BMX-P54S

Mini Server with 4 hot-swap drive bays

Quick Reference Guide

1st Ed –20 December 2016

Part No. E2017BM4SA0R

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 "B" 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.

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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 BMX-P54S Barebone System
- Other major components include the followings:
  - Power Cord
  - Screw pack for HDD fixing

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

1.3 System Specifications

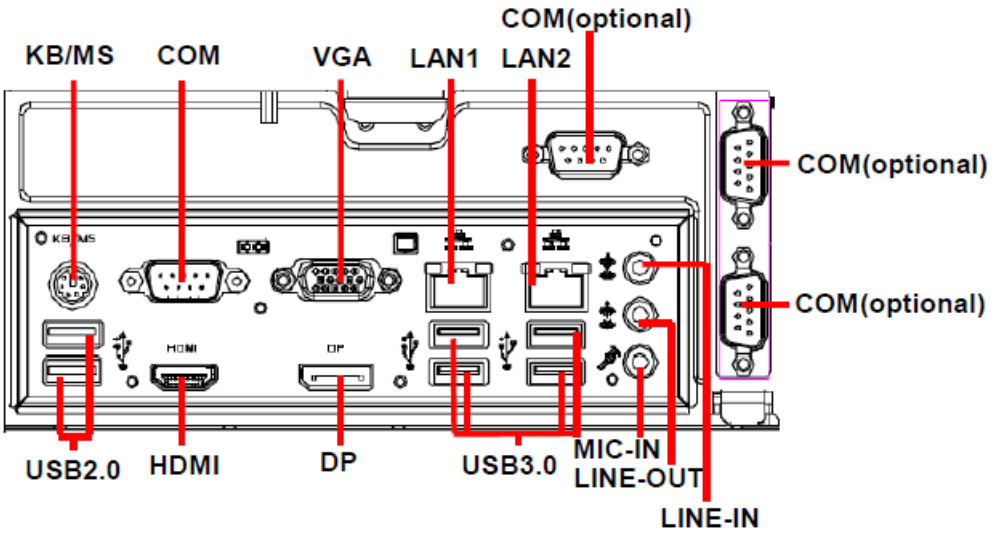
Component	
Mother Board	• EMX-Q170P-A1R
CPU	• Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors (Max. TDP at 95W)
Memory	• 2 x 260-pin DDR4 2133MHz SO-DIMM supports up to 32GB
Power Supply	• 1U Flex 265W Bronze level
System Fan	• 120 mm rear PWM fan x 1
Storage	
Hard Disk Drive	• Internal: 2.5" x 2 (One for Option) • External: Hot-Swap 3.5" x 4 or 2.5" x 4
Optical Disk Drive	• 1 x Slim ODD (for Option)
External I/O	
PS/2 KB & Mouse	• 1 x PS/2 Keyboard or 1 x PS/2 Mouse
Serial Port	• 1 x COM
USB Port	• 2 x USB 2.0 (Front), 2 x USB 2.0 (Rear) • 4 x USB 3.0 (Rear)
Video Port	• 1 x HDMI, 1 x DP, 1 x VGA
Audio Port	• Line-in, Line-out, Mic-in
LAN Port	• LAN1 / Intel® I211AT Gigabit Ethernet • LAN2 / Intel® I219LM GbE PHY
Indicator Light	• 1 x PWR LED, 1 x HDD LED, 1 x LAN1, 1 x LAN2
Expansion Slots	• 1 x Low profile expansion Slot
Others	• Power on/off button, Reset button
Mechanical	
Power Type	• ATX
Power Connector Type	• AC power socket
Dimension	• 10.8” (W) x 8.3” (D) x 9.1” (H) • (275 x 210 x 230 mm)
Color	• Black
Reliability	
EMI Test	• BSMI Class B design compatible
Safety	• BSMI design compatible
Vibration Test	• Sine Vibration test (Non-operation) • 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 broadband 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 • Random Vibration Operation • Reference IEC60068-2-64 Testing procedures • Test Fh : Vibration broadband random Test 1 Test PSD : 0.00050513G²/Hz , 0.5 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
Mechanical Shock Test	• Bump Test • Reference IEC 60068-2-29 Testing procedures • Test Eb : Bump Test • Wave form：Half Sine wave • Acceleration Rate：3G • Duration Time：11ms • No. of Shock：Z axis 1000 times • Test Axis: Z axis • System condition : operation (running burn in test program)
Drop Test	• Packing Drop • Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed • Test Ea : Drop Test • Test phase : One corner, three edges, six face
Operating Temperature	• (w/HDD), ambient w/ air flow • 0 ~ 35°c (32°F ~ 95°F)
Operating Humidity	• 0% ~ 90% Relative Humidity, Non-condensing
Storage Temperature	• -20°C ~ 75°C (-4°F ~ 167°F)

Note: Specifications are subject to change without notice.

1.4 System Overview

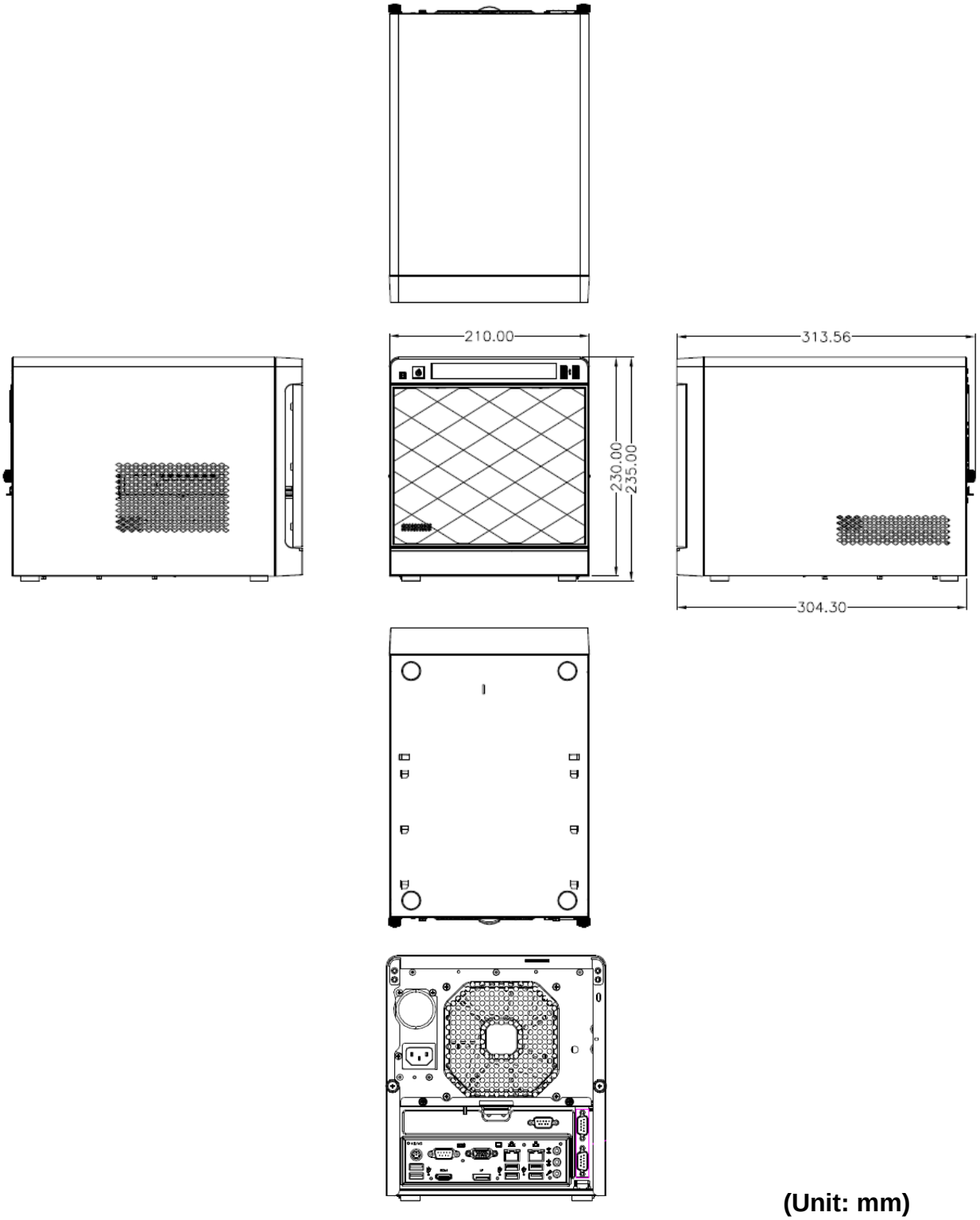
1.4.1 Rear View



Connectors

Label	Function	Note
USB2.0	2 x USB2.0 connector (Front) 2 x USB2.0 connector (Rear)	
USB3.0	4 X USB3.0 connector (Rear)	
LAN1/2	RJ-45 Ethernet 1/2	
COM	Serial port connector	3 x COM connector (optional)
KB/MS	PS/2 keyboard & mouse connector	
HDMI	HDMI connector	
LINE-OUT	Line-out audio jack	
LINE-IN	Line-in audio jack	
MIC-IN	Mic-in audio jack	
VGA	VGA connector	
DP	DP connector	

1.5 System Dimensions



(Unit: mm)

2. Hardware Configuration

For advanced information, please refer to:

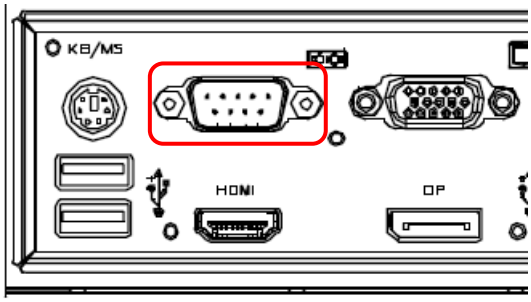
1- EMX-Q170P User's Manual

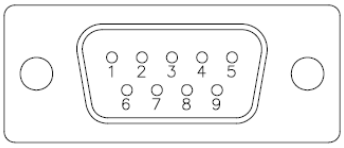
Note: If you need more information, please visit our website:

http://www.avalue.com.tw

2.1 BMX-P54S connector mapping

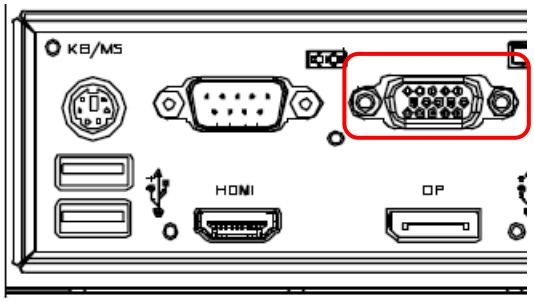
2.1.1 Serial port connector (COM)

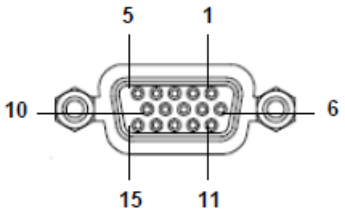




Signal	PIN	PIN	Signal
NDCD#	1	6	NDSR#
NRXD	2	7	NRTS#
NTXD	3	8	NCTS#
NDTR#	4	9	JNRI#
GND	5		

2.1.2 VGA connector (VGA)





PIN	Signal	PIN	Signal	PIN	Signal
1	RED	6	GND	11	NC
2	GREEN	7	GND	12	DDCDAT
3	BLUE	8	GND	13	HSYNC
4	NC	9	+5V	14	VSYNS
5	GND	10	GND	15	DDCCLK