RITY153

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

Quick Reference Guide

1st Ed – 19 February 2019

Part No. E2017RT53A0R

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 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

Component	
Mother Board	Intel® Celeron® Apollo Lake Platform
CPU	Intel® Celeron® Processor N3350
Memory	Default 1 x 204-pin SODIMM Socket with 4GB DDR3L Optional to 8GB
Adapter	DC 24V power input by Power Mini DIN 4P connector
System Fan	Fanless
Speaker	Speaker x2 on back
Camera	Supported optional (ACC-NBCAM-03R)
Operating System	Windows 10 64bit
MSR	Supported optional (E968XRT2200R)
2nd display	Supported 2nd Display by internal VGA(Pin header) +12V
Storage	
Hard Disk Drive	2.5” HDD optional (Default 500G)
Solid State Drive	2.5” SSD optional
Other Storage Device	mSATA by M.2 B key slot optional
Panel	
LCD Panel	15” 1024 x 768 XGA CMI G150XGE-L04 C4 400nits (LVDS interface) (Default) 15” 1024 x 768 XGA CMI G150XNE-L03 300nits (LVDS interface) 15” 1024 x 768 XGA G150XNE-E01 (eDP interface) (optional)
B/L Inverter/Converter	Panel built in
Touch Screen	Resistive: 5W touch Capacitive: 15” 2 points touch
Touch Controller	Resistive: PenMount6000 Capacitive: EETI control board
External I/O	
Serial Port	4 x COM ports supported (2 x Pin header , 2 x Edge I/O) All Pin 9 supported 5V/12V 1A max output, selected by BIOS. COM1 & 2: RS232/422/485 selected in BIOS, RS422/485 by standard. COM3 Pin header COM4 Pin header
USB Port	10 x USB ports supported Internal x6 1 x USB 2.0 for resistive touch controller

	1 x USB 2.0 for 2nd display Touch 4 x USB 2.0 Pin header (PH5X2P) External x4 4 x USB3.0 port (Dual stack)
Video Port	HDMI port VGA(Ping header) supported 2nd display +12V
Audio Port	Pin header
LAN Port	2 x RJ45 connectors for Dual Giga LAN
Wireless LAN Antenna	4G Antenna
Switch	Power switch on right side with cover
Indicator Light	Front panel right side with PWR/ HDD/ LAN
Expansion Slots	1 x M.2 B Key slot Supported 4G/mSATA module SIM card slot onboard
Battery	Support battery for 10 Minutes (optional)
Others	1 x RJ11 connector for cash drawer
Mechanical	
Power Type	DC 19-24V power input
Power Connector Type	4P Mini DIN Wafer for Battery charger / Discharger
Dimension	362.1 x 290.1 x 51mm(Without stand)
Weight	TBD
Color	Black/White
Fanless	Fanless
OS Support	Windows 10 64bit
Stand	
Power Type	DC 24V power input Built in adapter
Dimension	TBD
Weight	TBD
Color	Black / White
Reliability	
EMI Test	CE/FCC/VCCI : Class B
Safety	All design for this project have to comply with UL / CB / CCC
Dust and Rain Test	IP 65 for front panel, IP 41 for back
Vibration Test	Follow Avalue standard: Ramdom Vibration Operation

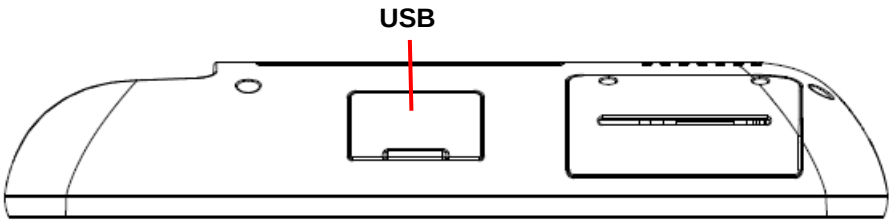
	Reference IEC60068-2-64 Testing procedures Test Fh : Vibration boardband random Test 1 Test PSD : 0.00454G²/Hz, 0.5 Grms for HDD Test PSD : 0.00454G²/Hz, 1.5 Grms for mSATA 2 Test frequency : 5 ~ 500 Hz 3 Test axis : X,Y and Z axis 4 Test time : 30 minutes each axis 5 System condition : operation mode 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 :30 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	Follow Avalue standard: With CF/SSD: 10Grms, IEC 60068-2-27, Half Sine, 11ms
Drop Test	Follow Avalue standard: 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	0°C ~ 40°C

Temperature	
Operating Humidity	12hrs operation dwell time at 40°C/80% Relative Humidity, Non-condensing
Storage Temperature	0°C ~ 60°C

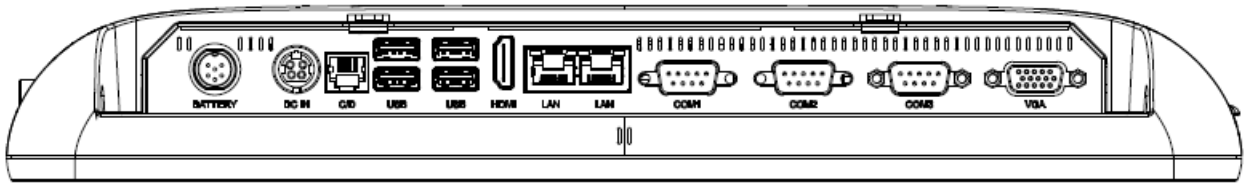
Note: Specifications are subject to change without notice.

1.4 System Overview

1.4.1 Right View



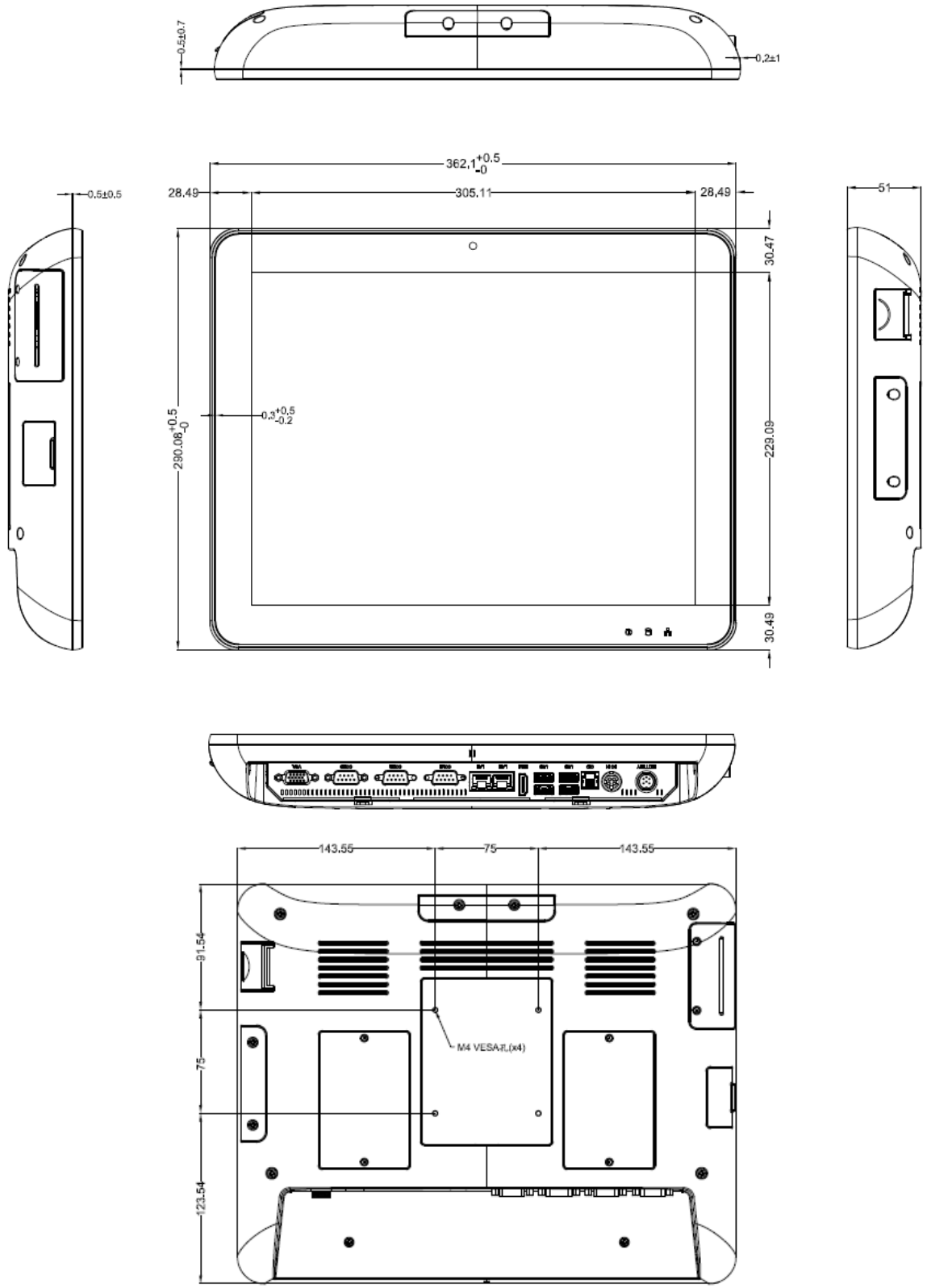
1.4.2 Bottom View



Connectors

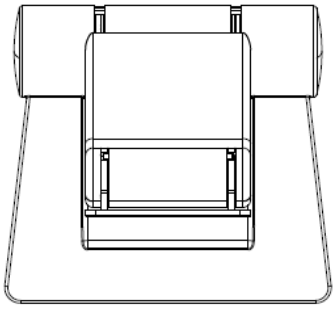
Label	Function	Note
COM1/2/3	External Serial Port 1/2 connector (For RS-232/422/485) External Serial Port 3 connector (For RS-232)	DB-9 male connector
VGA	VGA connector	
C/D	Cash Drawer connector	
USB	4 x USB 3.0 connector 1 x USB 2.0 connector	
LAN	2 x RJ-45 Ethernet connector	
HDMI	HDMI connector	
DC-IN	DC Power-in connector	
BATTERY	DC Power-out connector	

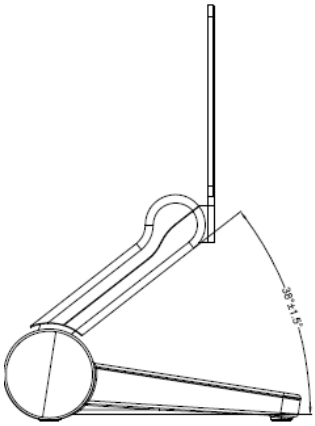
1.5 System Dimensions

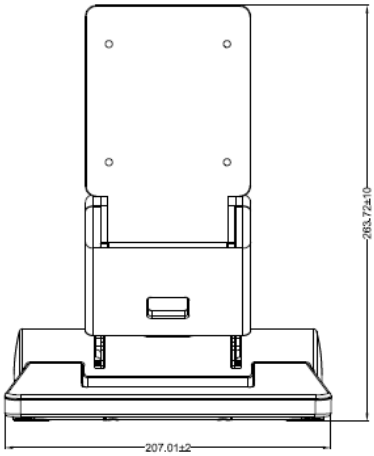


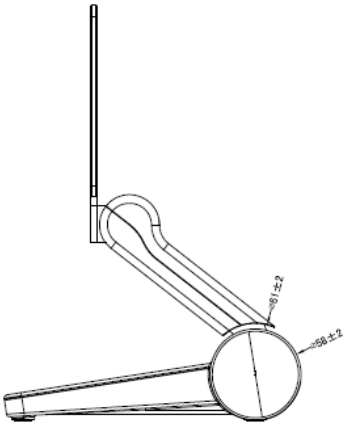
(Unit: mm)

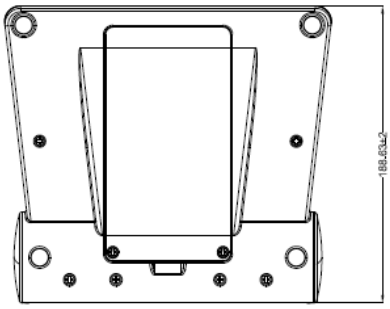
1.6 Stand Dimensions

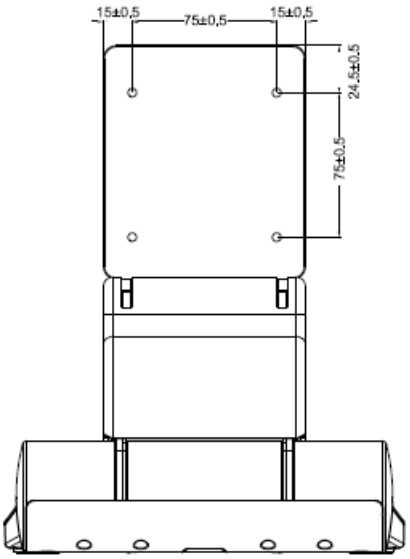












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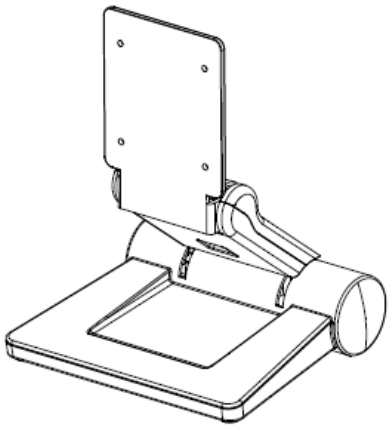
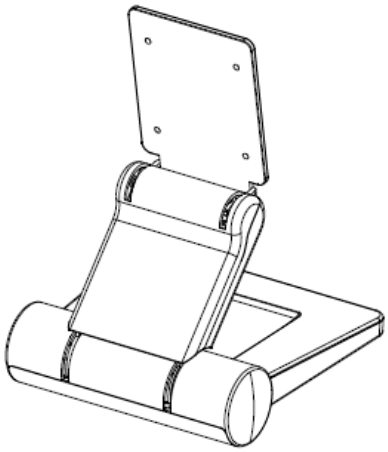
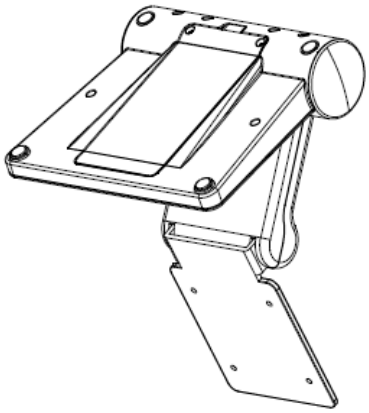
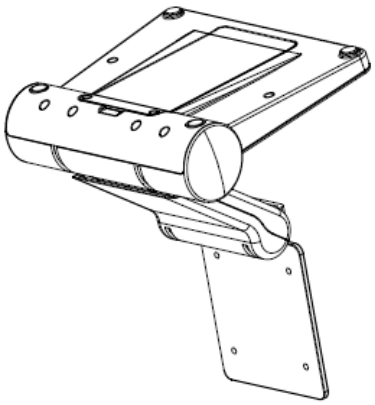
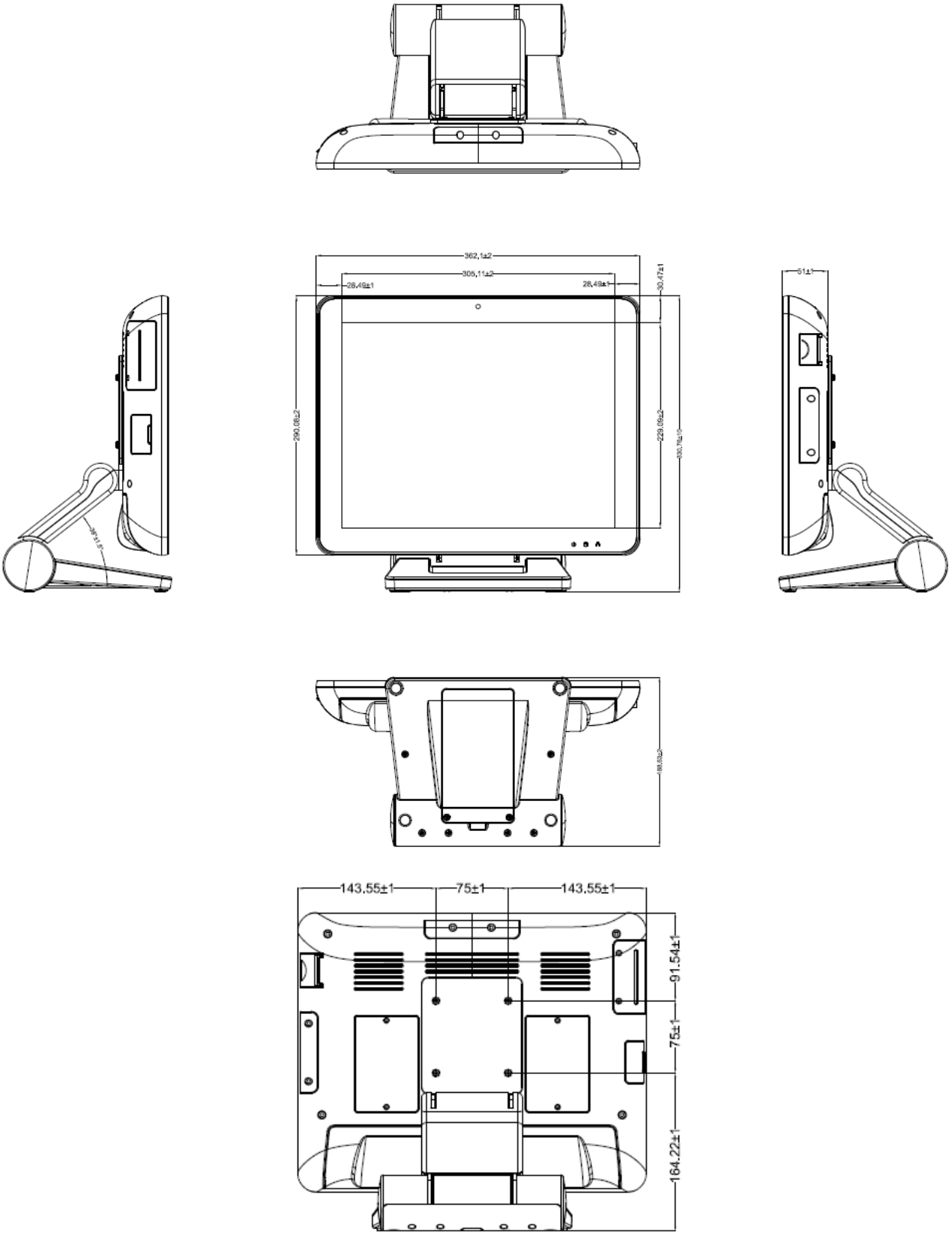








1.7 Panel + Stand Dimensions



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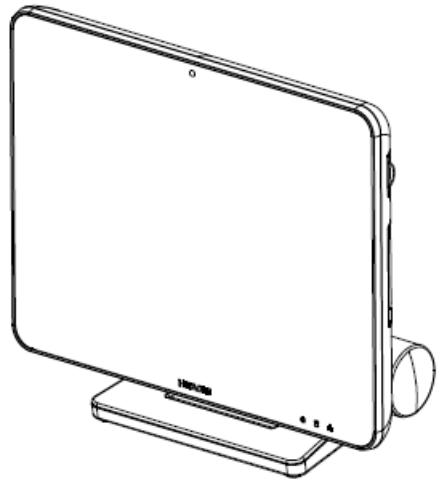
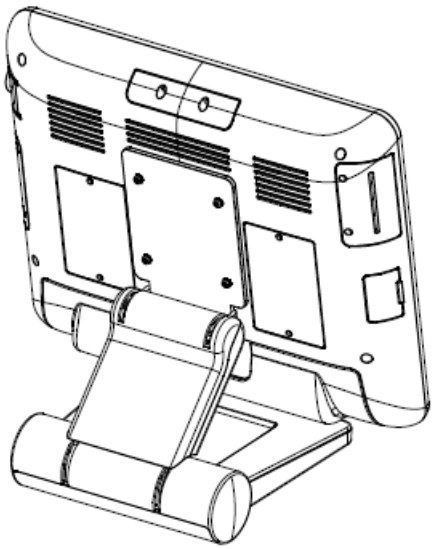
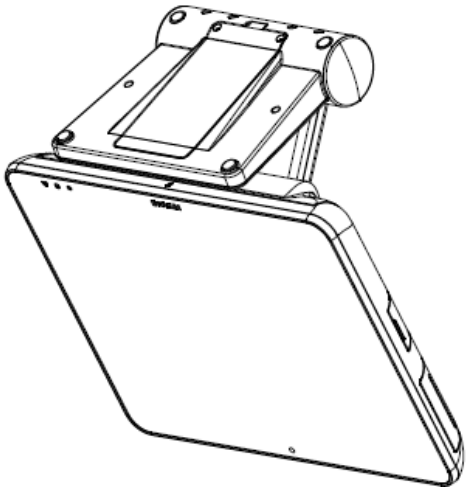
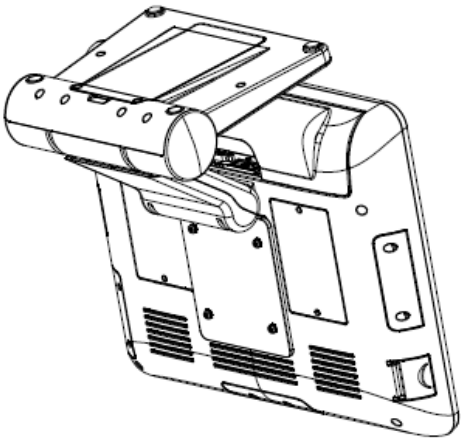








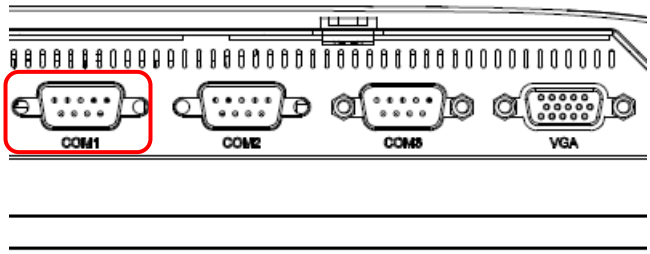
2. Hardware Configuration

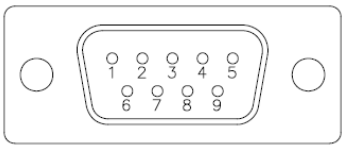
Note: If you need more information, please visit our website:

http://www.avalue.com.tw

2.1 RITY153 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		

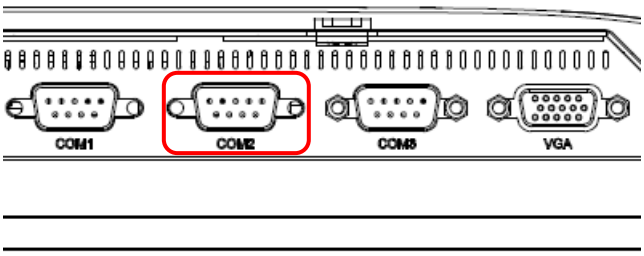
In RS-422 Mode

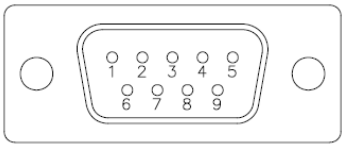
Signal	PIN	PIN	Signal
TxD1-	1	6	NC
TxD1+	2	7	NC
RxD1+	3	8	NC
RxD1-	4	9	NC
GND	5		

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		

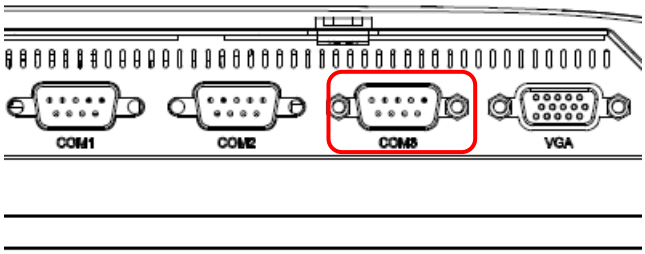
In RS-422 Mode

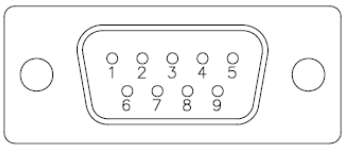
Signal	PIN	PIN	Signal
TxD1-	1	6	NC
TxD1+	2	7	NC
RxD1+	3	8	NC
RxD1-	4	9	NC
GND	5		

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		

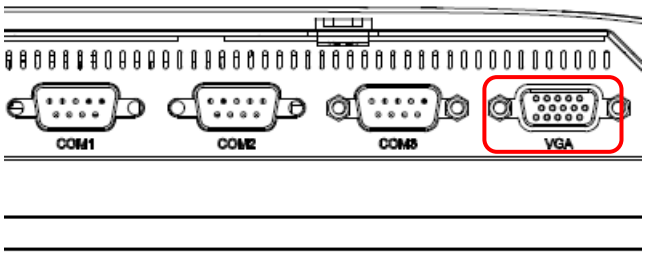
2.1.3 External Serial Port 3 connector (COM3)

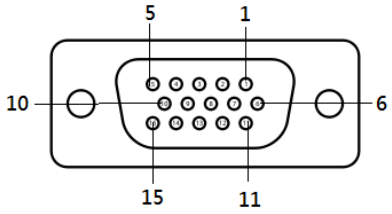




Signal	PIN	PIN	Signal
DCD	1	6	DSR
RXD	2	7	RTS
TXD	3	8	CTS
DTR	4	9	RI
GND	5		

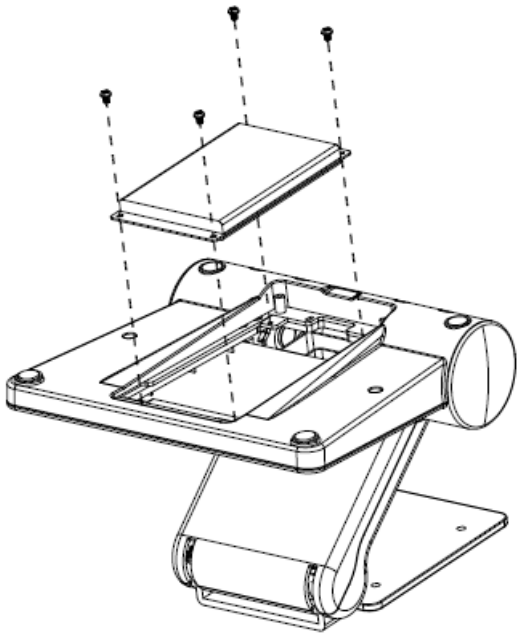
2.1.4 VGA connector (VGA)



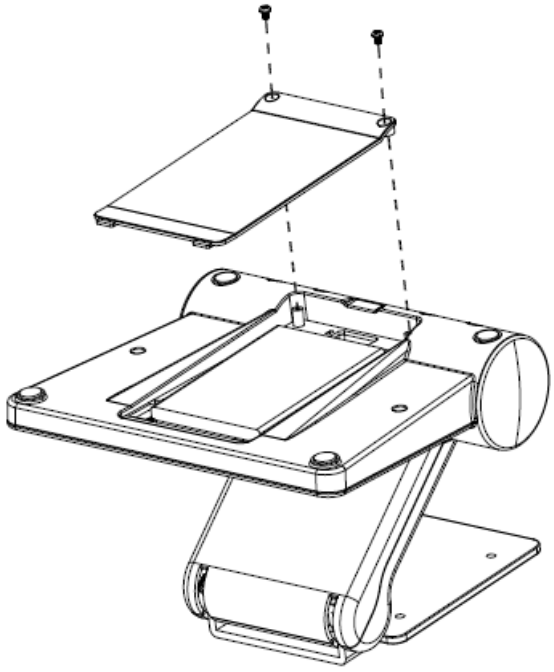


PIN	Signal	PIN	Signal	PIN	Signal
1	RED	6	GND	11	+12V
2	GREED	7	GND	12	DATA
3	BLUE	8	GND	13	HSYNC
4	+12V	9	+5V	14	VSYNC
5	GND	10	GND	15	CLK

2.2 Installing Battery(Optional)



Step 1. Put the Battery into the battery holder and fasten 4 screws.



Step 2. Insert and fasten 2 screws to secure battery chassis.

Note:

Battery is optional. During abnormal power outage, the system will activate the reserve battery power for 10-15 minutes to avoid disk shutdown.