2017

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 BFC-1208 12" Multifunctional Full Flat Multi-Touch Panel Computer
- 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
  — Chipset drivers
- Other major components include the followings:
  — 60W adapter and power cord
  — 4 x M4*6mm screw for VESA mount
  — 2 x M3*4mm screw for HDD bracket

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

1.3 System Specifications

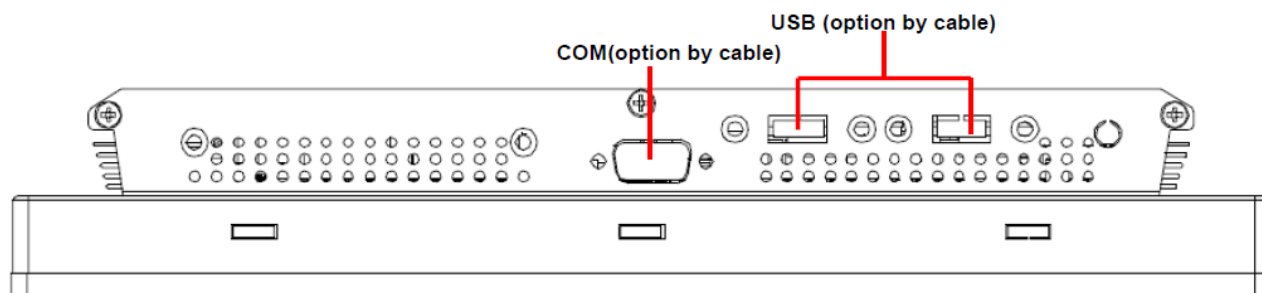| Component		
Mother Board	•	EBM-QM87U
CPU	•	Intel UTL Core i5-4300U 1.9GHz onboard CPU
CPU Cooler (Type)	•	Heatsink
Memory	•	2 x 204-pin DDR3L SO-DIMM Up to 8GB Per DIMM
Power Supply	•	DC in
Adapter	•	60W 12V/5A (ACC-ADP-060N-04R)
Speaker	•	2W *2
Expansion Card	•	2* mini PCIe slot
Other Component	•	Line Out
Panel		
LCD Panel	•	12.1" XGA TFT LED PANEL CMO G121X1-L03
Touch Screen	•	12.1" PCAP H8573A+EETI EXC3188
Touch Controller	•	EETI EXC3188 (come with touch)
External I/O		
Serial Port	•	1 x RS-232/422/485, 1 x RS-232 (option by cable)
USB Port	•	2 x USB3.0, 2 x USB2.0 (option by cable)
Video Port	•	1 x HDMI
Audio Port	•	Line-out
LAN Port	•	1 x Intel I210AT, 1 x Intel I218LM GbE PHY
Switch	•	Power button switch
Indicator Light	•	HDD & Power LED
Expansion Slots	•	2* mini PCIe slot
Mechanical		
Power Type	•	DC in +12V ~ 26V
Power Connector Type	•	Lockable DC jack
Dimension	•	292.9 x 225.4 x 49mm
Weight	•	3.1kg
Color	•	Black/ silver
Fanless	•	Yes
OS Support	•	Windows 7/8.1/10, Linux
Reliability		
EMI Test	•	CE/ FCC class B
Dust and Rain Test	•	Front Panel IP65
Vibration Test	•	Ramdom Vibration Operation

BFC-1208

|	
	• Reference IEC60068-2-64 Testing procedures • Test Fh : Vibration boardband random Test 1 Test PSD : 0.00454G²/Hz , 1.5 Grms 2 Test frequency : 5~500 Hz 3 Test axis : X,Y and Z axis 4 Test time : 30 minutes each axis 5 System condition : operation mode 6 Test curve • Sine Vibration Test • Reference IEC60068-2-6 Testing procedures • Test Fc : Vibration sinusoidal 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 :10 min. each axis 6 System condition : Non-Operating mode 7 Test curve • Package Vibration Test: • Reference IEC60068-2-64 Testing procedures • Test Fh : Vibration boardband random Test 1 Test PSD : 0.026G²/Hz , 2.16 Grms 2 Test frequency : 5~500 Hz 3 Test axis : X,Y and Z axis 4 Test time : 30 minutes each axis 5 Test curve
Mechanical Shock Test	• With CF/SSD: 10Grms, IEC 60068-2-27, Half Sine, 11ms
Drop Test	• Package drop test • Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed • Test Ea : Drop Test 1 Test phase : One corner, three edges, six faces 2 Test high : 3 Package weight : 4 Test drawing
Operating Temperature	• 0 ~ 40 degree
Operating Humidity	• 0 ~ 90% Relative Humidity, Non-condensing
Storage Temperature	• -20 ~ 60 degree

Note: Specifications are subject to change without notice.

1.4 System Overview

1.4.1   Front View

1.4.2   Rear View
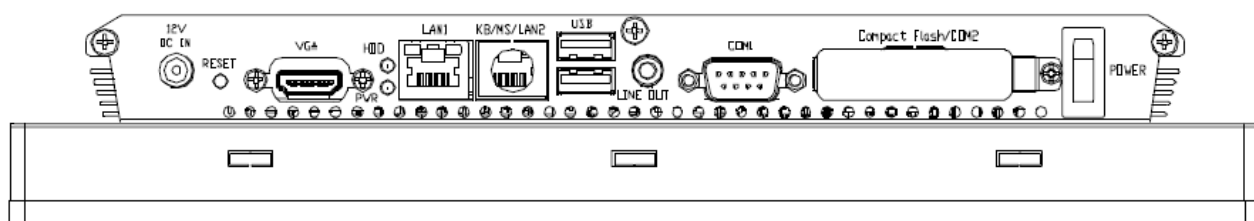
Connectors

Label	Function	Note
DC IN	DC Power-in connector	
RESET	Reset button	
VGA/HDMI	HDMI connector	
HDD	HDD LED	
PWR	Power LED	
LAN1	RJ-45 Ethernet 1	
KB/MS/LAN2	2nd LAN Optional PS/2 connector	
USB	2 x USB 3.0 connector 2 x USB2.0 connector(option by cable)	
LINE OUT	Line-out audio jack	
COM1	External Serial Port connector 1	DB-9 male connector
Compact Flash/COM2	CF Type I/II Socket with Ejector	Optional for 2nd COM port
Power	System power switch	

1.5 System Dimensions

1.5.1 Front, rear and side view
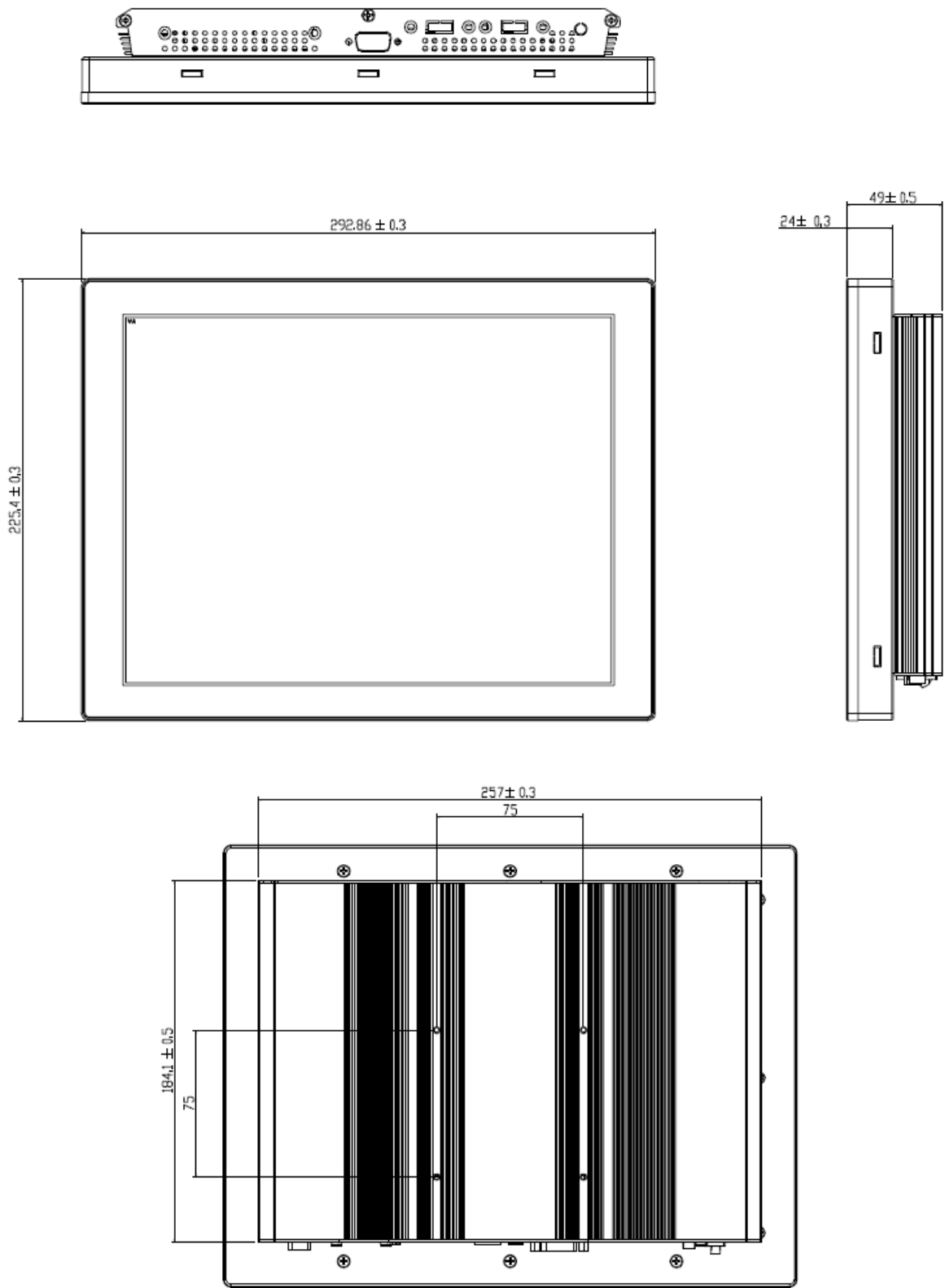
(Unit: mm)

2. Hardware Configuration

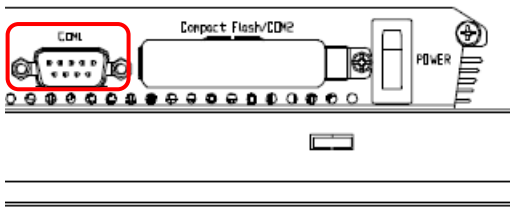For advanced information, please refer to:

1- EBM-QM87U User's Manual

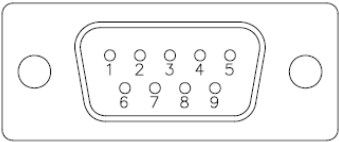**Note:** If you need more information, please visit our website:

http://www.avalue.com.tw

2.1 BFC-1208 connector mapping

2.1.1   External Serial Port connector 1(COM1)

Note:

RS-232/422/485 can be selected by BIOS, but additional

setting for RS-485 mode by SW2.

RS-232 Mode

Signal	PIN	PIN	Signal
NRXDA	2	1	NDCDA#
NDTRA#	4	3	NTXDA
NDSRA#	6	5	GND
NCTSA#	8	7	NRTSA#
		9	NRIA#

RS-422 Mode

Signal	PIN	PIN	Signal
485TXP	2	1	485TXN
485RXN	4	3	485RXP
NC	6	5	GND
NC	8	7	NC
		9	NC

RS-485 Mode

Signal	PIN	PIN	Signal
485TXP	2	1	485TXN
NC	4	3	NC
NC	6	5	GND
NC	8	7	NC
		9	NC

2.2 Installing Hard Disk & Memory (BFC-1208)
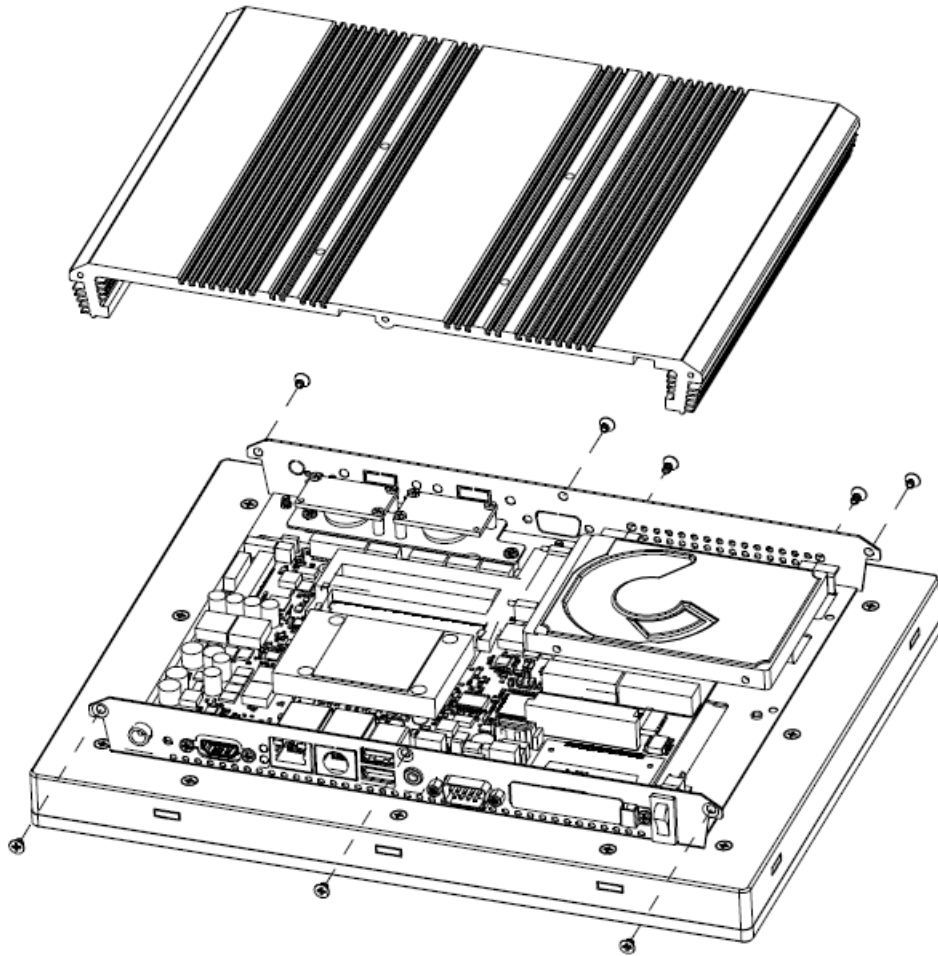
Step 1.　　Remove 6 screws to release the chassis cover, and remove it.

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 DDR3 SODIMM into the memory socket and press it down until properly seated.