## **RITY152**

15" XGA Flat Touch Panel PC Intel® Atom™ Processor with Intel® Valleyview SoC

## **Quick Reference Guide**

1<sup>st</sup> Ed - 05 March 2015

## **Copyright Notice**

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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 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

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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.

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### 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.

#### 1.2 Packing List

- 1 x RITY Series Panel PC
- 1 x Power Adapter
- 1 x Power Cord
- 1 x Stand (option)



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

## 1.3 System Specifications

LCD size Display Type SGA Resolution 1024 x 768 Color 16.2M Luminance 400cd/m² Contrast ratio 700 Viewing angle 80(H) x 70(V) Response time 8 ms Backlight LED Touch Type 5 Wires resistive /PCT Touch Light Transmission Touch Controller System SBC ACP-BYTPOS Intel® Atom™ E3845 4-Core 1.91 GHz processor System Chipset I/O Chipset EC ITE IT8518E System Memory Watchdog Timer Expansion & Storage Expansion 1 x Mini PCle Supports mSATA 1 x 2.5* Drive Bay 1 x xSATA I/O USB 3 x USB 3.0 3 x USB 3.0 3 x USB 3.0 3 x USB 2.0 COM Port Display Chipset LVDS: Max. resolution 1024x768 @ 60Hz HM Res out Max. resolution 1024x768 @ 60Hz HM Res Mac out Max. resolution 1024x768 @ 60Hz HM Rax. resolution 1920x1080 @ 60Hz	DI			
Display Type  Resolution 1024 x 768  Color Luminance 400cd/m²  Contrast ratio 700  Viewing angle 80(H) x 70(V)  Response time 8 ms Backlight LED Touch Type Touch Light Transmission  Touch Controller System SBC ACP-BYTPOS Intel® Atom™ E3845 4-Core 1.91 GHz processor System Chipset I/O Chipset System Memory 1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB  Watchdog Timer Expansion & Storage Expansion Storage Expansion 1 x Mini PCle Supports mSATA 1 x 2.5° Drive Bay 1 x mSATA  I/O  USB 3 x USB 3.0 3 x USB 3.0 3 x USB 2.0  COM Port Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	Panel			
Resolution				
Color Luminance Luminance 400cd/m² Contrast ratio Viewing angle Response time Backlight LED Touch Type Touch Light Transmission Touch Controller System SBC ACP-BYTPOS Intel® Valleyview SoC I/O Chipset Expansion & Storage Expansion Storage Expansion Storage  Li/O USB 3 x USB 3.0 3 x USB 3.0 3 x USB 2.0 Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display LYDS: Max. resolution 1024x768 @ 60Hz  Viewing angle 400cd/m² 700 Viewing angle 8 ms 8 ms 8 ms 8 ms 8 ms Resolution 8 ms  Swise Res (IPCT Touch Light Transmission RES 75 % / PCT 90% Touch Cipet Touch Light Transmission RES 75 % / PCT 90% Touch Cipet Touch Light Transmission RES 75 % / PCT 90% RES 75				
Luminance Contrast ratio Viewing angle Response time Backlight Touch Type Touch Light Transmission Touch Controller System SBC ACP-BYTPOS Processor Intel® Atom™ E3845 4-Core 1.91 GHz processor System Chipset I/O Chipset EC ITE IT8518E System Memory 1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB Watchdog Timer Expansion & Storage Expansion 1 x Mini PCIe Supports mSATA  VO  USB 3 x USB 3.0 3 x USB 3.0 3 x USB 2.0  COM Port Display Chipset Intel® Valleyview SoC integrated Graphics Supports dual display LVDS: Max. resolution 1024x768 @ 60Hz	Resolution	1024 x 768		
Contrast ratio  Viewing angle  80(H) x 70(V)  Response time  Backlight  Touch Type  Touch Light Transmission  Touch Controller  System  SBC  ACP-BYTPOS  Processor  System Chipset  I/O Chipset  Expansion & Storage  Expansion  1 x Mini PCle Supports mSATA  Storage  Expansion  1 x USB 3.0 3 x USB 3.0 3 x USB 2.0  COM Port  Display  Chipset  RES 75 % / PCT 90%  RES 7	Color	16.2M		
Viewing angle       80(H) x 70(V)         Response time       8 ms         Backlight       LED         Touch Type       5 Wires resistive /PCT         Touch Light Transmission       RES 75 % / PCT 90%         Touch Controller       Onboard USB touch (PenMount) / USB touch (EETI)         System       ACP-BYTPOS         Processor       Intel® Act Not ™ E3845 4-Core 1.91 GHz processor         System Chipset       Intel® Valleyview SoC         I/O Chipset       EC ITE IT8518E         System Memory       1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB         Watchdog Timer       H/W Reset: 1sec.~255min. and 1sec. or 1min./step         Expansion & Storage       1 x Mini PCle Supports mSATA         Storage       1 x 2.5" Drive Bay 1 x mSATA         I/O       3 x USB 3.0 3 x USB 3.0 3 x USB 2.0         COM Port       2 x RS-232/422/485 (BIOS) 1 x RS-232         Display       Intel® Valleyview SoC integrated Graphics Supports dual display         Chipset       Intel® Valleyview SoC integrated Graphics Supports dual display         LVDS: Max. resolution 1024x768 @ 60Hz	Luminance	400cd/m <sup>2</sup>		
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Touch Light Transmission  Touch Controller  Onboard USB touch (PenMount) / USB touch (EETI)  System  SBC  ACP-BYTPOS  Intel® Atom™ E3845 4-Core 1.91 GHz processor  System Chipset  Intel® Valleyview SoC  I/O Chipset  EC ITE IT8518E  System Memory  1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB  Watchdog Timer  Expansion & Storage  Expansion  1 x Mini PCle Supports mSATA  1 x 2.5" Drive Bay 1 x mSATA  I/O  USB  3 x USB 3.0 3 x USB 2.0  2 x RS-232/422/485 (BIOS) 1 x RS-232  Display  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	Backlight	LED		
Transmission  Touch Controller Onboard USB touch (PenMount) / USB touch (EETI)  System  SBC ACP-BYTPOS Intel® Atom™ E3845 4-Core 1.91 GHz processor  System Chipset Intel® Valleyview SoC  I/O Chipset EC ITE IT8518E  System Memory 1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB  Watchdog Timer Expansion & Storage Expansion 1 x Mini PCIe Supports mSATA  Storage 1 x 2.5" Drive Bay 1 x mSATA  I/O  USB 3 x USB 3.0 3 x USB 2.0  2 x RS-232/422/485 (BIOS) 1 x RS-232  Display  Chipset  Resolution  RES 75 % / PCT 90% Port Onboard USB touch (PenMount) / USB touch (EETI)  SUB	Touch Type	5 Wires resistive /PCT		
Transmission  Touch Controller Onboard USB touch (PenMount) / USB touch (EETI)  System  SBC ACP-BYTPOS  Processor Intel® Atom™ E3845 4-Core 1.91 GHz processor  System Chipset Intel® Valleyview SoC  I/O Chipset EC ITE IT8518E  System Memory 1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB  Watchdog Timer H/W Reset: 1sec.~255min. and 1sec. or 1min./step  Expansion & Storage  Expansion 1 x Mini PCIe Supports mSATA  Storage 1 x 2.5" Drive Bay 1 x mSATA  I/O USB 3 x USB 3.0 3 x USB 3.0 3 x USB 2.0  COM Port 2 x RS-232/422/485 (BIOS) 1 x RS-232  Display Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	Touch Light	DES 75 9/ / DCT 009/		
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Processor  System Chipset  Intel® Valleyview SoC  I/O Chipset  EC ITE IT8518E  System Memory  1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB  Watchdog Timer  Expansion & Storage  Expansion  1 x Mini PCle Supports mSATA  Storage  1 x 2.5" Drive Bay 1 x mSATA  I/O  USB  3 x USB 3.0 3 x USB 2.0  COM Port  COM Port  Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	System			
System Chipset   Intel® Valleyview SoC	SBC	ACP-BYTPOS		
I/O Chipset   EC ITE IT8518E	Processor	Intel® Atom™ E3845 4-Core 1.91 GHz processor		
System Memory  1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB  Watchdog Timer  Expansion & Storage  Expansion  1 x Mini PCle Supports mSATA  1 x 2.5" Drive Bay 1 x mSATA  I/O  USB  3 x USB 3.0 3 x USB 2.0  COM Port  2 x RS-232/422/485 (BIOS) 1 x RS-232  Display  Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	System Chipset Intel® Valleyview SoC			
Watchdog Timer  Expansion & Storage  Expansion  1 x Mini PCle Supports mSATA  1 x 2.5" Drive Bay 1 x mSATA  I/O  USB  3 x USB 3.0 3 x USB 2.0  2 x RS-232/422/485 (BIOS) 1 x RS-232  Display  Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	I/O Chipset EC ITE IT8518E			
Expansion & Storage  Expansion  1 x Mini PCle Supports mSATA  1 x 2.5" Drive Bay 1 x mSATA  I/O  USB  3 x USB 3.0 3 x USB 3.0 3 x USB 2.0  COM Port  2 x RS-232/422/485 (BIOS) 1 x RS-232  Display  Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	System Memory	1 x 204-Pin DDR3L 1066MHz SO-DIMM up to 8 GB		
Storage	Watchdog Timer	H/W Reset: 1sec.~255min. and 1sec. or 1min./step		
Expansion	Expansion &			
Storage	Storage			
1 x mSATA   1/O   3 x USB 3.0   3 x USB 2.0   2 x RS-232/422/485 (BIOS)   1 x RS-232   Display   Intel® Valleyview SoC integrated Graphics   Supports dual display   LVDS: Max. resolution 1024x768 @ 60Hz	Expansion	1 x Mini PCIe Supports mSATA		
I x mSATA  I/O  USB  3 x USB 3.0 3 x USB 2.0  2 x RS-232/422/485 (BIOS) 1 x RS-232  Display  Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	Ctorogo	1 x 2.5" Drive Bay		
USB  3 x USB 3.0 3 x USB 2.0  COM Port  2 x RS-232/422/485 (BIOS) 1 x RS-232  Display  Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	Storage	1 x mSATA		
COM Port  2 x RS-232/422/485 (BIOS) 1 x RS-232  Display  Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	I/O			
3 x USB 2.0  2 x RS-232/422/485 (BIOS) 1 x RS-232  Display  Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	Heb	3 x USB 3.0		
COM Port  1 x RS-232  Display  Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	USB	3 x USB 2.0		
Display  Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	COM Dort	2 x RS-232/422/485 (BIOS)		
Chipset  Intel® Valleyview SoC integrated Graphics Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	COIVI PORT	1 x RS-232		
Chipset Supports dual display  LVDS: Max. resolution 1024x768 @ 60Hz	Display			
LVDS: Max. resolution 1024x768 @ 60Hz	Chinast	Intel® Valleyview SoC integrated Graphics		
Resolution	Cnipset	Supports dual display		
HDMI: Max. resolution 1920x1080 @ 60Hz	Panalutian	LVDS: Max. resolution 1024x768 @ 60Hz		
	Resolution	HDMI: Max. resolution 1920x1080 @ 60Hz		

Audio			
Chipset	Realtek ALC892 supports 5.1-CH		
Audio Interface	Line-Out		
Speaker Output	2 x 2W		
Ethernet			
Chipset	2 x Realtek 8111E		
<b>Ethernet Interface</b>	10/100/1000 Base-Tx GbE compatible		
LAN Port	2 x RJ-45		
Power			
Requirement			
<b>Power Connector</b>	minidin 4P for DC in w/ lock type		
Power	+19V ~ +24V		
Requirement	+13V ~ +24V		
Power Type	AT/ATX (ATX is default setting)		
	Input: 100 ~ 240Vac/ 50 ~ 60Hz		
Adapter	Output: 90W Adapter (24V @ 3.75A Adapter)		
	AC-DC Adapter		
Mechanical &			
Environmental			
Power Connector	Fanless		
Construction - Front	Black Coverlens		
Construction -			
Rear	Black		
Dimension	362.1 x 290.08 x 51 mm		
Weight	6/with Stand Kgs		
Operating	0.00 0.00 (0.00)		
Temperature	0°C ~ 35°C (32°F ~ 95°F)		
Storage	0°C - 60°C (32°E - 140°E)		
Temperature	0°C ~ 60°C (32°F ~ 140°F)		
Operating	0% ~ 90% Relative Humidity, Non-condensing		
Humidity	The state of the s		
Vibration Test	With SSD/mSATA : 1.5Grms, IEC 60068-2-64,		
	Random, 5 ~ 500Hz, 30min/axis		
Shock Test	With SSD: 10Grms, IEC 60068-2-27, Half Sine, 11ms		
Certifications &			
Software Support			
Certification	CE		
Information	FCC Class B		

#### **Quick Reference Guide**

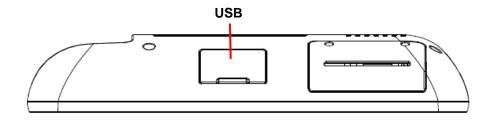
	VCCI
OS Information	Win 8, Win 7, POS Ready, Linux



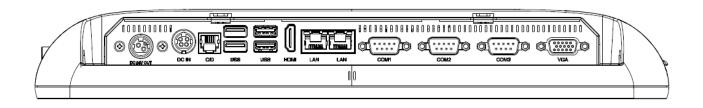
**Note:** Specifications are subject to change without notice.

### 1.4 System Overview

#### **Right View** 1.4.1



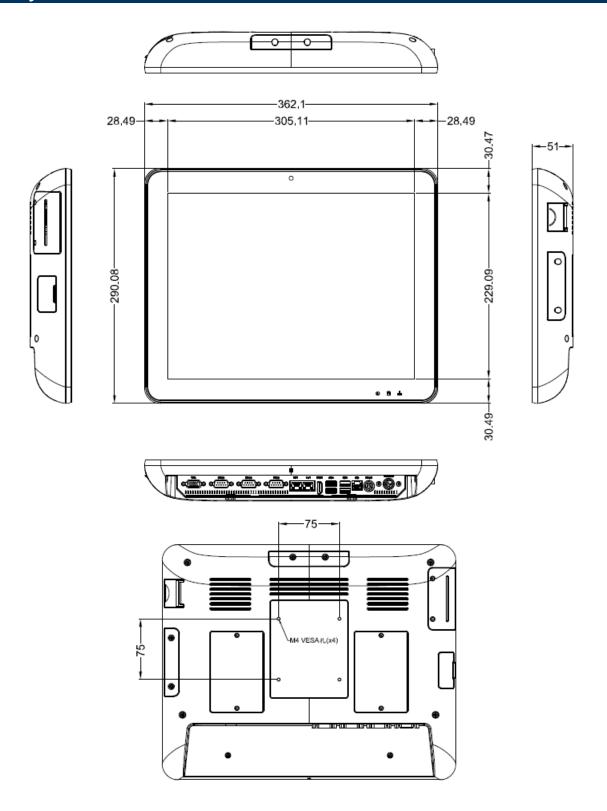
#### 1.4.2 **Bottom View**



#### **Connectors**

Label	Function Note			
	External Serial Port 1/2 connector (For			
COM1/2/3	RS-232/422/485)	DB-9 male connector		
	External Serial Port 3 connector (For RS-232)			
VGA	VGA connector			
C/D	Cash Drawer connector			
USB	3 x USB 3.0 connector			
U3B	3 x USB 2.0 connector			
LAN	2 x RJ-45 Ethernet connector			
HDMI	HDMI connector			
DC-IN	DC Power-in connector			
DC 24V OUT	DC Power-out connector			
LAN HDMI DC-IN	2 x RJ-45 Ethernet connector  HDMI connector  DC Power-in connector			

## 1.5 System Dimensions



(Unit: mm)

# 2. Hardware Configuration

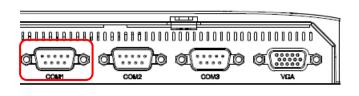


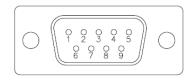
Note: If you need more information, please visit our website:

http://www.avalue.com.tw

## 2.1 RITY152 connector mapping

#### 2.1.1 **External Serial Port 1 connector (COM1)**





In RS-232 Mode

Signal	PIN	PIN	Signal
DCDA#	1	6	DSRA#
RXDA	2	7	RTSA#
TXDA	3	8	CTSA#
DTRA#	4	9	RIA#
GND	5		

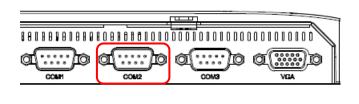
In RS-422 Mode

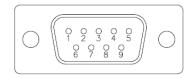
Signal	PIN	PIN	Signal
TxD1-	1	6	NC
TxD1+	2	7	NC
RxD1+	3	8	NC
RxD1-	4	9	NC
GND	5		

In RS-485 Mode

Signal	PIN	PIN	Signal
DATA1-	1	6	NC
DATA1+	2	7	NC
NC	3	8	NC
NC	4	9	NC
GND	5		

#### 2.1.2 External Serial Port 2 connector (COM2)





In RS-232 Mode

Signal	PIN	PIN	Signal
DCDB#	1	6	DSRB#
RXDB	2	7	RTSB#
TXDB	3	8	CTSB#
DTRB#	4	9	RIB#
GND	5		

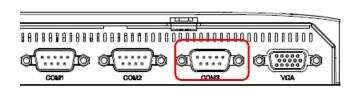
In RS-422 Mode

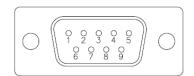
Signal	PIN	PIN	Signal
TxD1-	1	6	NC
TxD1+	2	7	NC
RxD1+	3	8	NC
RxD1-	4	9	NC
GND	5		

In RS-485 Mode

Signal	PIN	PIN	Signal
DATA1-	1	6	NC
DATA1+	2	7	NC
NC	3	8	NC
NC	4	9	NC
GND	5		

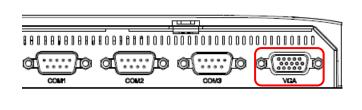
#### **External Serial Port 3 connector (COM3)** 2.1.3

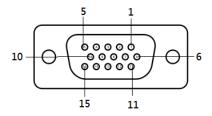




Signal	PIN	PIN	Signal
DCD	1	6	DSR
RXD	2	7	RTS
TXD	3	8	CTS
DTR	4	9	RI
GND	5		

#### 2.1.4 VGA connector (VGA)

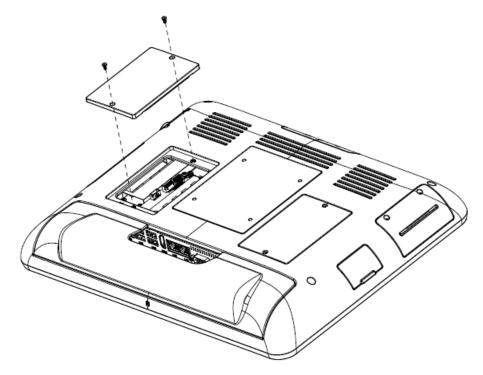




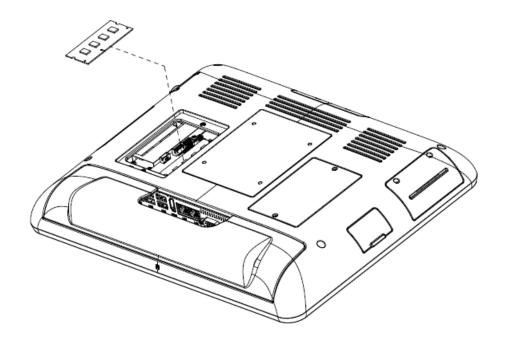
PIN	Signal	PIN	Signal	PIN	Signal
1	RED	6	GND	11	+12V
2	GREED	7	GND	12	DATA
3	BLUE	8	GND	13	HSYNC
4	+12V	9	+5V	14	VSYNC
5	GND	10	GND	15	CLK

## 2.2 Installing Hard Disk & Memory

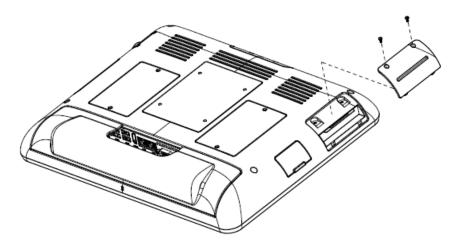
Step 1. Memory Installation: Unfasten 2 screws from the case. Then take off the top chassis.



Step 2. Insert the SODIMM into the memory socket.



Step 3. HDD Installation: Unfasten 2 screws from the case. Then take off the top chassis.



**Step 4.** Insert the HDD into the bracket and fasten 4 screws.

**Step 5.** Re-assemble your system back through previous steps to complete the installation.

