# BFC-1508

**15" Multifunctional Full Flat**
**Multi-Touch Panel Computer**

# Quick Reference Guide

**2<sup>nd</sup> Ed –01 August 2016**

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Part No. E2017B580A1R

## 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-1508 15" 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 M3*4mm screw for HDD bracket
  — 4 x M4*6mm screw for VESA mount

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

## 1.3 System Specifications

| Panel | |
|---|---|
| **LCD Size** | • 15", 4:3 |
| **Resolution** | • 1024 x 768 |
| **Pixel Pitch** | • 0.297mm (H) x 0.297mm (V) |
| **Luminance** | • CMI G150XGE-L05 250 cd/m2 |
| **Contrast Ratio** | • 700 |
| **Viewing Angle** | • 70 (U), 70 (D), 80 (L), 80 (R) |
| **Response Time** | • 16ms |
| **Backlight** | • LED |
| **Touch Type** | • Projected Capacitive Touch |
| **Light Transmission** | • 88% |
| **Touch Interface** | • USB (EETI) |
| **System** | |
| **Board** | • EBM-QM87U |
| **CPU** | • Onboard Intel® 4th Generation Core i5 4300U<br>• Processor (2 Die MCP, 15W) |
| **BIOS** | • AMI uEFI BIOS, 64/128Mbit SPI Flash ROM |
| **System Chipset** | • 2 Die MCP; Integrated in Processor |
| **I/O Chip** | • E/C IT8528E |
| **System Memory** | • 2 x 204-pin SODIMM Socket Supports Up to 16GB DDR3L 1333/1600 SDRAM |
| **SSD** | • One CompactFlash Type I/II Socket |
| **Hard Driver Bay** | • Optional One 2.5" HDD or SSD |
| **WiFi** | • Optional Mini PCIe WiFi 802.11b/g/n |
| **Watchdog Timer** | • Reset: 1sec. ~ 255min. and 1sec. or 1min./step |
| **H/W Status Monitor** | • Monitoring System Temperature and Voltage with Auto Throttling Control |
| **Expansion** | • 2 x Mini PCIe (One Supports mSATA, One Supports SIM Card Slot) |
| **Rear Panel I/O** | |
| **Serial Port** | • 1 x RS-232/422/485 (Selected by BIOS; additional setting for RS-485 mode by SW2) |
| **Ethernet** | • 2 x RJ-45 |
| **HDMI** | • 1 x HDMI |
| **Audio Port** | • Line-out |
| **USB** | • 2 x USB 3.0 |
| **Speaker** | • 2 x 1W |

**BFC-1508**

| Display | |
|---|---|
| **Chipset** | • 2 Die MCP; Integrated in Processor |
| **Resolution** | • LVDS Through eDP: 1920 x 1200 @ 60Hz |
| **Dual Display** | • HDMI + LVDS (Clone Mode) |
| **Audio** | |
| **Audio Codec** | • Realtek ALC892 Supports 5.1-CH Audio |
| **Audio Interface** | • Line-out (Audio Jack), AMP Line-in, Line-out, Mic-in (in Header) |
| **Ethernet** | |
| **LAN Chip** | • 1 x Intel® I210 Gigabit Ethernet Controller,<br>• 1 x Intel® I218LM Gigabit Ethernet PHY |
| **Ethernet Interface** | • 10/100/1000 Base-Tx Gigabit Ethernet Compatible |
| **Mechanical & Environment** | |
| **Color** | • Front Bezel Silver & Rear Black |
| **Mounting** | • Wall/Stand/VESA 75mm x 75mm/100mm x 100mm |
| **Adapter** | • Input: 100 ~ 240Vac/50 ~ 60Hz Output: 60W Adapter (12V @ 5A Adapter) |
| **Power Requirement** | • +12V ~ +26V |
| **Power Type** | • AT/ATX |
| **Operating Temperature** | • 0 ~ 40°C (32 ~ 104°F) |
| **Storage Temperature** | • -10 ~ 50°C (14 ~ 122°F) |
| **Operating Humidity** | • 5% ~ 90% Relative Humidity, Non-condensing |
| **Dimensions (W x D x H)** | • 350 x 273.9 x 53 mm |
| **Weight** | • 4.5kg |

**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 | |
| **USB** | USB 3.0 connector x 2 | |

## 1.5 System Dimensions

### 1.5.1 Front, rear and side view



**(Unit: mm)**

# 2. Hardware Configuration

For advanced information, please refer to:

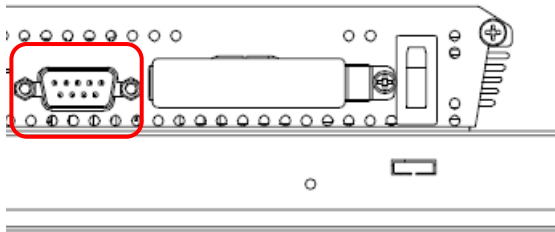1- EBM-QM87U Quick Installation Guide or User's Manual

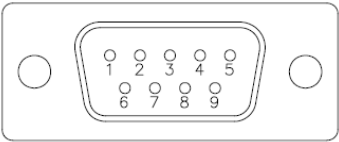**Note:** If you need more information, please visit our website:

**http://www.avalue.com.tw**

## 2.1 BFC-1508 connector mapping

### 2.1.1    External Serial Port connector (COM)



**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-1508)



**Step 1.**    Remove 6 screws to release the chassis cover, and remove it.

**Step 2.**    Remove 5 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 5 screws.

**Step 4.**    Slide the DDR3 SODIMM into the memory socket and press it down until properly seated.