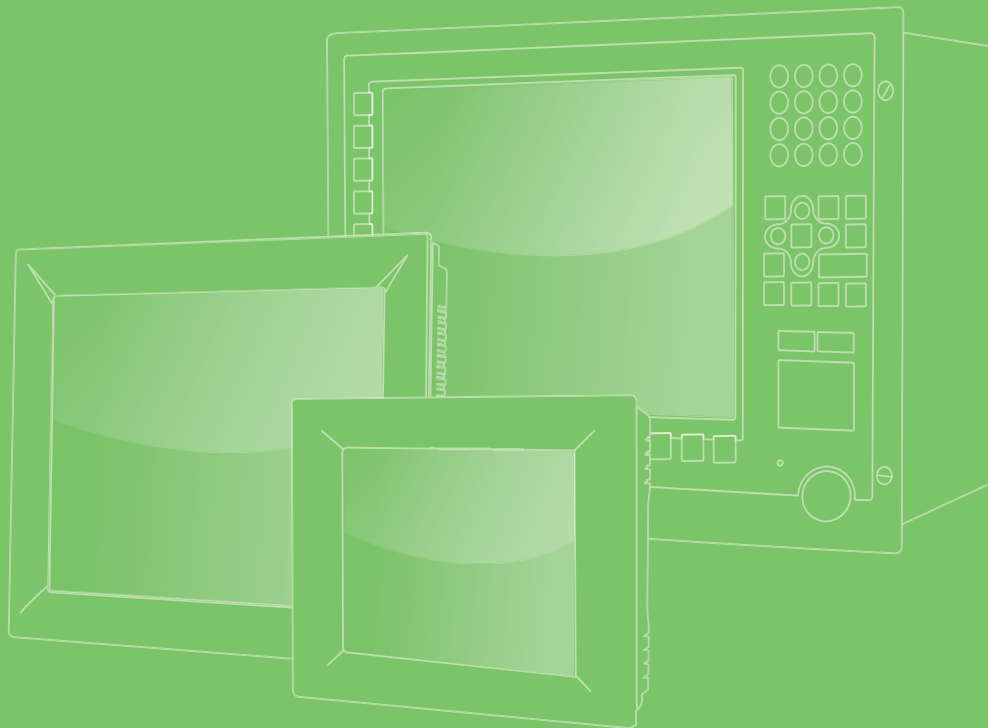


User Manual



PPC-315W/321W TGL

15.6"/21.5" Panel PC with TFT LED
and 11th Gen Intel® Core™ i
Processor

ADVANTECH

Enabling an Intelligent Planet

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Product Warranty (2 years)

Advantech warrants the original purchaser that its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products that have been repaired or altered by persons other than repair personnel authorized by Advantech, or products that have been subject to misuse, abuse, accident, or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

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1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any on-screen messages displayed when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any relevant information readily available.
3. If your product is diagnosed as defective, obtain an return merchandise authorization (RMA) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a completed Repair and Replacement Order Card, and proof of purchase date (such as a photocopy of your sales receipt) into a shippable container. Products returned without a proof of purchase date are not eligible for warranty service.
5. Write the RMA number on the outside, and ship the package prepaid to your dealer.

Declaration of Conformity

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from damage resulting from electrostatic discharge (ESD) or electromagnetic interference (EMI) leakage, we strongly recommend using CE-compliant industrial enclosure products.

Technical Support and Assistance

1. Visit the Advantech website at <http://support.advantech.com> to obtain the latest product information.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information to hand 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

Safety Instructions

1. Read these safety instructions carefully.
Veuillez lire attentivement ce manuel d'instructions de sécurité.
2. Retain this startup manual for future reference.
Veuillez conserver ce manuel d'instructions pour référence ultérieure.
3. Disconnect the equipment from power outlets before cleaning. Use only a damp cloth for cleaning. Do not use liquid or spray detergents.
Débranchez l'appareil de toutes les prises de courant avant le nettoyage. Nettoyez-le uniquement à l'aide d'un chiffon humide. Ne pas utiliser de détergents liquides ou pulvérisateurs.
4. For pluggable equipment, the power outlet socket must be located near the equipment and easily accessible.
Pour les appareils enfichables, la prise de courant doit être placée près de l'appareil et facilement accessible.
5. Protect the equipment from humidity.
Protégez l'appareil contre l'humidité.
6. Place the equipment on a reliable surface during installation. Dropping or letting the equipment fall may cause damage.
Placez l'appareil sur une surface fiable pendant l'installation. L'abandon ou la chute de l'appareil pourrait causer des dommages.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. Do not cover the openings.
Les ouvertures du boîtier sont pour la convection d'air. Protégez l'appareil contre la surchauffe. Ne couvrez pas les ouvertures.

8. Warning: Ensure that the voltage of the power source is correct before connecting the equipment to a power outlet. The power outlet socket should have a grounded connection.
Avertissement: Assurez-vous que la tension de la source d'alimentation est correcte avant de connecter l'appareil à une prise de courant. La prise de courant doit avoir une bonne connexion mise à la terre.
9. Position the power cord away from high-traffic areas. Do not place anything over the power cord.
Placez le cordon d'alimentation à l'écart des zones à fort trafic. Ne placez rien sur le cordon d'alimentation.
10. All cautions and warnings on the equipment should be noted.
Attention à toutes les précautions et avertissements indiqués sur l'appareil.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage from transient over-voltage.
Si l'appareil n'est pas utilisé pendant une longue période, déconnectez-le de la source d'alimentation pour éviter les dommages causés par une surtension transitoire.
12. Never pour liquid into an opening. This may cause fire or electrical shock.
Ne versez jamais de liquide dans une ouverture. Sinon, cela pourrait provoquer un incendie ou un choc électrique.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
N'ouvrez jamais l'appareil. Pour des raisons de sécurité, l'appareil ne doit être ouvert que par un technicien qualifié.
14. If one of the following occurs, have the equipment checked by service personnel:
Si l'un des cas suivants se produit, demandez aide à un technicien qualifié:
 - The power cord or plug is damaged.
Le cordon d'alimentation ou la fiche est endommagé.
 - Liquid has penetrated the equipment.
Le liquide a pénétré dans l'appareil.
 - The equipment has been exposed to moisture.
L'appareil a été exposé à l'humidité.
 - The equipment is malfunctioning or does not function according to the user manual.
L'appareil est défectueux ou ne fonctionne pas conformément aux instructions.
 - The equipment has been dropped or damaged.
L'appareil a été abandonné et endommagé.
15. The equipment shows obvious signs of breakage. Do not leave the equipment in an environment with a storage temperature of below -20 °C (-4 °F) or above 60 °C (140 °F) as this may cause damage. The equipment should be kept in a controlled environment.
L'appareil montre des signes évidents de rupture. Ne laissez pas cet appareil dans un environnement dont la température de stockage est inférieure à -20°C (-4 °F) ou supérieure à 60 °C (140 °F), car cela pourrait causer des dommages. L'appareil doit être surveillé dans l'environnement.
16. CAUTION: Batteries are at risk of exploding if incorrectly replaced. Replace only with the same or equivalent type as recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
ATTENTION: Il y a danger d'explosion s'il y a un remplacement incorrect de la pile. Remplacer uniquement avec une pile du même type ou d'un type équivalent recommandé par le constructeur.
17. In accordance with the IEC 704-1:1982 specifications, the sound pressure level at the operator's position should not exceed 70 dB (A).

Conformément aux spécifications de l'IEC 704-1:1982, le niveau de pression acoustique à la position de l'opérateur ne dépasse pas 70 dB (A).

18. The products are intended to be supplied by a UL-certified power supply or DC source suitable for use at a TMA of 50° C/122° F min., with output rated 12 ~ 30V_{DC}, 8-4A, ES1 (or SELV). If you require further information, please contact Advantech for assistance.

Le produit doit être alimenté par une alimentation certifiée UL ou CC pour l'utilisation à une température de 50° C/122° F au minimum, et la sortie nominale est 12 ~ 30V_{DC}, 8-4A, ES1 (ou SELV). Si vous avez besoin plus d'informations, veuillez contacter Advantech pour d'aide.

19. **DISCLAIMER:** These instructions are provided in accordance with IEC 704-1 standards. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

AVERTISSEMENT: Ces instructions sont fournies conformément aux normes IEC 704-1. Advantech décline toute responsabilité quant à la précision de toute déclaration contenue dans le présent document.

20. Do not expose the equipment to direct sunlight, or install the equipment in an environment with direct sunlight, as this may cause damage.

Safety Precautions - Static Electricity

Follow the simple precautions detailed below to protect yourself from harm and the products from damage.

- To avoid electrical shock, always disconnect the power from the PC chassis before manual handling the device. Do not touch any components on the CPU card or other cards while the equipment is powered on.
- Disconnect the power before executing any configuration changes. A sudden rush of power after connecting a jumper or installing a card may damage sensitive electronic components.

Battery Information

Batteries, battery packs, and accumulators should not be disposed of as unsorted household waste. Please use the public collection system to return, recycle, or treat them in compliance with local regulations.



Manual Conventions

Warning! Warnings indicate conditions that, if not observed, can cause personal injury!



Caution! Cautions are included to prevent hardware damage and data loss.



For example, “Batteries are at risk of exploding if replaced with an incorrect type. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer’s instructions.

Par exemple, “Si la batterie est remplacée par un modèle inapproprié, il y a un risque d’explosion. Remplacer les produits identiques ou équivalents recommandés par le fabricant. Traitement des piles usagées selon les instructions du fabricant.”

Note! Notes provide additional information.



Revision

Date	Version	Description/Change
February 2023	1.0	Initial

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Chapter 1

General Information

This chapter details general information regarding PPC-315W/321W TGL.

- Introduction
- Specifications
- Dimensions

1.1 Introduction

Advantech's PPC-315W/321W TGL is an all-in-one light panel PC with a wide format 15.6"/21.5" full HD LCD screen. It is powered by an Intel® 11th Gen Core™ i processor, PPC-315W/321W TGL to provide good performance, optimal memory, graphics, and peripheral I/O support in a compact, fanless, embedded system. With a high durability design, PPC-315W/321W TGL adopts a flat touch screen with IP66 rated front panel in a die-cast Al alloy enclosure. It is an ideal choice for integration into various applications.

1.2 Key Features

- Robust IP66-rated true-flat color TFT LCD
- Ultra-thin fanless design with solid aluminum alloy enclosure
- Intel® 11th Gen Core™ i CPU with fanless design
- Dual channel memory slots, max 64G
- Supports dual displays (1 x external HDMI)
- 1 x M.2 bay (2242/2280 NVME or SATA Interface) for storage and support SATA RAID 0, 1
- 1 x 2500BASE-T Ethernet Supports Time-Sensitive Network (TSN) technology
- Support TPM2.0 hardware security
- Supports Type C (USB only)

1.3 Front Panel

The PPC-315W/321W TGL front panel is a true-flat color TFT LCD touchscreen with Projected Capacitive Multi-Touch. The front panel is IP66 rated for dust and water tolerance (Figure 1.1).

Note: The examples provided in this manual are of the PPC-315W TGL model.

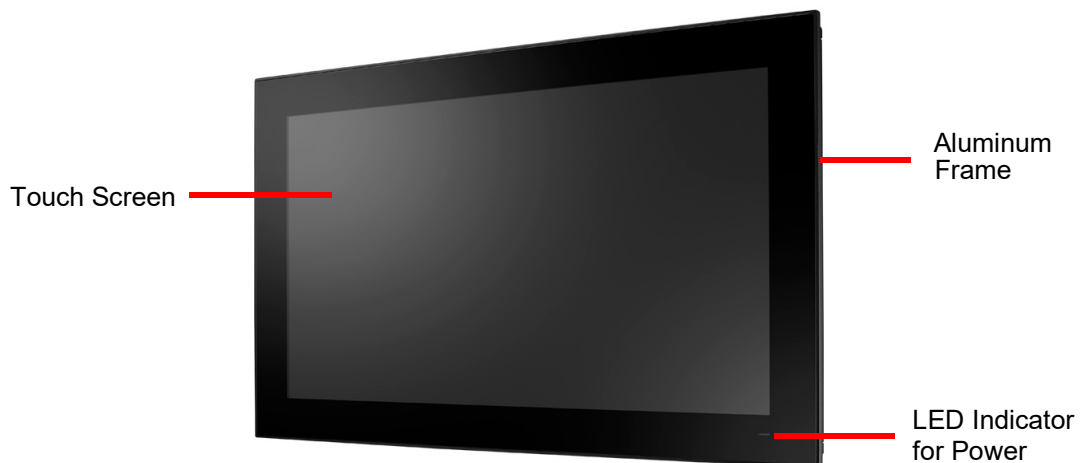


Figure 1.1 Front Panel

Power status LED: Off (S5) Orange; Sleep (S3) Orange; On (S0) Blue.

1.4 Rear Panel

The PPC-315W/321W TGL rear panel features four VESA mount (100 x 100 mm/ 3.93 x 3.93 in) holes located on its bottom side, as demonstrated below:

VESA mount screws: 4 x M4 screws, Screw depth: 12 mm (max.)



Figure 1.2 Rear Panel

1.5 Panel Bottoms

The system's I/O, located on the bottom of the device, (Figures 1.3) are listed below:

- 1 x Power input connector
- 1 x Power switch
- 1 x RS-232 connector (COM1)
- 1 x RS-232/422/485 connector (COM2)
- 2 x RJ45 GbE
- 3 x USB 3.2
- 1 x USB 2.0
- 1 x Type C (USB only)
- 1 x HDMI
- 1 x Line out



Figure 1.3 Panel PC Bottom

1.6 Dimensions

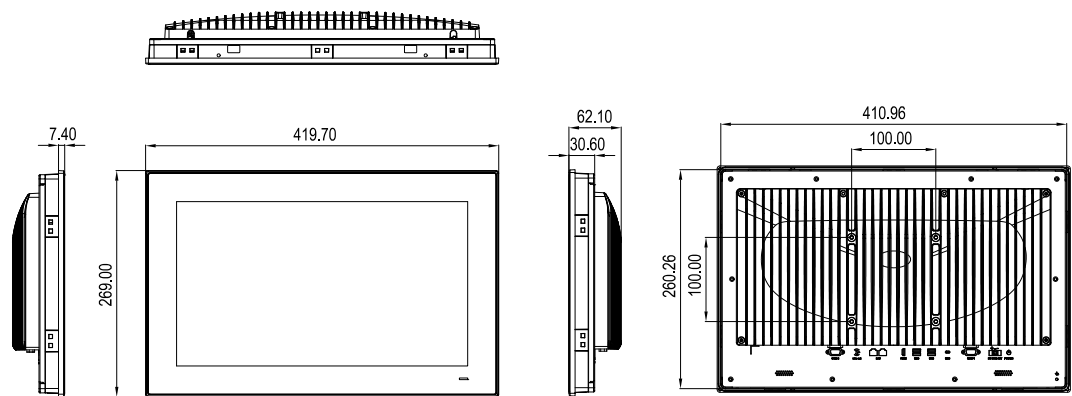


Figure 1.4 PPC-315W TGL Dimensions

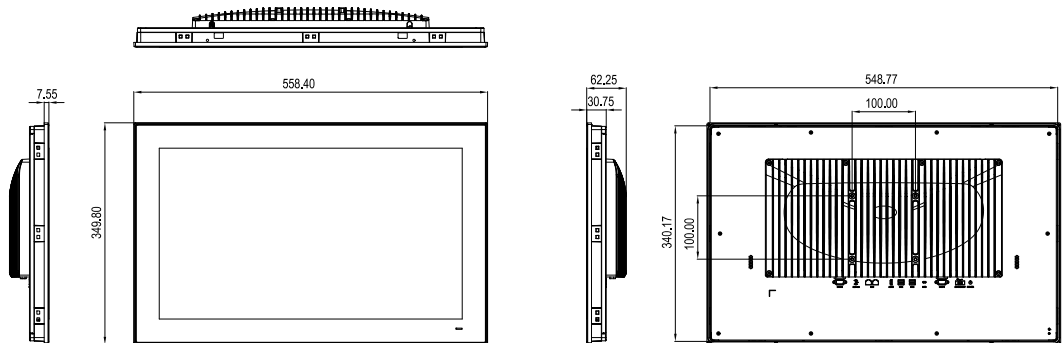


Figure 1.5 PPC-321W TGL Dimensions

1.7 Specifications

	PPC-321W	PPC-315W
LCD Panel	21.5"	15.6"
Display Type	TFT LCD (with LED backlight)	TFT LCD (with LED backlight)
Max. Resolution	1920 x 1080	1920 x 1080
Brightness	250 cd/m ²	450 cd/m ²
Pixel Pitch	476.64 (H) x 268.11 (V)	344.2 (H) x 193.5 (V)
Viewing Angle	89 (left), 89 (right), 89 (up), 89 (down)	80 (left), 80 (right), 85 (up), 85 (down)
Contrast	1000	800
Backlight Lifetime	50,000 hr (min.)	50,000 hr (min.)
Touchscreen Type	Projected capacitive	
Light Transmission	90% ±3%	90% ±2%
Controller	USB interface	
Durability (Touches)	Glass surface hardness 7H	
Enclosure	Aluminum	
Processor	11th gen Intel® Core™ i processor (i3-1115G4E / i5-1145G7E / i7-1185G7E)	
Memory	2 x SODIMM DDR4 3200, Max 64GB (32GB x 2)	
Storage	1 x 2.5" SATA bay; 1 x M.2 2280 bay, (Co-lay SATA, for storage only) support RAID 0,1, support NVME	
Network (LAN)	1 x Intel I219LM controller; Speed: 10M/100M/1000M 1 x Intel I225LM controller; Speed: 10M/100M/1000M/2500M	
I/O Ports	1 x RS-232, 1 x RS-232/422/485 (adjustable through BIOS) 3 x USB 3.2, 1 x USB 2.0 1 x Type C (USB3 only, output 5V/3A) 1 x HDMI1.4 1 x Line out	
Expansion	1 x M.2 2230 E-key for wireless card	
Watchdog Timer	255 timer levels, setup via software	
Speaker	2 x 1W	
OS Support	Microsoft® Windows 10 IOT LTSC(64-bit), Linux	
Power Supply	12 ~ 30 V _{DC}	
Power Consumption	75W	70W
Operating Temperature	-10 ~ 50° C (14 ~ 122 °F)	
Storage Temperature	-20 ~ 60° C (-4 ~ 140 °F)	
Relative Humidity	10 ~ 95% @ 40° C/104° F (non-condensing)	
Shock Tolerance	Operating 10G peak acceleration (11 ms duration), following IEC 60068-2-27	
Vibration Tolerance	Operating random vibration test, 5 ~ 500 Hz, 2 Grms with SSD, in accordance with IEC 60068-2-64	
Safety and EMC	Safety: CB, UL, CCC, BSMI, UKCA EMC: CE, FCC Class B, BSMI, UKCA	

Dimensions	558.4 x 349.8 x 62.2 mm/21.9 x 13.7 x 2.4 in	419.7 x 269 x 61.1 mm/16.52 x 10.59 x 2.44 in
Weight	6.6 kg/14.6 lb	4.8 kg/10.7 lb

Note! The test conditions for the power consumption values provided above were as follows:



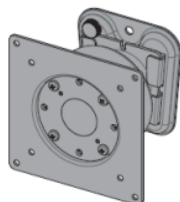
Memory: 16 GB DDR4 3200

HDD: 64 GB SSD

OS: Windows 10 (64 bit)

Software: Burn-In Test 8.1

1.8 Ordering Information

Part Number	Description	Image
PPC-315W-PB50A PPC-315W-PB30A PPC-315W-PB70A PPC-321W-PB50A PPC-321W-PB30A PPC-321W-PB70A	Panel PC with Intel® 11th Core i processor	
96PSA-A150W19P2-4	Power adapter 100-240V _{DC} , 150W, 19V	
PPC-WLAN-C1E PPC-WLAN-D2	Wi-Fi module with antenna	
PPC-ARM-A03	Arm mount VESA standard	
PPC-174T-WL-MTE	Wall mount kit	
PPC-Stand-A1E	Stand kit	

Chapter 2

System Installation and Setup

- Quick System Tour
- Memory Card Installation
- HDD Installation
- M.2 Installation
- Wireless LAN Card Installation
- Mounting the System

2.1 Quick System Tour

Before setting up the panel PC, take a moment to identify the locations of the device-controls, drives, connectors, and ports (as shown in Figure 2.3). When placed upright, the PPC-315W/321W TGL front panel should appear as shown in Figure 2.1. Since PPC-315W/321W TGL are series models, the following photos in the manual are PPC-315W examples.

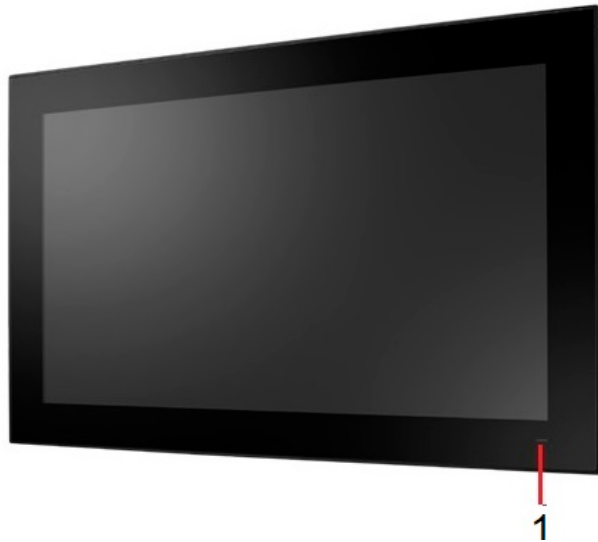


Figure 2.1 Panel PC Front View

1. Power status LED: Off (S5) Orange; Sleep (S3) Orange; On (S0) Blue.



Figure 2.2 Panel PC Rear View

- 1. Speaker
- 2. GND screw

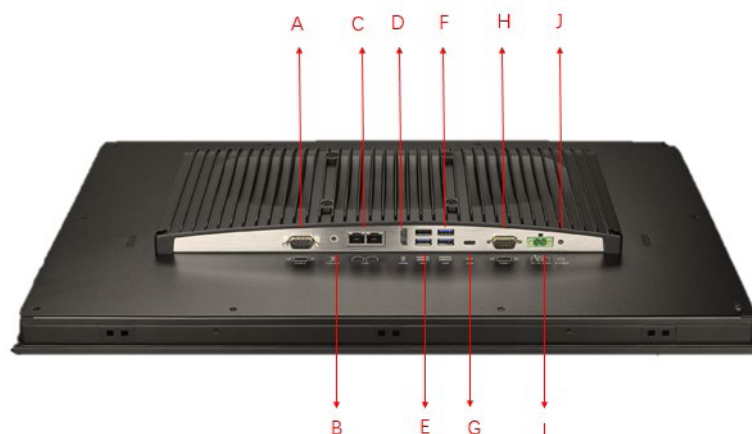


Figure 2.3 Panel PC Bottom with I/O

- | | |
|--------------------------|-----------------|
| A. COM2: RS-232/422/485 | B. 1 X Line out |
| C. 2 x LAN | D. 1 X HDMI |
| E. 1 x USB3.2/1 x USB2.0 | F. 2 x USB3.2 |
| G. 1 x Type C | H. COM1: RS-232 |
| I. DC in | J. Power button |

2.2 Installation Procedures

When installing system hardware, adhere to the following order:

1. Install the memory card
2. Install SATA HDD or M.2 storage devices
3. Install peripheral devices
4. Mount the panel PC
5. Configure the system

2.2.1 Memory Card Installation

1. Remove the 10 screws from rear cover.

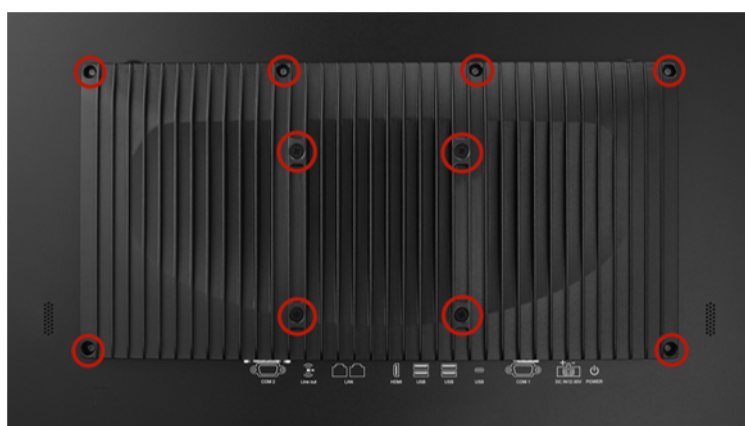


Figure 2.4 Retention Screws on Rear Cover

2. Install memory
 - a. If install 2pcs memory, use the thermal pad thickness is 1.5mm the bottom, the middle and top thermal pad thinness is 1.0mm. Remember to scrap the protect film before use the thermal pad.

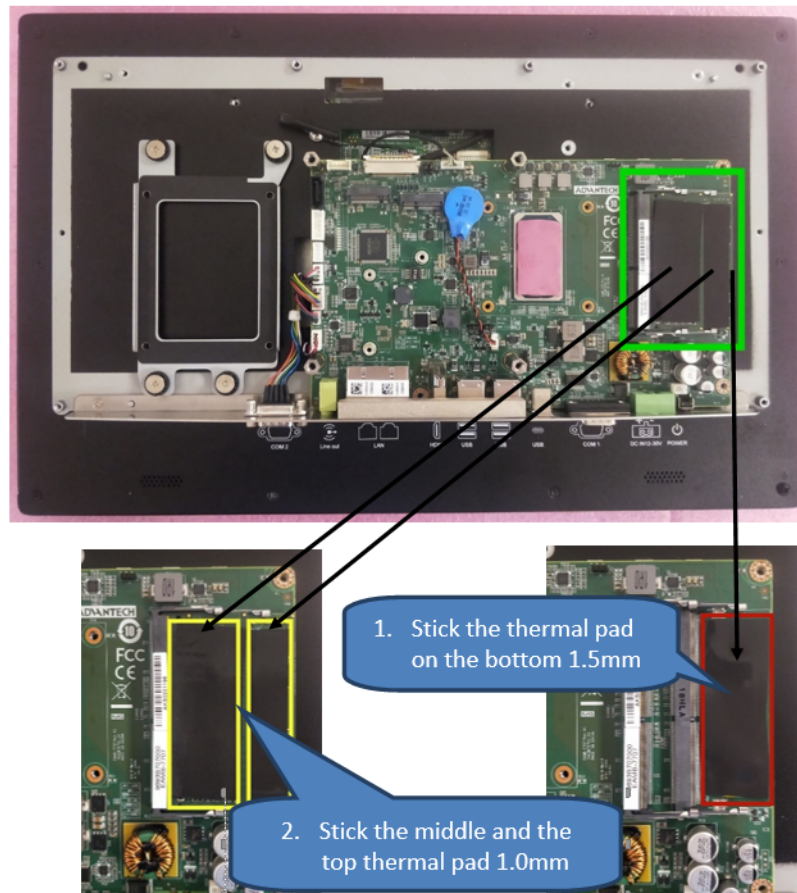


Figure 2.5 Memory Card Installation

- b. Remember to stick CPU thermal pad.

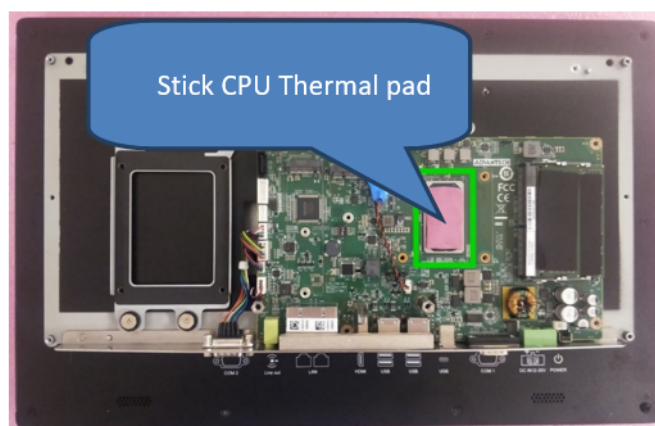


Figure 2.6 Stick Thermal Pad

Warning! Ensure that the thermal pad (provided in the accessory box) is placed on top of the CPU & memory card, as shown in Figure 2.6.



Assurez-vous que le tampon thermique (fourni dans la boîte d'accessoires) est placé sur la carte mémoire, comme illustré à la Figure 2.6.

2.2.2 Install SSD

1. Remove the screw of rear cover.
2. Remove 4 screws of HDD bracket.

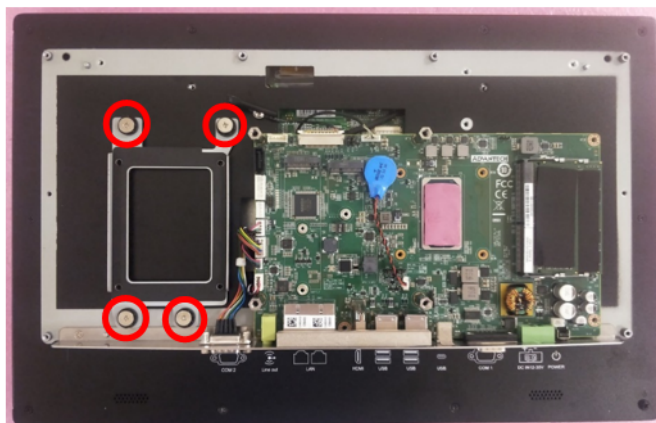


Figure 2.7 Retention Screws on HDD Bracket

3. Take out screws and cable from accessory box.

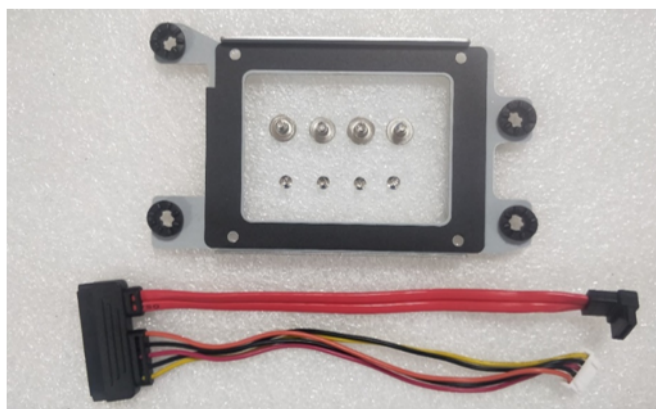


Figure 2.8 HDD Module Bracket

4. Insert cable to SSD.

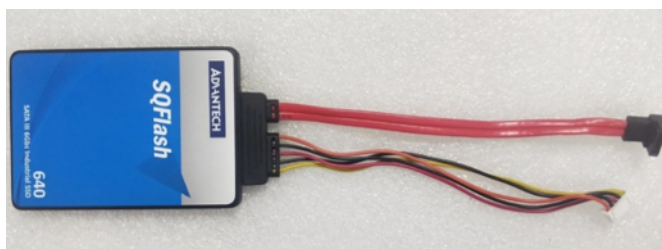


Figure 2.9 SATA Cable Connected to SATA HDD

5. Assemble SSD on the bracket.

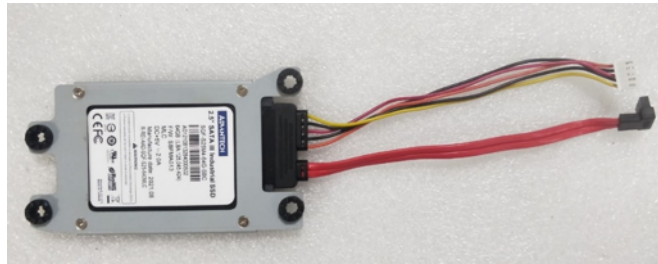


Figure 2.10 Secure SATA HDD with Screws

6. Install the SSD kit to machine.



Figure 2.11 SATA HDD Connected to the Motherboard

2.2.3 Install M.2 Devices

1. Remove rear cover.
2. Assemble M.2 on motherboard.



Figure 2.12 M.2 Installation

3. Take out the thermal pad from accessory box, and stick on M.2.



Figure 2.13 Stick Thermal Pad on M.2

2.2.4 Install WiFi module

1. Remove rear cover.
2. Assemble antenna bracket on antenna cable.



Figure 2.14 Assemble Bracket with Antenna Cable

3. Assemble WiFi card.

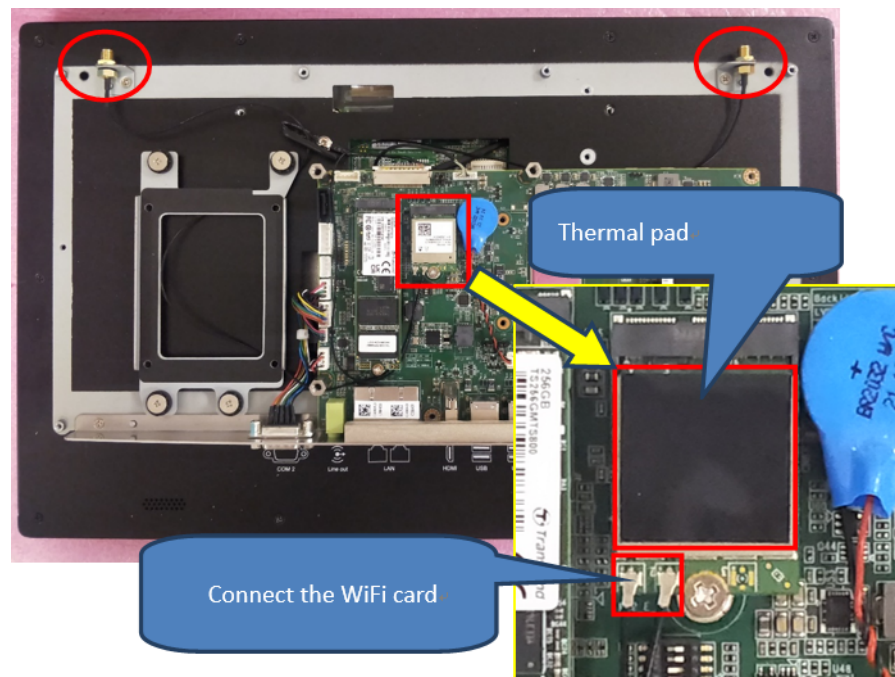


Figure 2.15 Assemble WiFi Card

4. Assemble the rear cover, and install antenna.

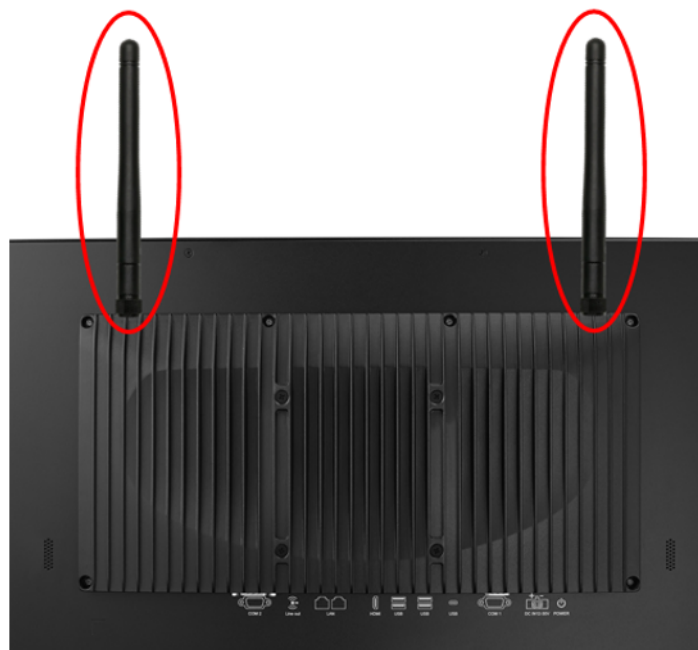


Figure 2.16 Assemble WiFi Antenna

2.2.5 System power on

A 2-pin power connector is included in the accessory box. Connect the power connector to 12-30VDC power lines and plug the power lines into the system power receptor. DC power source shall be complied with ES1 requirements, output rating is 12-30Vdc, 8-4A, with minimum operating temperature 50°C, and has to be evaluated according to IEC/UL 60950-1 and/or IEC/UL 62368-1.

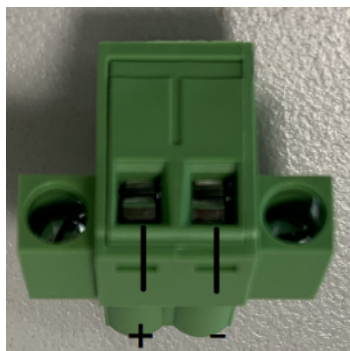


Figure 2.17 Terminal block

The terminal block is suitable for 16 AWG min. Torque value 4.5 lb-in min. User copper conductors only. Must be installed by skilled person.

2.3 Mounting the System

Warning! When mounting the panel PC, more than one person should perform the installation to prevent accidental damage to the panel or personal injury.



Le comité constate qu'el-nasr "mounting, Plus d'une personne installation to prevent the cadre accidental damage to the personal injury.

The panel PC supports various mounting options, as listed below.

- Wall mounting
- Panel mounting
- Arm mounting
- Stand mounting

2.3.1 Wall Mounting

To mount the panel PC onto a wall, follow the instructions below (see Figure 2.20 for additional reference).

1. Select the location on the wall for the wall mount plate.
2. Mark the locations of the two plate screws holes on the wall.
3. Drill two pilot holes at the marked locations on the wall.
4. Align the wall mount plate screw holes with the pilot holes.
5. Secure the mount plate to the wall by inserting screws into the two pilot holes and tightening them.

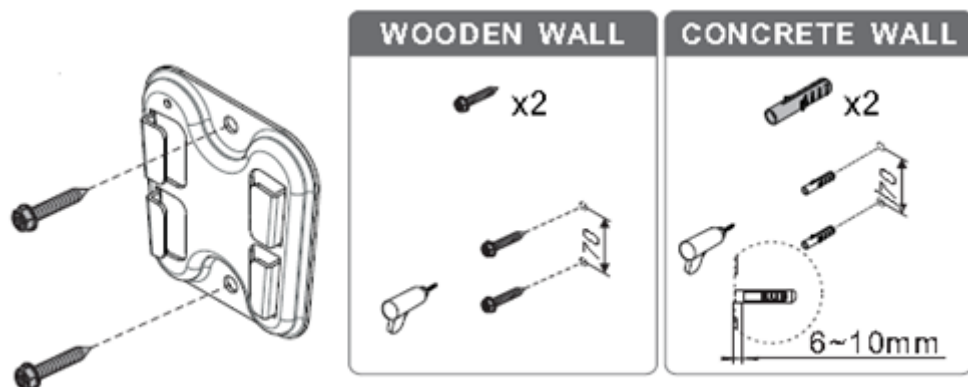


Figure 2.18 Wall Mount Plate

6. Insert four M4 screws into the holes on the panel PC and tighten them to secure the bracket to the rear panel.

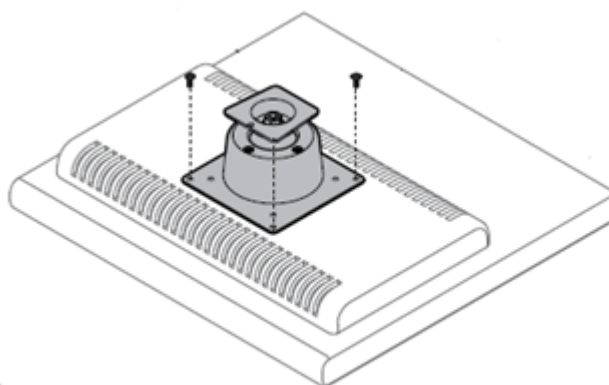
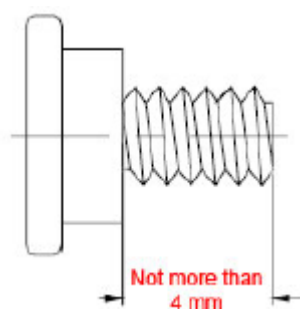


Figure 2.19 Rear Panel Screw Locations

Warning! Ensure that the thread depth of the screws on the rear panel does not exceed 4 mm (0.15 in).



Assurez-vous que la profondeur du filetage des vis sur le panneau arrière ne dépasse pas 4 mm.



7. To mount the panel PC on the wall, align the wall mount bracket attached to the panel PC with the wall mount plate on the wall and slide the panel PC downwards to hang the bracket on the mount plate.

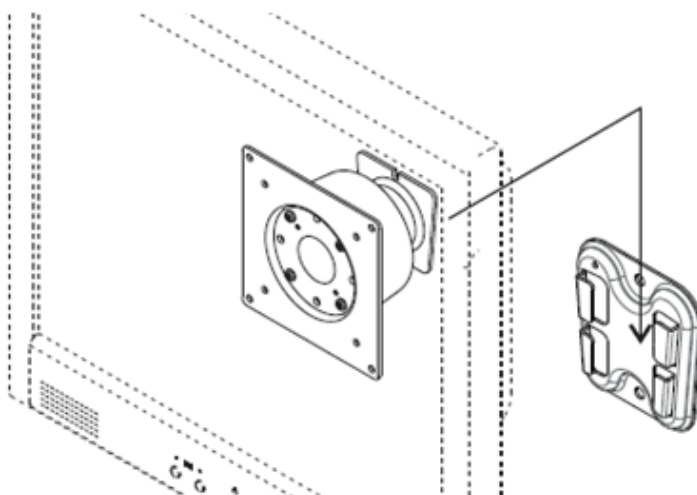


Figure 2.20 Mounting the Panel PC on a Wall

8. Secure the panel PC in place by tightening screws in the wall mount bracket.

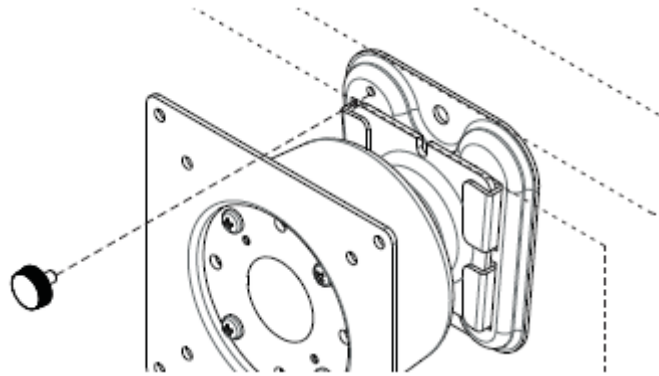


Figure 2.21 Securing the Panel PC

2.3.2 Panel Mounting

To mount the flat bezel panel PC into a panel, follow the steps below.

1. Prepare a panel cutout according to the Panel PC dimensions. Panel cutout dimensions:
PPC-321W-XBXX: 550.30 x 341.80 mm/21.67 x 13.46 in
PPC-315W-XBXX: 413 x 262 mm/16.26 x 10.31 in
2. Insert the panel PC into the cutout. Retrieve the hook brackets and M6 x 21L screws from the accessory box (10 for PPC-315W TGL; 12 for PPC-321W TGL).
Veuillez installer le panneau PC dans la découpe. Récupérez les crochets et les vis M6 x 21L de la boîte à accessoires.

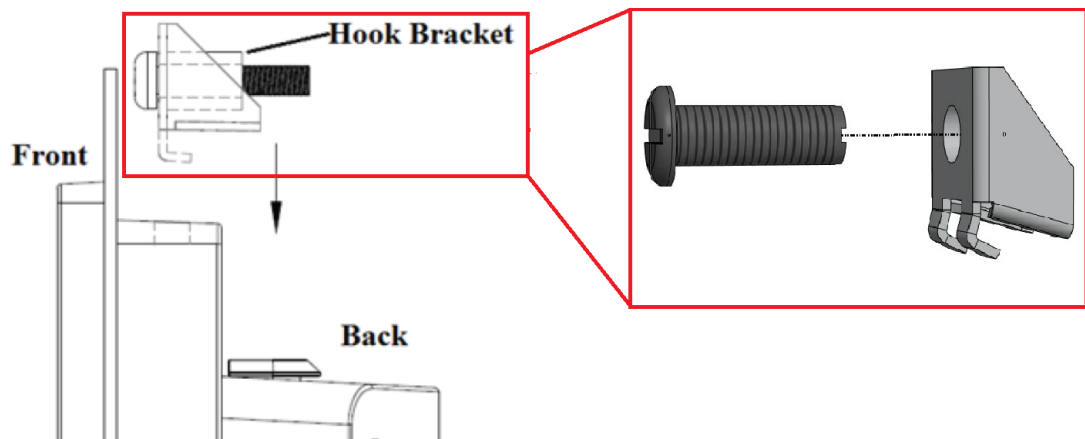


Figure 2.22 Hook Brackets for Panel Mounting

3. Insert the hook brackets into the holes following the direction of the arrows shown in Figure 2.25 and hang the panel PC.

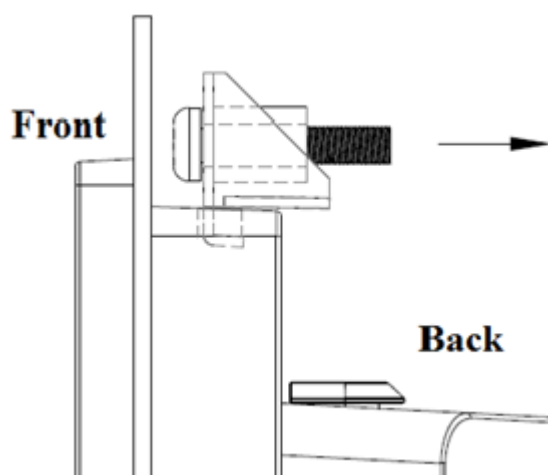


Figure 2.23 Hook Brackets Location

4. Tighten the screws to secure the panel PC in place (Figure 2.26).

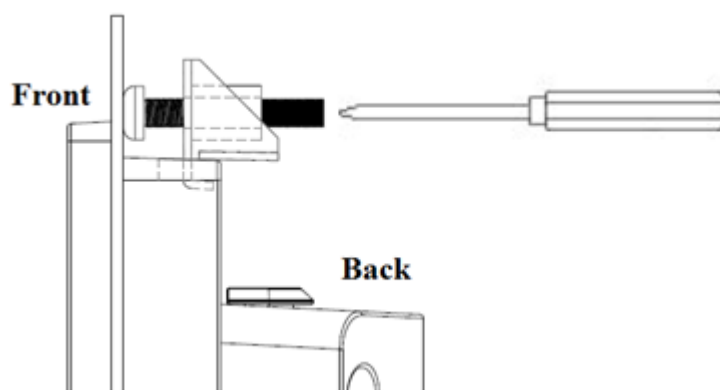


Figure 2.24 Fasten the Hook Bracket

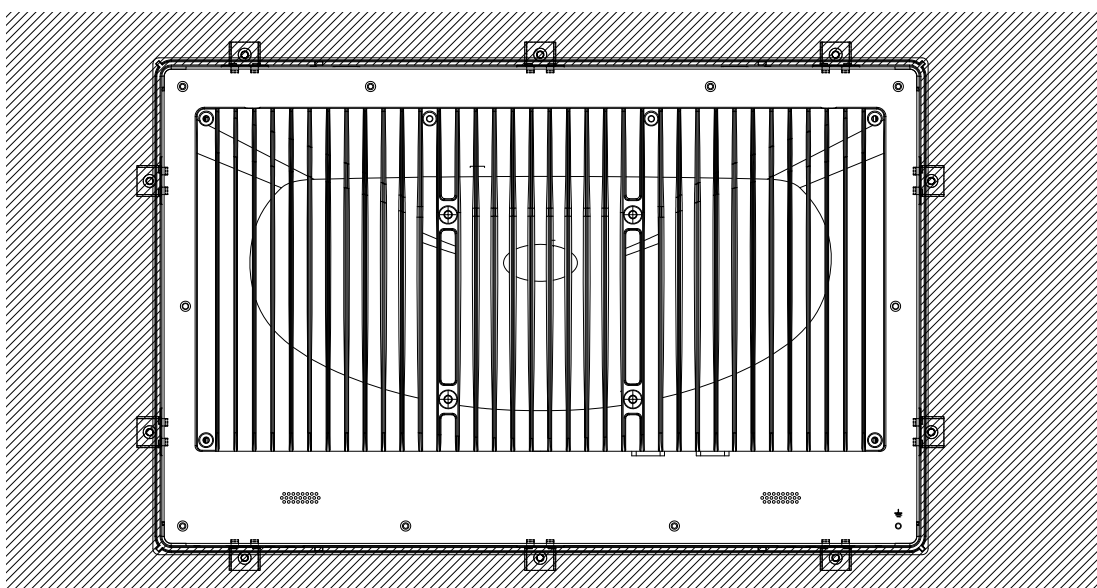


Figure 2.25 Panel Mount Rear View
(Take PPC-315W drawing as example)

2.3.3 Arm Mounting

PPC-315W/321W TGL can be mounted on a VESA-compliant arm mount with a 100 mm (3.93 in) interface pad. To affix the panel PC to an arm mount, follow the steps below.

1. Refer to the installation instruction of the mounting arm to correctly mount the arm onto the surface as a base.
2. Align the retention screw holes on the mounting arm interface with VESA holes in the panel PC, and secure the panel PC with the four M4 retention screws.



Figure 2.26 Arm Mount for Panel PC

Warning! Ensure that the thread depth of the screws on the rear panel does not exceed 4 mm (0.15 in).



2.3.4 Stand Mounting

Before stand mounting, check that the product was shipped with the following items:

No.	Name	Qty.	Pic.	No.	Name	Qty.	Pic.
A	Screw (M4x8L)	12 (4 x spare)		B	Screw (M4x6L)	6 (2 x spare)	
C	Screw (M4x5L)	2 (1 x spare)		1	Hinge	1	
2	VESA Bracket	1		3	Hinge Cover	1	
4	Base Plate	1					

To mount the panel PC onto the stand, follow the steps below:

1. Use four M4 x 8L screws to affix the VESA bracket to the panel PC. Users can choose 100 x 100 mm (3.93 x 3.93 in) VESA mount according to their requirements.

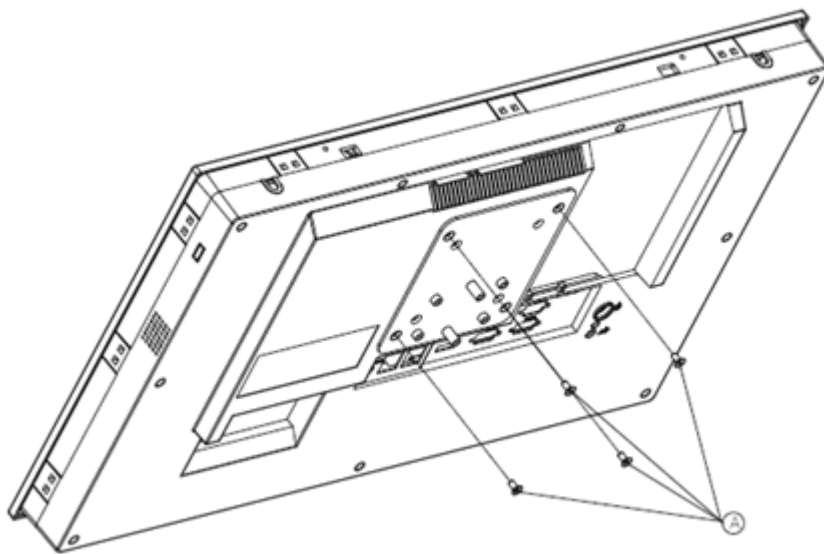


Figure 2.27 VESA Mount Screw Holes

2. Use the four M4 x 8L screws to secure the base plate to the mount stand.

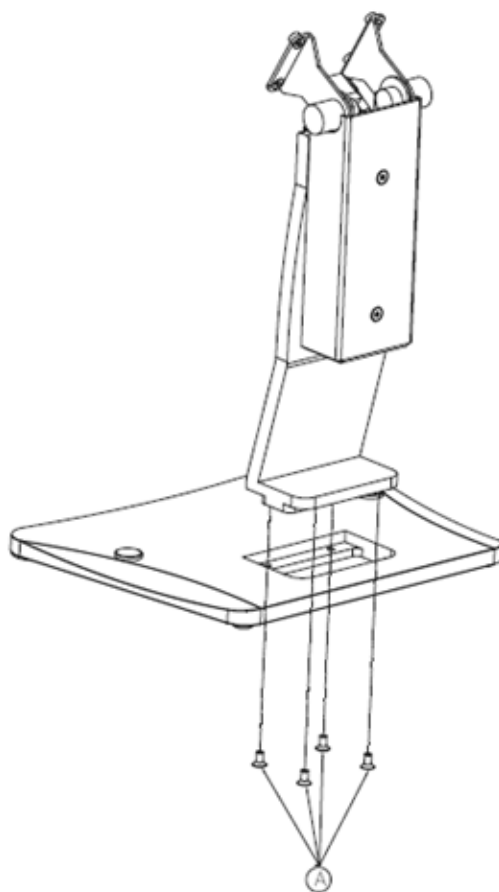


Figure 2.28 Securing the VESA Mount Base

3. Use four M4 x 6L screws to secure the mount stand to the VESA mount bracket.

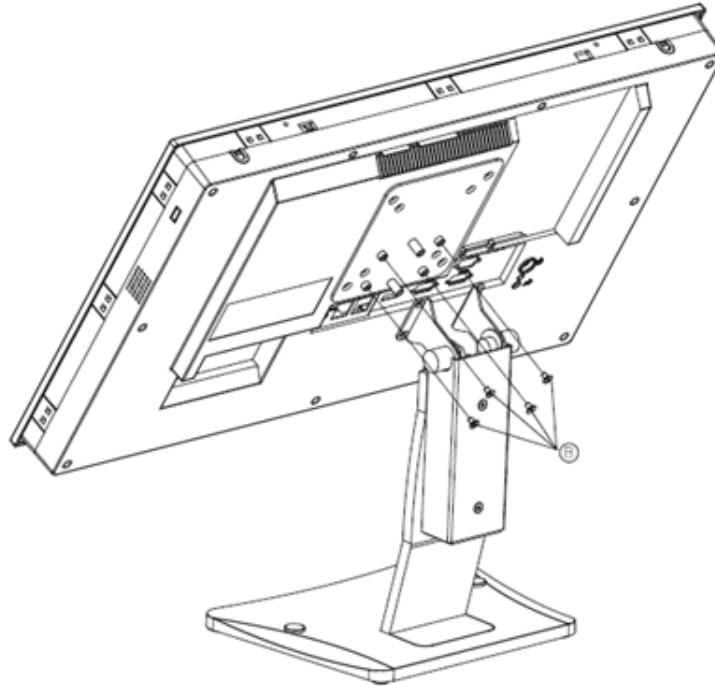


Figure 2.29 Securing the VESA Mount Bracket

4. Use one M4 x 5L screw to secure the stand mount hinge cover.

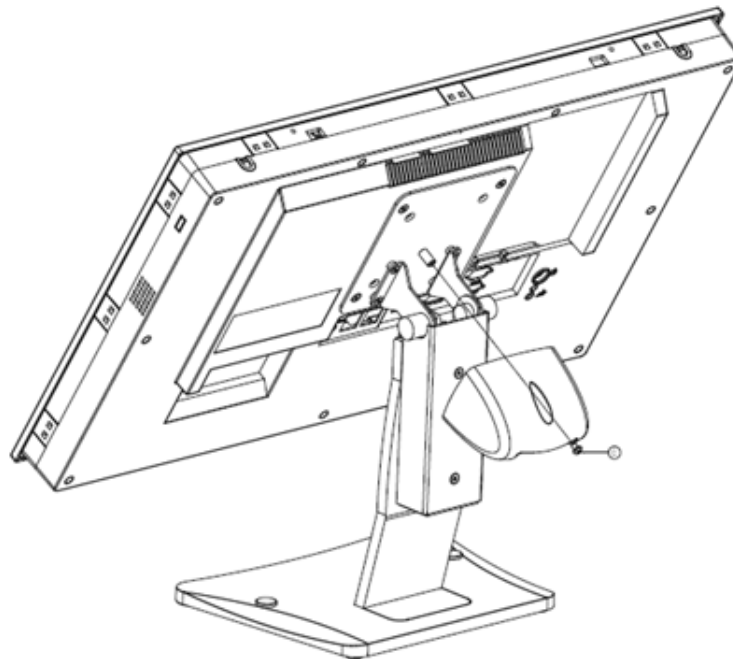


Figure 2.30 Securing the Stand Mount Hinge Cover

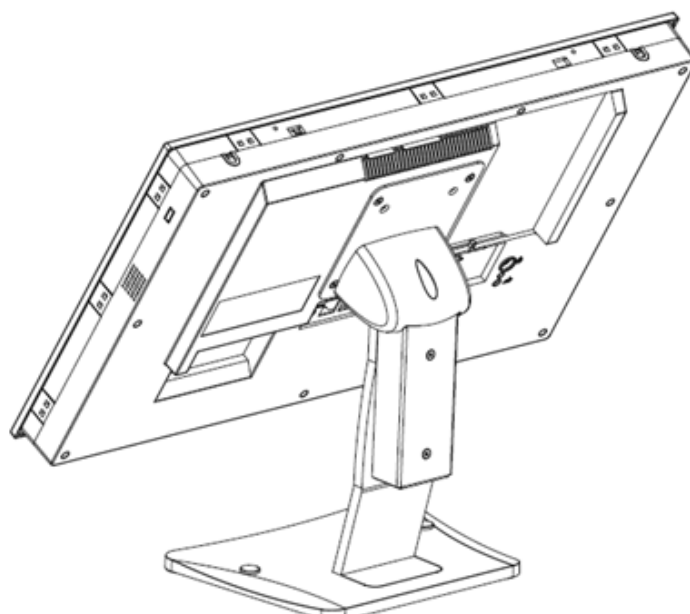


Figure 2.31 Completed Stand Mount

2.3.5 Cabinet Installation and Grounding

Follow these instructions to install the PPC system, and pay attention to the ground pin which should be connected to the earth/ground. PPC system should give the best performance for EMI optimum EMI immunity, ESD immunity, surge immunity, and system isolation. If the PPC system is embedded in the cabinet, the PPC system's ground, cabinet's ground and earth/ground should be connected together.

1. Install the PPC system into the cabinet.

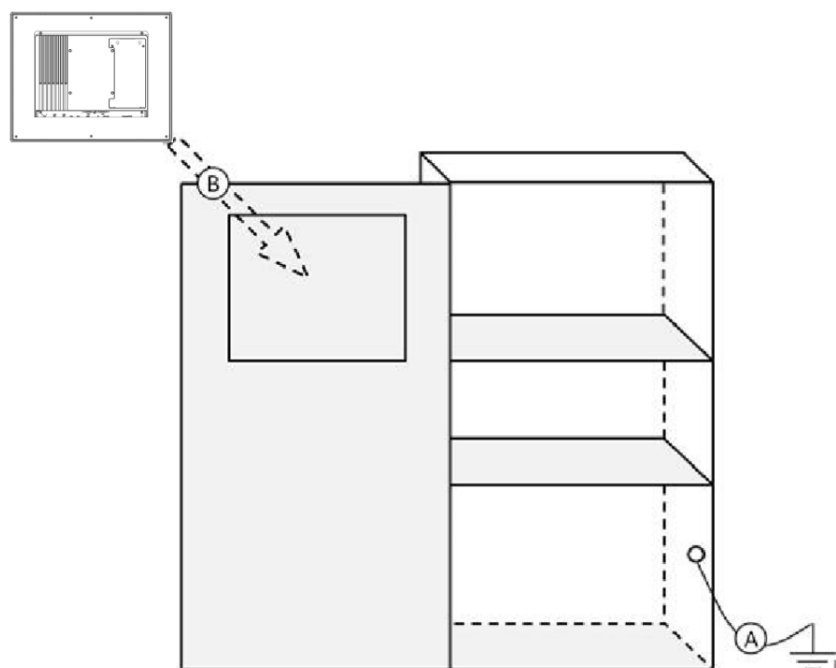


Figure 2.32 Install PPC into Cabinet

Step A: Connect the cabinet to the earth/ground.

Step B: Embed null PPC system into the cabinet without any I/O cable and power.

2. System wiring.

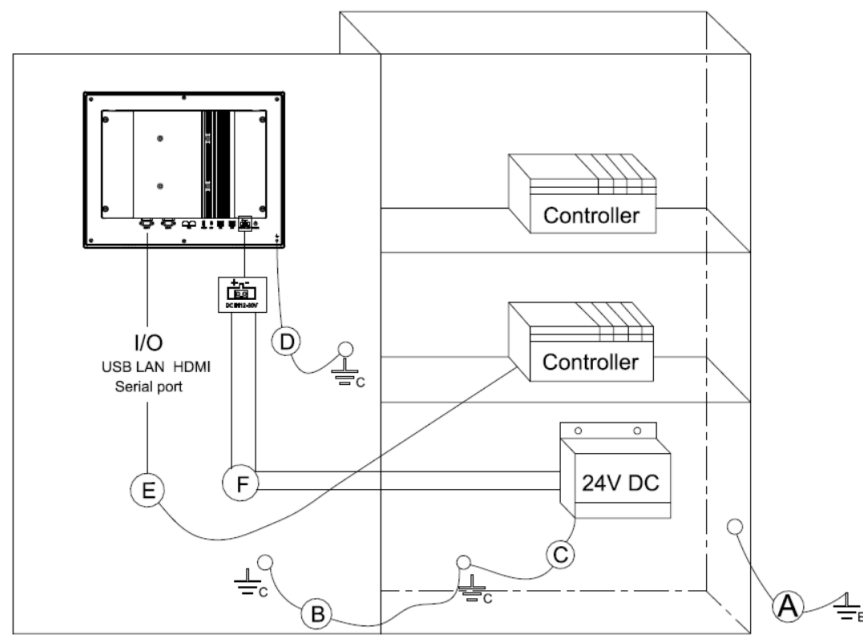


Figure 2.33 System Wiring Cabinet

Step A: Connect the cabinet to the earth/ground.

Step B: Ensure that all cabinets have been grounded together.

Step C: Connect the ground of the power supply to the cabinet.

Step D: Connect the ground pin of PPC system to the cabinet.

Step E: Connect the I/O to the controller if needed.

Step F: Connect the V+ and V- of power supply to PPC system.

Note! *The wire of the protective earthing conductor shall be green-and-yellow, xx AWG/ 0.75mm² and connecting to earth of building.*

 *Ensure that the voltage of the power source is correct before connecting the equipment to a power outlet. By means of a power cord connected to a socket- outlet with earthing connection.*

Chapter 3

Jumper Settings

- Jumpers and Connectors
- External COM Ports and Pin Definitions

3.1 Motherboard Jumpers and Connectors

Motherboard connectors is provided below (Figure 3.1). The internal peripheral connectors are accessible when the motherboard is outside of the chassis.

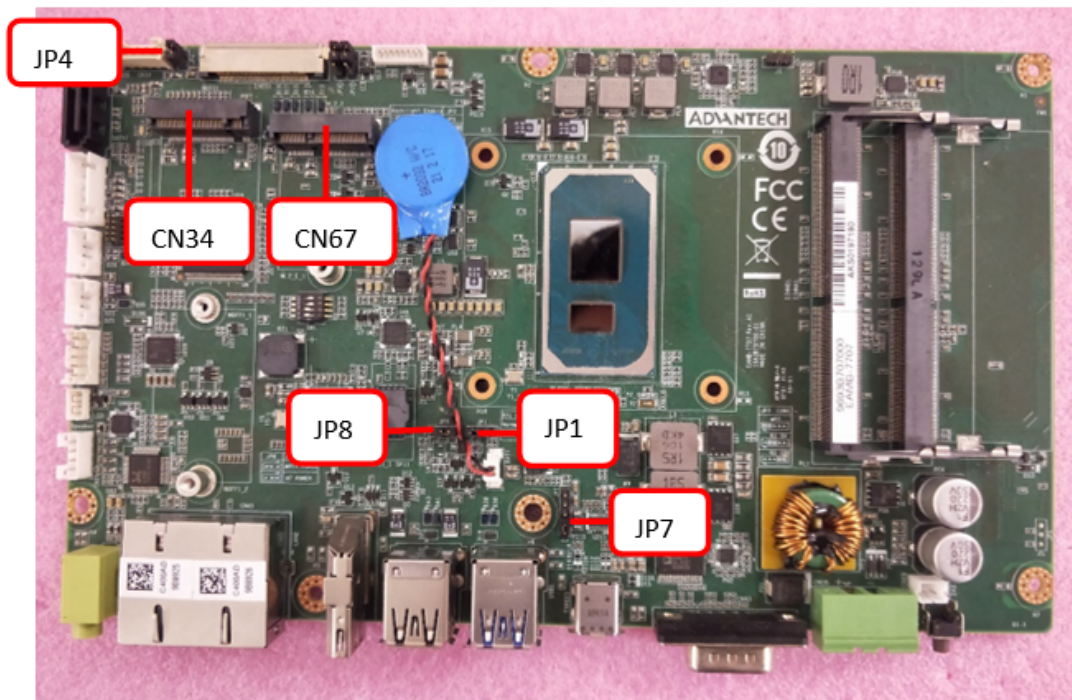


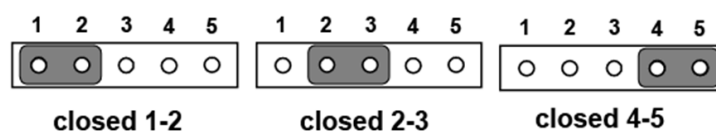
Figure 3.1 Motherboard

The internal jumpers and connectors on the motherboard, and their pinouts, are listed in the table below.

Connector	Function
CN34	M.2 M-Key 2280 or 2242
CN67	M.2 E-Key 2230
JP1	RTC Select
JP4	Resistance Touch Power Select
JP7	COM1 Pin 9 Power Select
JP8	ATX/AT Select

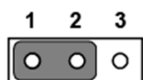
3.1.1 COM1 Pin 9 Power Select

JP7	Function
1-2pin	COM1 RI (Default*)
2-3pin	COM1 Pin 9 5V
4-5pin	COM1 Pin 9 12V

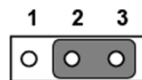


3.1.2 RTC Select

JP1	Function
1-2pin	Normal (Default*)
2-3pin	Clear CMOS



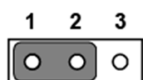
closed 1-2



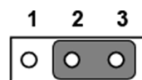
closed 2-3

3.1.3 ATX/AT Select

JP8	Function
2-3pin	ATX power (Default*)
1-2pin	AT power



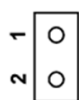
closed 1-2



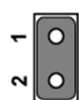
closed 2-3

3.1.4 Touch Power Select

JP4	Function
Open	PCT
Closed	RES



open



closed

Note: Resistive touch model JP3 need add jumper, projected capacitive touch model JP3 need pull off jumper.

3.2 External COM Ports and Pin Definitions

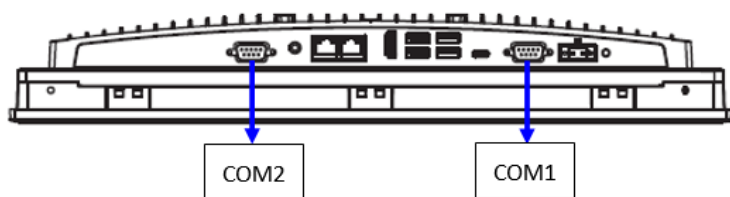


Figure 3.2 Location of COM1 and COM2 Ports

COM1: RS-232

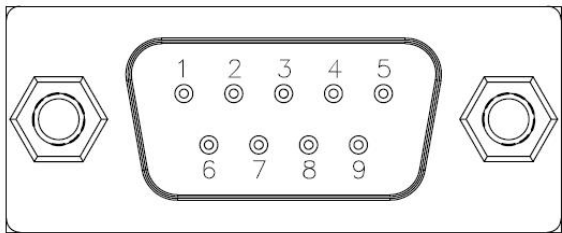
COM1 Pin 9 is set as “RI” by default. This setting can be changed to 5V or 12V output using a jumper.

COM2: RS-232/422/485

Note! COM2 does not support ring function.



Pin	COM1	COM2		
	RS-232	RS-232	RS-422	RS-485
1	DCD	DCD	TX-	DATA-
2	RXD	RXD	TX+	DATA+
3	TXD	TXD	RX+	NC
4	DTR	DTR	RX-	NC
5	GND	GND	GND	GND
6	DSR	DSR	NC	NC
7	RTS	RTS	NC	NC
8	CTS	CTS	NC	NC
9	Ring or 5V/12V output	RING	NC	NC



Chapter 4

Software Setup

- Driver Installation
- BIOS Setup Program

4.1 Driver Installation

Before installing software on the panel PC, install the corresponding drivers to ensure full functionality.

All drivers can be downloaded from the Advantech website:

<http://www.advantech.com>

4.2 BIOS Setup Utility

4.2.1 Main Setup

You can enter BIOS setup utility by pressing "Delete".

You should always press "F4" to save the settings you have made and exit the setup utility, otherwise those settings will not be saved in BIOS.



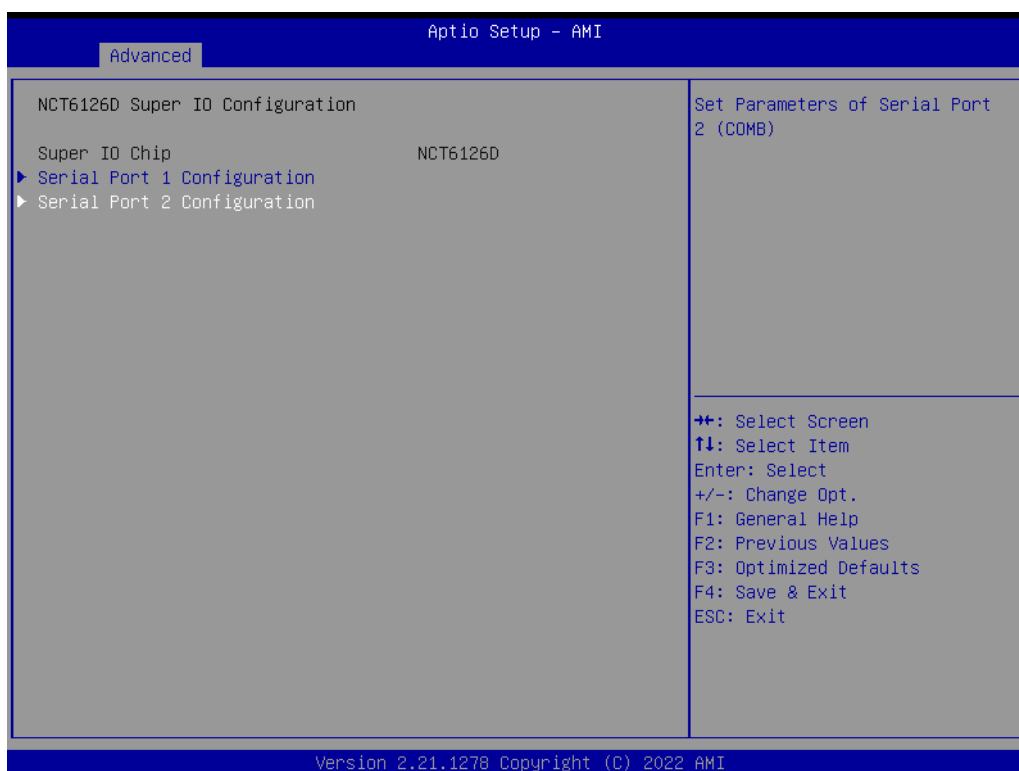
4.2.2 Advanced BIOS Features Setup

Following is COM2 Mode Selection (RS232/RS422/RS485):

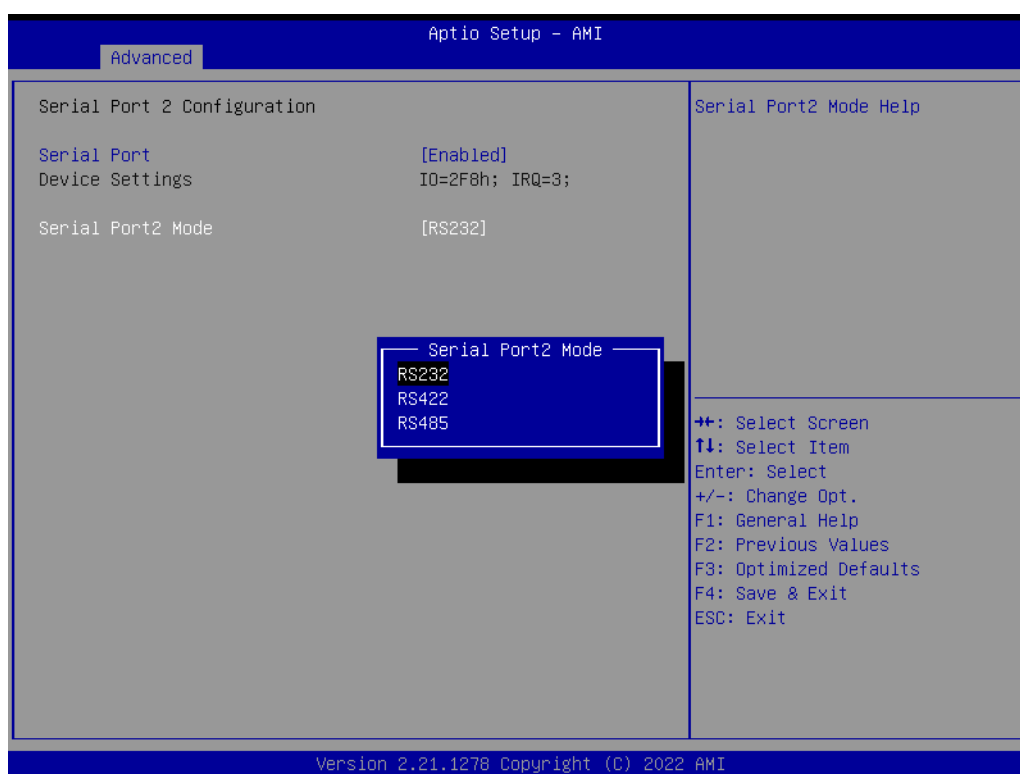
1. Select **NCT6126D Super IO Configuration** in the **Advanced** tab.



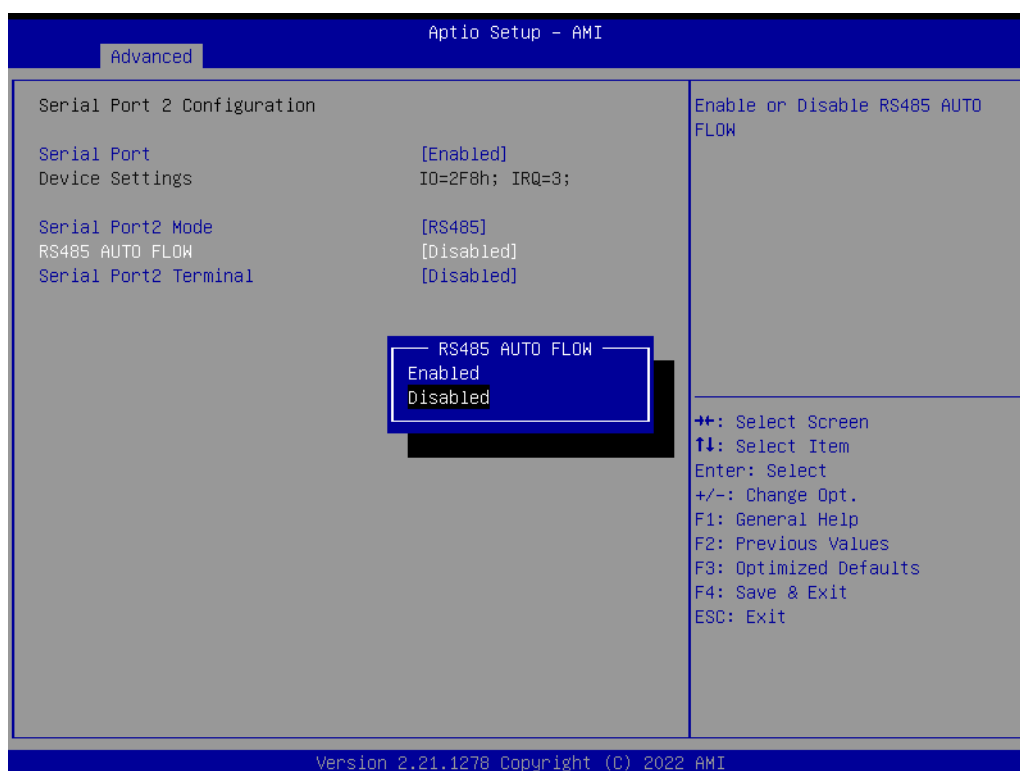
2. Select **Serial Port 2 Configuration** option.



3. Select **Serial Port 2 Mode** option to set the COM2 operation mode as RS232, RS422, or RS485.



4. If COM2 mode is set as RS485, the **RS485 Auto Flow** control option can be Enabled or Disabled.



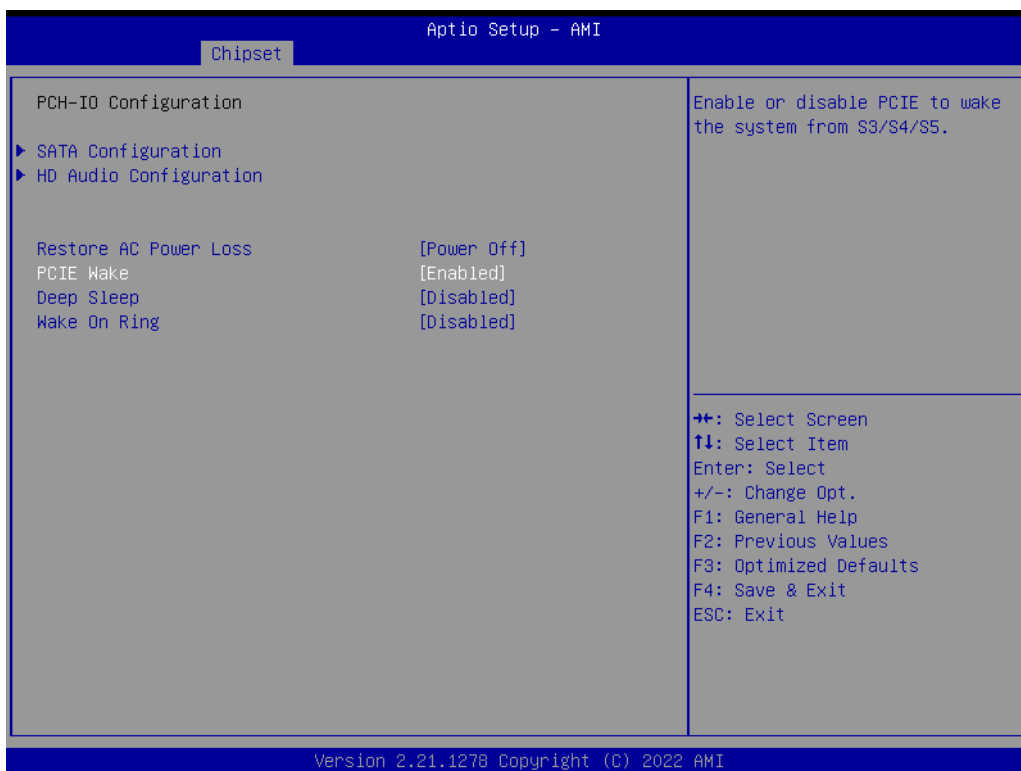
4.2.3 Chipset Configuration

Following is Wake-on-LAN:

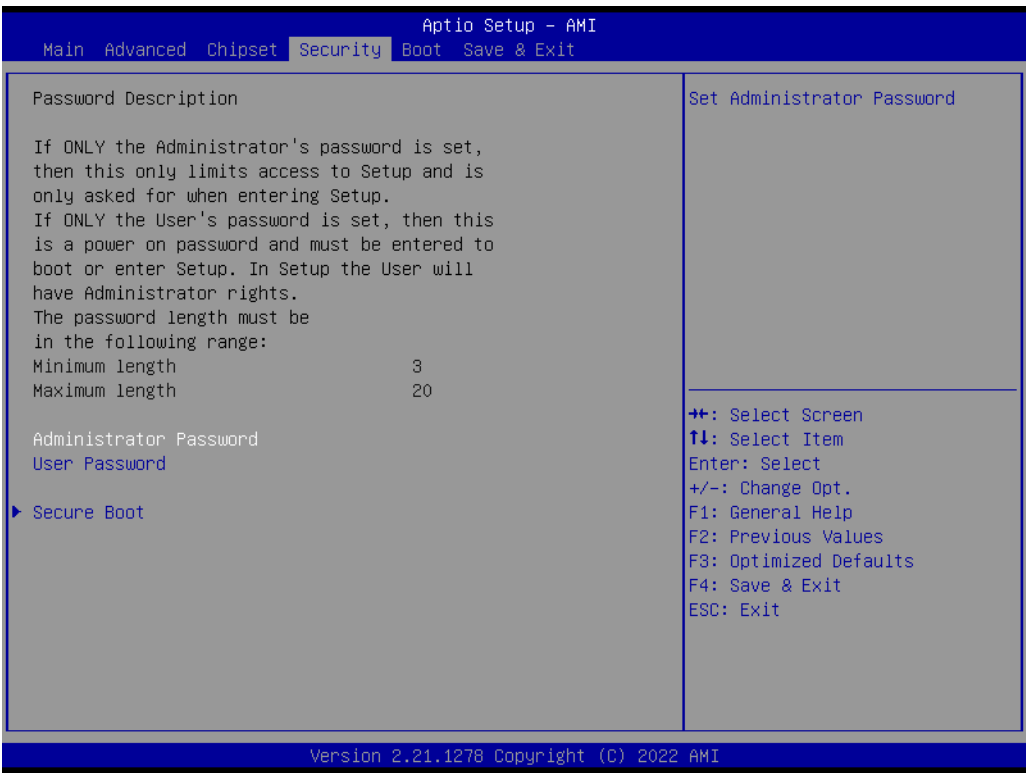
1. Select **PCH-IO Configuration** option in the **Chipset** tab.



2. Set the **Wake On By** option to **Enabled**.

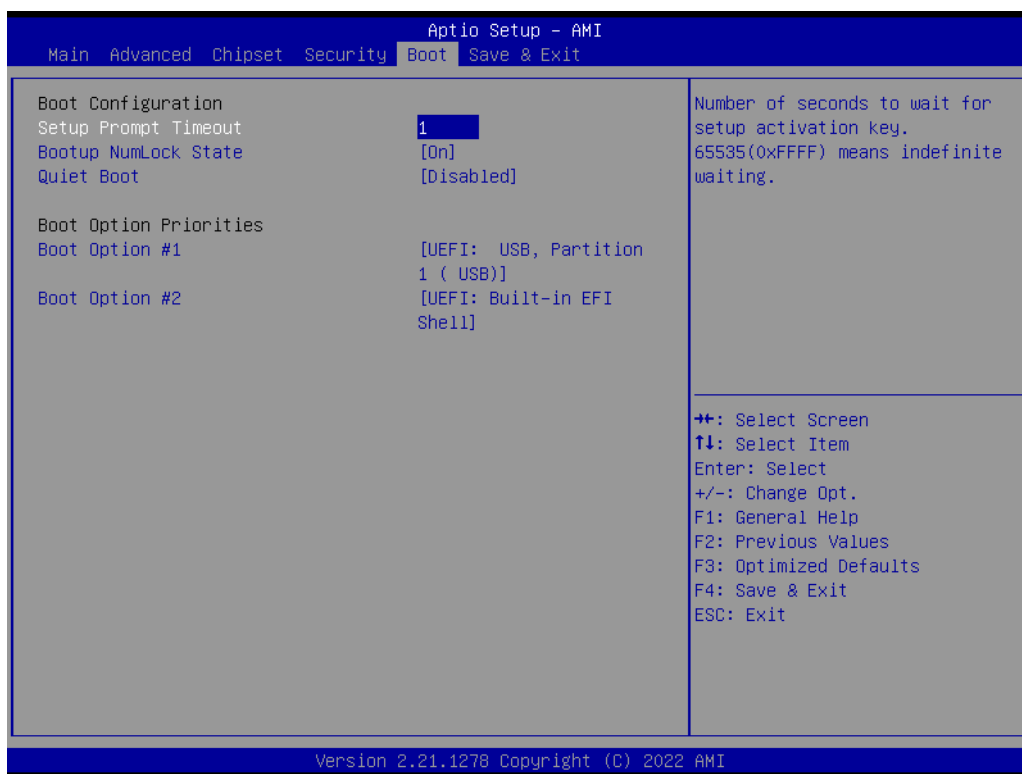


4.2.4 Security



■ Set Administrator Password

4.2.5 Boot



- **Setup Prompt Timeout**
This item allows users to set the number of seconds to wait for setup activation key. 65535 (0xFFFF) means indefinite waiting.
- **Bootup NumLock State**
This item allows users to select the keyboard NumLock state.
- **Quiet Boot**
This item allows users to enable/disable quiet boot option.
- **Boot Option #1**
- **Boot Option #2**

4.2.6 Save and Exit



- **Save Charges and Exit**
This item allows users to exit the system setup after saving changes.
- **Discard Changes and Exit**
This item allows users to exit the system setup without saving changes.
- **Save Changes and Reset**
This item allows users to reset the system after saving changes.
- **Discard Changes and Reset**
This item allows users to reset the system without saving changes.
- **Save Changes**
This item allows users to save any changes to the setup options.
- **Discard Changes**
This item allows users to discard any changes to the setup options.
- **Restore Defaults**
This item allows users to restore/load default values for all setup options.
- **Save as User Defaults**
This item allows users to save all current settings as user defaults.
- **Restore User Defaults**
This item allows users to restore all setup options to the user default values.

Appendix **A**

BSMI RoHS

設備名稱：電腦		型號（型式）：PPC-315W/321W TGL series(型號參考次頁)				
Equipment name		Type designation (Type)				
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁺⁶)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
液晶面板	—	○	○	○	○	○
電路板	—	○	○	○	○	○
配件（電源 供應器）	—	○	○	○	○	○
其它固定組件 （螺絲）	—	○	○	○	○	○
內外殼（外 殼、按鍵、支 架…等）	—	○	○	○	○	○
備考 1. “超出 0.1 wt %” 及 “超出 0.01 wt %” 係指限用物質之百分比含量超出百分比含量基準值。 Note 1. “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.						
備考 2. “○” 係指該項限用物質之百分比含量未超出百分比含量基準值。 Note 2. “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.						
備考 3. “—” 係指該項限用物質為排除項目。 Note 3. “-” indicates that the restricted substance corresponds to the exemption.						

製造商：研華股份有限公司

地址：台北市內湖區瑞光路 26 巷 20 弄 1 號

電話：02-27927818

Manufacturer: ADVANTECH Co., Ltd.

Address: No. 1 Alley 20 Lane 26, Rueiguang Rd., Neihu District, Taipei City

Telephone: 02-27927818

Appendix **B**

BSMI Series Models

PPC-315W 產品附錄型號

PPC-315W-PB50A	PPC-315W-PB50AU	PPC-315W-PB30A
PPC-315W-PB30AU	PPC-315W-PB70A	PPC-315W-PB70AU
PPC-315W-PB50B	PPC-315W-PB30B	PPC-315W-PB70B
PPC-315W-PB50BU	PPC-315W-PB30BU	PPC-315W-PB70BU
PPC-315W-PB50C	PPC-315W-PB30C	PPC-315W-PB70C
PPC-315W-PB50CU	PPC-315W-PB30CU	PPC-315W-PB70CU
PPC315WPB2201-T	PPC315WPB2202-T	PPC315WPB2203-T
PPC315WPB2301-T	PPC315WPB2302-T	PPC315WPB2303-T
PPC315WPB2304-T	PPC315WPB2305-T	PPC315WPB2306-T
PPC315WPB2401-T	PPC315WPB2402-T	PPC315WPB2403-T
PPC315WPB2404-T	PPC315WPB2405-T	PPC315WPB2406-T
PPC315WPB2501-T	PPC315WPB2502-T	PPC315WPB2503-T
PPC315WPB2504-T	PPC315WPB2505-T	PPC315WPB2506-T
PPC315WPB2601-T	PPC315WPB2602-T	PPC315WPB2603-T
PPC315WPB2604-T	PPC315WPB2605-T	PPC315WPB2606-T
PPC315WPB2701-T	PPC315WPB2702-T	PPC315WPB2703-T
PPC315WPB2704-T	PPC315WPB2705-T	PPC315WPB2706-T
PPC315WPB2801-T	PPC315WPB2802-T	PPC315WPB2803-T
PPC315WPB2804-T	PPC315WPB2805-T	PPC315WPB2806-T

PPC-321W-PB 產品附錄型號

PPC-321W-PB50A	PPC-321W-PB50AU	PPC-321W-PB30A
PPC-321W-PB30AU	PPC-321W-PB70A	PPC-321W-PB70AU
PPC-321W-PB50B	PPC-321W-PB30B	PPC-321W-PB70B
PPC-321W-PB50BU	PPC-321W-PB30BU	PPC-321W-PB70BU
PPC-321W-PB50C	PPC-321W-PB30C	PPC-321W-PB70C
PPC-321W-PB50CU	PPC-321W-PB30CU	PPC-321W-PB70CU
PPC321WPB2201-T	PPC321WPB2202-T	PPC321WPB2203-T
PPC321WPB2301-T	PPC321WPB2302-T	PPC321WPB2303-T
PPC321WPB2304-T	PPC321WPB2305-T	PPC321WPB2306-T
PPC321WPB2401-T	PPC321WPB2402-T	PPC321WPB2403-T
PPC321WPB2404-T	PPC321WPB2405-T	PPC321WPB2406-T
PPC321WPB2501-T	PPC321WPB2502-T	PPC321WPB2503-T
PPC321WPB2504-T	PPC321WPB2505-T	PPC321WPB2506-T
PPC321WPB2601-T	PPC321WPB2602-T	PPC321WPB2603-T
PPC321WPB2604-T	PPC321WPB2605-T	PPC321WPB2606-T
PPC321WPB2701-T	PPC321WPB2702-T	PPC321WPB2703-T
PPC321WPB2704-T	PPC321WPB2705-T	PPC321WPB2706-T
PPC321WPB2801-T	PPC321WPB2802-T	PPC321WPB2803-T
PPC321WPB2804-T	PPC321WPB2805-T	PPC321WPB2806-T

www.advantech.com

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