

# BRX-P501-H110

Micro ATX Barebone System with Intel® H110 Chipset

## Quick Reference Guide

1<sup>st</sup> Ed –29 September 2016

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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.

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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.

## 1.2 Packing List

- 1 x BRX-P501-H110 Micro ATX Barebone System with Intel® H110 Chipset
- Other major components include the followings:
  - 1 x Power Cord
  - 8 x HDD Screws
  - 4 x Rubber foot



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

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## 1.3 System Specifications

System	
Mother Board	<ul style="list-style-type: none"> <li>• ERX-H110P</li> </ul>
CPU	<ul style="list-style-type: none"> <li>• Intel® LGA1151 Socket Supports 6th Generation Core™ i7/ i5/ i3 Processors</li> </ul>
CPU Cooler (Type)	<ul style="list-style-type: none"> <li>• Depends on CPU</li> </ul>
Memory	<ul style="list-style-type: none"> <li>• 2 x 288-pin DDR4 2133MHz DIMM socket, supports up to 32GB</li> </ul>
Power Supply	<ul style="list-style-type: none"> <li>• Standard TFX 300W Power supply</li> </ul>
System Fan	<ul style="list-style-type: none"> <li>• 1 x 90mm Fan</li> </ul>
Storage	
Hard Disk Drive	<ul style="list-style-type: none"> <li>• 1 x 2.5" &amp; 2 x 3.5" HDD</li> </ul>
Optical Disk Drive	<ul style="list-style-type: none"> <li>• 1 x 5.25" Optical Disk Drive (or optional for 1 x 3.5" HDD)</li> </ul>
External I/O	
PS/2 KB & Mouse	<ul style="list-style-type: none"> <li>• 1 x PS/2 Keyboard and Mouse Combo Jack</li> </ul>
Serial Port	<ul style="list-style-type: none"> <li>• 3 x COM + 3 x COM (optional by low profile bracket)</li> </ul>
USB Port	<ul style="list-style-type: none"> <li>• Rear Side: 4 x USB3.0, 2 x USB2.0</li> <li>• Front Side: 2 x USB2.0</li> </ul>
Video Port	<ul style="list-style-type: none"> <li>• 1 x VGA, 1 x HDMI, 1 x DP</li> <li>• Dual Display</li> </ul>
Audio Port	<ul style="list-style-type: none"> <li>• Rear Side: 1 x Mic-in, 1 x Line-out, 1 x Line-in,</li> <li>• Front Side: 1 x Mic-in, 1 x Line-out</li> </ul>
LAN Port	<ul style="list-style-type: none"> <li>• 1 x Intel® I219LM Gigabit Ethernet PHY</li> <li>• 1 x Intel® I211AT PCI-e Gigabit Ethernet</li> </ul>
Expansion Slots	<ul style="list-style-type: none"> <li>• 1 x PCI-e x16, 3 x PCI-e x1</li> <li>• 1 x M.2 Slot supports WiFi module</li> <li>• 1 x SIM card slot</li> <li>• 1 x Full/Half Size Mini-PCle supports mSATA</li> </ul>
Others	<ul style="list-style-type: none"> <li>• 4 x Low profile expansion slots</li> </ul>
Mechanical	
Power Type	<ul style="list-style-type: none"> <li>• ATX</li> </ul>
Dimension	<ul style="list-style-type: none"> <li>• 334 x 96 x 370 mm (H x W x D)</li> <li>• 13.1" x 3.8" x 14.6"</li> </ul>
Weight	<ul style="list-style-type: none"> <li>• 22lbs / 10 kg</li> </ul>
Color	<ul style="list-style-type: none"> <li>• Black</li> </ul>
Reliability	
EMI Test	<ul style="list-style-type: none"> <li>• CE/FCC Class B</li> </ul>
Safety	<ul style="list-style-type: none"> <li>• UL/CB design compatible</li> </ul>

<b>Vibration Test</b>	<ul style="list-style-type: none"> <li>• Package Vibration Test</li> <li>• Test Standard : Reference IEC60068-2-64 Testing procedures             <ol style="list-style-type: none"> <li>1. PSD: 0.026G<sup>2</sup>/Hz , 2.16 Grms</li> <li>2. Non-operation mode</li> <li>3. Test Frequency : 5-500Hz</li> <li>4. Test Axis : X,Y and Z axis</li> <li>5. 30 min. per each axis</li> </ol> </li> <li>• Random Vibration Operation</li> <li>• Test Standard : Reference IEC60068-2-64</li> <li>• Test Condition :             <ol style="list-style-type: none"> <li>1. PSD : 0.00454G<sup>2</sup>/Hz , 0.5 Grms</li> <li>2. Test frequency : 5~500 Hz</li> <li>3. Test axis : X,Y and Z axis</li> <li>4. Test time : 30 minutes each axis</li> <li>5. System condition : operation mode</li> <li>6. Storage : HDD</li> </ol> </li> <li>• Sine Vibration test (Non-operation)             <ol style="list-style-type: none"> <li>1. Test Acceleration : 2G</li> <li>2. Test frequency : 5~500 Hz</li> <li>3. Sweep : 1 Oct/ per one minute. (logarithmic)</li> <li>4. Test Axis : X,Y and Z axis</li> <li>5. Test time :10 min. each axis</li> <li>6. System condition : Non-Operating mode</li> <li>7. Reference IEC 60068-2-6 Testing procedures</li> </ol> </li> </ul>
<b>Mechanical Shock Test</b>	<ul style="list-style-type: none"> <li>• Reference IEC 60068-2-29 Testing procedures</li> <li>• Test Eb : Bump Test</li> <li>• Wave form : Half Sine wave</li> <li>• Acceleration Rate : 3g</li> <li>• Duration Time : 11ms</li> <li>• No. of Shock : Z axis 300 times</li> <li>• Test Axis: Z axis</li> <li>• System condition : operation (running burn in test program )</li> </ul>
<b>Drop Test</b>	<ul style="list-style-type: none"> <li>• Packing Drop</li> <li>• Reference ISTA 2A, Method : IEC-60068-2-32 Test:Ed Test Ea : Drop Test</li> <li>• Test phase : One corner, three edges, six face</li> </ul>

<b>Operating Temperature</b>	<ul style="list-style-type: none"><li>• (w/HDD), ambient w/ air flow, 0°C ~ 40°C (32°F ~ 104°F)</li></ul>
<b>Operating Humidity</b>	<ul style="list-style-type: none"><li>• 0% ~ 90% Relative Humidity, Non-condensing</li></ul>
<b>Storage Temperature</b>	<ul style="list-style-type: none"><li>• -20°C ~ 70°C (-4°F ~ 158°F)</li></ul>

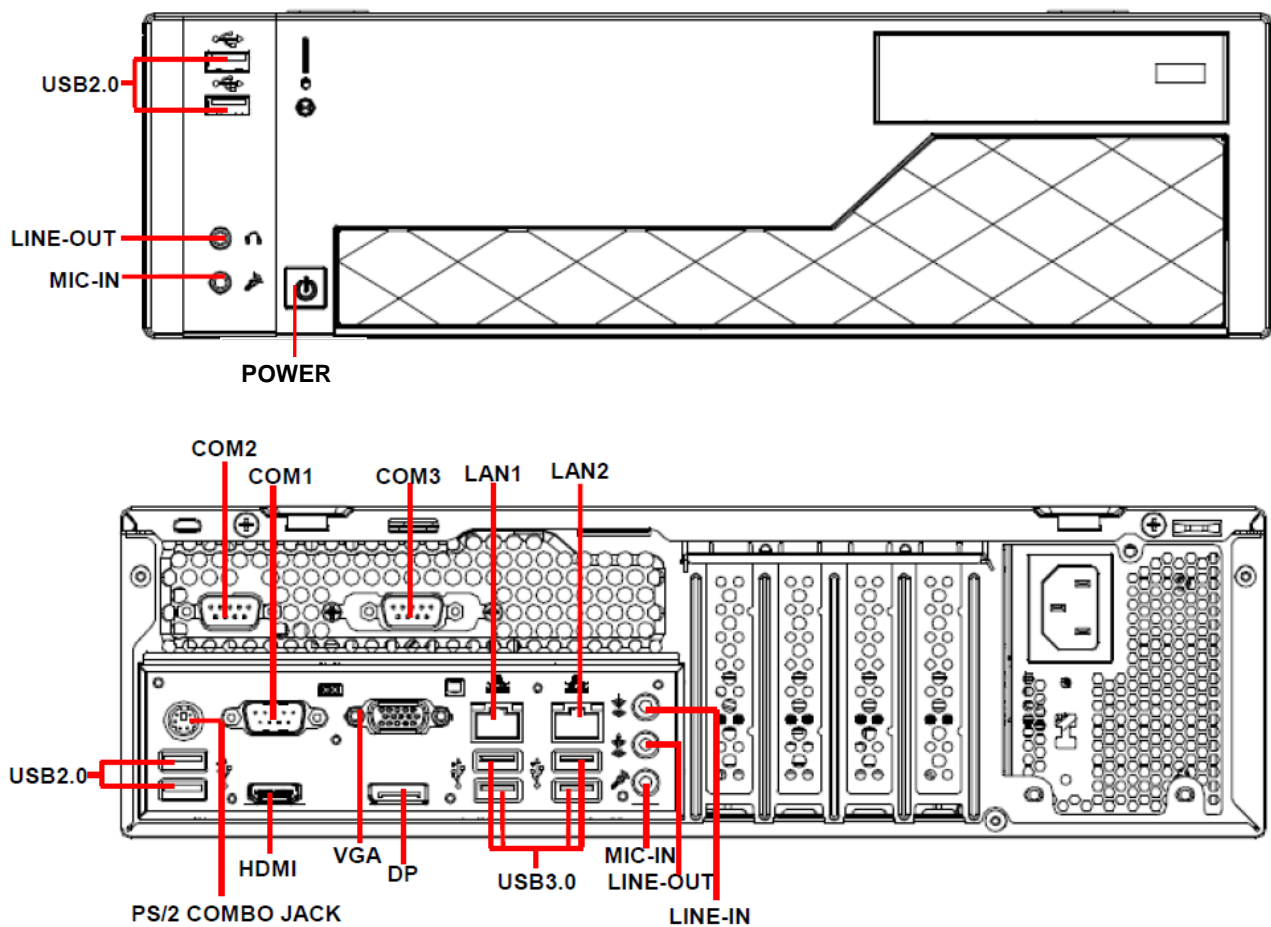


**Note:**

Specifications are subject to change without notice.

## 1.4 System Overview

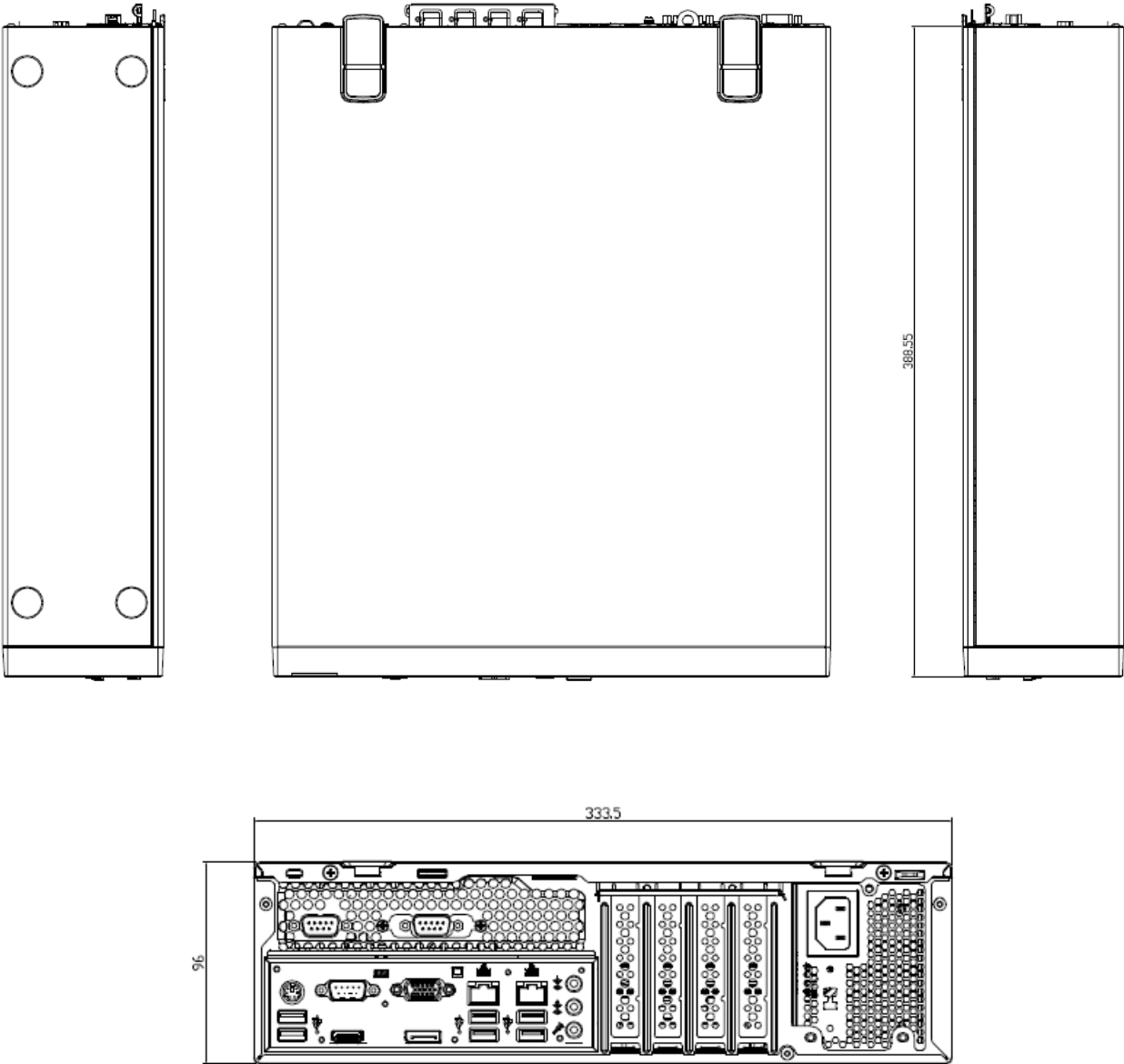
### 1.4.1 Front/Rear View



### Connectors

Label	Function	Note
<b>POWER</b>	Power on button	
<b>MIC-IN</b>	Mic-in audio jack	
<b>LINE-OUT</b>	Line-out audio jack	
<b>LINE-IN</b>	Line-in audio jack	
<b>LAN1/2</b>	RJ-45 Ethernet 1/2	
<b>USB</b>	4 x USB2.0 connector 4 x USB3.0 connector	
<b>COM1~3</b>	Serial port 1~3 connector	
<b>DP</b>	DP connector	
<b>HDMI</b>	HDMI connector	
<b>PS/2 COMBO JACK</b>	PS/2 keyboard & mouse connector	
<b>VGA</b>	VGA connector	

1.5 System Dimensions



(Unit: mm)

## 2. Hardware Configuration

For advanced information, please refer to:

- 1- ERX-H110P User's Manual

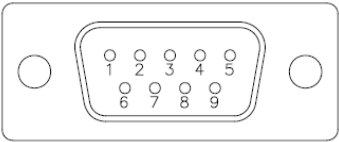
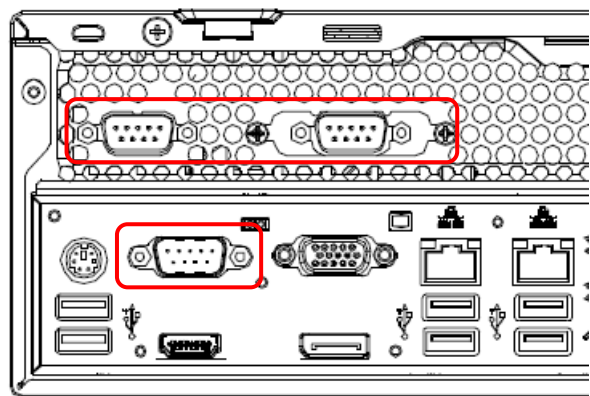


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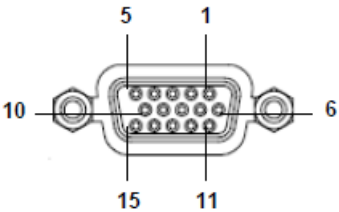
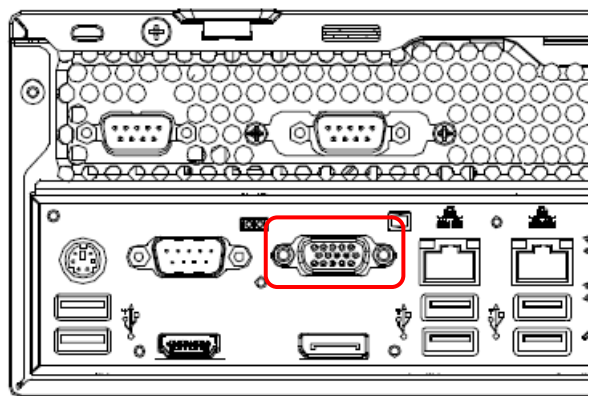
2.1 BRX-P501-H110 connector mapping

2.1.1 Serial port 1~6 connector (COM1~6)



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

