

Point of sale system **APEXA PRIME**



USER MANUAL

■ Table of Contents

| | |
|------------------------------------------------------------|-----------|
| APEXA PRIME SPECIFICATION | 5 |
| (1) SPECIFICATION – OUTLINE SIZE..... | 7 |
| (2) SPECIFICATION – EXPLODE VIEW | 8 |
| PREFACE..... | 9 |
| SYMBOL; MARK | 10 |
| COPYRIGHT | 11 |
| WARRANTY..... | 12 |
| SAFETY INSTRUCTIONS | 13 |
| NOTICE..... | 14 |
| LIABILITY LIMITATION..... | 15 |
| INSTALLATION RECOMMENDATIONS | 16 |
| 1. PRODUCT OVERVIEW..... | 17 |
| (1) INSIDE YOUR PACKAGE | 17 |
| (2) PRE-INSTALLATION PREPARATION | 20 |
| (3) PRODUCT OUTLINE..... | 20 |
| (4) CONFIGURATION | 21 |
| (5) I/O PORT : DETAILS | 23 |
| (6) SETTING UP: KEYBOARD & MOUSE CONNECTION | 25 |
| (7) SETTING UP: CONNECTION USB PORT | 26 |
| (8) SETTING UP: CONNECTION VIA ETHERNET PORT (LAN) | 27 |
| (9) SETTING UP: AUDIO-OUT..... | 28 |
| (10) SETTING UP: PRINTER CONNECTION | 29 |
| (11) SETTING UP: POWER CABLE CONNECTION | 30 |
| (12) SWITCHING ON POS | 31 |
| (13) SHUTTING DOWN POS | 32 |
| (14) SYSTEM DRIVERS..... | 33 |
| 2. INSTALLATION APEXA PRIME MODULE..... | 34 |
| (1) INSTALLATION HDD(SSD) MODULE..... | 34 |
| (2) INSTALLATION MSR MODULE | 36 |
| (3) INSTALLATION 2 ND DISPLAY + CDP MODULE..... | 40 |
| (4) INSTALLATION WALL MOUNT | 44 |
| (5) ARRANGEMENT OF THE CABLE..... | 46 |
| 3. MOTHERBOARD..... | 48 |
| (1) MOTHERBOARD OVERVIEW | 48 |
| (2) MOTHER BOARD PIN ASSIGNMENT..... | 49 |
| 4. BIOS SETUP UTILITY..... | 51 |
| (1) BIOS SETUP PROGRAM..... | 51 |
| 1.1 LEGEND BOX | 52 |
| 1.2 LIST BOX | 53 |
| 1.3 SUB-MENU..... | 53 |
| (2) BIOS SETUP | 54 |
| 2.1 BIOS MENU SCREEN | 54 |
| 2.2 MAIN SETUP | 55 |

| | |
|----------------------------------------------|-----------|
| 2.3 ADVANCED BIOS SETUP | 56 |
| 2.4 ACPI SETTINGS [S3 (SUSPEND TO RAM)]..... | 57 |
| 2.5 CPU CONFIGURATION | 58 |
| 2.6 IDE CONFIGURATION..... | 58 |
| 2.7 USB CONFIGURATION | 60 |
| 2.8 SUPER I/O CONFIGURATION..... | 61 |
| 2.9 HARDWARE MONITOR | 63 |
| 2.10 CHIPSET..... | 64 |
| 2.11 SOUTH BRIDGE | 65 |
| 2.12 NORTH BRIDGE..... | 66 |
| 2.13 BOOT DISPLAY CONFIGURATION..... | 67 |
| 2.14 BOOT | 68 |
| 2.15 SECURITY..... | 69 |
| 2.16 AZALIA HD AUDIO | 70 |
| 2.17 INFO REPORT CONFIGURATION..... | 71 |
| 2.18 INTEL IGD CONFIGURATION | 72 |
| 2.19 O.E.M SETTINGS..... | 73 |
| 2.20 PPM CONFIGURATION..... | 74 |
| 2.21 REALTEK PCIE GBE FAMILY CONTROLLER..... | 75 |
| 2.22 SOCKET 0 CPU INFORMATION..... | 76 |
| 2.23 SAVE & EXIT..... | 77 |
| 5. TROUBLESHOOTING..... | 78 |
| (1) NETWORK ISSUES..... | 78 |
| (2) MSR ISSUES..... | 78 |
| (3) USB ISSUES | 78 |
| (4) LCD ISSUES..... | 78 |
| (5) TOUCH-SCREEN ISSUES | 79 |
| (6) POWER ISSUES..... | 79 |
| (7) PS/2 KEYBOARD ISSUES..... | 79 |
| (8) BOOTING ISSUES..... | 79 |
| 6. MAINTENANCE..... | 80 |

1. Precaution Segment

Changes to the APEXA PRIME user manual are listed below.

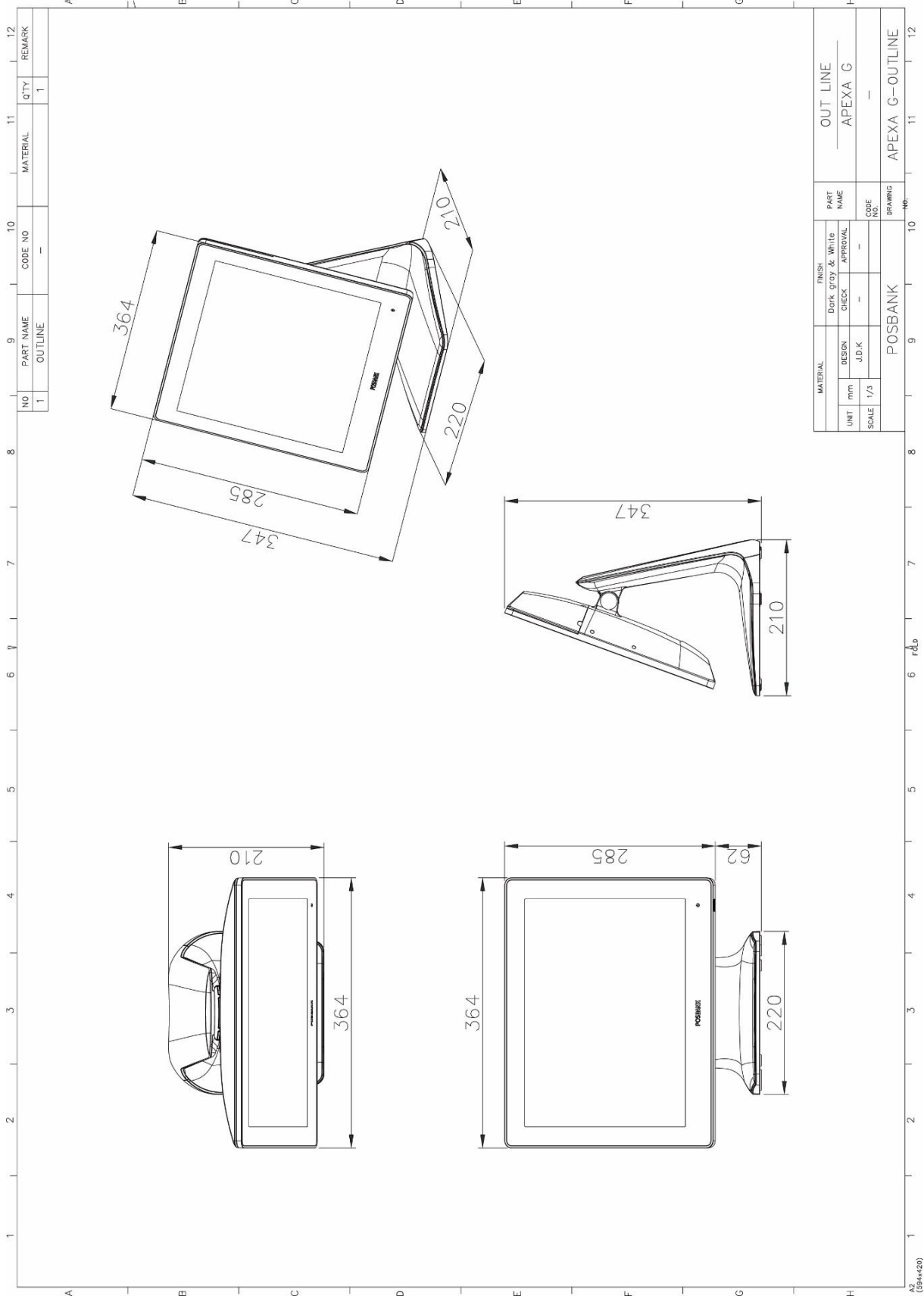
| Rev No. | Revision History | Date /author |
|---------------------|------------------|--------------|
| APEXA_PRIME -PBUM-E | - | 2017.06.29 |
| APEXA_PRIME -PBUM-E | UPDATE | 2018.02.19 |
| | | |

APEXA PRIME Specification

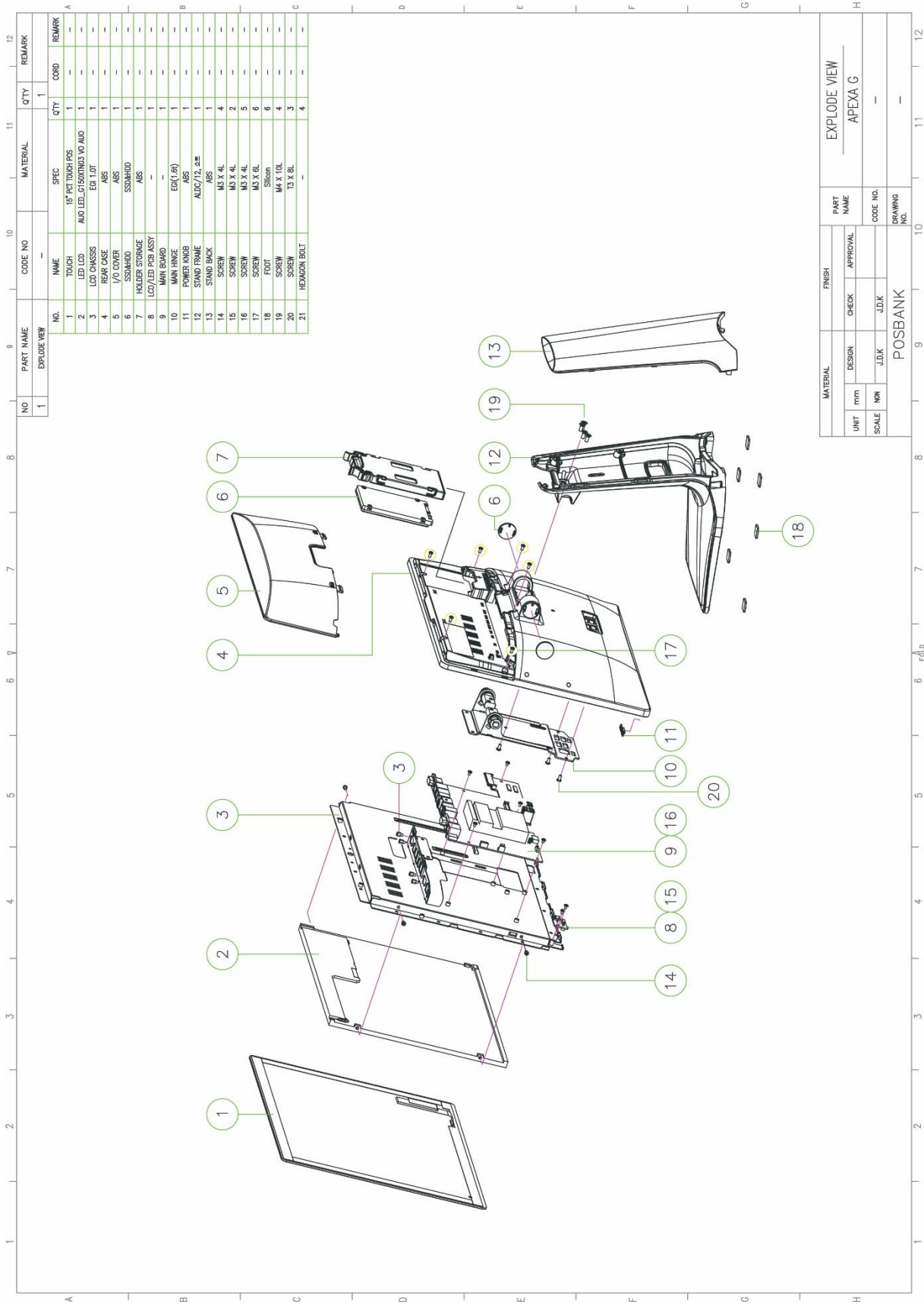
| System | |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Processor | Intel® Core™ i5-6200U Processor (3M Cache, 2.80 GHz) Intel® Pentium® Processor 4405U (2M Cache, 2.10 GHz) |
| Chipset | ITE Tech IT8786E |
| Memory | 4GB Standard, DDR4L 2133 MT/s, Socket 1 x SODIMM (Max. 16GB) |
| Storage | SATA 3 (6Gb/s) 2.5 inch SSD 64GB, Support AHCI |
| RAID | - |
| OS | Windows 7, Windows 8.1, Windows 10, POS Ready 7 |
| Audio | Realtek ALC662-VD |
| Display | |
| Type | 15" TFT LCD, LED Backlight |
| Resolution | 1024 x 768 |
| Brightness | 300 cd/m ² (typ.) |
| Touchscreen | Projective Capacitive Touch |
| Interface | |
| Display | 1 x VGA (With Power Output) |
| USB | 6 (Rear 2, Back 4, USB 3.0 x 2, USB 2.0 x 4) 3 (Reserved for MSR, SCR, i-Button/Touch Controller/Camera), RJ-45 |
| PS/2 | - |
| Serial | 5 (COM 1 with 5V/12V Power Output on 9 Pins, BIOS) (COM2~3 RJ-45 , Full Signal) (COM5 Reserved for Cash Drawer Port) (COM4 RJ-11, Only TX/RX, 12V Power Output, Reserved for CDP) (COM6 RJ-45, Only TX/RX, 5V Power Output, Reserved for MSR) |
| LAN | 1 x Gigabit Ethernet, RJ-45 |
| Audio | 1 x Line-out |
| Power DC-IN | 1 x (3 Pin Connector) |
| Extension Slot | mini PCIe, m-SATA |
| Power | |
| Power Supply | Adaptor 24V, 2A 24V, 4A(Powered USB Option) |
| Physical & Environmental | |

| | |
|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Operating Temperature | 0 °C ~ 60 °C at 10% to 90% Humidity |
| Storage Temperature | -20 °C ~ 80 °C at 10% to 90% Humidity |
| Dimensions (W x H x D) | 364 x 333 x 210 (mm), 14.3 x 13.1 x 8.2(in) |
| Packing Dimensions (W x H x D) | 500 x 470 x 300 (mm), 19.6 x 18.5 x 11.8(in) |
| Net Weight | 5,300g, 11.6lbs |
| Packing Weight | 8,000g, 17.6lbs |
| Certification | CE, FCC, KC, CB, CCC |
| Color | Matt Dark Grey, High Gloss White |
| Options & Peripherals | |
| Display | – |
| Touchscreen | – |
| 2nd Display | 9.7", 12.1", 15" LCD Display, 1024 x 768, Optional Touchscreen |
| Customer Display | VFD, 20 Columns x 2 Lines |
| I/O Expansion | 1 x COM5 (RJ-45 8 Pins) (Factory Option) 1 x Cash Drawer Port (Factory Option) 1 x Powered USB (24V) |
| Storage | 2.5 inch SSD 128GB, HDD 500GB, 1TB |
| Integrated Printer | – |
| Magnetic Stripe Reader | Comply with ISO 7811, Support 1 & 2 & 3 Track |
| Smart Card Reader | EMV Level 1, 2 |
| Dallas | Dallas i-button Reader |
| Fingerprint | Yes |
| System Fan | – |
| Battery | – |
| Camera | 5M USB Interface (Internal) (Factory Option) |
| Wall Mount Kit | VESA-Compatible, 75 x 75(mm), 100 x 100(mm) |
| Serial Conversion Cable | RJ-45 to D-sub 9 |
| Speaker | 2 x 0.8W (Stereo) |
| WiFi | Mini PCIe for Wireless LAN |
| *Specifications may change without prior notice. | |
| *Other mounting options available upon request. (Only for APEXA models) | |

(1) Specification – Outline size



(2) Specification - Explode View



| MATERIAL | | FINISH | | PART NAME | |
|----------|----|--------|----------|--------------|-----|
| UNIT | mm | CHECK | APPROVAL | EXPLODE VIEW | |
| SCALE | NW | J.D.K | J.D.K | APEXA G | |
| POS BANK | | | | CODE NO. | --- |
| POS BANK | | | | DRAWING NO. | --- |

Preface

This User's Guide gives information about main unit/IO port layout, basic setup, component installation, and board layout for point of sale system "APEXA PRIME"

Intended Audience





The User's Guide is intended for technically qualified personnel.
It is not intended for general audiences.

Document Organization

The chapters in this Product User's manual are arranged as follows:

1. product package contents
2. system configuration
3. Harness (cable connector)
4. BIOS Setup
5. Installing and Replacing POS SYSTEM Components: instructions on how to install the motherboard and other POS hardware components.
6. Product specification

SYMBOL; MARK

| | |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>CE MARK</p> <p>This device complies with the requirements of the EEC directive 2004/108/EC with regard to "Electromagnetic compatibility" and 2006/95/EC "Low Voltage Directive".</p> |
|  | <p>FCC</p> <p>This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:</p> <ol style="list-style-type: none"> (1) This device may not cause harmful interference. (2) This device must accept any interference received, including interference that may cause undesired operation. |
|  | <p>KC</p> <p>Korea Certification mark. Certificate No. -</p> |
|  | <p>WEEE</p> <p>Recycling and disposal of electric and electronic devices and their components</p> <p>This product should not be mixed with other commercial wastes for disposal.</p> |

Copyright

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* Other names and brands may be claimed as the property of others.

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Warranty

We guarantee our POS terminal product and its parts against defects in materials and workmanship, under proper use, for a standard period of 2 years from the original date of purchase.

During this period, we will repair or replace defective and/or faulty products or parts without charge to the customer for parts and labor.

The 1st year includes servicing and new or refurbished replacement parts free of charge, with one-way shipping costs borne by the seller. The customer shall, however, be responsible for the return delivery costs. The 2nd year also includes free of charge servicing and parts, but a limited warranty requires the entire shipping cost to be borne by the customer.

Products out of the warranty period or scope shall be diagnosed at the customer's expense.

In the case of product damage due to error on part of the consumer, incorrect usage, carelessness or natural phenomenon, the customer shall bear the full cost for both repair and delivery.

Safety Instructions

1. To disconnect the machine from the electrical power supply, turn off the power switch and remove the power cord plug from the wall socket.
2. The wall socket must be easily accessible and in close proximity to the machine.
3. Read these instructions carefully. Save these instructions for future reference.
4. Follow all warnings and instructions marked on the product.
5. Do not use this product near water.
6. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
7. Slots and openings in the cabinet and the back or bottom are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered.
8. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface.
9. This product should never be placed near or over a radiator or heat register or in a built-in installation unless proper ventilation is provided.
10. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

Notice

1. Always ensure that the correct power voltage is used as a precaution against fire and electrical shock.
2. Avoid exposing product to direct sunlight. Do not use product in areas of high humidity. Doing so may cause low reliability and/or operational malfunction.
3. Be careful of static electricity on PCB of system with anti-static appliances. Doing so may cause inferior reliability and shorted product life.
4. Keep product away from highly static areas. This may lead to inferior performance and reduced life cycle.
5. Do not interfere with, or obstruct metal components inside product. Doing so may cause the risk of fire or electric shock.
6. Do not pull on power cable or peripheral devices' connector cable. Doing so may cause fire, electric shock or electronic system malfunction.
7. Use caution when around other electronic devices with possible high frequency or electro-magnetic effects e.g. Audio, Electronic-range etc. Doing so will lead to the serious risk of product malfunctioning or a system error occurring.
8. Ensure that batteries are replaced correctly. Failure to do this may result in sudden explosions.
9. Dispose of used batteries properly according to the instructions.

Liability Limitation

• Installation and maintenance

We recommend that you inquire about product installation, maintenance and repair USER from the official USER center and agent office.

POSBANK takes no responsibility for malfunctions or system errors occurring after USER and/or system check carried out by unofficial USER providers.

• High frequency appliances

This product is qualified by FCC, CE and KC compliances, and is thus governed by these qualifications' safety regulations.

However, the product can affect and be affected by other high frequencies generated around it. As such, POSBANK does not consider liability for any system error or disorder due to this issue.

• Electronic noise emitting equipment

We recommend using the product away from electronic noise emitting equipment such as heaters, motors, fluorescent lights, TVs etc. as it may cause interruption or interference with normal operation.

• Installation location

For optimal performance, the product should be kept in an environment of lower than 65% humidity and in a temperature of 10 ~ 30 °C. Please also keep away from direct sun-light.

• Cleaning procedure

Cleaning with chemical based products (in particular those containing benzyl or chemical thinning agents) can damage the exterior surfaces of the product. We recommend using a soft damp cloth and wiping gently, taking particular care when dealing with the LCD display screen.

• Product limitations

1. The use of this product for anything other than POS tasks is strictly prohibited.
The product is not supported for regular PC and interface operation.
2. This product is for business use only, and not for usage in the home.
3. Both hardware and software are both fully configured.
4. Normal operating is guaranteed on a steady power connection.

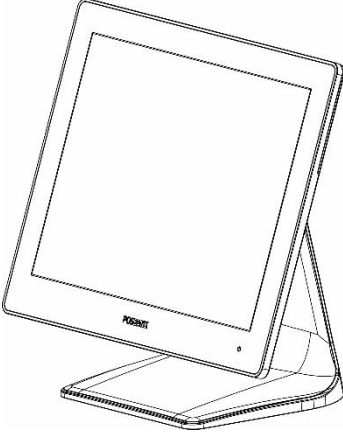
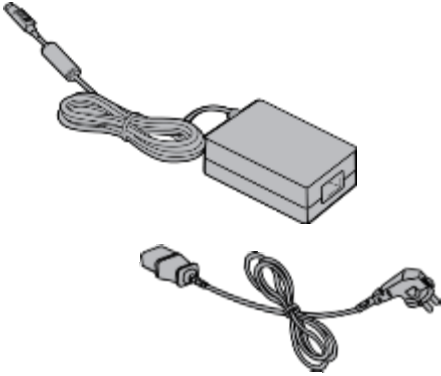
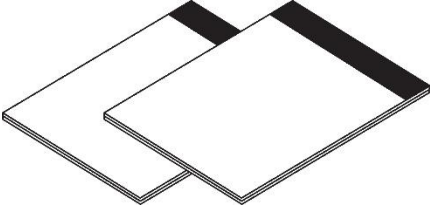
Installation Recommendations

1. Avoid installing during thunderstorms. (Possibility of dangerous exposure to electricity.)
2. Install away from damp spaces or water-leaks.
3. Beware of static occurrence during installation.
4. Use only ground connected and quality certified power cords and cables.
5. Keep out of direct sun-light, extremely high or low temperatures, or high humidity areas.
6. Install product away from areas prone to shocks or vibration.
7. Install product away from sewing machines, welding equipment, electric stoves, audio equipment and other high frequency generating equipment.
8. Installation and use in close proximity to an air-conditioning unit is not recommended.
9. Do not connect cables underneath carpets or floorboards.
10. Only use power cables supplied by pre-approved and certified vendors.
11. Never use power cords from high power source appliances.
e.g. Electronic heaters, Electric stoves, Audio equipment, Air-conditioners, Refrigerators etc.
12. The use of multiple connections in a shared power outlet/socket is not recommended.

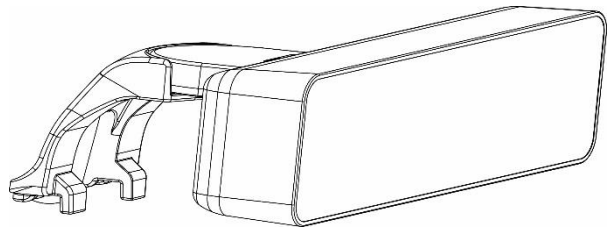
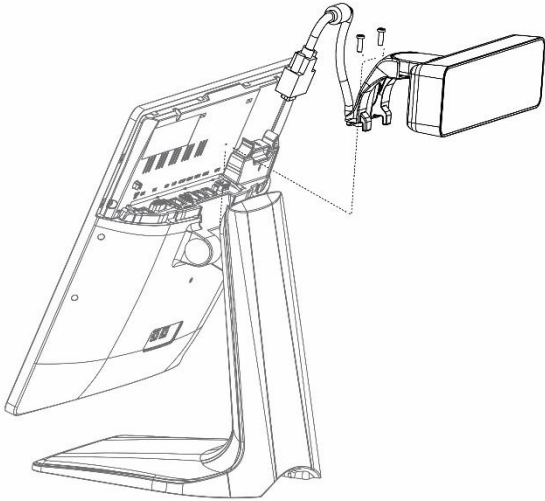
1. Product Overview

(1) Inside Your Package

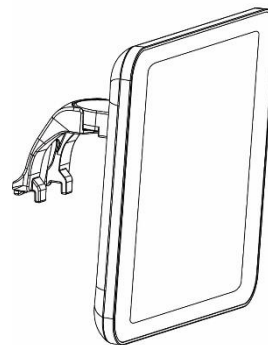
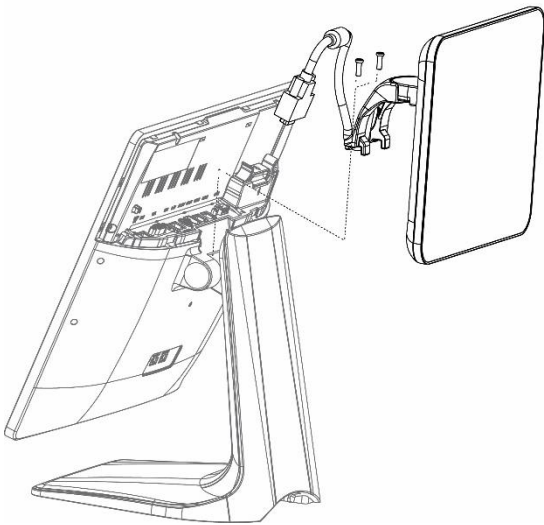
1. Please check your package and confirm its contents.
2. The POS terminal main unit, power cable, user manual and driver CD are included in the package. If any items are missing or damaged, please contact your dealer for assistance.
» All user manuals and drivers are available for download on our website: www.posbank.com

| APEXA PRIME Main unit | Adapter / Power cord |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |
| Installation guide | |
|  | |

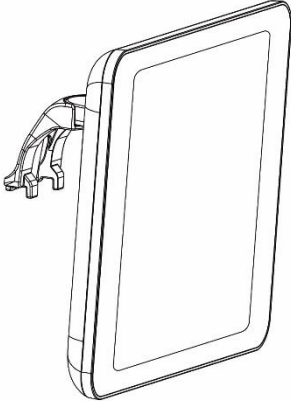
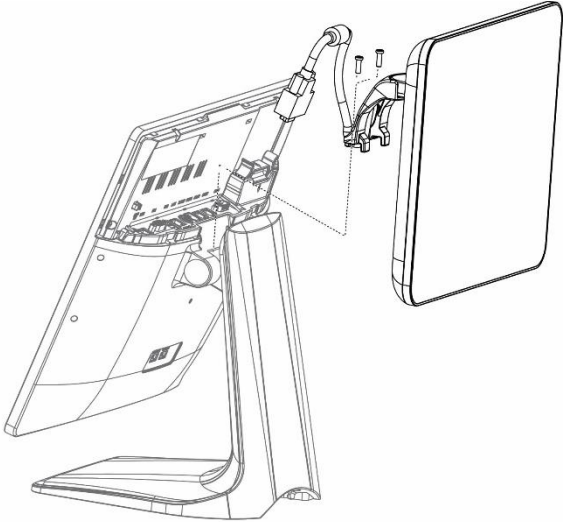
Optional Devices : CDP



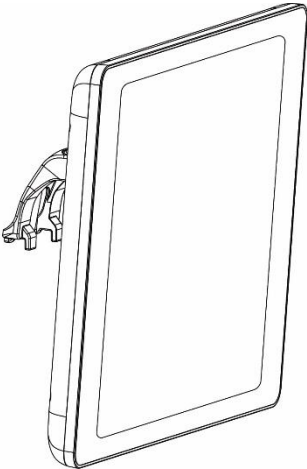
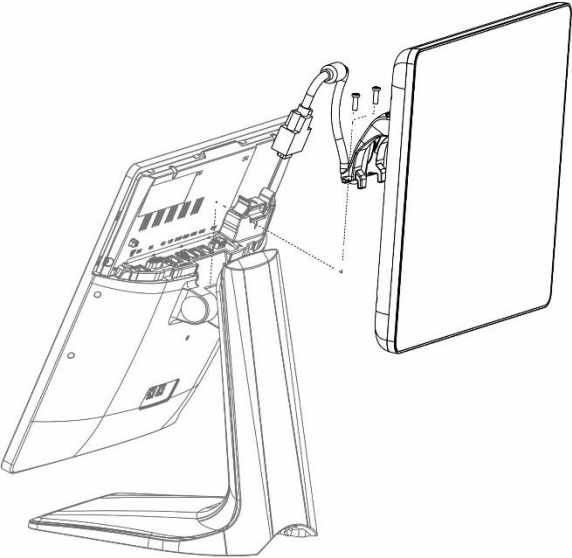
Optional Devices : 2nd Display 9.7 inch



Optional Devices : 2nd Display 12.1 inch



Optional Devices : 2nd Display 15 inch



(2) Pre-installation Preparation

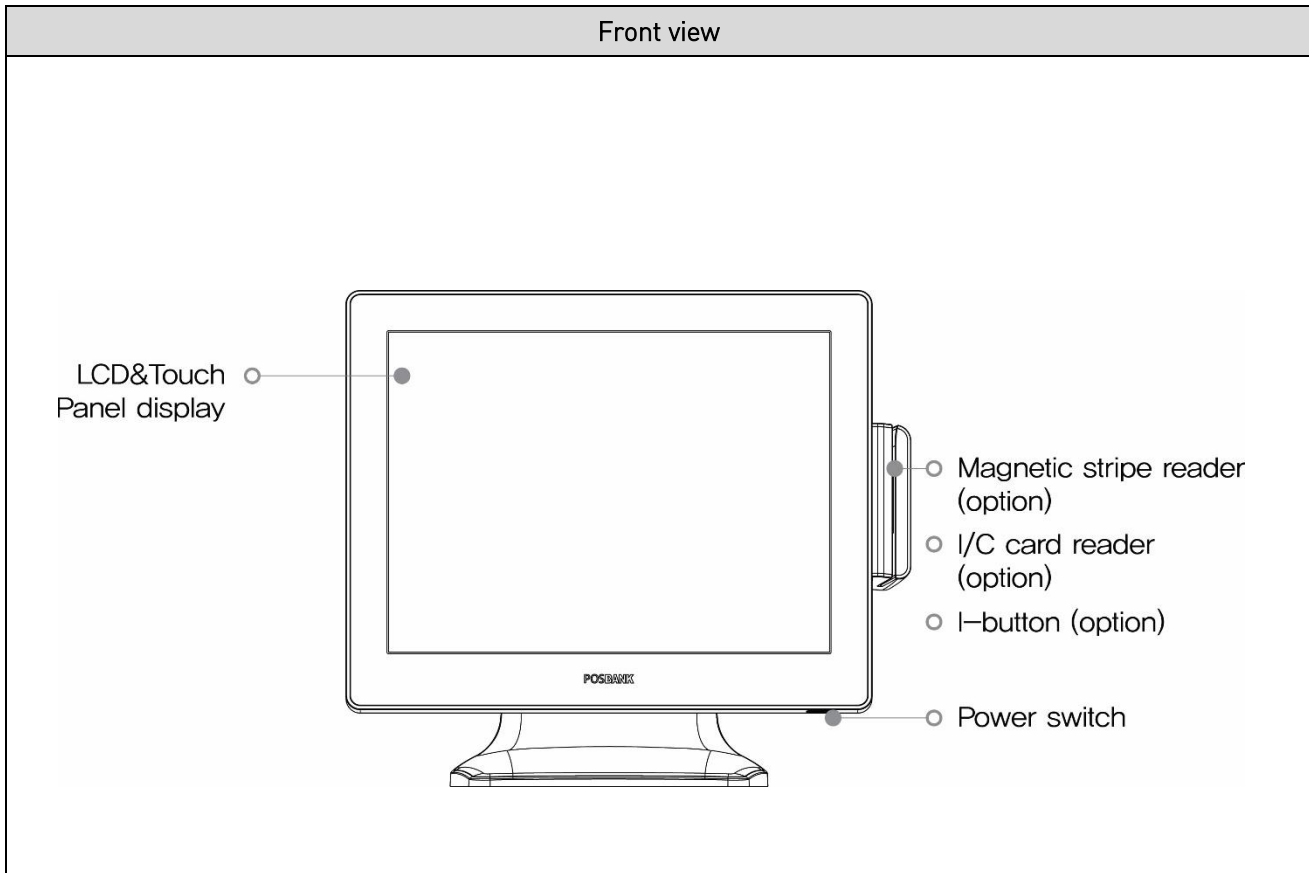
1. Remove protective film from touch-screen to prevent possible operating difficulties.
2. Attach all optional parts before setting up the main POS unit.

(3) Product Outline

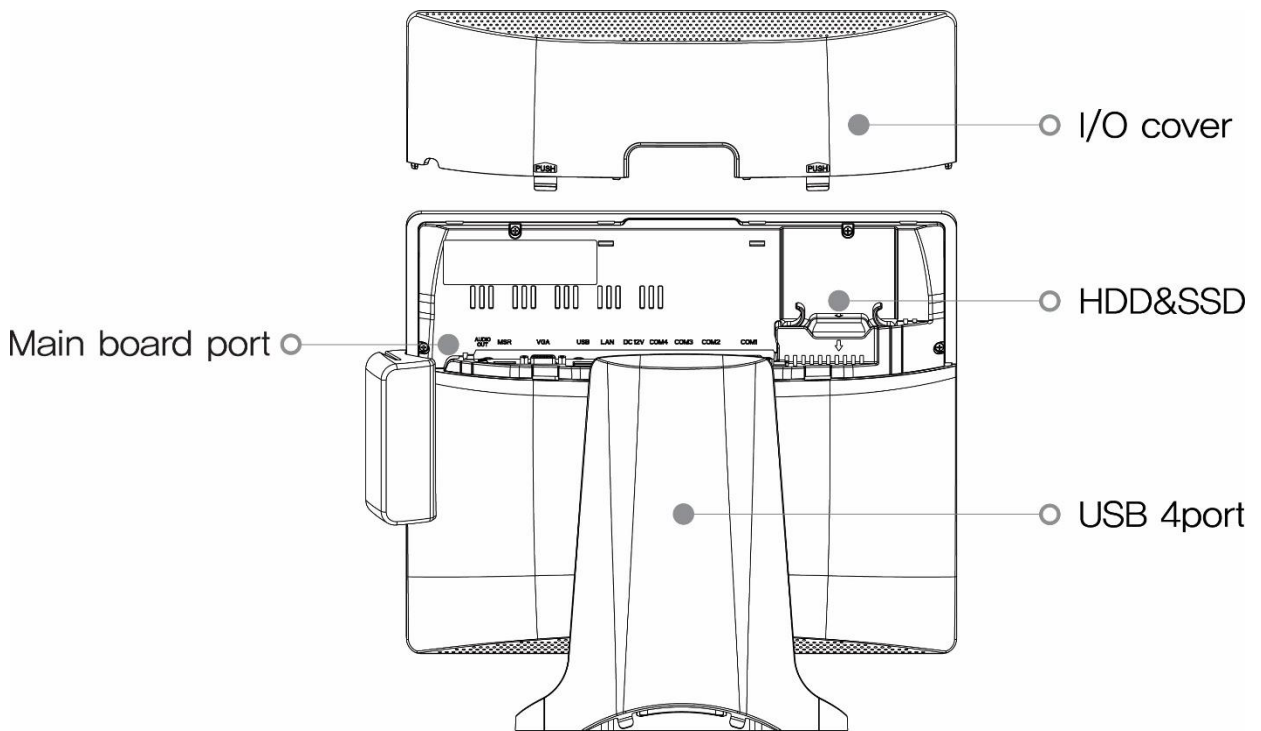
- Each part of product may differ depending on the specific POS model.
- Model-specific data sheets are provided on our website at www.posbank.com

(4) Configuration

Refer to following diagram to identify the components on this side of the system.

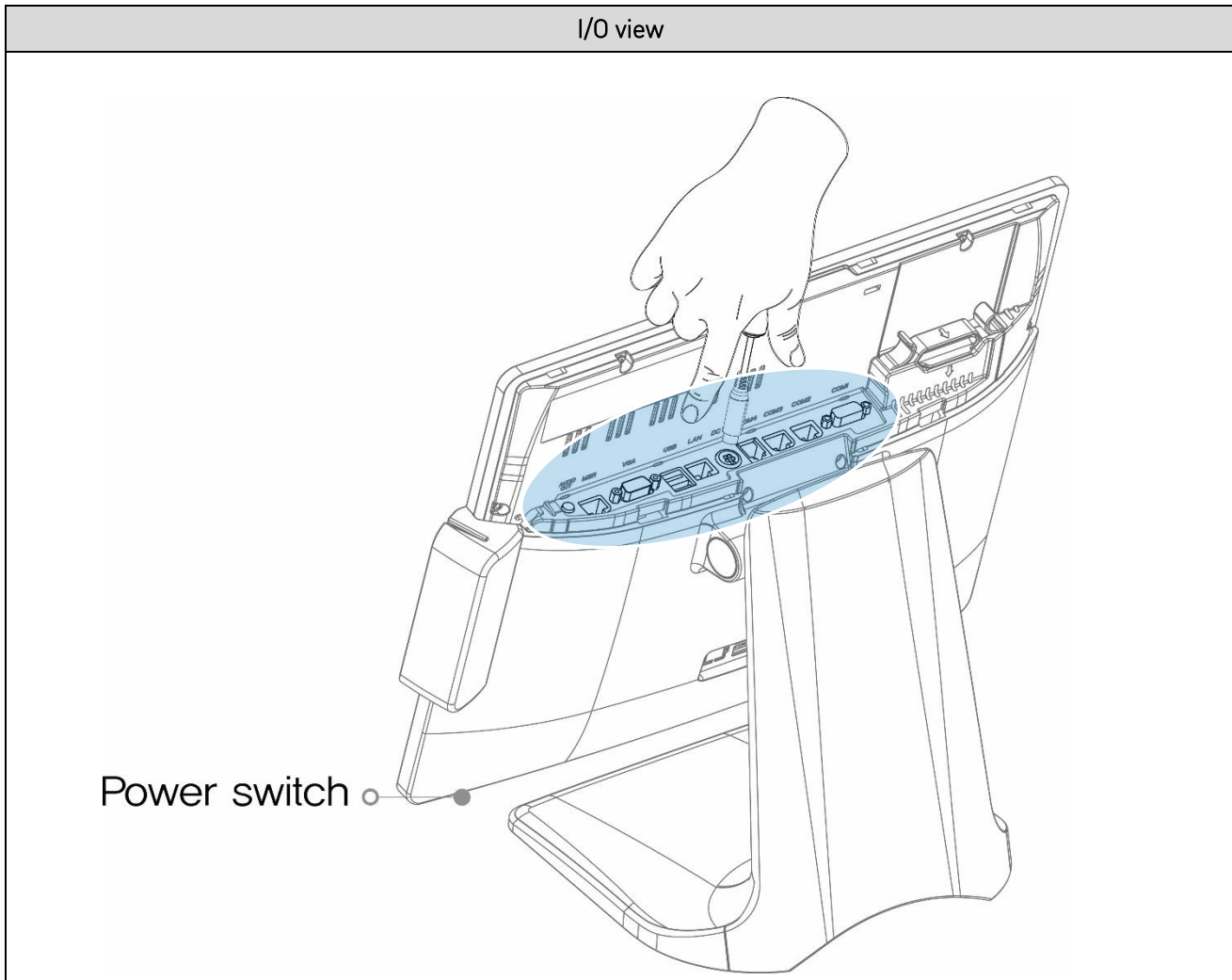


Back view



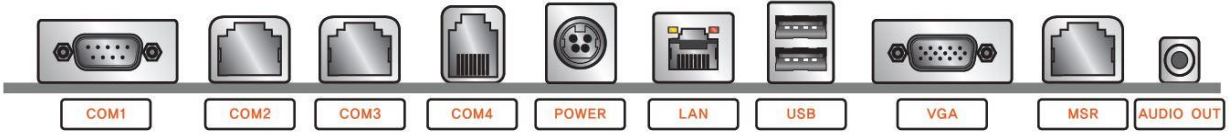
(5) I/O port : Details

* I/O ports may differ according to product model or options.



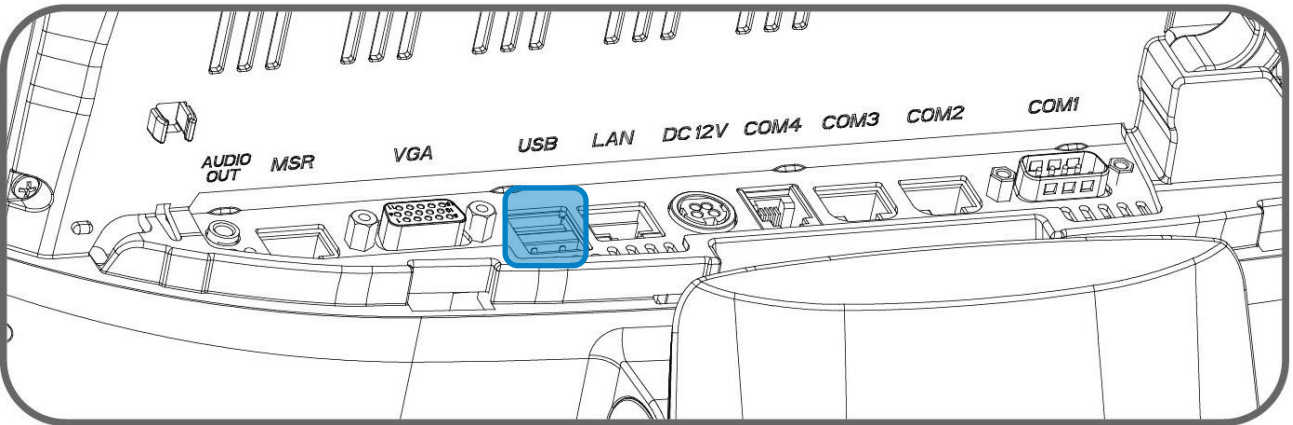
1. Lift up the I/O port cover.
 - ※ Do not pull cable! Disconnect cap from base of unit.

Standard I/O port



(6) Setting up: Keyboard & Mouse Connection

Connecting the keyboard to the PS/2 port on the bottom panel.
or connecting the USB type keyboard and mouse to the USB port on the bottom panel.



25



(7) Setting up: Connection USB Port

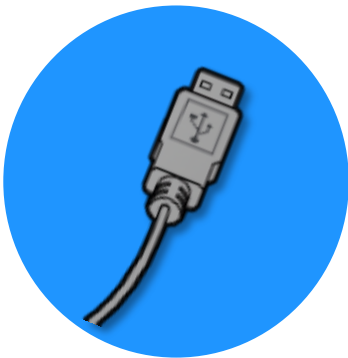
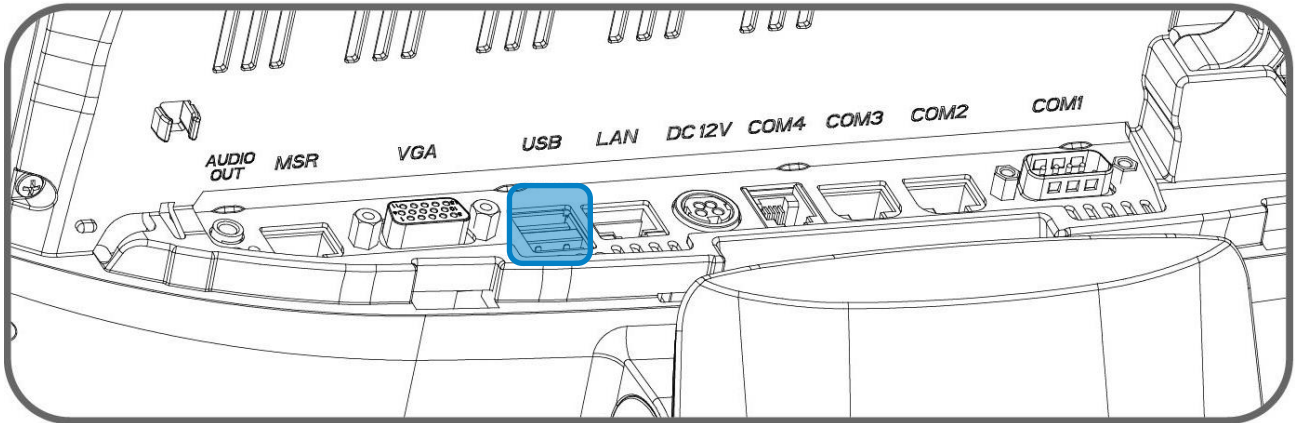
USB ports are provided in the POS unit, two at the rear I/O and four at the side, all of which support the standard USB 2.0.

Some USB devices (optional devices) are only functional with specific driver software installed.

If multiple USB devices are used together, this may result in abnormal functionality.

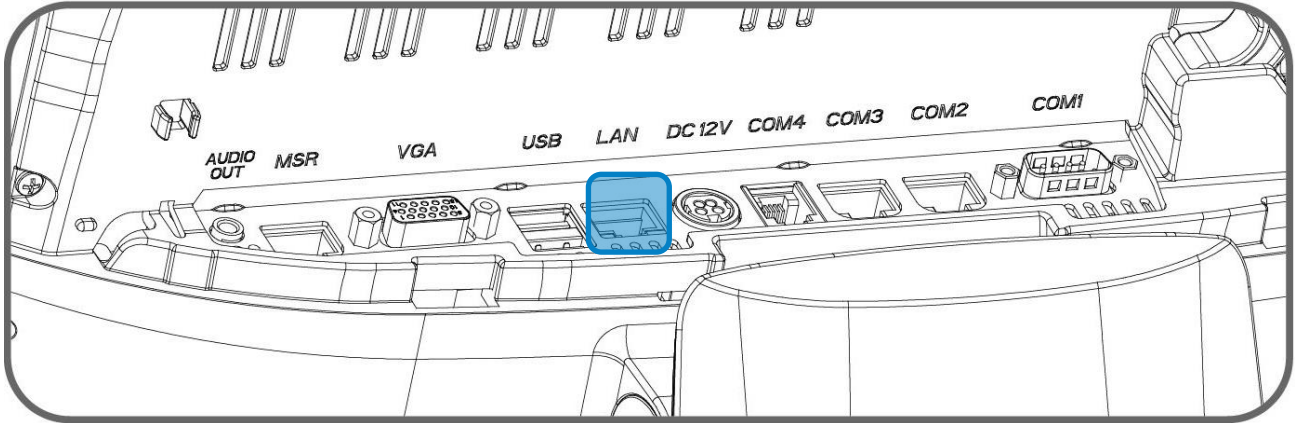
Using a USB hub with external adapter for supplying power is recommended.


Dependent on the type of device, it is possible for the USB device to be recognized later than normal.



(8) Setting up: Connection via Ethernet Port (LAN)

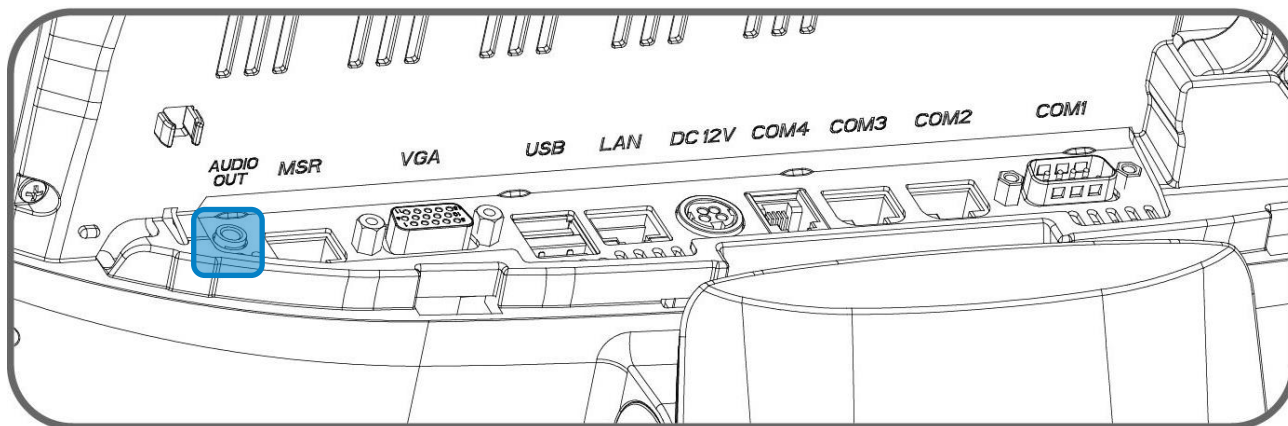
The Ethernet port located at the rear I/O supports 10/100/1000Mbps using an RJ45 connector cable. When connected properly, the LAN LED light will be switched on. Through a network hub. Refer to the table below for the LAN port LED indications



| LINK/ACT LED  | LINK / ACT LED | | SPEED LED | |
|-----------------------------------------------------------------------------------------------------|----------------|---------------|-----------|--------------------|
| | Status | Description | Status | Description |
| | OFF | No link | OFF | 10Mbps connection |
| | YELLOW | Linked | ORANGE | 100Mbps connection |
| | BLINKING | Data activity | GREEN | 1Gbps connection |

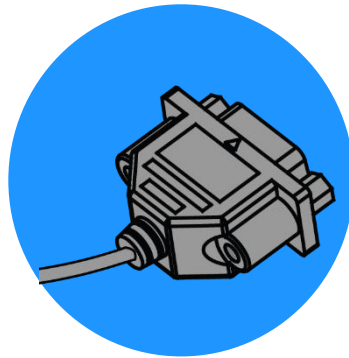
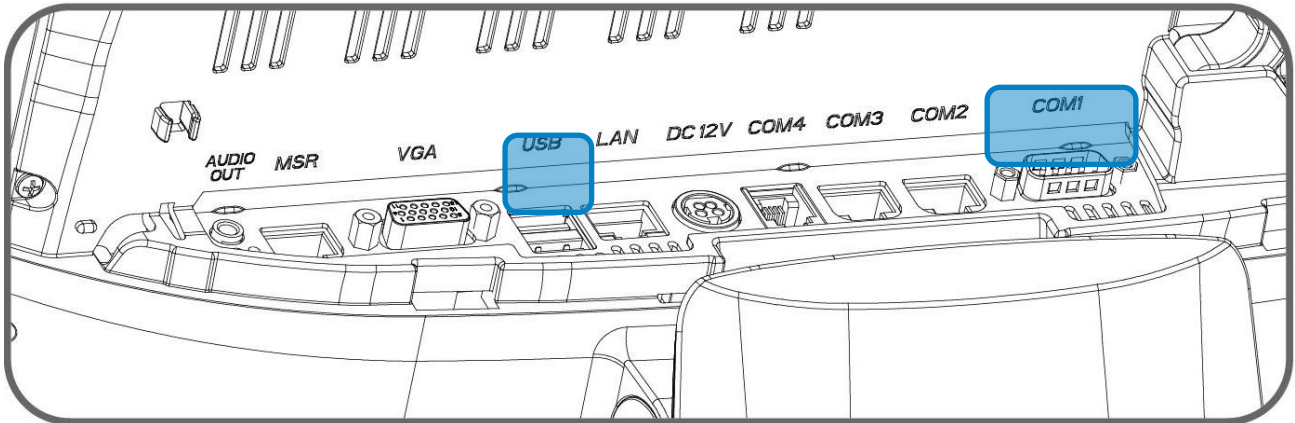
(9) Setting up: Audio-out

- **Audio out port** : This port connects a headphone or a speaker. In 4-channel, 6-channel and 8-channel configuration, the function of this port becomes Front Speaker Out.



(10) Setting up: Printer Connection

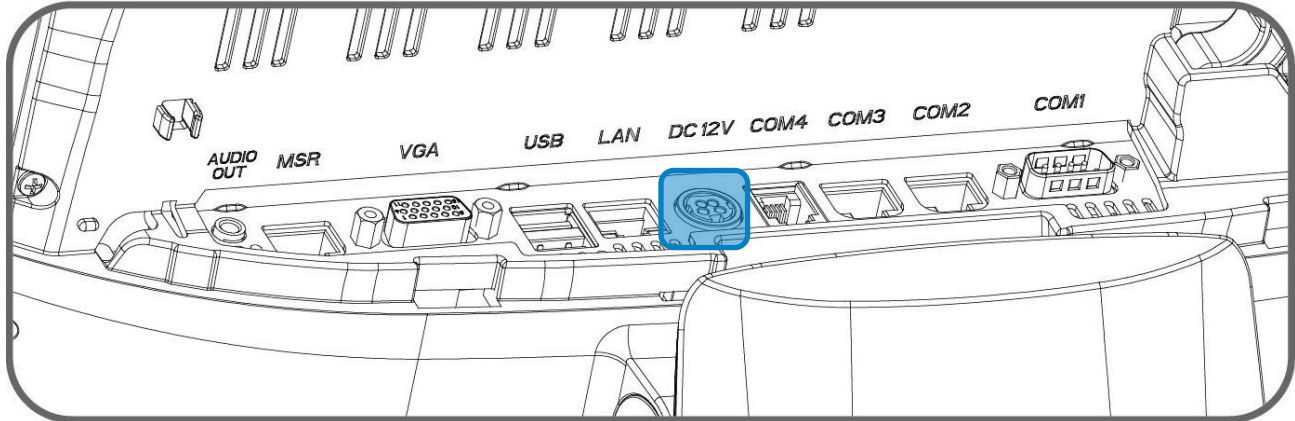
Connect printer cable to either Serial & USB port as required.



(11) Setting up: Power Cable Connection

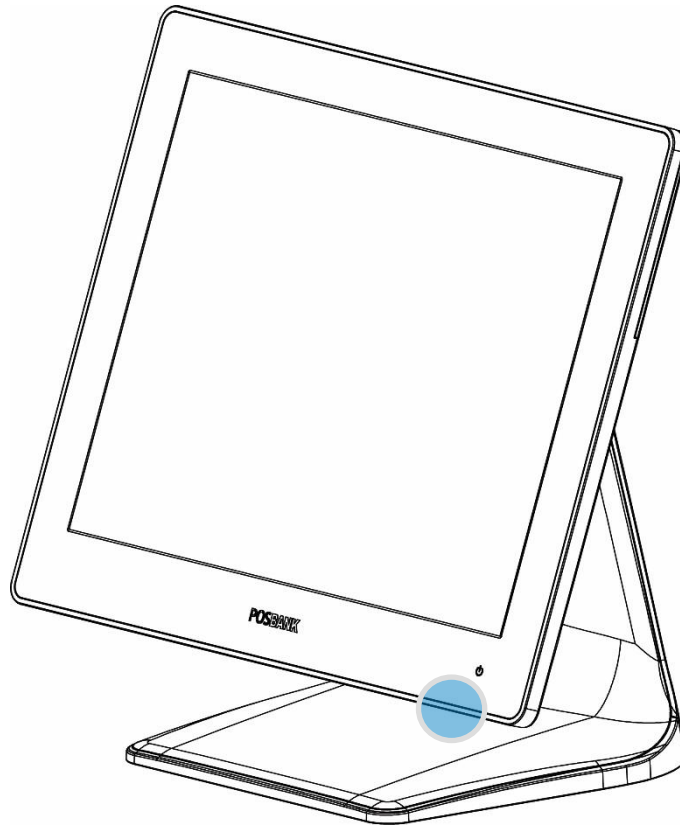
The 'APEXA PRIME' POS system is equipped with a 12V/ 5A power adapter. Connect the cable to the DC-IN port on system IO panel.

CAUTION : Do not pull on the adaptor cable! Disconnect cable with pulling the plug cap.



(12) Switching On POS

1. Press POWER button on the POS unit. (POWER LED will light up.)
The power switch is located right hand side of the main body under the display unit.
2. Confirm that Windows loads correctly.



(13) Shutting Down POS

* For product stability, we recommend closing Windows from the O/S. Please make sure that you have closed all applications before closing Windows.

1. Click 'Start' and select 'Turn off Computer'
2. Click 'Shut Down' to close Windows.

(ex: POSReady2009 or Windows XP)



(14) System Drivers

Please visit our website: www.posbank.com for the latest driver updates.

Supported devices: Cash drawer, CDP (Customer Display Panel), MSR (Magnetic Stripe Reader) and printer.

Driver installation

- **Installation method :**

Driver will automatically install by clicking SETUP.EXE in your driver CD.

If you require any help with installing or using our OPOS system, please contact our customer USER center.

- **Folder of contents of POS terminal installation driver:**

1. CHIP SET DRV installation
2. VIDEO (VGA) DRV installation
3. TOUCH DRV installation
4. AUDIO DRV installation method
5. LAN DRV installations
6. AMT & ME Driver installation
7. User's Manual, Installation guide

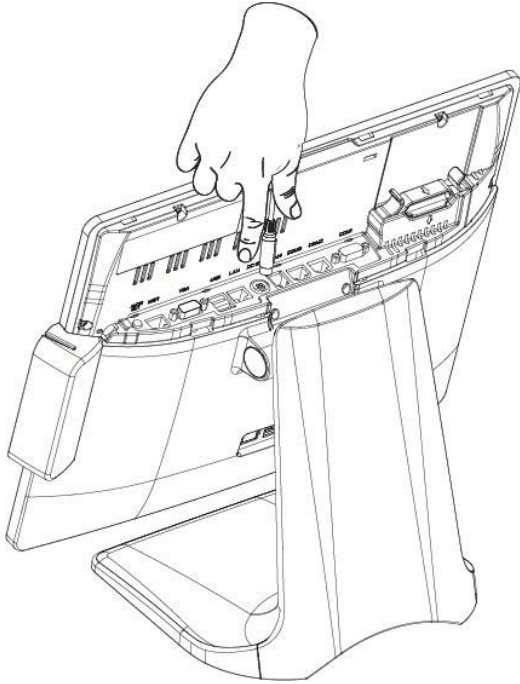
2. Installation APEXA PRIME Module

(1) Installation HDD(SSD) module

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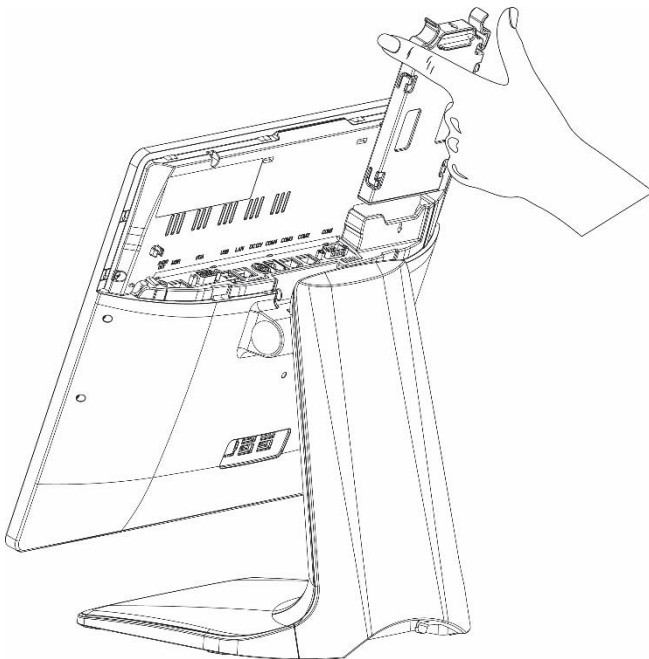
** Warning: Completely remove power cable when opening main unit or installing optional devices.*

HDD(SSD) module



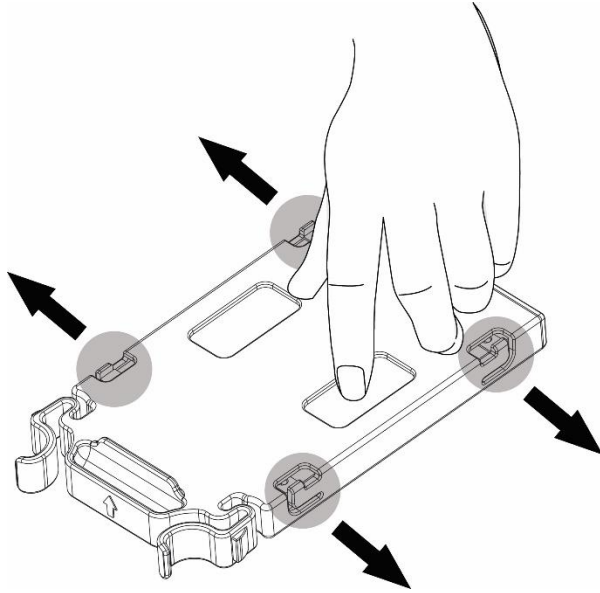
Step1. Please lift up the I/O cover

Step2. Remove the adapter cable.
Disconnect cap from base of Unit.

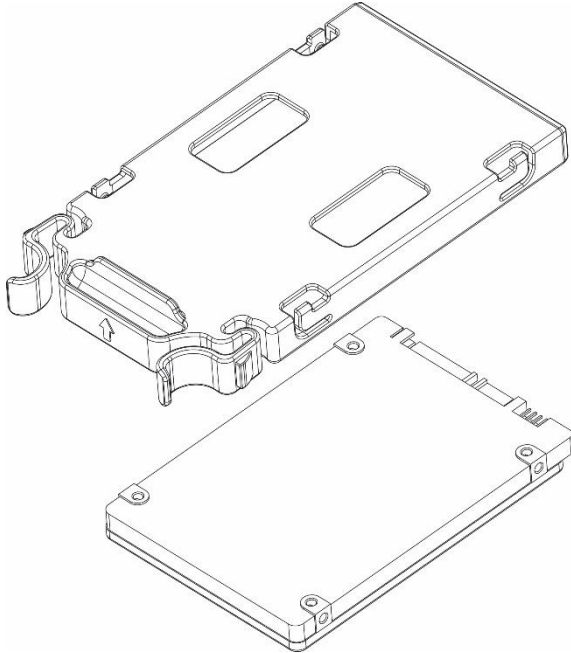


Step3. Pull the HDD Tray handle and
lift up.

HDD(SSD) module



Step3. Open four Tray hinges carefully in opposite directions as in image.

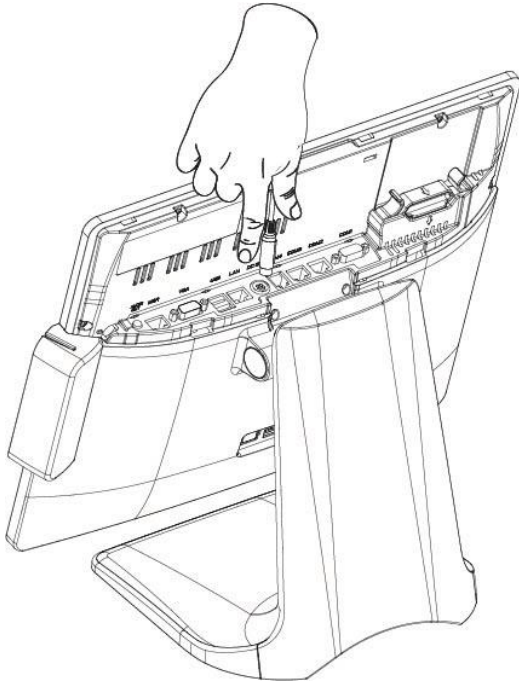


Step4. Assemble HDD bottom to join tray bottom.

(2) Installation MSR module

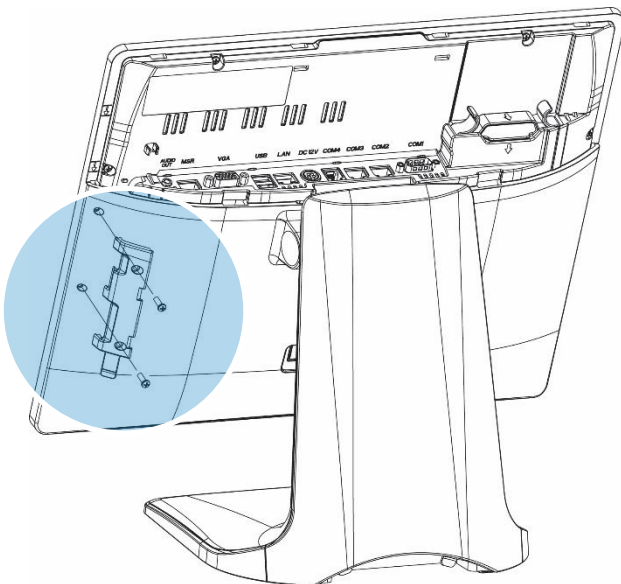
** Warning: Completely remove power cable when opening main unit or installing optional devices.*

MSR module



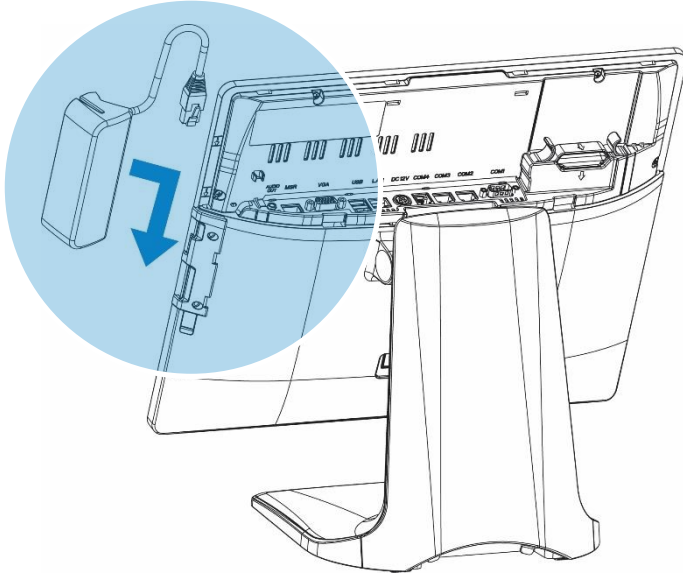
Step1. Please lift up the I/O cover

Step2. Remove the adapter cable.
Disconnect cap from base of Unit.

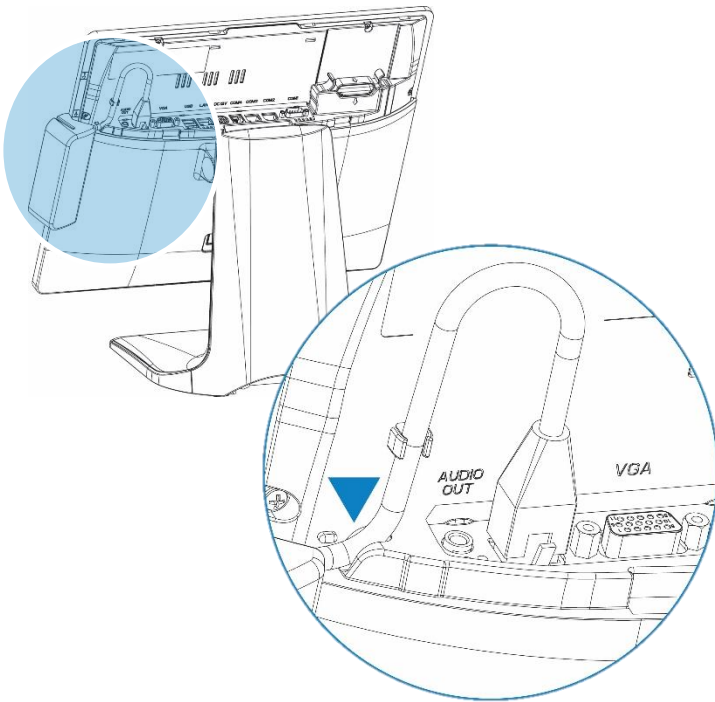


Step3 Fix the MSR bracket using screws
(M3*10L) to the back of monitor.

MSR module

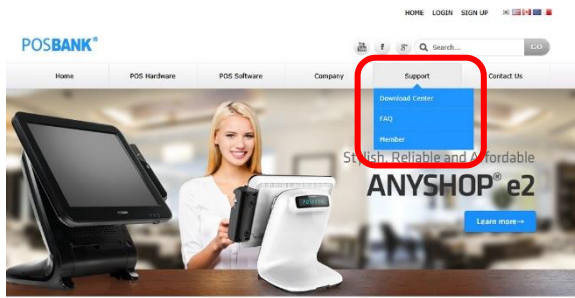


Step4. Put MSR module in the MSR bracket.

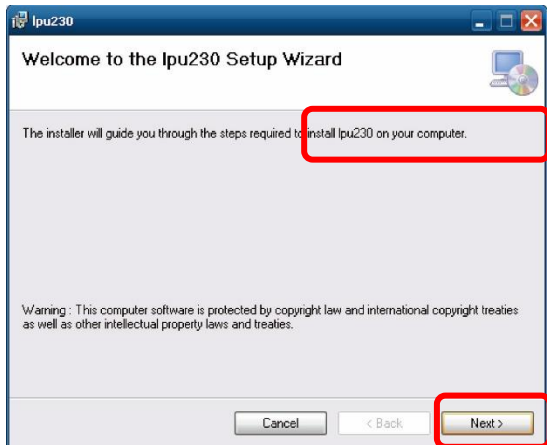


Step5. Connect the cable to MSR port.

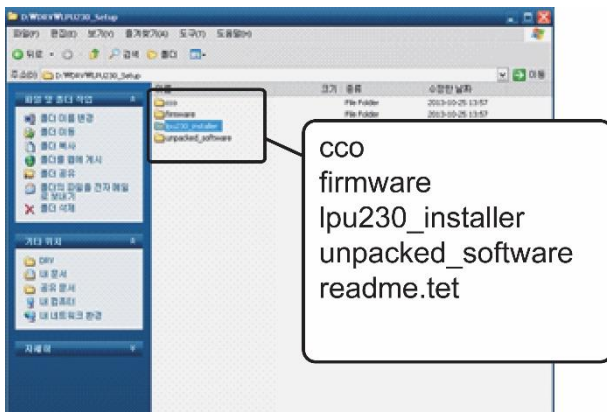
MSR module



Step6. Visit our website www.posbank.com to search and download the MSR mapper.



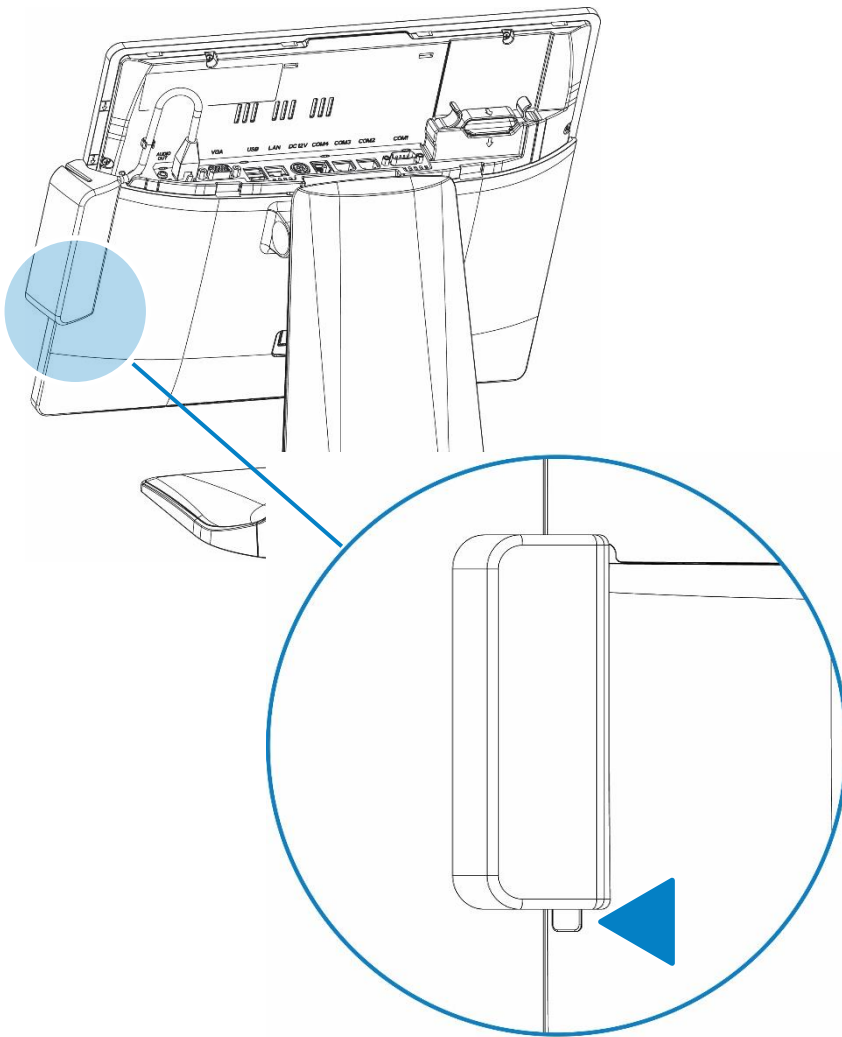
Step7. Execute the lpu230_installer.



Step8. Please install the program according to the instruction.

Step9. After downloading choose the [select device] to check if it is installed properly.

MSR module



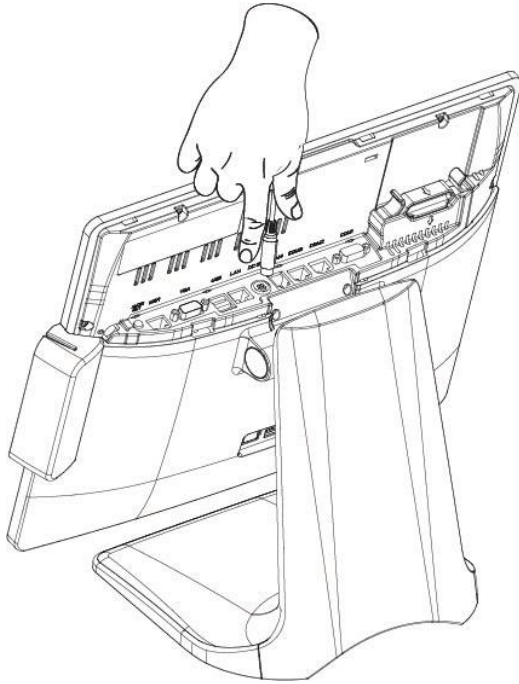
※ Separate it while pushing the hook which is located in the bottom of MSR.

(3) Installation 2nd display + CDP module

** Warning: Completely remove power cable when opening main unit or installing optional devices.*

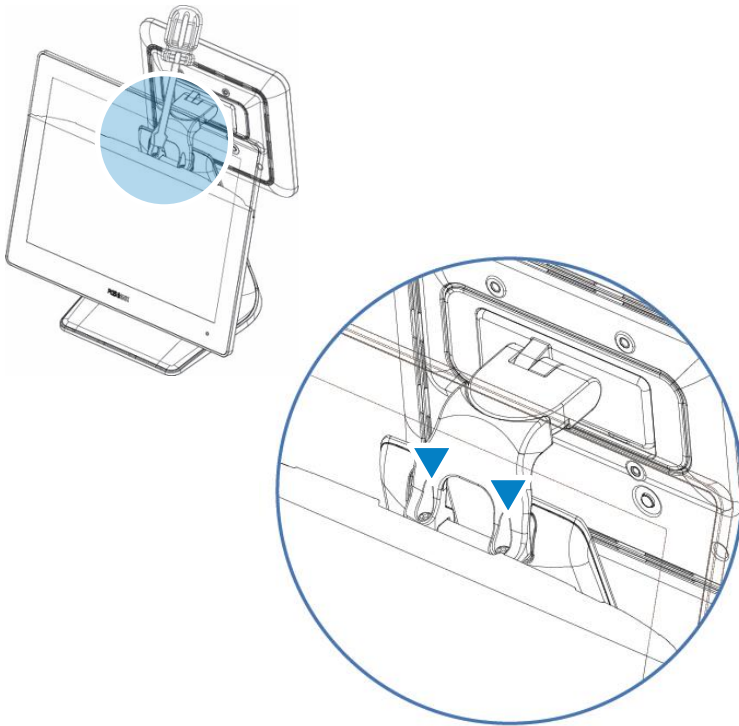
** BIOS setup is not necessary for CDP.*

2nd display module



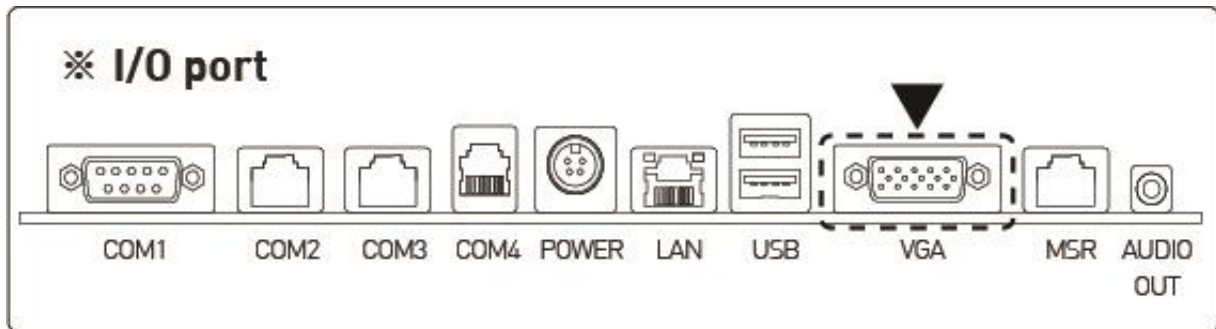
Step1. Please lift up the I/O cover

Step2. Remove the adapter cable.
Disconnect cap from base of Unit.



Step3 2nd display is assembled on
the stand. (M4X12L)

2nd display module



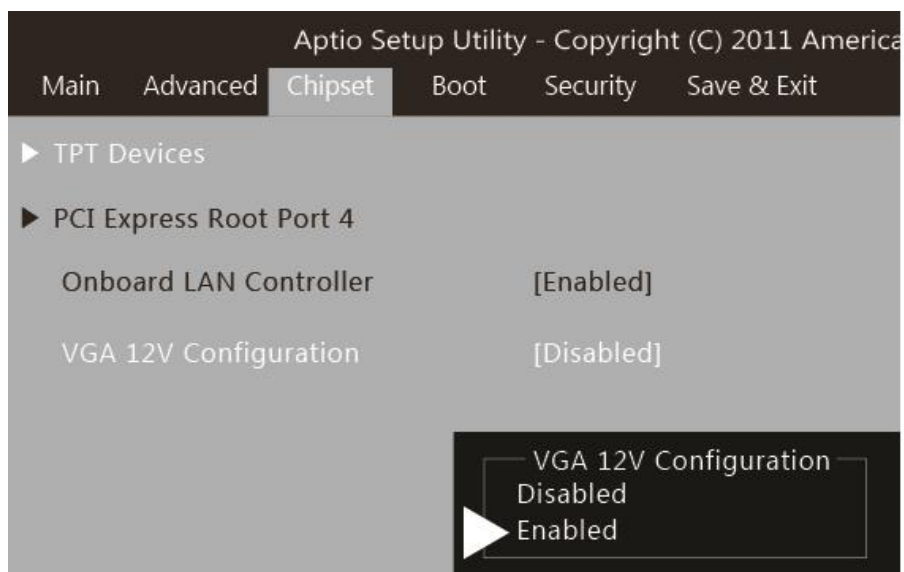
Step4. Connect the cable of 2nd display after refer to the image.



▶ BIOS Setting

Step5. While booting POS device, press [Delete] key and enter into BIOS mode. Select [Chipset --> South Bridge].

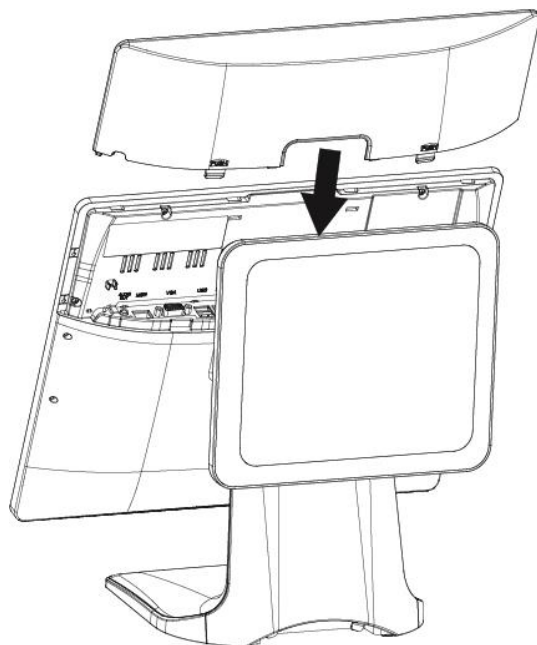
2nd display module



Step6. Change VGA 12V Configuration - Disabled to Enabled.

Step7. Press the [F4] key to save and exit.

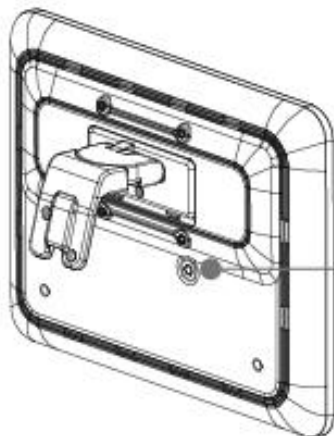
Step8. Confirm the system operation.



Step9. Assemble the adapter cable.

Step10. Assemble "I/O Cover".

※ 2nd display Switch setting

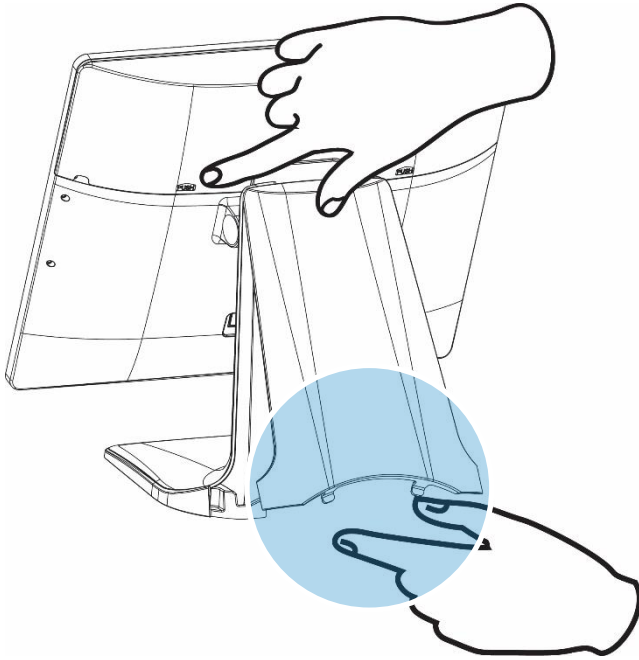


- ▶ Short push : Autocalibration
- ▶ Long push : Power ON/OFF

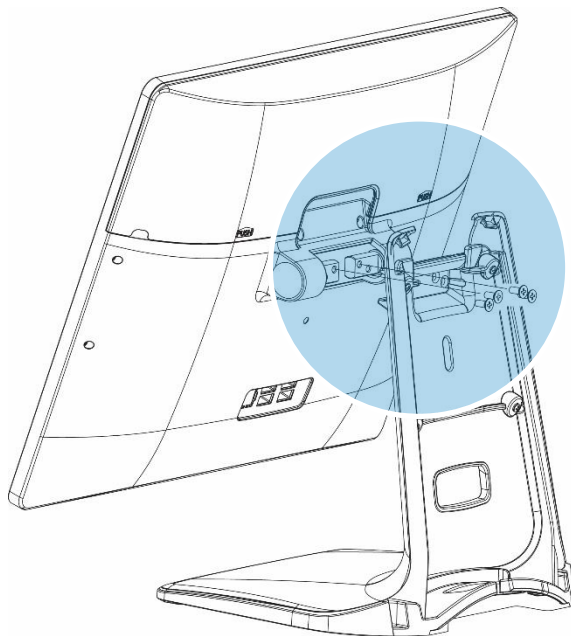
(4) Installation Wall mount

** Warning: Completely remove power cable when opening main unit or installing optional devices.*

Wall mount

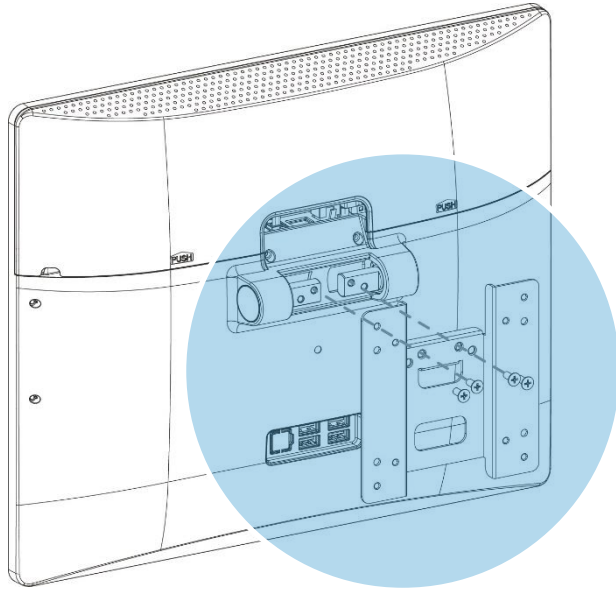


Step1. Separate it while holding & pulling the product of "stand cover".

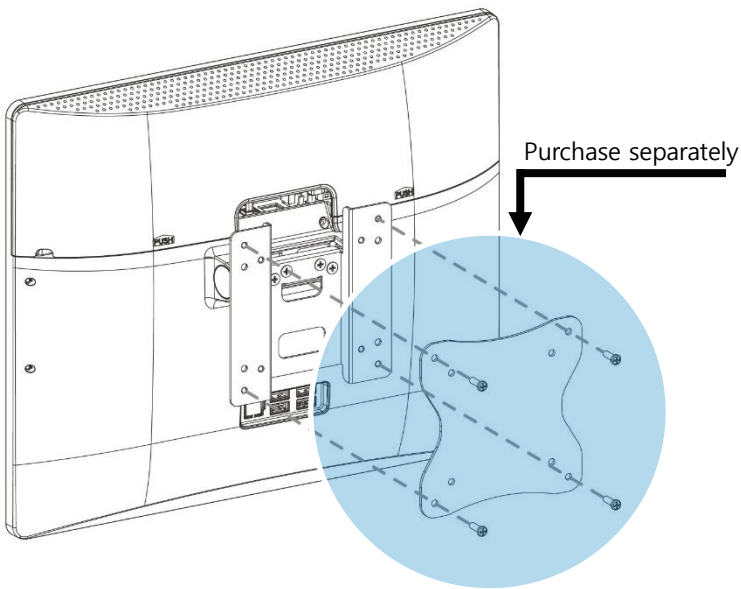


Step2. Separate four screws (E).
※ Reuse the screws(E).

Wall mount



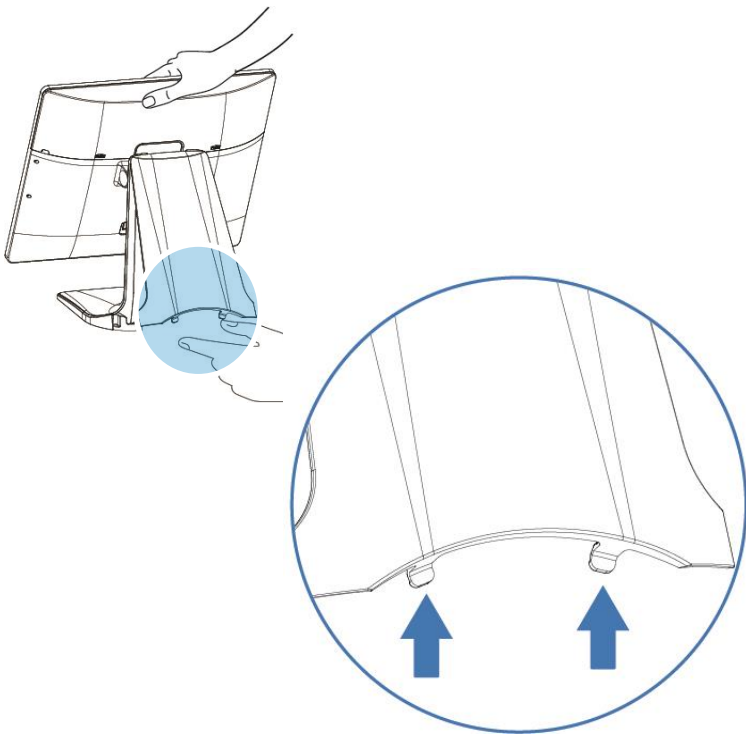
Step3. Assemble "Vesa bracket(A)" with the screws(E).



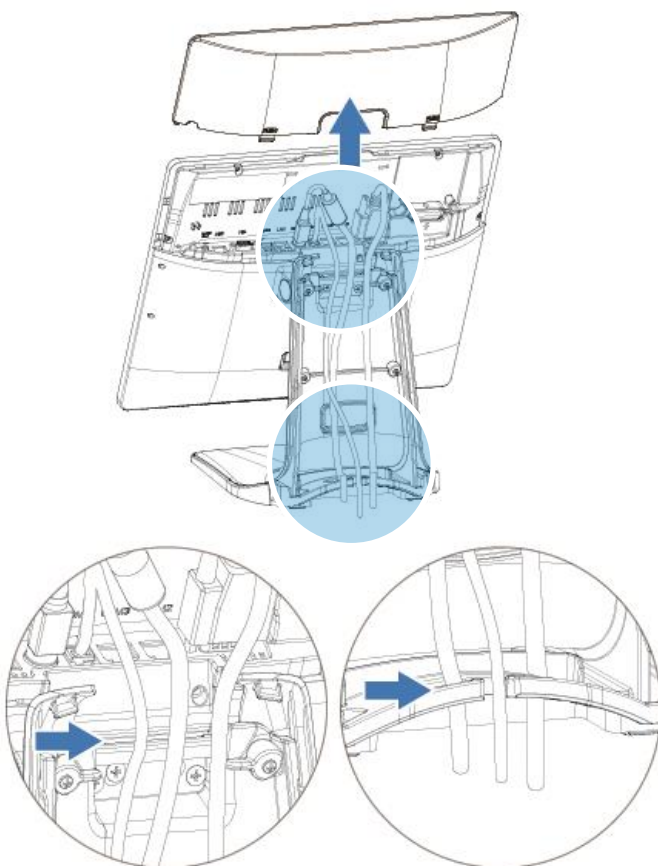
Step4. Assemble the monitor with the vesa product that you purchased separately

(5) Arrangement of the cable

Arrangement of the cable



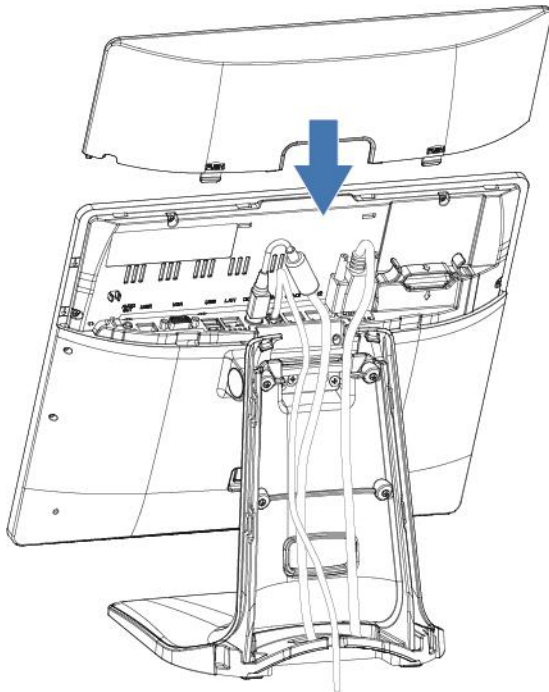
Step1. Separate it while holding the product of the handle & pulling the bottom hook of "stand cover".



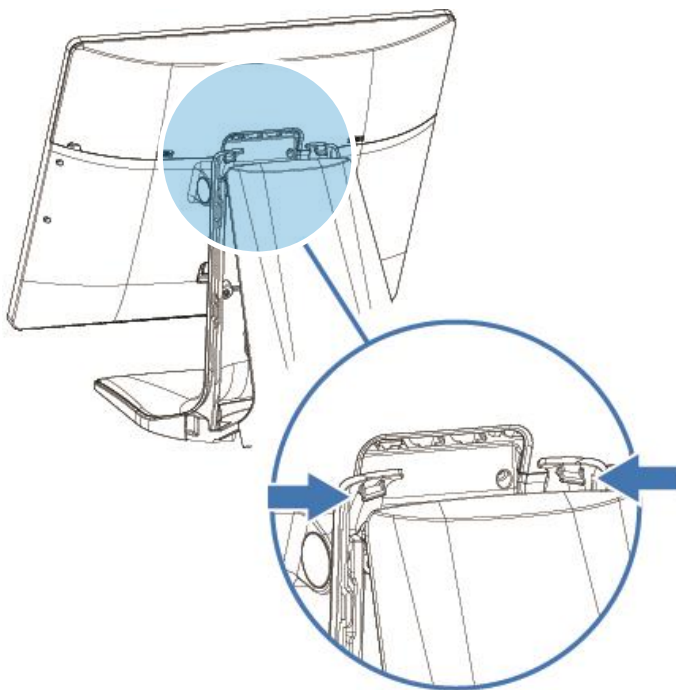
Step2. Separate "I/O cover".

Step3. Please arrange it after referring to the cable image.

Arrangement of the cable



Step4. Assemble the I/O cover.



Step5. Assemble upper and push the bottom.

3. Motherboard

(1) Motherboard Overview

This includes description of the jumpers and connectors on the motherboard.

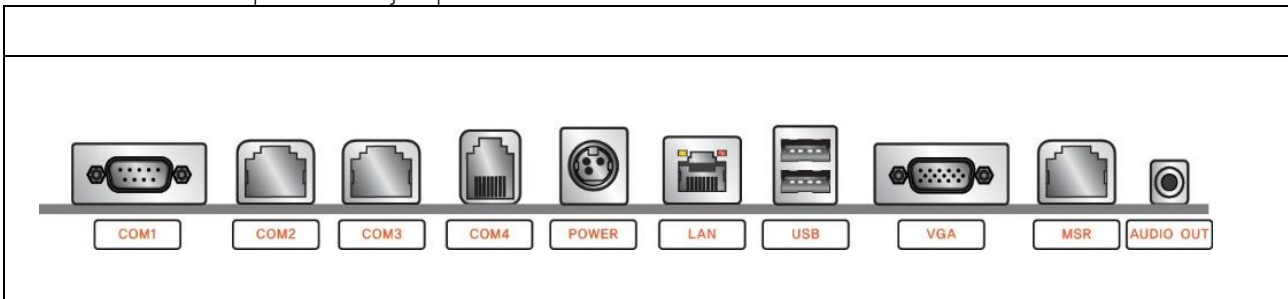
Warning

Take note of the following precautions before you install motherboard components or change any motherboard settings.

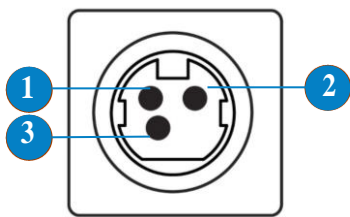
1. Unplug the power cord from the wall socket before touching any component.
2. Before handling components, use a grounded wrist strap or touch a safely grounded object or a metal object, such as the power supply case, to avoid damaging them due to static electricity.
3. Hold components by the edges to avoid touching the ICs on them.
4. Whenever you uninstall any component, place it on a grounded antistatic pad or in the bag that came with the component.
5. Before you install or remove any component, ensure that the ATX power
6. Supply is switched off or the power cord is detached from the power supply. Failure to do so may cause

(2) Mother board Pin Assignment

This includes description of the jumpers and connectors on the motherboard.

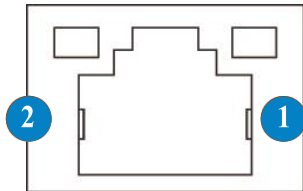


Power (Input) port / Adapter Input – 24V



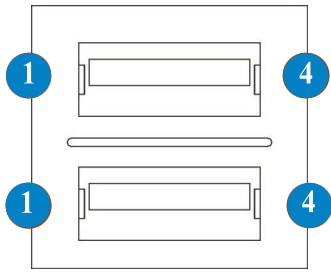
| Pin Num | Description |
|---------|-------------|
| 1 | NC |
| 2 | + |
| 3 | - |

LAN port (RJ45)



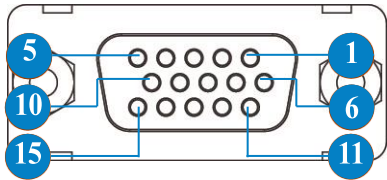
| Pin Num | Description | Pin Num | Description |
|---------|-------------|---------|-------------|
| 1 | Transmit + | 5 | Reserved |
| 2 | Transmit - | 6 | Receive - |
| 3 | Receive + | 7 | Reserved |
| 4 | Reserved | 8 | Reserved |

USB port



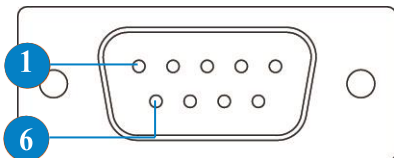
| Pin Num | Description |
|---------|-------------|
| 1 | VSUB(+5V) + |
| 2 | D- |
| 3 | D+ |
| 4 | GND |

VGA



| Pin Num | Description | Pin Num | Description |
|---------|-------------|---------|-------------|
| 1 | RED | 9 | KEY_PWR |
| 2 | GREEN | 10 | GND |
| 3 | BLUE | 11 | ID0/RES |
| 4 | ID2/RES | 12 | ID1/SDA |
| 5 | GND | 13 | Hsync |
| 6 | RED_RTN | 14 | Vsync |
| 7 | GREEN_RTN | 15 | ID3/SCL |
| 8 | BLUE_RTN | | |

Serial port



| Pin Num | Description | Pin Num | Description |
|---------|-------------|---------|-------------|
| 1 | DCD | 6 | DSR |
| 2 | RXD | 7 | RTS |
| 3 | TXD | 8 | CTS |
| 4 | DTR | 9 | 0V/5V/12V |
| 5 | GND | | |

4. BIOS Setup Utility

* This chapter tells how to change the system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

(1) BIOS setup program

This motherboard supports a programmable firmware chip that you can update using the provided utility. Use the BIOS Setup program when you are installing a motherboard, reconfiguring your system, or prompted to "Run Setup." This section explains how to configure your system using this utility.

Even if you are not prompted to use the Setup program, you can change the configuration of your computer in the future. For example, you can enable the security password feature or change the power management settings. This requires you to reconfigure your system using the BIOS Setup program so that the computer can recognize these changes and record them in the CMOS RAM of the firmware hub.

The firmware hub on the motherboard stores the Setup utility. When you start up the computer, the system provides you with the opportunity to run this program. Press $\leftarrow\text{Del}\rightarrow$ during the Power-On-Self-Test (POST) to enter the Setup utility; otherwise, POST continues with its test routines.

If you wish to enter Setup after POST, restart the system by pressing $\leftarrow\text{Ctrl+Alt+Delete}\rightarrow$, or by pressing the reset button on the system chassis. You can also restart by turning the system off and then back on. Do this last option only if the first two failed.

The Setup program is designed to make it as easy to use as possible. Being a menu-driven program, it lets you scroll through the various sub-menus and make your selections from the available options using the navigation keys.

-
- The default BIOS settings for this motherboard apply for most conditions to ensure optimum performance. If the system becomes unstable after changing any BIOS settings, load the default settings to ensure system compatibility and stability. Select the Load Optimized Defaults from the BIOS menu screen.
 - The BIOS setup screens shown in this section are for reference purposes only, and may not exactly match what you see on your screen.
-

1.1 Legend Box

The keys in the legend bar allow you to navigate through the various setup menus.

| Key(s) | Function Description |
|--------|-----------------------|
| ←,→ | Select Screen |
| ↑,↓ | Select Item |
| Enter | Select |
| +,- | Change Option / Field |
| F1 | General Help |
| F2 | Previous Value |
| F3 | Optimized Defaults |
| F4 | Save and Exit |
| ESC | Exit |

1.2 List Box

This box appears only in the opening screen. The box displays an initial list of configurable items in the menu you selected.

1.3 Sub-menu

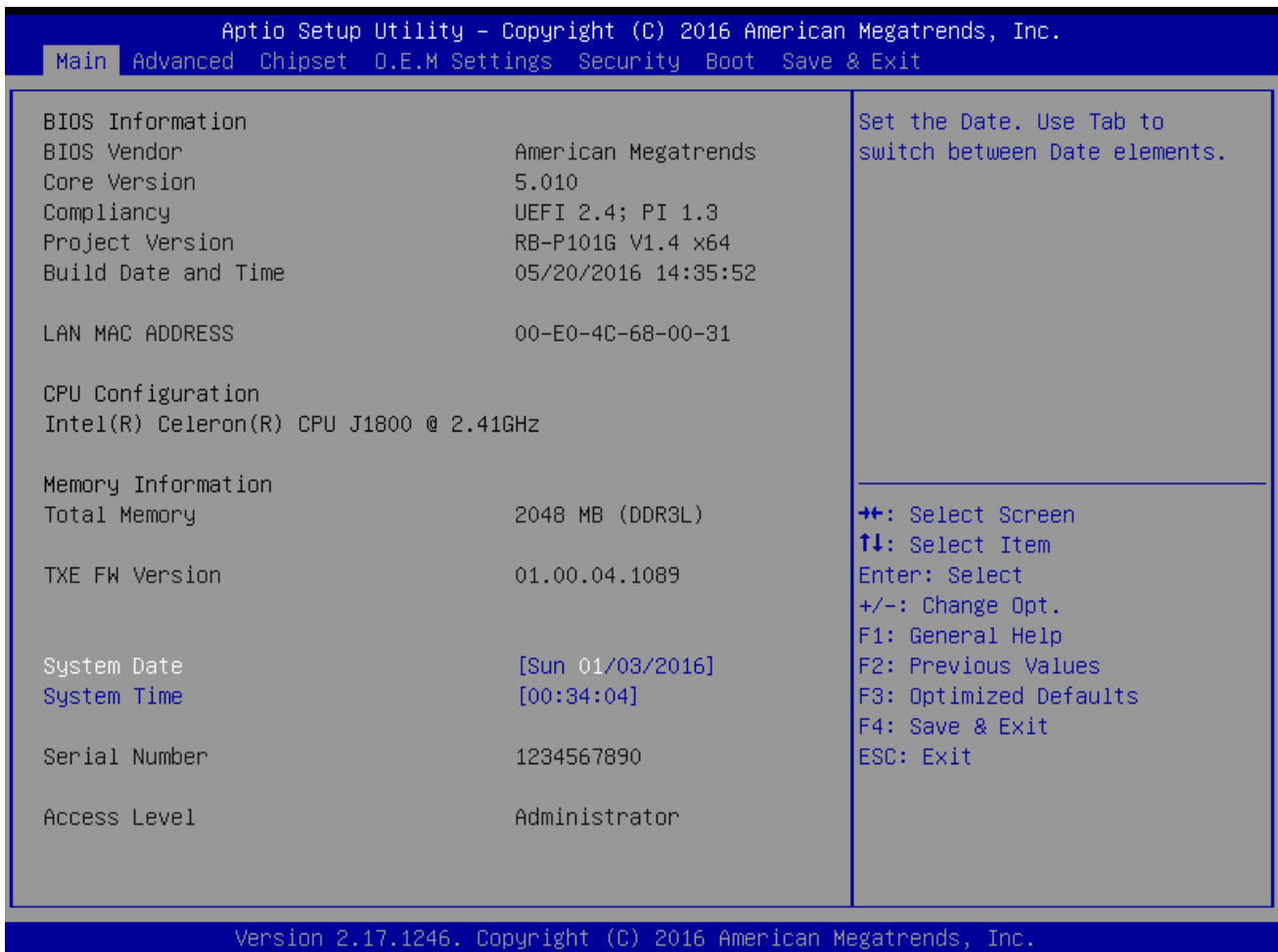
Note that a right pointer symbol (▶) appears to the left of certain fields. This pointer indicates that you can display a sub-menu from this field. A sub-menu contains additional options for a field parameter. To display a sub-menu, move the highlight to the field and press ←Enter→. The sub-menu appears. Use the legend keys to enter values and move from field to field within a sub-menu as you would within a menu. Use the ←Esc→ key to return to the main menu.

Take some time to familiarize yourself with the legend keys and their corresponding functions. Practice navigating through the various menus and submenus. If you accidentally make unwanted changes to any of the fields, press ←F6→ to load the fail-safe default values. While moving around through the Setup program, note that explanations appear in the Item Specific Help window located to the right of each menu. This window displays the help text for the currently highlighted field.

(2) BIOS Setup

2.1 BIOS Menu Screen

When you enter the BIOS, the following screen appears. The BIOS menu screen displays the items that allow you to make changes to the system configuration. To access the menu items, press the up/down/right/left arrow key on the keyboard until the desired item is highlighted, then press [Enter] to open the specific menu.



2.2 Main Setup

This menu gives you an overview of the general system specifications. The BIOS automatically detects the items in this menu. Use this menu for basic system configurations, such as time, date etc.

| Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc. | | |
|----------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main Advanced Chipset D.E.M Settings Security Boot Save & Exit | | |
| BIOS Information | | Set the Date. Use Tab to switch between Date elements. |
| BIOS Vendor | American Megatrends | |
| Core Version | 5.010 | |
| Compliance | UEFI 2.4; PI 1.3 | |
| Project Version | RB-P101G V1.4 x64 | |
| Build Date and Time | 05/20/2016 14:35:52 | |
| LAN MAC ADDRESS | 00-E0-4C-68-00-31 | |
| CPU Configuration | | ++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| Intel(R) Celeron(R) CPU J1800 @ 2.41GHz | | |
| Memory Information | | |
| Total Memory | 2048 MB (DDR3L) | |
| TXE FW Version | 01.00.04.1089 | |
| System Date | [Sun 01/03/2016] | |
| System Time | [00:34:04] | |
| Serial Number | 1234567890 | |
| Access Level | Administrator | |
| Version 2.17.1246. Copyright (C) 2016 American Megatrends, Inc. | | |

2. System Time

The time format is ←Hour→,←Minute→,←Second→.

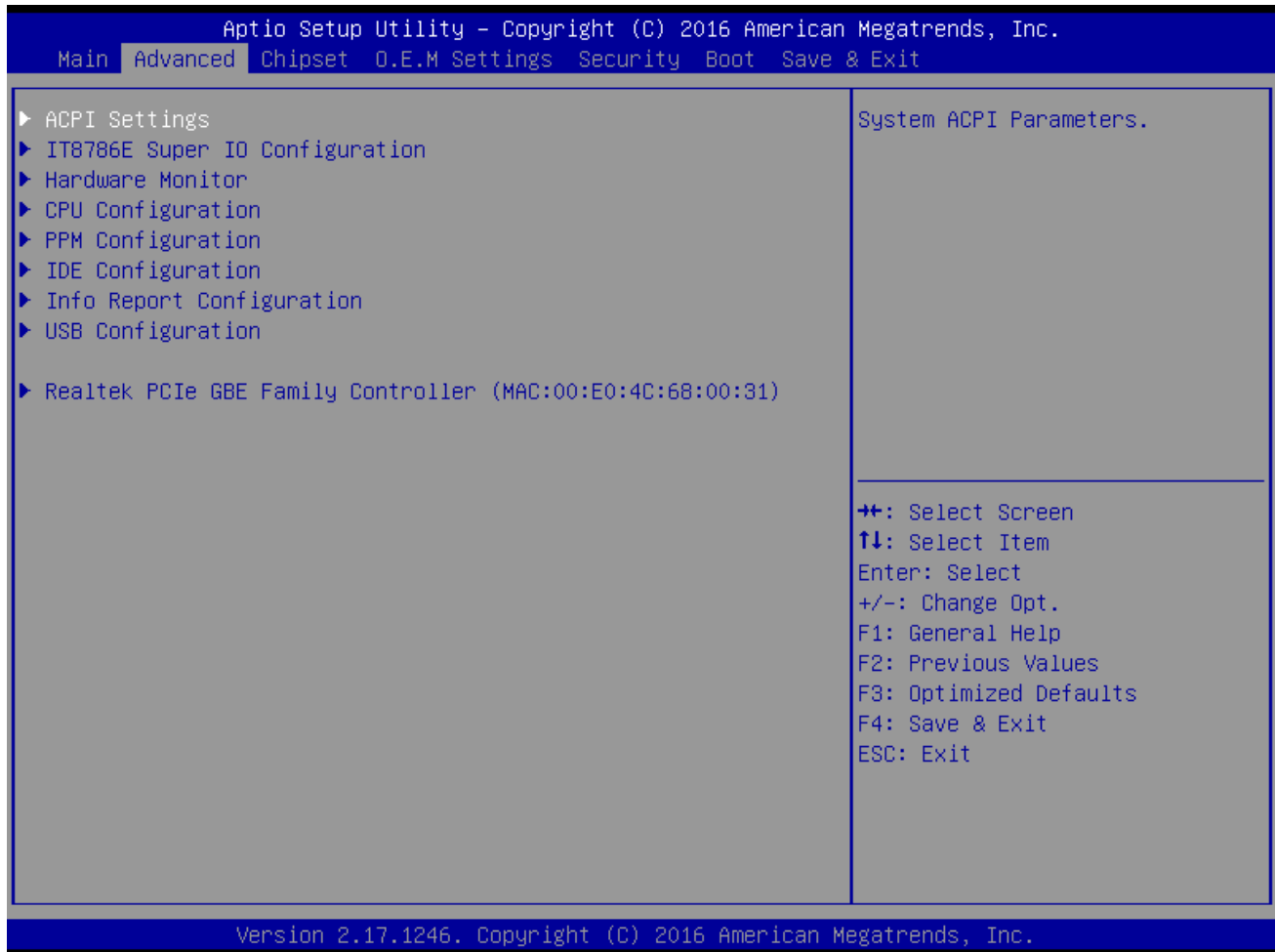
3. System Date

The date format is ←Date→,←Month→,←Day→,←Year→.

2.3 Advanced BIOS Setup

Select the Advanced tab from the setup screen to enter the Advanced BIOS Setup screen.

You can select any of the items in the left frame of the screen, such as Chipset configuration, to go to the sub menu for that item. You can display an Advanced BIOS Setup option by highlighting it using the ←Arrow→ keys. All Advanced BIOS Setup options are described in this section. The Advanced BIOS Setup screen is shown below. The sub menus are described on the following pages.



2.4 ACPI Settings [S3 (suspend to RAM)]

The screenshot displays the Aptio Setup Utility interface. At the top, it reads "Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc." and "Advanced". The main area is titled "ACPI Settings" and contains the following configuration items:

| Setting | Value |
|--------------------------------|-----------------------|
| Enable ACPI Auto Configuration | [Disabled] |
| Enable Hibernation | [Enabled] |
| ACPI Sleep State | [S3 (Suspend to RAM)] |
| Lock Legacy Resources | [Disabled] |
| S3 Video Repost | [Disabled] |

On the right side of the screen, there is a description: "Enables or Disables BIOS ACPI Auto Configuration." Below this, a list of navigation keys is provided:

- ←→: Select Screen
- ↑↓: Select Item
- Enter: Select
- +/-: Change Opt.
- F1: General Help
- F2: Previous Values
- F3: Optimized Defaults
- F4: Save & Exit
- ESC: Exit

At the bottom of the screen, it reads "Version 2.17.1246. Copyright (C) 2016 American Megatrends, Inc."

System ACPI parameters.

Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed .

2.5 CPU Configuration

Execute Disable Bit [Enabled]

XD can prevent certain classes of malicious buffer overflow attacks when combine with a supporting OS (Windows Server 2003 SP1,Windows XP SP2,SuSE Linux9.2, RedHat Enterprise 3 update 3.)

Limit CPUID Maximum[Disable]

Disable for Windows XP

The screenshot displays the Aptio Setup Utility interface with the 'Advanced' tab selected. The main area is divided into two columns. The left column, titled 'CPU Configuration', contains a sub-section 'Socket 0 CPU Information' with the following settings:

| | |
|---------------------------------|------------|
| CPU Speed | 2418 MHz |
| 64-bit | Supported |
| Limit CPUID Maximum | [Disabled] |
| Execute Disable Bit | [Enabled] |
| Intel Virtualization Technology | [Enabled] |
| Power Technology | [Disable] |

The right column, titled 'Socket specific CPU Information', is currently empty. Below this column, a legend lists the navigation keys: ++ for Select Screen, ↑↓ for Select Item, Enter for Select, +/- for Change Opt., F1 for General Help, F2 for Previous Values, F3 for Optimized Defaults, F4 for Save & Exit, and ESC for Exit.

At the bottom of the screen, the version information is displayed: Version 2.17.1246. Copyright (C) 2016 American Megatrends, Inc.

2.6 IDE Configuration

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Advanced

| | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>IDE Configuration</p> <p>Serial-ATA (SATA) [Enabled] SATA Test Mode [Disabled]</p> <p>SATA Speed Support [Gen2] SATA ODD Port [No ODD] SATA Mode [AHCI Mode]</p> <p>MINISATA Port [Enabled] SATA Port0 HotPlug [Disabled]</p> <p>MINISATA Port Not Present</p> | <p>Enable / Disable Serial ATA</p> <hr/> <p> ⇐⇐: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit </p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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2.7 USB Configuration

Legacy USB support [Enable]

Enables Legacy USB support AUTO option disable legacy support if no USB device are connected DISABLE option will keep USB device available only for EFI applications

EHCI Hand-off[Enable]

This is a workaround for Oses without EHCI hand-off support the EHCI ownership change should be claimed by EHCI driver .

Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc.

Advanced

| | | |
|------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USB Configuration | | Enables Legacy USB support. AUTO option disables legacy support if no USB devices are connected. DISABLE option will keep USB devices available only for EFI applications. |
| USB Module Version | 8.11.02 | |
| USB Devices: | 1 Drive, 1 Keyboard, 2 Mice, 4 Hubs | |
| Legacy USB Support | [Enabled] | |
| EHCI Hand-off | [Disabled] | |
| USB Mass Storage Driver Support | [Enabled] | |
| USB hardware delays and time-outs: | | |
| USB transfer time-out | [20 sec] | |
| Device reset time-out | [20 sec] | |
| Device power-up delay | [Auto] | |
| Mass Storage Devices: | | |
| ADATA USB Flash Drive 1.00 | [Auto] | |

++: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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USB Configuration

| | |
|-----------------------|-----------|
| USB 2.0(EHCI) Support | [Enabled] |
| USB Port 0 | [Enabled] |
| USB Port 1 | [Enabled] |
| USB Port 2 | [Enabled] |
| USB Port 3 | [Enabled] |

Control the USB EHCI (USB 2.0) functions. One EHCI controller must always be enabled

←→: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

2.8 Super I/O Configuration

Serial Port 1 configuration

Set parameters of serial port 1 (COM1)

Serial Port 2 configuration

Set parameters of serial port 2 (COM2)

Parallel Port configuration

Set parameters of parallel port

Serial Port 3 configuration

Set parameters of serial port 3 (COM3)

Serial Port 4 configuration

Set parameters of serial port 4 (COM4)

Serial Port 5 configuration

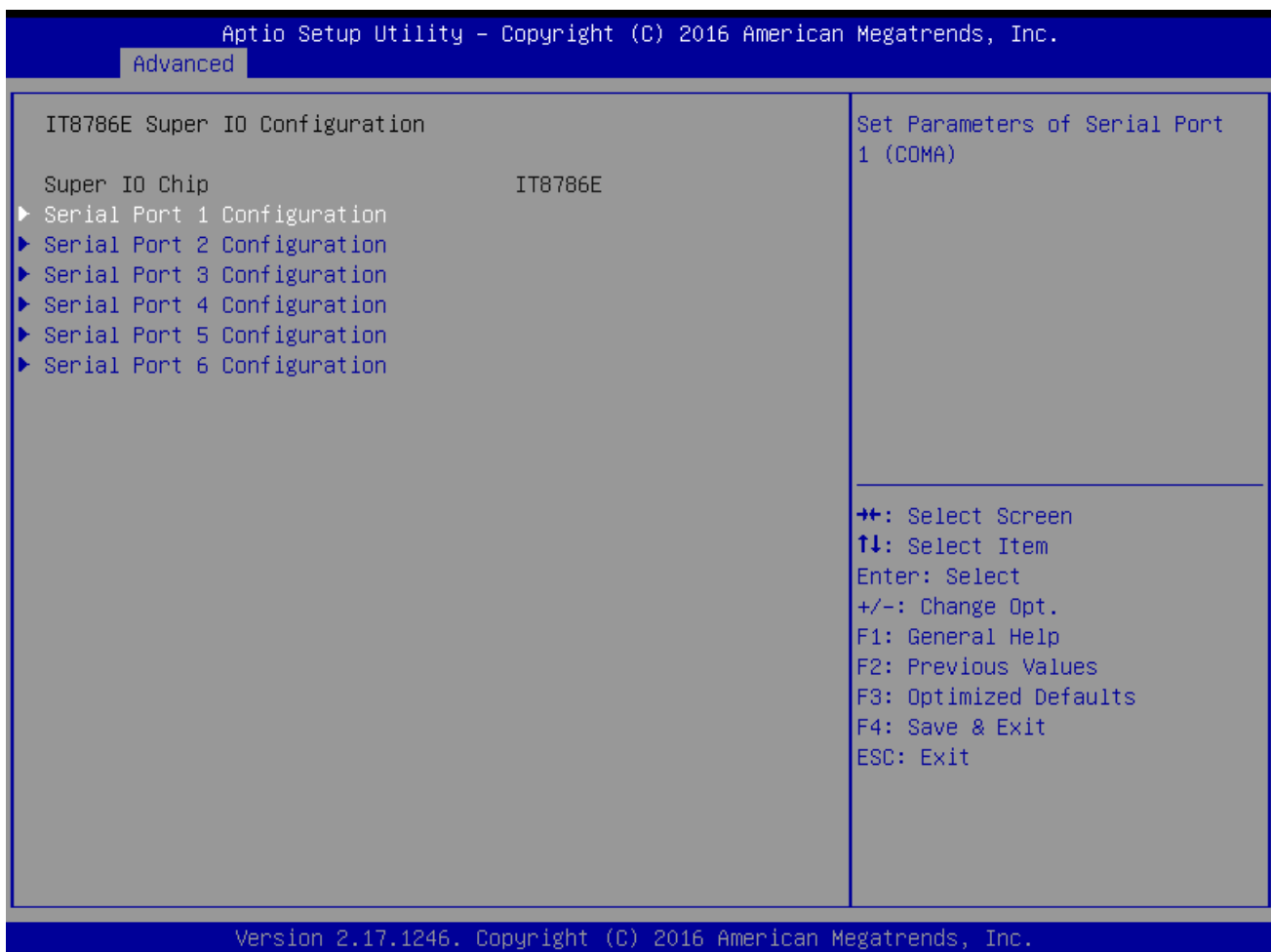
Set parameters of serial port 5 (COM5)

Serial Port 6 configuration

Set parameters of serial port 6 (COM6)

AC Power Loss state[Always OFF]

Set the state after power loss.



2.9 Hardware Monitor

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Chipset

| | |
|---------------------------|----------------------------|
| ▶ Intel IGD Configuration | Config Intel IGD Settings. |
| Primary IGFX Boot Display | [VBIOS Default] |
| Backlight Control | [PWM Normal] |
| LVDS BackLight | [Level 5] |
| LVDS Resolution Setting | [1024*768(24bit/1-ch)] |
| Memory Information | |
| Total Memory | 2048 MB (DDR3L) |
| Memory Slot1 | 2048 MB (DDR3L) |
| Max TOLUD | [Dynamic] |

++: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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Smart Fan Mode configuration
Smart Fan Mode select

2.10 Chipset

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Chipset

| | |
|-----------------------|-------------------------|
| ▶ Azalia HD Audio | Azalia HD Audio Options |
| ▶ USB Configuration | |
| High Precision Timer | [Enabled] |
| Serial IRQ Mode | [Continuous] |
| VGA 12V Configuration | [Disabled] |

++: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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2.11 South Bridge



South bridge parameters

2.12 North Bridge

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Advanced

Pc Health Status

| | |
|--------------------|-------------|
| CPU Temperature | : +69 ℃ |
| System Temperature | : +30 ℃ |
| Fan1 Speed | : N/A |
| Fan2 Speed | : N/A |
| CPU Vcore | : +0.912 V |
| DDR3L | : +1.368 V |
| +12 Voltage | : +12.240 V |
| +5 Voltage | : +5.004 V |
| +3.3 Voltage | : +3.320 V |
| VBAT | : +3.144 V |

←←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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2.13 Boot Display Configuration

| Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc. | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main Advanced Chipset O.E.M Settings Security Boot Save & Exit | | |
| Boot Configuration Setup Prompt Timeout 1 Bootup NumLock State [On] Fast Boot [Disabled] Boot Option Priorities Boot Option #1 [UEFI: ADATA USB Fla...] Boot Option #2 [UEFI: Built-in EFI ...] | | Number of seconds to wait for setup activation key. 65535(0xFFFF) means indefinite waiting. |
| | | ⇧⇧: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
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2.14 Boot

```
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Main  Advanced  Chipset  O.E.M Settings  Security  Boot  Save & Exit

Boot Configuration
Setup Prompt Timeout          1
Bootup NumLock State         [On]

Fast Boot                      [Disabled]

Boot Option Priorities
Boot Option #1                [UEFI: ADATA USB Fla...]
Boot Option #2                [UEFI: Built-in EFI ...]

Number of seconds to wait for
setup activation key.
65535(0xFFFF) means indefinite
waiting.

++: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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```

2.15 Security

Administrator password

Set administrator password

User password

Set User password

| Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc. | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|---|----------------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main Advanced Chipset O.E.M Settings Security Boot Save & Exit | | | | | |
| <p>Password Description</p> <p>If ONLY the Administrator's password is set, then this only limits access to Setup and is only asked for when entering Setup.</p> <p>If ONLY the User's password is set, then this is a power on password and must be entered to boot or enter Setup. In Setup the User will have Administrator rights.</p> <p>The password length must be in the following range:</p> <table><tr><td>Minimum length</td><td>3</td></tr><tr><td>Maximum length</td><td>20</td></tr></table> <p>Administrator Password</p> <p>User Password</p> | Minimum length | 3 | Maximum length | 20 | <p>Set Administrator Password</p> <hr/> <p>←→: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</p> |
| Minimum length | 3 | | | | |
| Maximum length | 20 | | | | |
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2.16 Azalia HD Audio

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Chipset

| | | |
|---------------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Audio Configuration | | Control Detection of the Azalia device. Disabled = Azalia will be unconditionally disabled. Enabled = Azalia will be unconditionally Enabled. Auto = Azalia will be enabled if present disabled otherwise. |
| Audio Controller | [Enabled] | |

↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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2.17 Info Report Configuration

| Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc. | |
|--------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Advanced | |
| Info Report Configuration | Post Report Support Enabled/Disabled |
| Post Report | |
| Post Report | [Enabled] |
| Delay Time | [1] |
| | ←→ : Select Screen ↑↓ : Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
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2.18 Intel IGD Configuration

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Chipset

| | | |
|-------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GOP Configuration GOP Driver [Enabled] | | Enable GOP Driver will unload VBIOS; Disbale it will load VBIOS |
| Intel IGD Configuration | | |
| Integrated Graphics Device [Enabled] | | <hr/> ⇧⇧: Select Screen ⇧⇩: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
| IGD Turbo Enable [Enabled] | | |
| Primary Display [IGD] | | |
| GFX Boost [Disabled] | | |
| PAVC [LITE Mode] | | |
| DVMT Pre-Allocated [64M] | | |
| DVMT Total Gfx Mem [256MB] | | |
| Aperture Size [256MB] | | |
| DOP CG [Enabled] | | |
| GTT Size [2MB] | | |
| IGD Thermal [Disabled] | | |
| Spread Spectrum clock [Disabled] | | |

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2.19 O.E.M Settings

| Aptio Setup Utility - Copyright (C) 2016 American Megatrends, Inc. | | |
|-----------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main Advanced Chipset O.E.M Settings Security Boot Save & Exit | | |
| Feature | | This option controls Legacy/UEFI ROMs priority |
| Compatibility Support Module Configuration | | |
| OS Selection | [Windows 7] | |
| Boot Option Control | [Legacy] | |
| Storage | [Legacy only] | |
| Video | [Legacy only] | |
| | | |
| Show Logo | [Disabled] | |
| BIOS Read/Write Protection | [Disabled] | |
| | | |
| Wake up By PCIE LAN | [Disabled] | |
| Wake up S3/S4 by USB Device | [Enabled] | |
| Restore AC Power Loss | [Power Off] | |
| Resume On RTC Alarm | [Disabled] | |
| | | |
| Onboard LAN Control | [Enabled] | |
| LAN DOS PXE Boot | [Disabled] | |
| | | |
| GateA20 Active | [Upon Request] | |
| Option ROM Messages | [Force BIOS] | |
| | | ++: Select Screen ↑↓: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit |
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2.20 PPM Configuration

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Advanced

| | | |
|--------------------|------------|-----------------------------------------|
| PPM Configuration | | Enable/Disable CPU C state report to OS |
| CPU C state Report | [Disabled] | |

↔: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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2.21 Realtek PCIe GBE Family Controller

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Advanced

| | |
|-------------------------------------------------------------------------|--------------------------|
| Driver Information | |
| Driver Name: | Realtek UEFI UNDI Driver |
| Driver Version: | 2.023 |
| Driver Released Date: | 2013/07/22 |
| Device Information | |
| Device Name: | Realtek PCIe GBE Family |
| PCI Slot: | 02:00:00 |
| MAC Address: | 00:E0:4C:68:00:31 |
| Patent Information | |
| This product is covered by one or US6,570,884, US6,115,776, and US6, | |

++: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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2.22 Socket 0 CPU Information

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Advanced

Socket 0 CPU Information

| | |
|-----------------------------------------|---------------|
| Intel(R) Celeron(R) CPU J1800 @ 2.41GHz | |
| CPU Signature | 30678 |
| Microcode Patch | 829 |
| Max CPU Speed | 2410 MHz |
| Min CPU Speed | 1334 MHz |
| Processor Cores | 2 |
| Intel HT Technology | Not Supported |
| Intel VT-x Technology | Supported |
| | |
| L1 Data Cache | 24 kB x 2 |
| L1 Code Cache | 32 kB x 2 |
| L2 Cache | 1024 kB x 1 |
| L3 Cache | Not Present |

++: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit

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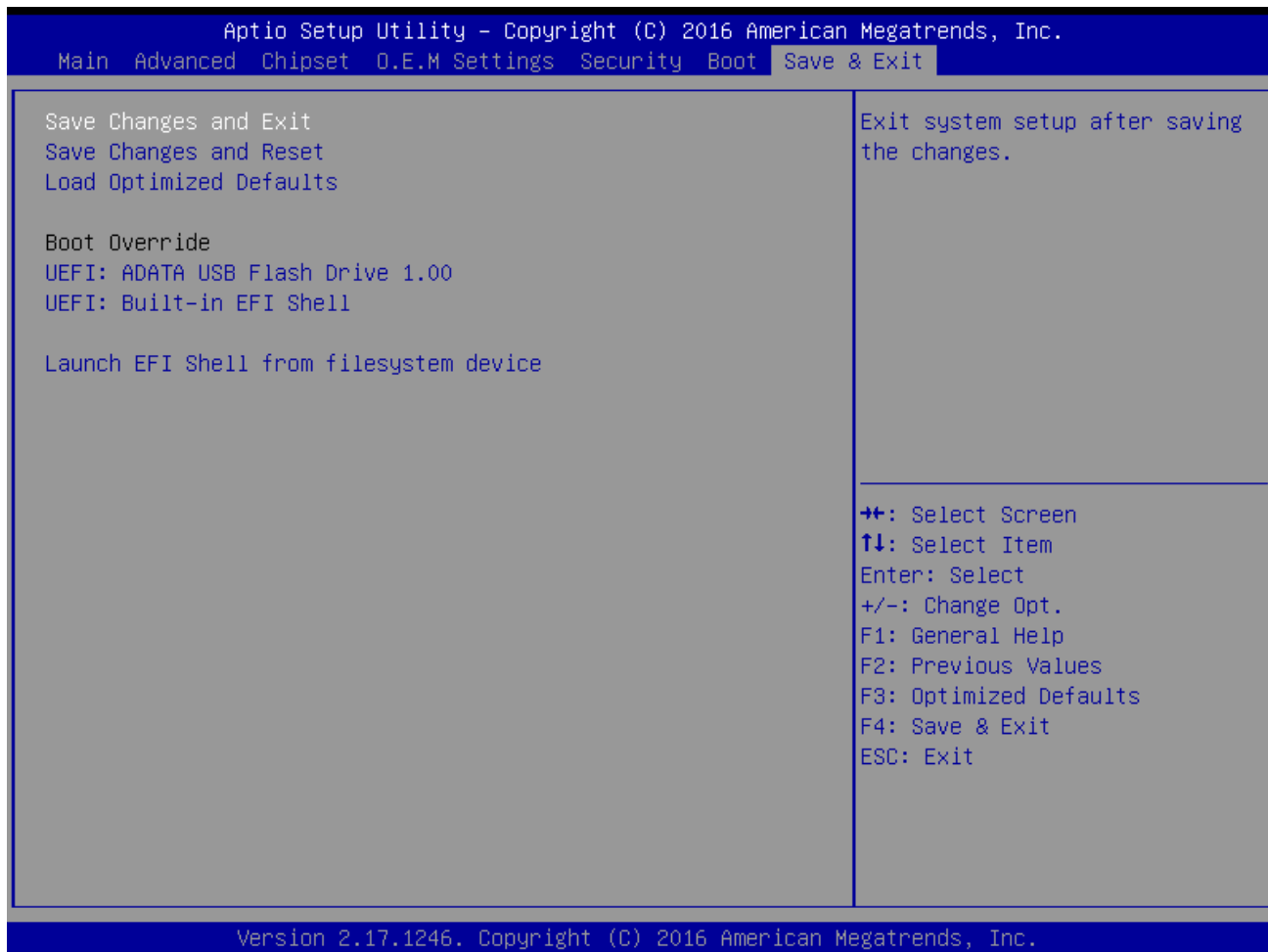
2.23 Save & Exit

Save Changes and Exit

Exit system setup after saving the changes.

Save changes and Reset

Reset the system after saving the changes.



5. Troubleshooting

(1) Network Issues

| Symptom | Corrective Procedure |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cannot access LAN | <ul style="list-style-type: none">▪ Check if hub or switch is working correctly▪ Check RJ45 cable connection▪ Check if LAN LEDs are on/off▪ Reinstall LAN card▪ Replace motherboard |

(2) MSR Issues

| Symptom | Corrective Procedure |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MSR does not respond | <ul style="list-style-type: none">▪ Check MSR reader cable connection▪ Check motherboard and LCD cable connection▪ Check MSR board cable connection |

(3) USB Issues

| Symptom | Corrective Procedure |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| USB port doesn't work | <ul style="list-style-type: none">▪ Check Windows device manager for device recognition▪ Check USB device status and connection▪ Erase and re-install USB driver▪ Change USB device |

(4) LCD Issues

| Symptom | Corrective Procedure |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LCD backlight doesn't work | <ul style="list-style-type: none">▪ Check LCD cable connection▪ Check inverter cable connection▪ Replace inverter cable▪ Change LCD panel |

(5) Touch-screen Issues

| Symptom | Corrective Procedure |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Touch-screen doesn't detect touch operations | <ul style="list-style-type: none">▪ Check touch-screen cable connection▪ Check motherboard and LCD cable connection▪ Check BIOS set-up |

(6) Power Issues

| Symptom | Corrective Procedure |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System switches off abruptly and system does not load | <ul style="list-style-type: none">▪ Check A/C cable connection▪ Check motherboard power connection▪ Check CPU settings/status▪ Check DRAM settings▪ Check power button cable connection▪ Change power adaptor unit |

(7) PS/2 Keyboard Issues

| Symptom | Corrective Procedure |
|----------------------|------------------------------------------------------------------------------------------------------|
| PS/2 Keyboard Issues | <ul style="list-style-type: none">▪ Check card-reader cable▪ Check CN6 jumper |

(8) Booting Issues

| Symptom | Corrective Procedure |
|------------------------------------|-------------------------------------------------------------------------------------------------------------|
| Re-booting during system operation | <ul style="list-style-type: none">▪ Check SATA cable connection▪ Check memory status |

6. Maintenance

Safety Warning

POSBANK will not be held responsible for repairs conducted via USER providers other than those officially specified by the seller.

General Guidelines

1. Always disconnect the unit from the power outlet.
2. Disconnect all cables from the POS main unit before attempting reparation.
3. Keep all components in the static-proof packaging provided until ready for installation.
4. If the device still is not functioning after repair, please turn off the POS unit and contact the customer USER center for a follow-up inspection.
5. We recommend that power supply unit (PSU) checks and monitor repairs only be performed at a certified USER center.