

SYSGRATION®

User Manual

UPC-A101/A156/A215

10.1" / 15.6" / 21.5"
Universal Panel Computer



UPC
Universal Panel Computer



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For technical support and service, please visit our support website at <http://www.sysgration.com>

This manual is for UPC-A101/A156/A215.

Part No

Edition 1

11-Nov-2020

Declaration of Conformity

FCC Class B



Note

This equipment has been tested and found to comply with the limits for a Class B digital device 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 such cases users will be required to correct the interference at their own expense.



Warning

Any modifications to this device that are not approved by the relevant standards authority may void the authority granted to the user by the FCC to operate this equipment.

Packing List

Before installing the UPC system, check that the following materials have been included in the shipment:

- UPC-A101/A156/A215 unit
- Accessories for UPC-A101/A156/A215
 - Packet of mounting kits
 - DC power converting cable
 - Quick start guide
 - Packet of cable clamps (only available on 15.6" / 21.5")

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Technical Support and Assistance

1. Visit the Sysgration website at <http://www.sysgration.com> to obtain the latest product information.
2. Contact your distributor, sales representative, or Sysgration's customer service center for technical support if you need additional assistance. Please have the following information ready before calling:
 - Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

Warnings



Warning

Batteries are at risk of exploding if incorrectly installed. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.



Warning

Input voltage rated 12V/7.5A.

Use a 3V/240mA lithium battery

Packing: The unit should be carried with both hands and handled with care.

Maintenance: Use only approved products or a dry applicator to clean and maintain the surfaces.

Contact information

Manufacturer

Sysgration Co., Ltd.

6Fl., No.1, Sec. 1, Tiding Blvd., Neihu Dist., Taipei City, 11494, Taiwan, R.O.C.

TEL: +886-2-2790-0088

Safety Instruction

1. Read these safety instructions carefully.
2. Retain this user manual for future reference.
3. Disconnect the equipment from all AC outlets before cleaning. Use only a damp cloth for cleaning. Do not use liquid or spray detergents.
4. For pluggable equipment, the power outlet socket must be located near the equipment and easily accessible.
5. Protect the equipment from humidity.
6. Place the equipment on a reliable surface during installation. Dropping or letting the equipment fall may cause damage.
7. The openings of the enclosure are for air convection. Protect the equipment from overheating. Do not cover the openings.
8. Ensure that the voltage is correct before connecting the equipment to a power outlet.
9. Position the power cord away from high-traffic areas. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If unused for a long time, disconnect the equipment from the power source to avoid damage from transient overvoltage.
12. Never pour liquid into an opening. This may cause fire or electrical shock.

13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following occurs, have the equipment checked by authorized service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated the equipment.
 - The equipment has been exposed to moisture.
 - The equipment is malfunctioning or does not operate according to the user manual.
 - The equipment has been dropped and damaged.
 - The equipment shows obvious signs of breakage.
15. Do not store the equipment in an environment where the temperature fluctuates below 20 °C (-4 °F) or above 60°C (140 °F) as this may cause damage. The equipment should be stored in a controlled environment.
16. Batteries are at risk of exploding if incorrectly installed. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
17. Use only the recommended mounting apparatus to avoid damage due to falling.

DISCLAIMER: These instructions are provided according to IEC 704-1 standards.

Sysgration disclaims all responsibility for the accuracy of any statements contained herein.



Because of the risk of electric shock, do not remove the equipment cover during operation or when connected to a power outlet.



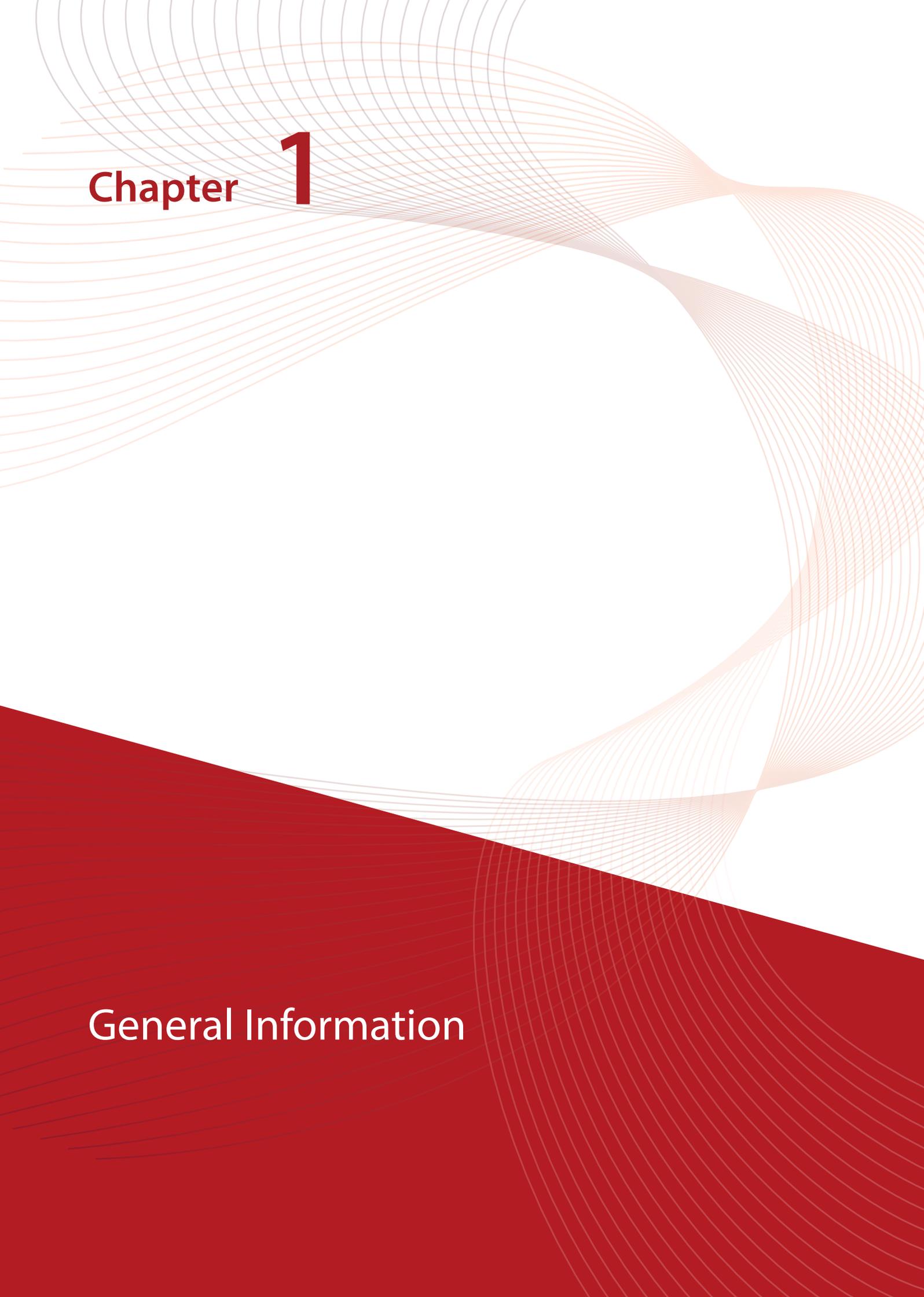
To avoid short circuits and otherwise damaging the device, do not allow fluids to come in contact with the device. If fluids are accidentally spilled on the equipment, remove the affected unit from service as soon as possible and contact service personnel to verify that personal safety is not compromised. If the computer clock is unable to maintain accurate time or the BIOS configuration resets to default, check the battery.



Do not replace the battery yourself. Contact a qualified technician or your retailer. The computer is equipped with a battery-powered real-time clock circuit. There is a danger of explosion if the battery is incorrectly replaced. Replace only with same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions

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Chapter 1

General Information

1. General Information

1.1 Introduction

Sysgration's UPC-A series products are 10.1", 15.6", and 21.5" fanless, low-power, all-in-one touch panel computers suitable for use as control room computing devices, production line industrial digital signage, showroom interactive signage, self-service kiosks, and public service terminals, as well as to support diverse digital retail, hospitality, healthcare, education, entertainment, and information processing applications. Featuring a protective enclosure, advanced touchscreen technology, wireless capabilities, and rich I/O, the high-performance UPC-A series can also be integrated with a wide range of optional peripherals and accessories according to specific application requirements.

1.2 Specification

1.2.1 UPC-A101

Display & Touch Screen	Size	10.1" TFT LCD	
	Resolution	1280x800	
	Brightness	400nits (Typ.)	
	Contrast Ratio	800 (Typ.)	
	Viewing Angle	85/85/85/85	
	Touch Technology	10 points P-Cap touch panel, support wet mode, glove mode and 5mm stylus. Optional 5-wire true flat Resistive touch panel	
System Specification	Processor	Intel® Pentium® N4200, Quad Core	
	Operating System	Windows 10 IoT Enterprise optional for Ubuntu 16.04 Kernel 4.8.0-36-generic x86_64 and up	
	System Memory	4GB (up to 8GB), DDR3L 1866MHz, SODIMM x 1	
	Storage	64GB mSATA	
Wireless communication	WiFi	Optional, WIFI 802.11 a/b/g/n/ac	
	Bluetooth	Optional, BT 5.0	
	WWAN	Optional, upon customer's request & region	
System I/O	Audio	Speaker	Optional, 2x 1W Speakers (L/R)
		Line out	1x Line out
	External I/O	USB	2x USB 3.1 Gen1 Type A
		Video	1x VGA output
		Ethernet (LAN)	2x 10/100/1000 GbE RJ45, with Intel Ethernet Controller i210/211
		COM port	1x RS232 D-sub 9
	Optional I/O	COM Port	Optional RS232/422/485 D-sub 9
		Digital I/O	Optional 6 DI/DO
Expansion I/O	1x Mini Card Slot (Half Size) and 1x mSATA (Full Size)		
Expansion Module	Optional module	5M Camera	
		Magnetic Strip Reader	
		Depth Camera	
		Thermal imager	
		RFID/NFC Reader	
		Smart Card Reader	
		Barcode Reader	
		Light Bar	
Mechanical & Environment	Dimension (W x L x H)	266.2*184.8*40 (mm)	
	Weight	2.5 kg	
	Mounting	Panel Mount / VESA Mount (75mm X 75mm)	
	Operating Temperature	0°C ~ 50°C	
	Storage Temperature	-20°C ~ 60°C	
	Operating Humidity	10% ~ 90%, non-condensing	
	IP Standard	Front IP65	
Power Management	Power Input	1x 2.5mm DC jack / 9~19V DC in	
	Power consumption	30 watt	
	Adaptor	Optional Adaptor 100~240Vac, O/P: 12V/7.5A/90W	
Certification	CE, FCC		

1.2.2 UPC-A156

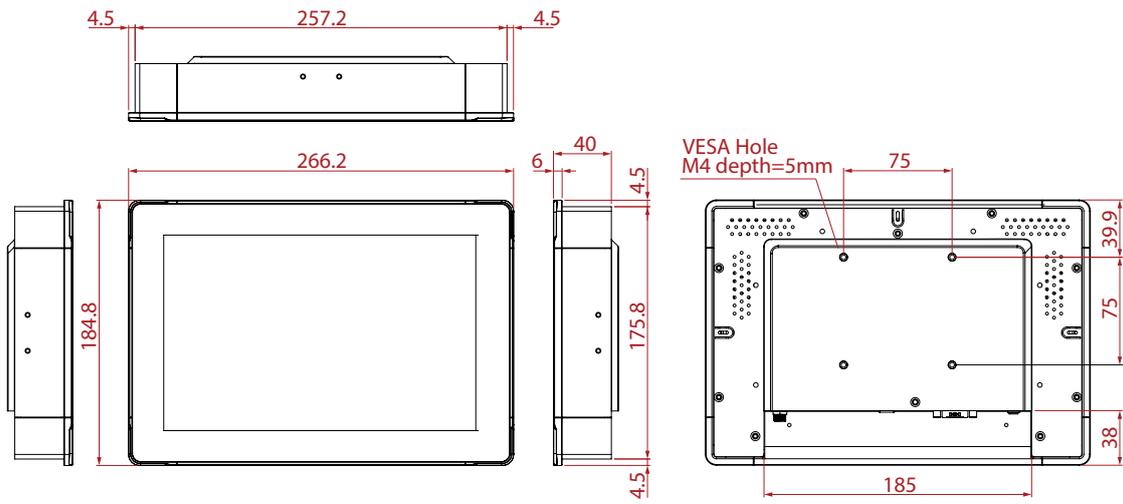
Display & Touch Screen	Size	15.6" TFT LCD	
	Resolution	1366 X 768	
	Brightness	500 nits (Typ.)	
	Contrast Ratio	600 (Typ.)	
	Viewing Angle	80/80/80/80	
	Touch Technology	10 points P-Cap touch panel, support wet mode, glove mode and 5mm stylus. Optional 5-wire true flat Resistive touch panel	
System Specification	Processor	Intel® Pentium® N4200, Quad Core	
	Operating System	Windows 10 IoT Enterprise optional for Ubuntu 16.04 Kernel 4.8.0-36-generic x86_64 and up	
	System Memory	4GB (up to 8GB), DDR3L 1866MHz, SODIMM x 1	
	Storage	64GB mSATA Optional 2.5" SATA III HDD/SSD	
Wireless communication	WiFi	Optional, WIFI 802.11 a/b/g/n/ac	
	Bluetooth	Optional, BT 5.0	
	WWAN	Optional, upon customer's request & region	
System I/O	Audio	Speaker	Optional, 2x 1W Speakers (L/R)
		Line out	1x Line out
	External I/O	USB	2x USB 3.1 Gen1 Type A
		Video	1x VGA output
		Ethernet (LAN)	2x 10/100/1000 GbE RJ45, with Intel Ethernet Controller i210/211
		COM port	1x RS232 D-sub 9
	Optional I/O	COM Port	Optional RS232/422/485 D-sub 9
		Digital I/O	Optional 6 DI/DO
Expansion I/O	1x Mini Card Slot (Half Size) and 1x mSATA (Full Size)		
Expansion Module	Optional module	5M Camera	
		Magnetic Strip Reader	
		Depth Camera	
		Thermal imager	
		RFID/NFC Reader	
		Smart Card Reader	
		Barcode Reader	
		Light Bar	
Mechanical & Environment	Dimension (W x L x H)	399.2*248.5*40 (mm)	
	Weight	4.5 kg	
	Mounting	Panel Mount / VESA Mount (100mm X 100mm)	
	Operating Temperature	0°C ~ 50°C	
	Storage Temperature	-20°C ~ 60°C	
	Operating Humidity	10% ~ 90%, non-condensing	
	IP Standard	Front IP65	
Power Management	Power Input	1x 2.5mm DC jack / 9~19V DC in	
	Power consumption	34 watt	
	Adaptor	Optional Adaptor 100~240Vac, O/P: 12V/7.5A/90W	
Certification		CE, FCC	

1.2.3 UPC-A215

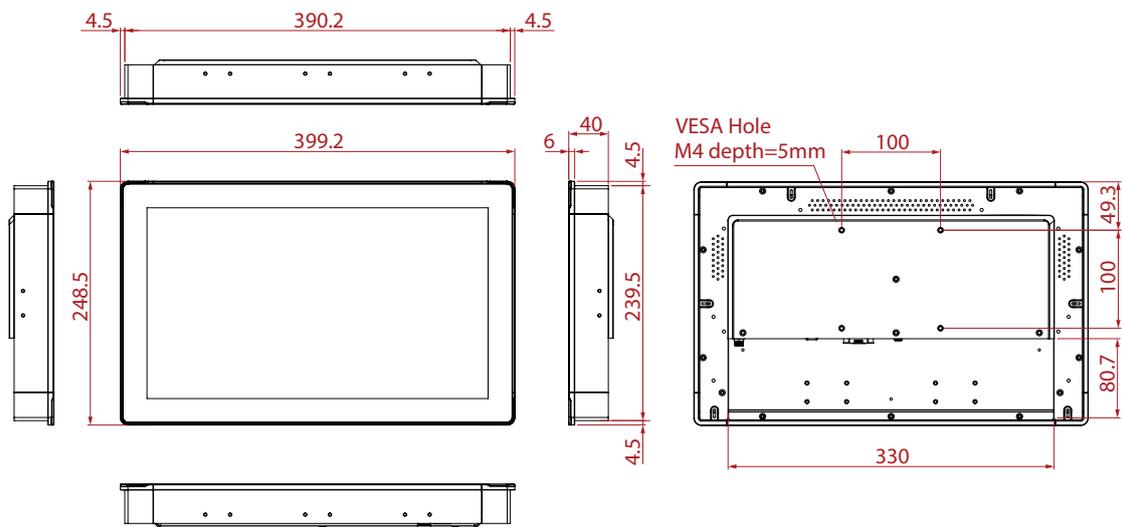
Display & Touch Screen	Size	21.5 TFT LCD	
	Resolution	1920 X 1080	
	Brightness	250 nits (Typ.)	
	Contrast Ratio	3000 (Typ.)	
	Viewing Angle	80/80/80/80	
	Touch Technology	10 points P-Cap touch panel, support wet mode, glove mode and 5mm stylus. Optional 5-wire true flat Resistive touch panel	
System Specification	Processor	Intel® Pentium® N4200, Quad Core	
	Operating System	Windows 10 IoT Enterprise optional for Ubuntu 16.04 Kernel 4.8.0-36-generic x86_64 and up	
	System Memory	4GB(up to 8GB), DDR3L 1866MHz, SODIMM x 1	
	Storage	64GB mSATA Optional 2.5" SATA III HDD/SSD	
Wireless communication	WiFi	Optional, WIFI 802.11 a/b/g/n/ac	
	Bluetooth	Optional, BT 5.0	
	WWAN	Optional, upon customer's request & region	
System I/O	Audio	Speaker	Optional, 2x 1W Speakers (L/R)
		Line out	1x Line out
	External I/O	USB	2x USB 3.1 Gen1 Type A
		Video	1x VGA output
		Ethernet (LAN)	2x 10/100/1000 GbE RJ45, with Intel Ethernet Controller i210/211
		COM port	1x RS232 D-sub 9
	Optional I/O	COM Port	Optional RS232/422/485 D-sub 9
		Digital I/O	Optional 6 DI/DO
Expansion I/O	1x Mini Card Slot (Half Size) and 1x mSATA (Full Size)		
Expansion Module	Optional module	5M Camera	
		Magnetic Strip Reader	
		Depth Camera	
		Thermal imager	
		RFID/NFC Reader	
		Smart Card Reader	
		Barcode Reader	
		Light Bar	
Mechanical & Environment	Dimension (W x L x H)	543.64x335.11x40(mm)	
	Weight	8.2 kg	
	Mounting	Panel Mount / VESA Mount (100mm X 100mm)	
	Operating Temperature	0°C ~ 50°C	
	Storage Temperature	-20°C ~ 60°C	
	Operating Humidity	10% ~ 90%, non-condensing	
	IP Standard	Front IP65	
Power Management	Power Input	1x 2.5mm DC jack / 9~19V DC in	
	Power consumption	45 watt	
	Adaptor	Optional Adaptor 100~240Vac, O/P: 12V/7.5A/90W	
Certification	CE, FCC		

1.3 Dimension

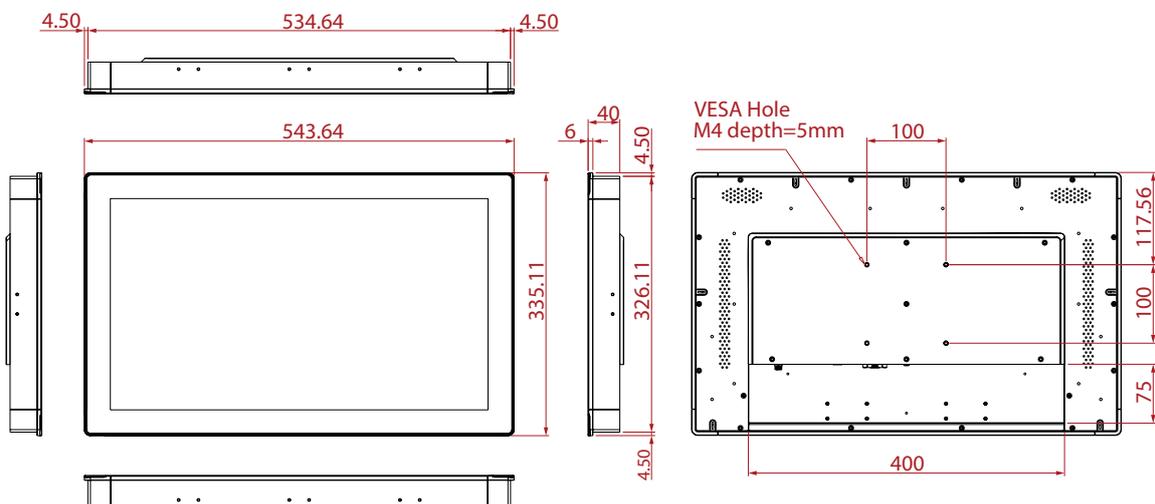
1.3.1 UPC-A101

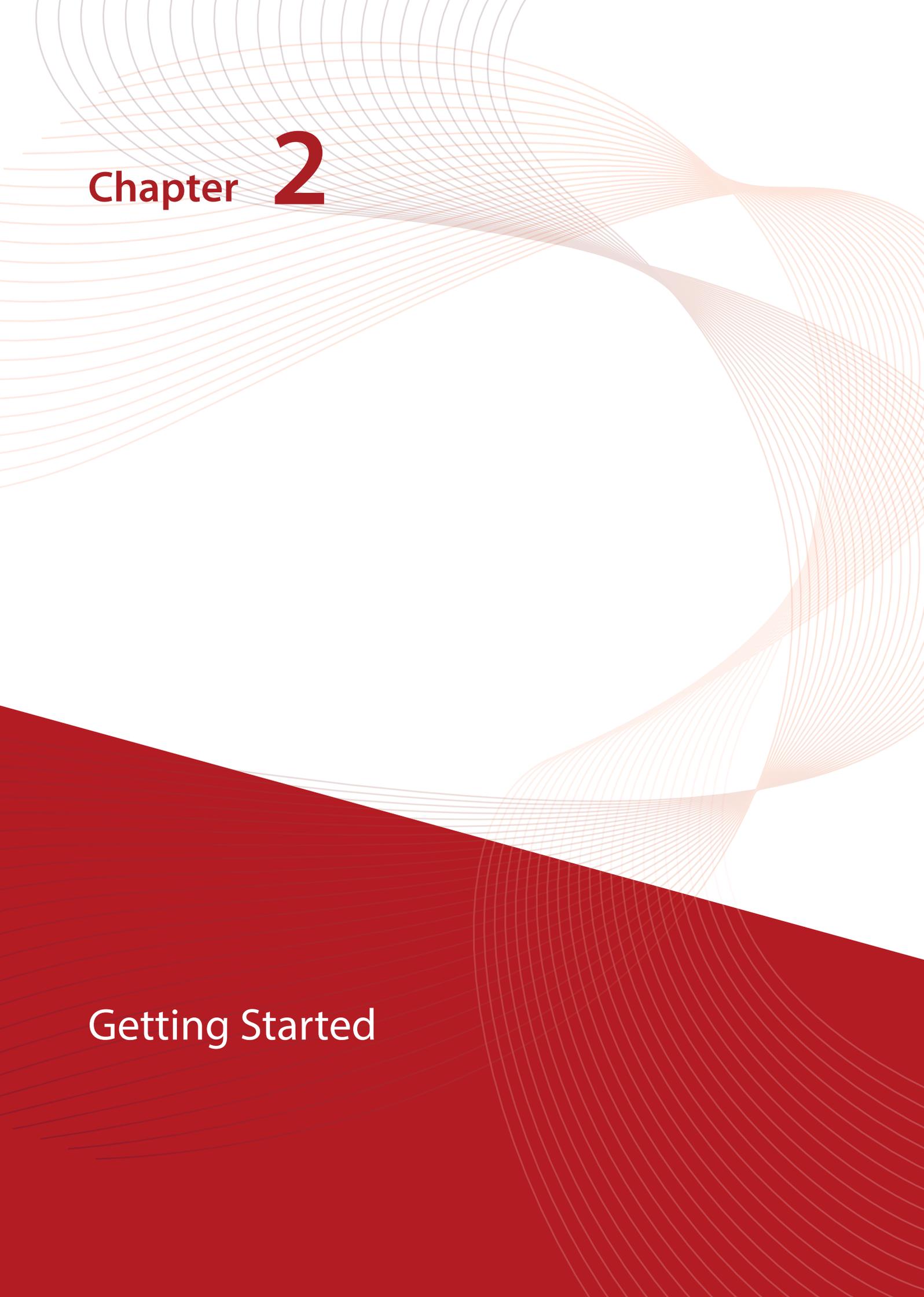


1.3.2 UPC-A156



1.3.3 UPC-A215



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Chapter 2

Getting Started

2. Getting Started

Before beginning system setup, take a moment to become familiar with the package content, connector locations and functions, as shown in the figures below.

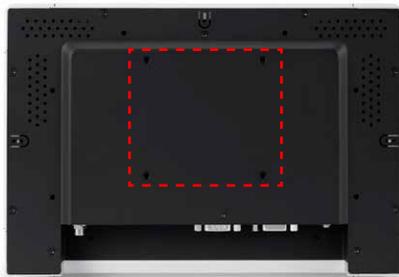
2.1 Package Content

- Panel Computer
- Packet of mounting kits
- DC power converting cable
- Quick start guide
- Packet of cable clamps (only available on 15.6" / 21.5")

2.2 Front View



2.3 Rear View



- Use only VESA-compatible floor, stand, and wall mount kits
- Refer to Section 2.5 regarding system I/O according to UPC model

2.4 Side View

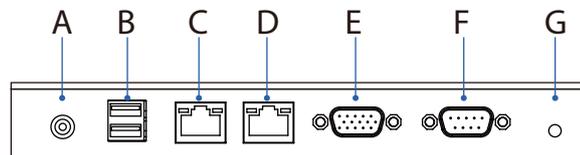


Note

Mounting hole for expansion module and panel mount
The UPC-A series features flat frame for easy optional expansion module integration
Refer to [Section 3.1](#) for installation information.

2.5 Standard I/O Ports

UPC-A101 / UPC-A156 / UPC-A215



- A. DC Power Input
- B. 2 x USB3.1 Gen.1 Type A
- C. 10/100/1000 GbE
- D. 10/100/1000 GbE

- E. RS232 Serial Port
- F. VGA Output
- G. Audio Line Out

2.6 Setup Procedures

2.6.1 System Power On

1. For the UPC-A101/ UPC-A156/ UPC-A215 model, connecting the system to a DC power source or external power supply via DC in Jack
2. Hold power cords by the plugs ends only. Refer to Section 2.5 for the location of the DC power.

3. After DC input, the system will be activated automatically.

2.6.2 BIOS Setup

For most UPC series, the system setup and configuration will be completed by the manufacturer or system integrator prior to delivery. However, users may still need to access the BIOS setup program to adjust the system configuration, such as the date/ time or hard drive type by pressing the “Delete button” after powering the unit.

2.6.3 System Software Installation

The UPC is optionally available with or without operating system. During the installation of third party operating system, users must integrate all software components required for the operating system by themselves.



Note

Before software or driver installation, the system must be equipped with additional storage that users must purchase separately.

2.6.4 Driver Installation

After installing the system software, users can set up the Ethernet, XGA, audio, and touchscreen functions.



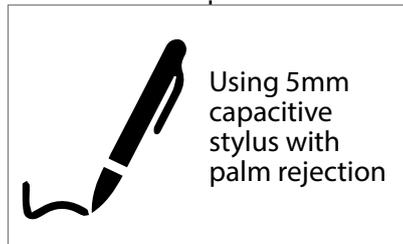
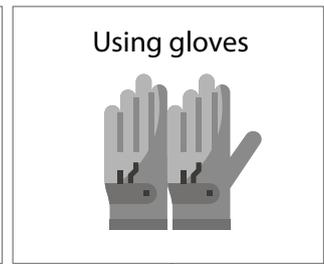
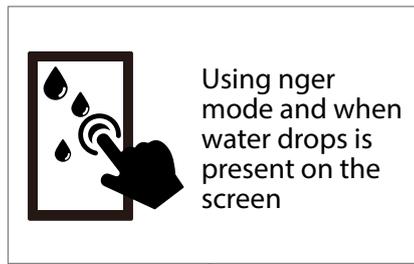
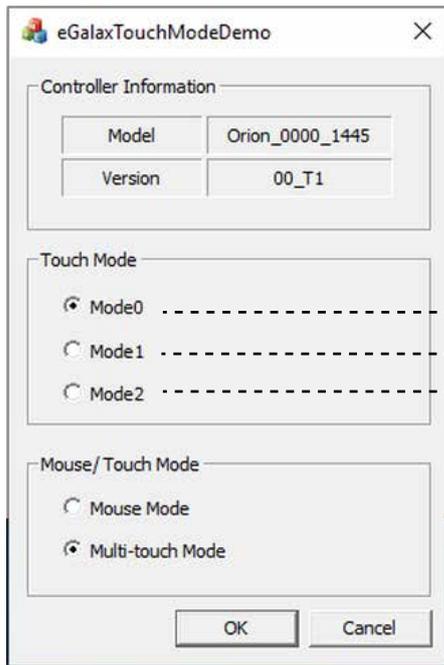
Note

The relevant drivers and utilities are subject to change without notice. Download the latest drivers for UPC series products from the Sysgration website at <http://support.sysgration.com> or contact our application engineers for further assistance.

2.7 Different touch mode selection

UPC has a capacitive touch screen that able to responds to fingertips, certain type of gloves and a capacitive tipped stylus. User can change the touchscreen mode to suit user scenario. Click the  eGalaxTouchModeDemo program to open the settings menu and select one of the options (as shown below)

Mode0	Select this if user prefers using finger mode and when water drops is present on the screen
Mode1	Select this if user prefers using gloves
Mode2	Select this if user prefers using 5mm capacitive stylus with palm rejection that allows user to rest their hand on the screen while writing or touching without making unwanted interference

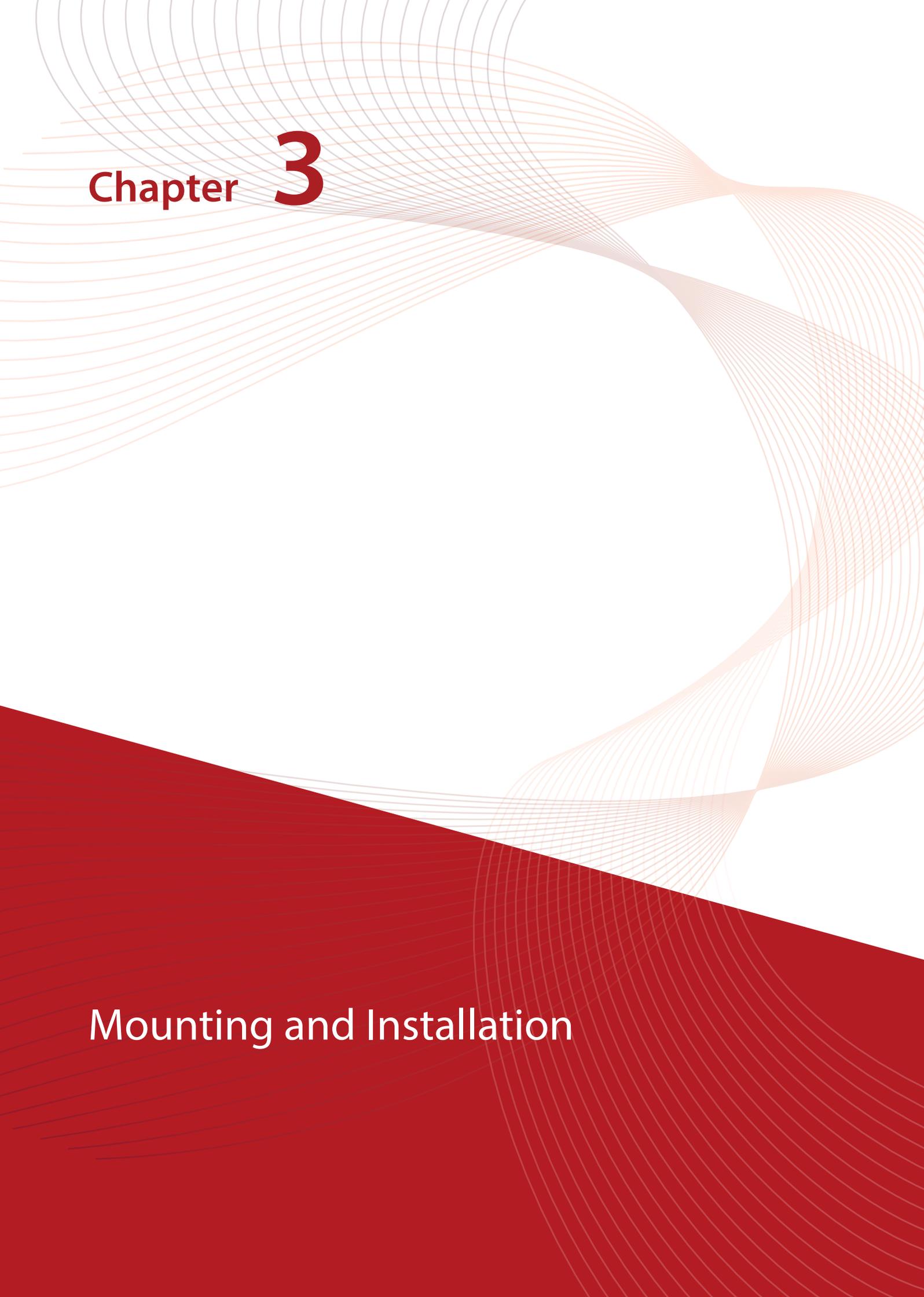


Note

Different type of gloves characteristics, materials, and design will have different results on the touch performance

3. Mounting and Installation

Sysgration's UPC series systems are PC-based computers housed in an aluminum enclosure. To perform system maintenance or hardware upgrades, such as installing an HDD, DRAM, simply remove the unit's rear cover.

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Chapter 3

Mounting and Installation



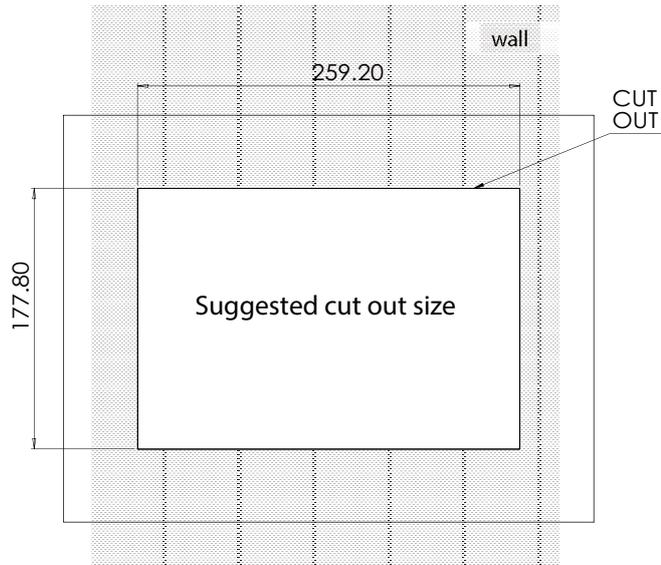
Do not remove the rear cover until you have verified that power is not flowing within the device. The system power should be switched off and the power cord unplugged before opening the device enclosure.

Opening the device enclosure will void the warranty

3.1 Panel Mount Installation

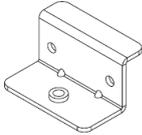
3.1.1 UPC-A101, 10.1-inch

Panel mount cut out



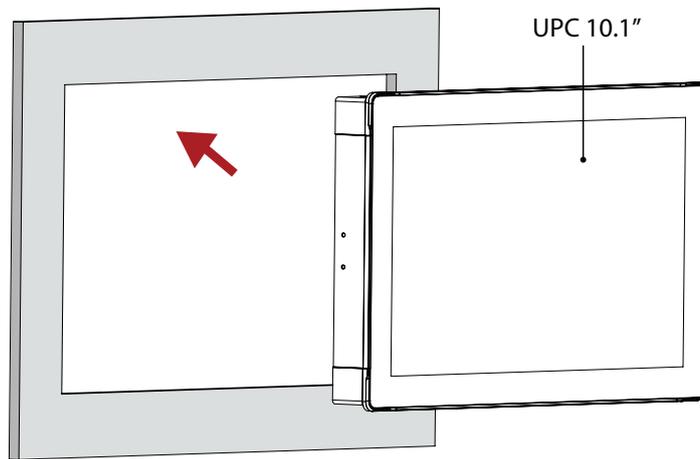
10.1" Panel mount cut out

Panel mount bracket mounting kit

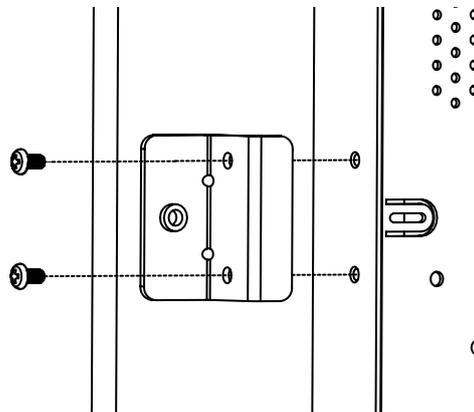
Quantity			
	Mounting bracket 3 pcs	M4 x 20mm screw 3 pcs	M3 x 6mm screw 6 pcs

Installation Step

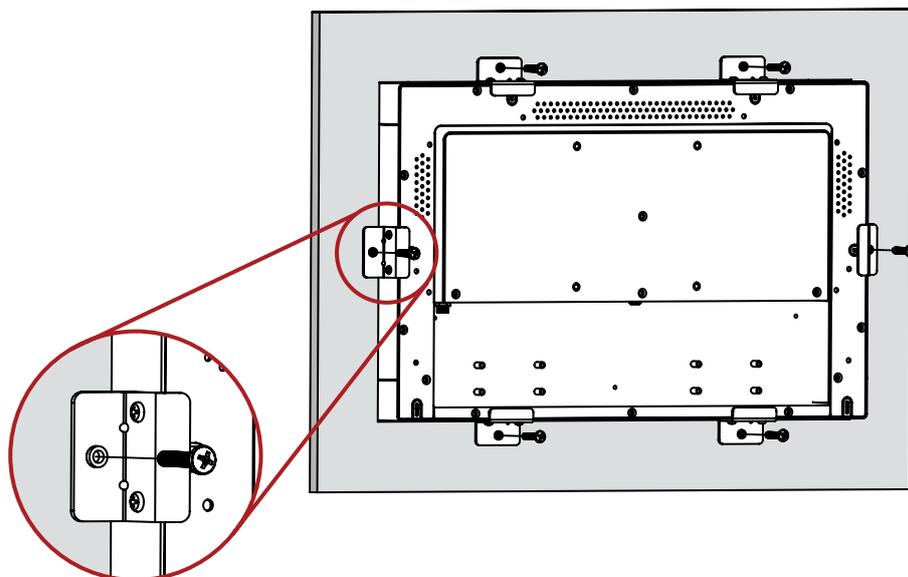
1. Prepare a panel for specific dimension of the UPC and then cut a hole according to the cutout dimension
2. Insert the UPC properly into the cut out area



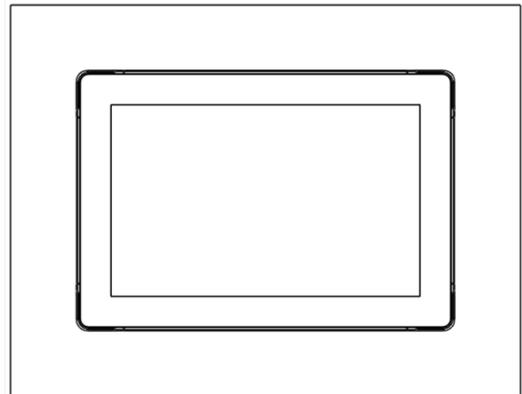
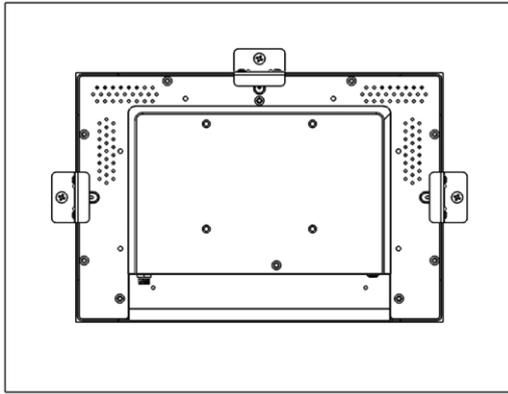
3. Place the mounting bracket to the UPC and then fasten it using M3 x 6 mm screw with torque maximum 4 kgf-cm, tighten each mounting bracket on every side until each of it is firmly tightened



4. Fasten the M4 x 20 mm screw to fix the bracket to the panel

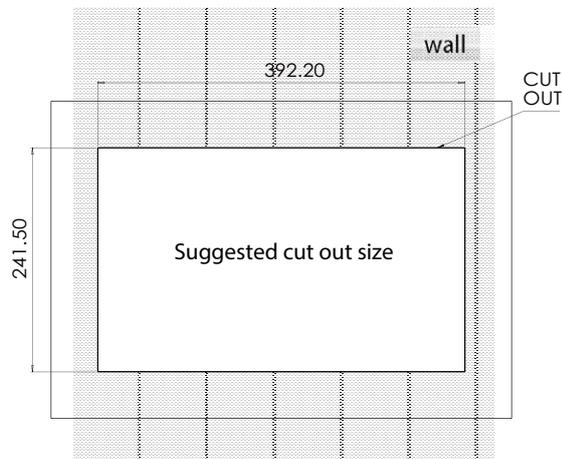


5. Installation complete



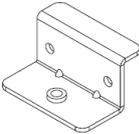
3.1.2 UPC-A156, 15.6-inch

Panel mount cut out



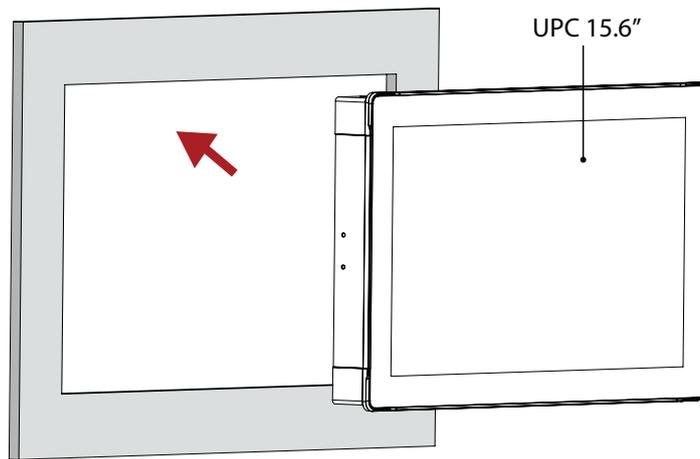
15.6" Panel mount cut out

Panel mount bracket mounting kit

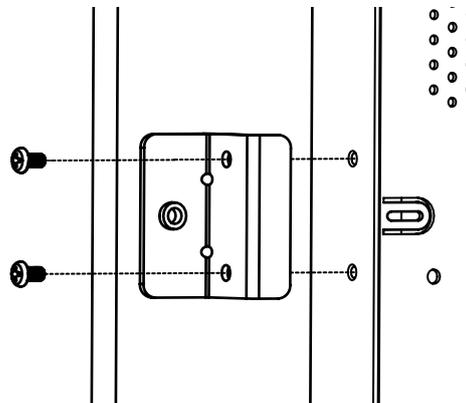
Quantity			
	Mounting bracket 6 pcs	M4 x 20mm screw 6 pcs	M3 x 6mm screw 12 pcs

Installation Step

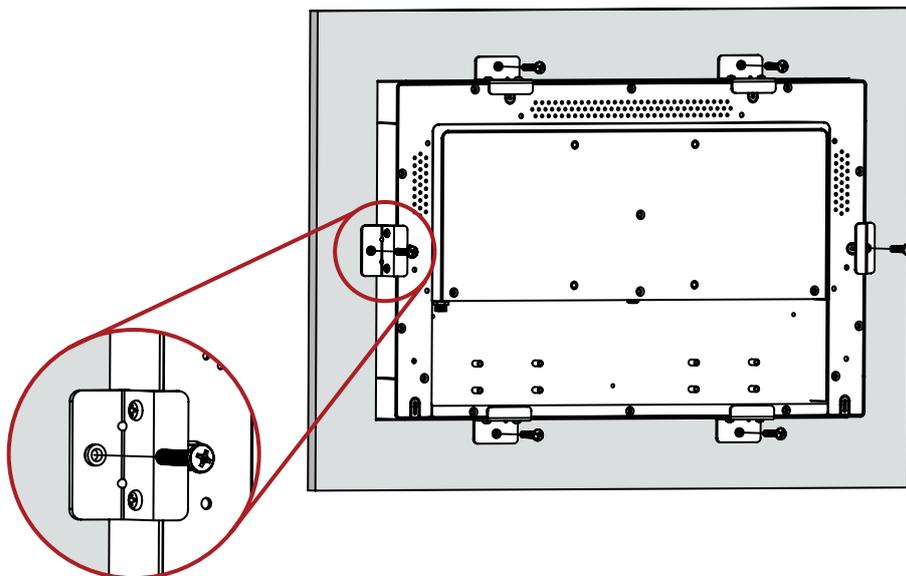
1. Prepare a panel for specific dimension of the UPC and then cut a hole according to the cutout dimension
2. Insert the UPC properly into the cut out area



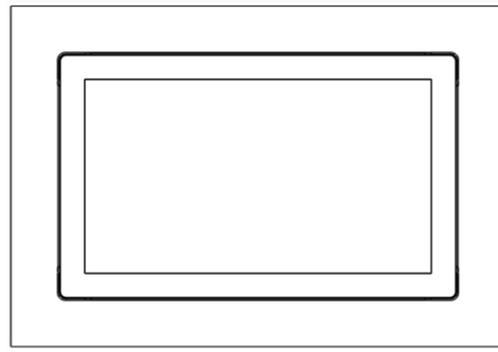
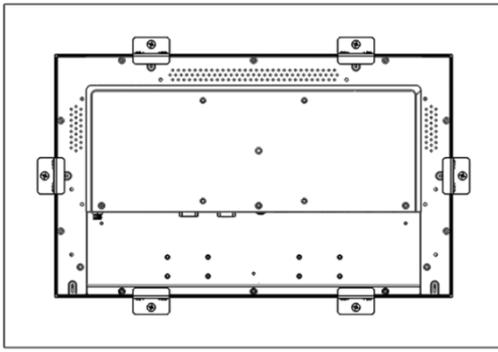
3. Place the mounting bracket to the UPC and then fasten it using M3 x 6 mm screw with torque maximum 4 kgf-cm, tighten each mounting bracket on every side until each of it is firmly tightened



4. Fasten the M4 x 20 mm screw to fix the bracket to the panel

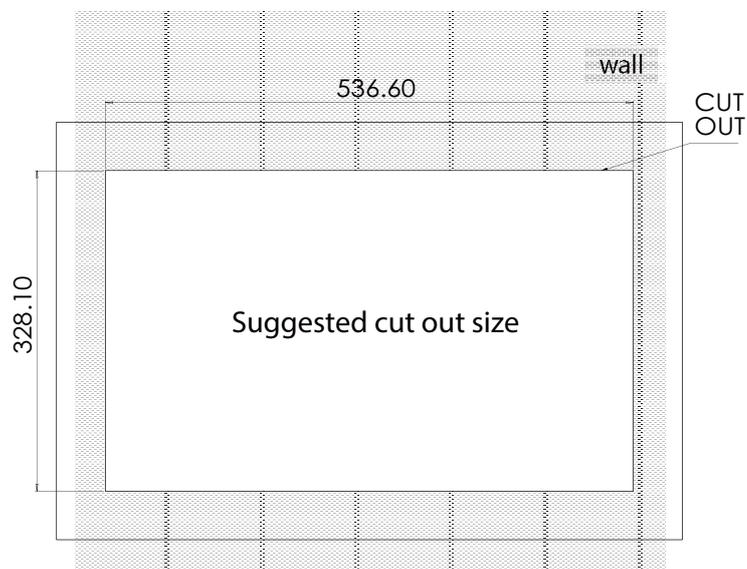


5. Installation Complete



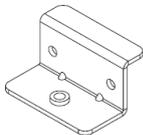
3.1.3 UPC-A215, 21.5-inch

Panel mount cut out



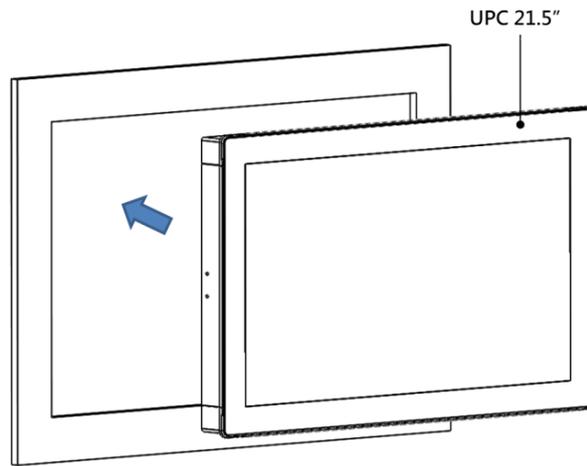
21.5" Panel mount cut out

Panel mount bracket mounting kit

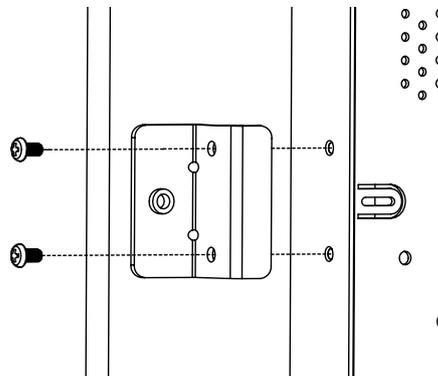
Quantity			
	Mounting bracket 8 pcs	M4 x 20mm screw 8 pcs	M3 x 6mm screw 16 pcs

Installation Step

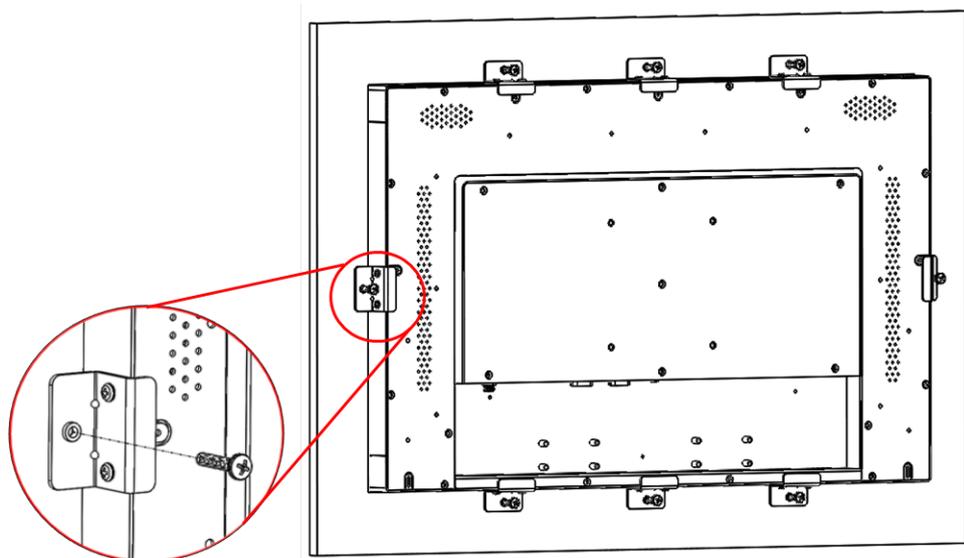
1. Prepare a panel for specific dimension of the UPC and then cut a hole according to the cutout dimension
2. Insert the UPC properly into the cut out area



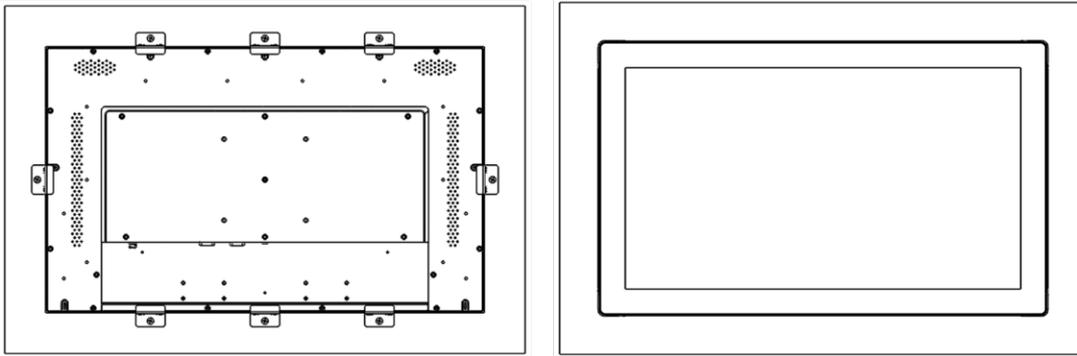
- Place the mounting bracket to the UPC and then fasten it using M3 x 6 mm screw with torque maximum 4 kgf-cm, tighten each mounting bracket on every side until each of it is firmly tightened



- Fasten the M4 x 20 mm screw to fix the bracket to the panel

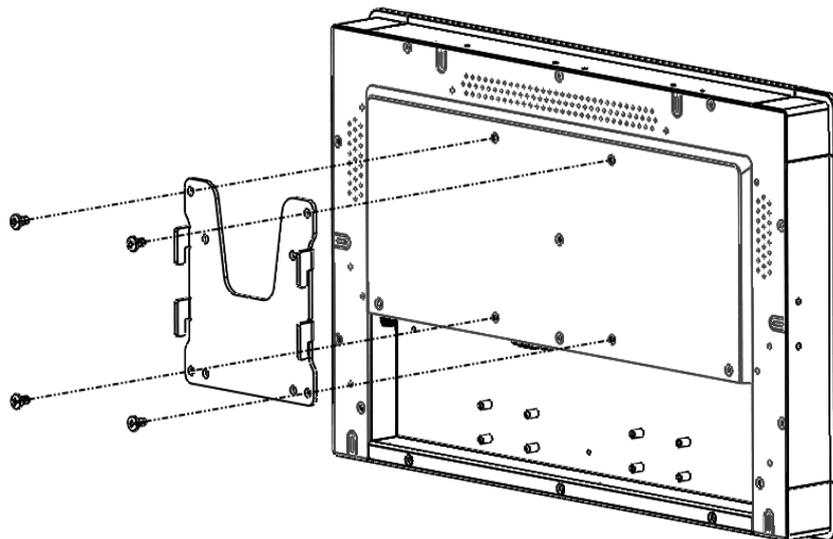


- Installation Complete



3.2 VESA Mount Installation

UPC-A101 can be mounted to a VESA 75 x 75 and UPC-A156/A215 can be mounted to a VESA 100 X 100 mounting system.



- Rear view with holes (M4-depth 5 mm) for VESA 75/100 Mounting
- UPC has to be installed and operated only by trained personnel
- Please make sure the VESA Plate supporting weight is appropriate for different sizes and weight of UPC



Note



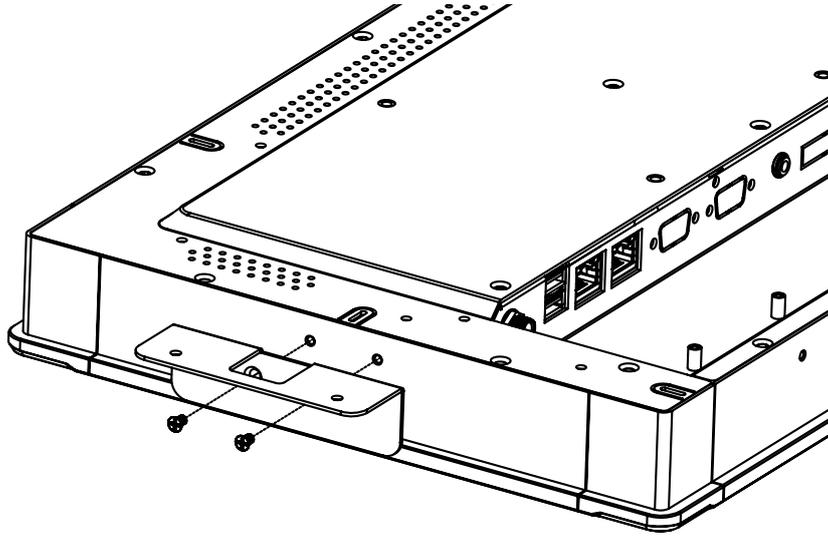
Caution!

Use proper mounting equipment to prevent serious injury

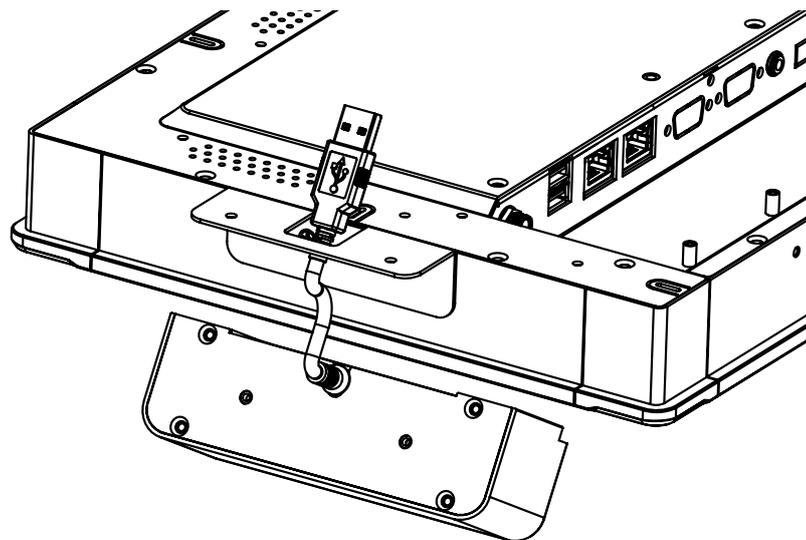
3.3 Expansion Module Installation (Optional)

3.3.1 UPC-A101 /A156/A215

1. Secure module mounting bracket to the UPC system using M3 x 5mm screw with torque maximum 4 kgf-cm.

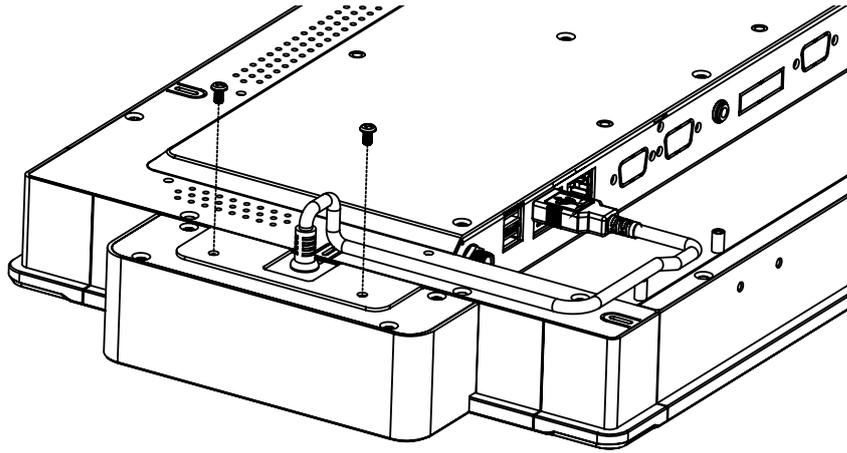


2. Pass the cable into cutting hole on the mounting bracket and then secure expansion module to the mounting bracket

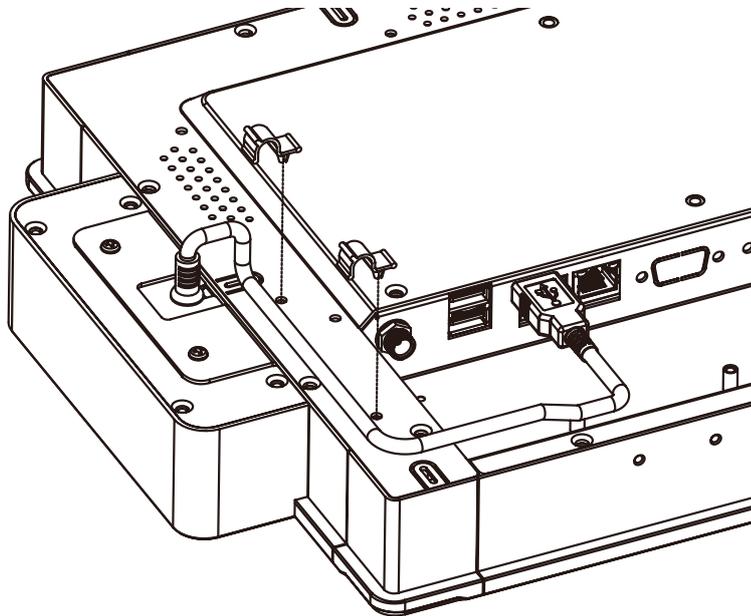


3. Fasten the expansion module into the mounting bracket using M3 x 5mm screw with

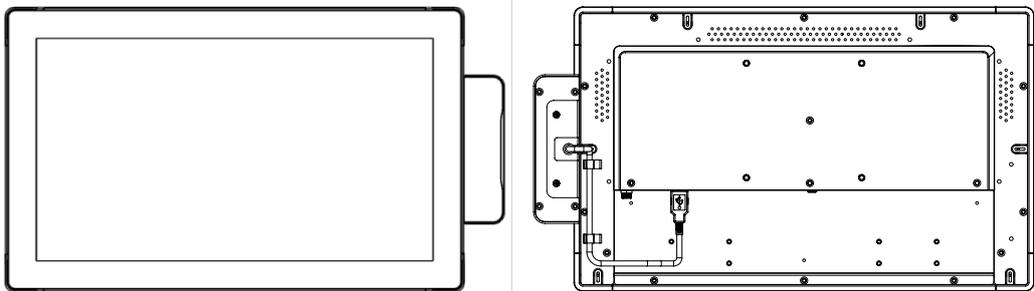
torque maximum 4 kgf-cm.



4. Organize USB cable behind panel computer to neatly attached (using the clamp cable) to the back of your panel computer and then connect the USB cable to I/O port (USB)



5. Installation Complete





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