Service Manual

Model: PP-9635
Last Modified: 2017/1/13

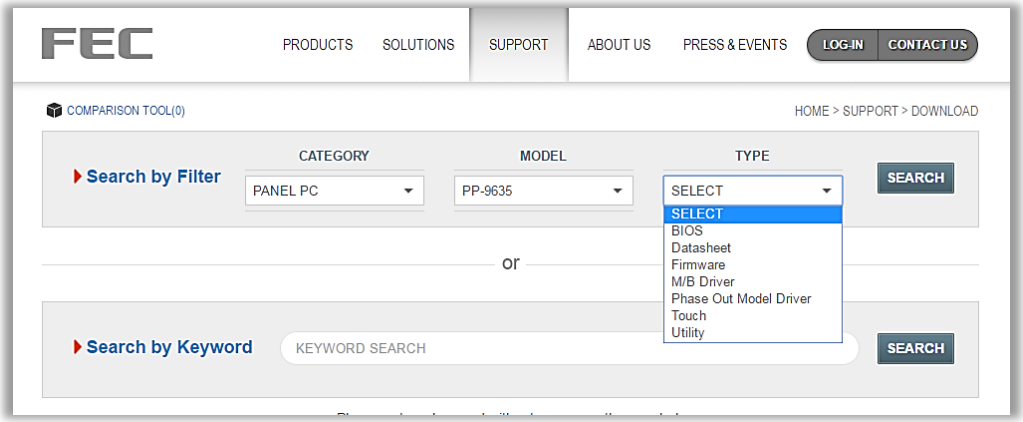
Revision	Date	Name	Description
1.1	01-13-2017	Yu-Ting Kao	Initial Release

Table of Contents

Basic Information

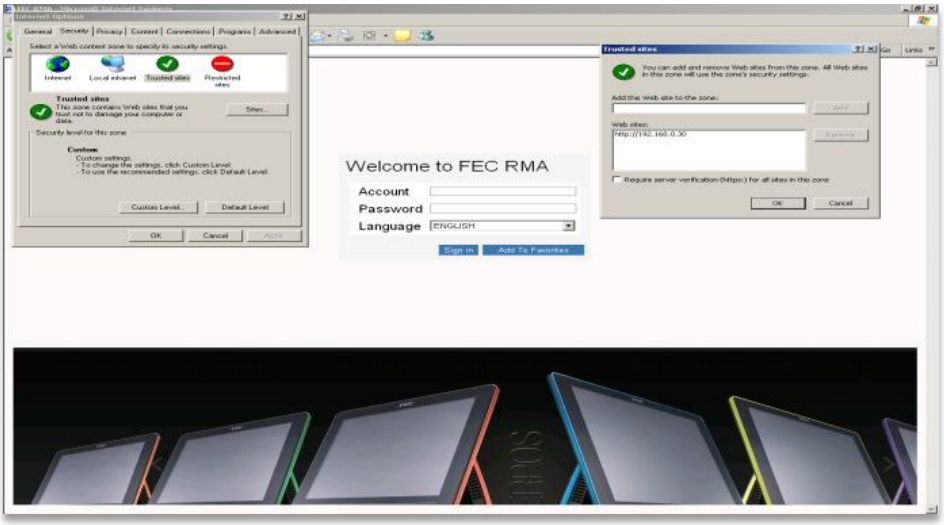
Technical Support

Send an email to our technical support staff: service@firich.com.tw
Locate the latest support items on our website:
http://www.fecpos.com/en-global/ams/Download
If you are a partner of FEC, you will be able to obtain an login and password to access more information: http://www.fecpos.com/en-global/member/login



RMA

If you are an FEC direct partner and you do **NOT** have a eRMA account, send an email to our technical support staff: service@firich.com.tw



Regulatory

Standard(s)
EN 55022: 2010 +AC: 2011 Class B
AS/NZS CISPR 22:2009+A1:2010Class B
CISPR 22:2008Class B
EN55024: 2010
EN61000-3-2: 2006 +A1: 2009 +A2: 2009 Class D
EN 61000-3-3: 2013

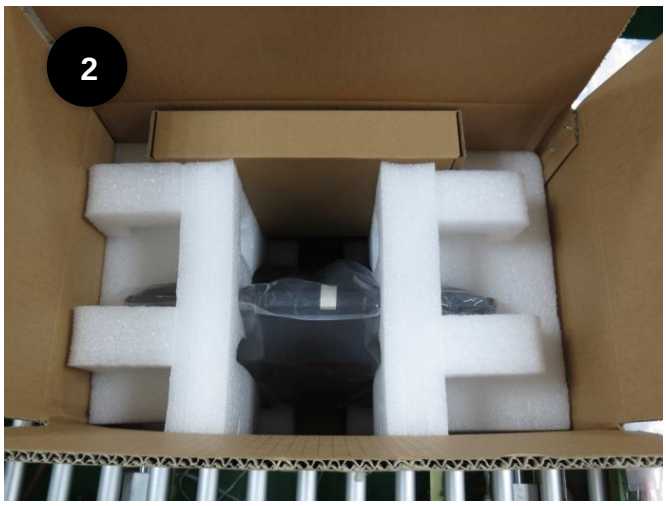
Authorized under Declaration of Conformity according to 47 CFR, Part 2 and Part 15 of the FCC Rules. The product listed in the follows was (were) tested in the BTL EMC Laboratory to comply with the criteria limits Class B of conducted and radiated emissions of the Technical Standards FCC Part 15, Subpart B, established by the FCC, USA.

Standard(s)
FCC Part 15, Subpart B: 2013
ANSI C63.4-2009
ICES-003 Issue 5: 2012
CISPR 22: 2008
CAN/CSA-CISPR 22-10

Safety Precautions

1. Disconnect the equipment from AC outlet before cleaning.
Use only moist cloth (with water). Do not use detergent.
2. Power outlet must be easily accessible and near the equipment.
3. Keep the equipment away from humid and dusty environment.
4. Place the equipment on a stable surface during installation and operation.
5. Do not place any load on the power cord.
6. All cautions and warnings on the equipment should be noted.
7. When the equipment is not in use, disconnect it from the power source to avoid damage by transient over-voltage.
8. Liquid into the equipment may cause fire or electrical shock.
9. Only qualified service personnel should be allowed to open the equipment.
10. If any of the following situations arises, ask service personnel to check the equipment:
A. Power cord / plug is damaged
B. Liquid penetrates into the equipment
C. The equipment does not function properly and/or cannot work according to the User Manual
D. The equipment has been dropped
E. The equipment shows signs of damage
11. Temperature below -20° C (-4°F) or above 60° C (140° F) may damage the equipment

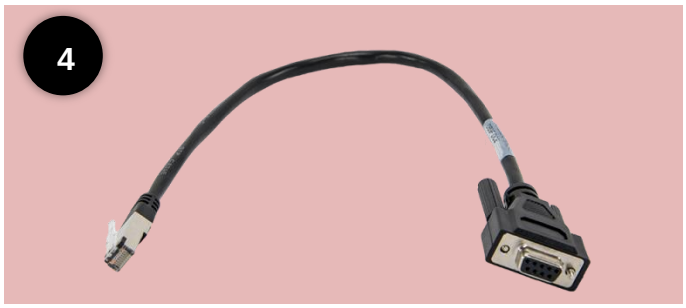
Package Opening



Tools Needed: Utility knife or Scissors

1. Cut the packaging tape and bands
2. Locate the accessory box and remove it from the package
3. Place PP-9635 on a flat cushioned surface and remove the styrofoam
4. Place PP-9635 face down; cut through the tape and remove it from the bag
5. Remove the screen protector

Accessory Box (Standard)



Standard items included in the accessory box includes:

1. Power Cord x 1
2. Adaptor x 1
3. Cable Cover x 1
4. RJ45 to DB9 Cable x 1

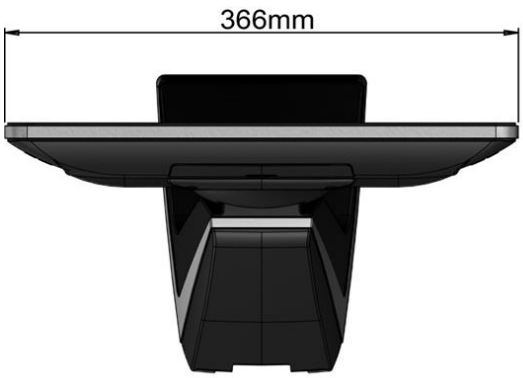
Overview

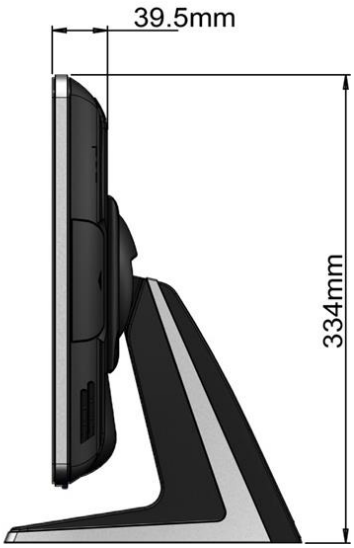

15inch PCAP
Touch Display
Power Switch (LED)
HDD Indicator


Integrated Customer Display
Add-on Device
MSR, iButton, Fingerprint
2.5” SATA Storage
Speaker
Stand

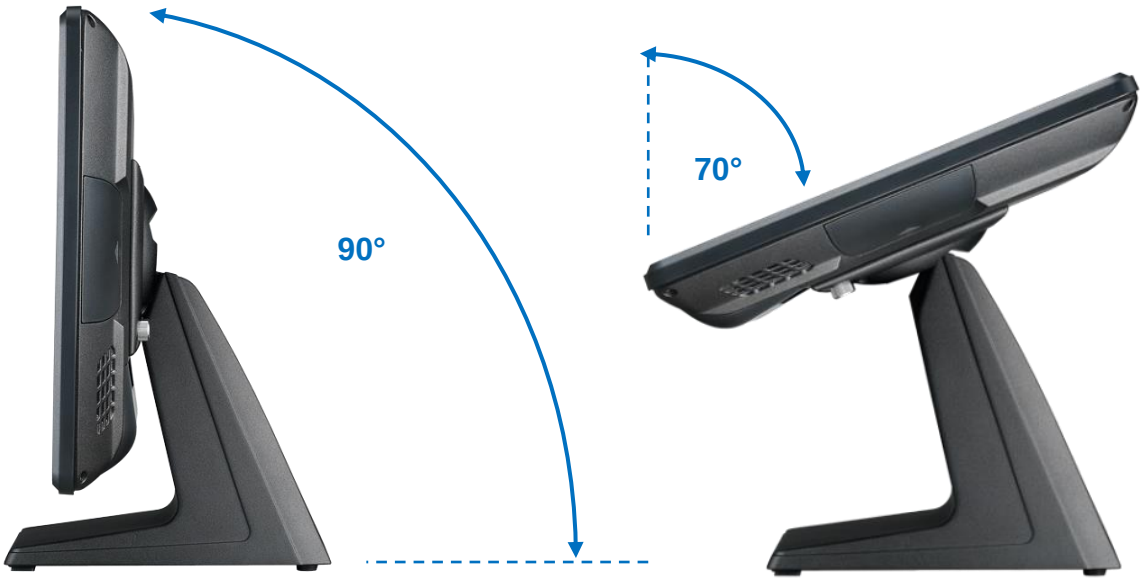
Physical

Dimension





Display Tilt Angle



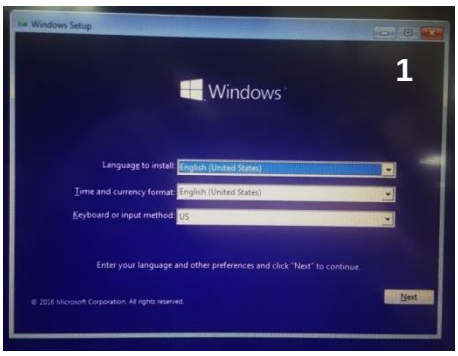
System Specifications

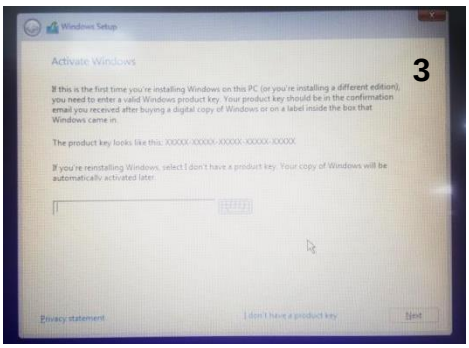
	PP-9635
Platform Processor	Intel Celeron Quad Core J1900 CPU 2.0~2.4Ghz
Memory	1 x 2GB 204-pin DDR3L Standard ; Maximum 8GB
Power Supply	90W / 150W
Display	15” (4 : 3)
Brightness / MTBF	300nits / 50,000 Hours (Based on 25°C Environment)
Touch Display	Resistive w/ Bezel, Resistive w/o Bezel, P-CAP w/o Bezel
Storage	1 x 2.5” SATA HDD slot
Power	90 / 150W
Stand (Optional)	Standard Stand (Single Hinge) Stand (Dual Hinge)
Speaker	Internal Speakers 2W x 2
VFD	20 x 2 (9mm / 12v / character mode)
LCM	20 x 2 (9mm / 12v / character mode) 240 x 64 (9mm / 12v / graphic mode) 20 x 2 (5mm / 5v / character mode)
Second Display	15” Pole type or Integrated type
Other Options	MSR reader, RFID reader, Fingerprint scanner, I-button Reader

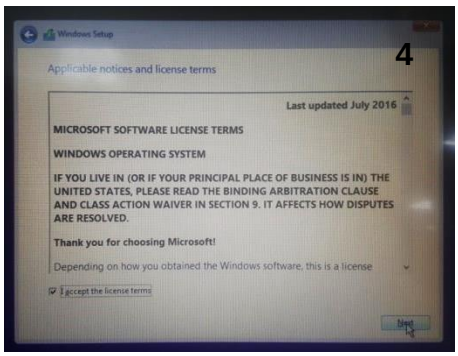
PP-9635	
Standard	
	
DC-in	1 x 12V
Power USB	1 x 24V
Cash Drawer	1 x RJ11
LAN	1 x GigaLAN
Video	1 x DB15
USB	1 x USB 3.0, 3 x USB 2.0
DC-out	1 x 12V
Type A	**Standard + 2 x DB9**
	
Type B	**Standard + 2 x Power USB 12V**
	
Type C	**Standard + 2 x USB2.0**
	

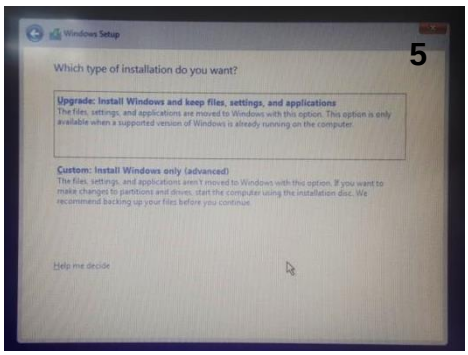
Windows 10 Enterprise Installation

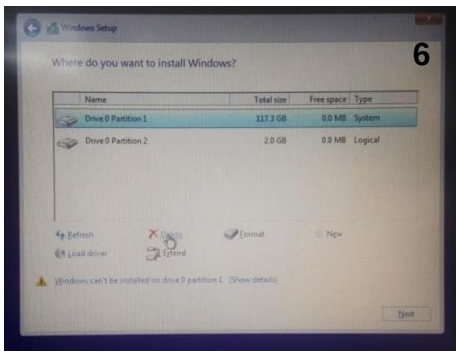
1. Select language
2. Click Install now
3. Enter the Product Key
4. Check applicable notices and license terms , Next
5. which type of installation do you want , example: install windows only
6. If you are using an old hard disk, select “Delete” remove the hard disk partition
7. Remove the hard disk partition is complete , or use new hard disk
   select “New” Create hard disk partition
8. Select partition size

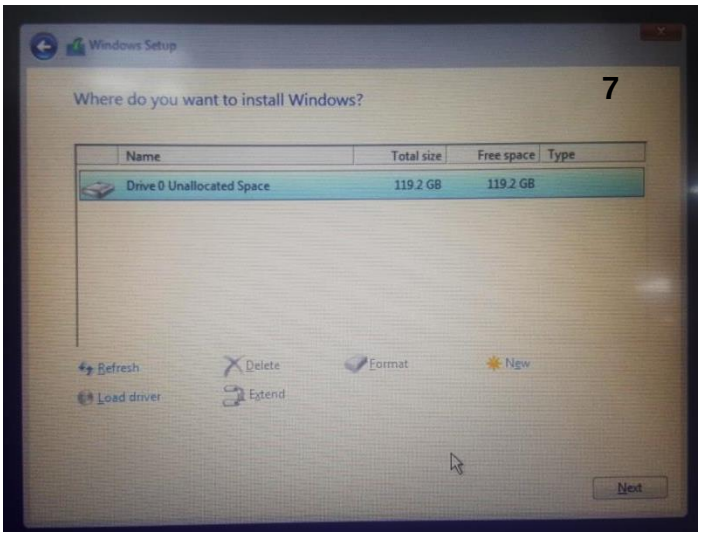


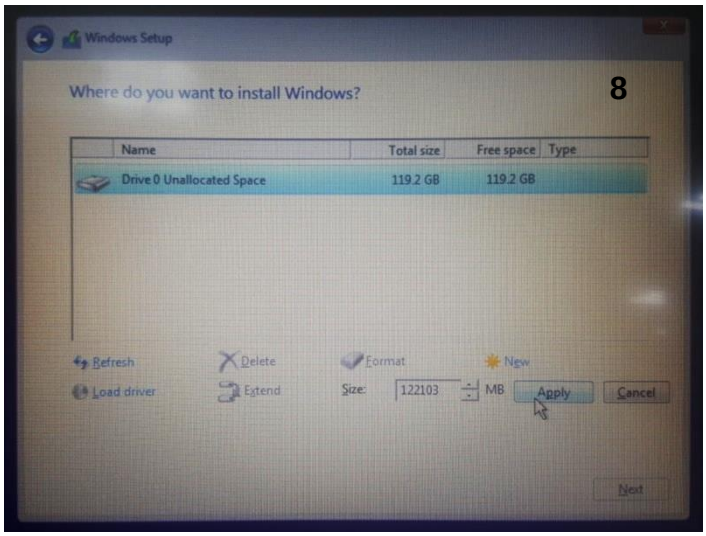




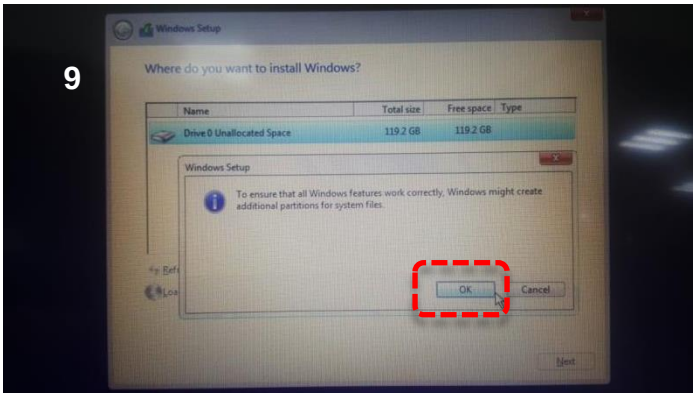


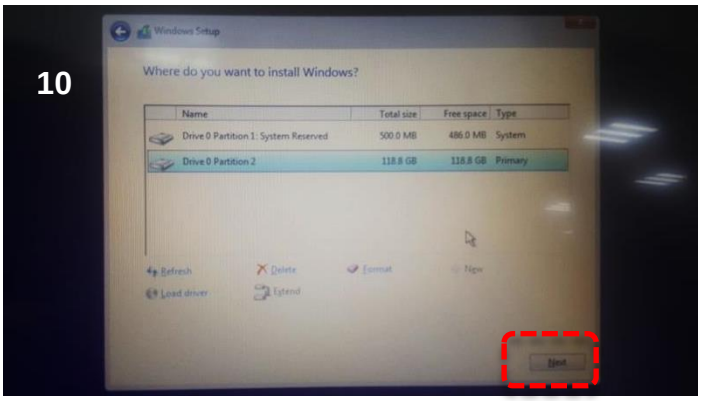


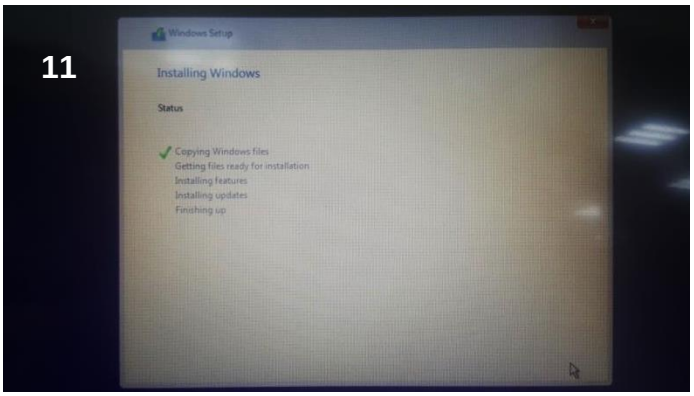


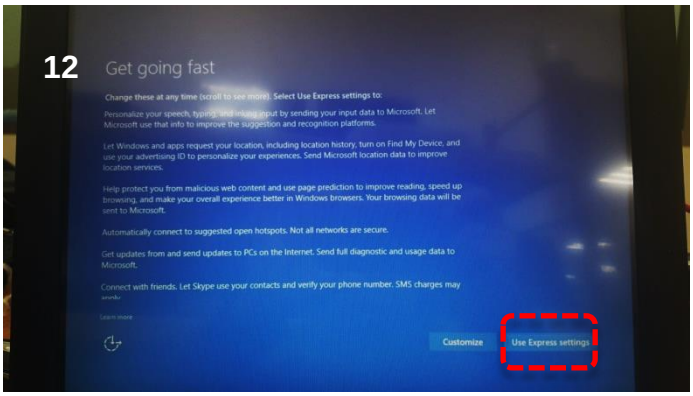


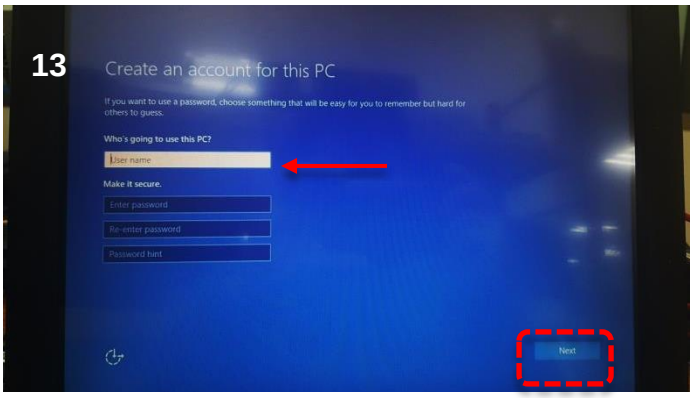
9. Check OK
10. Complete the hard disk partition
11. Start Install
12. The installation is complete; Check “Use Express Settings”
13. Enter User name; Click “Next”

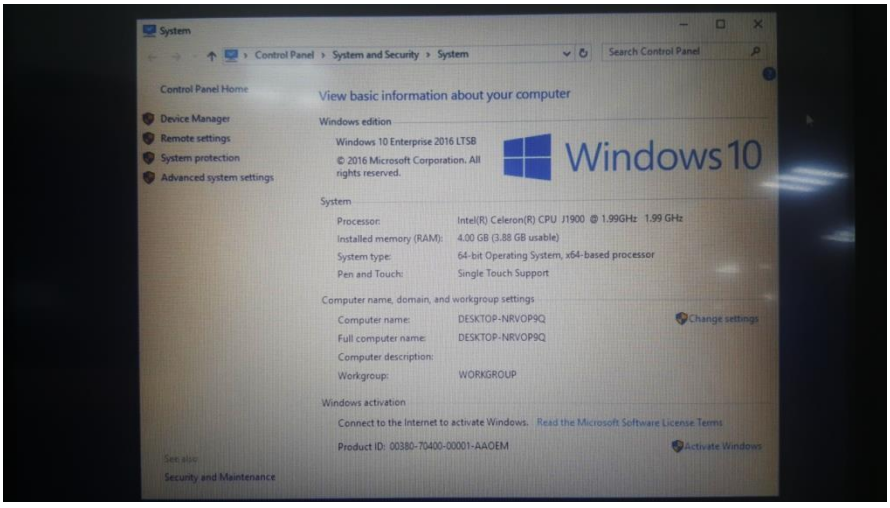












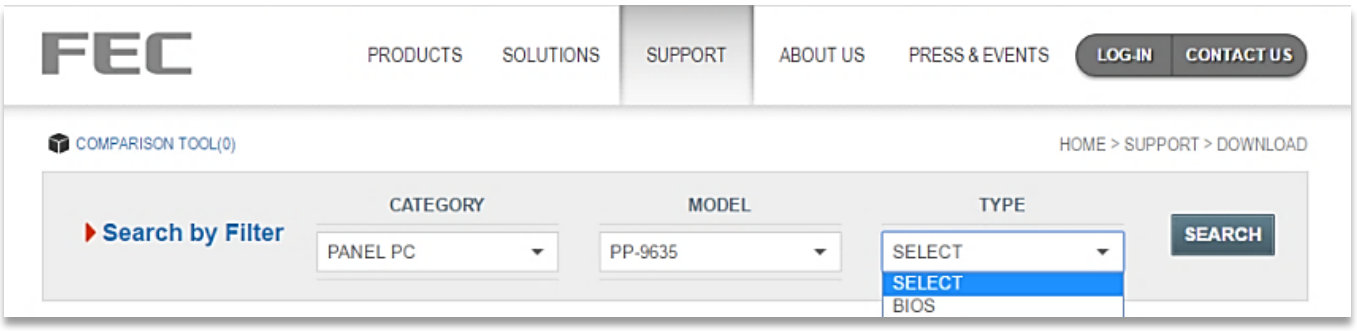
Setting Up

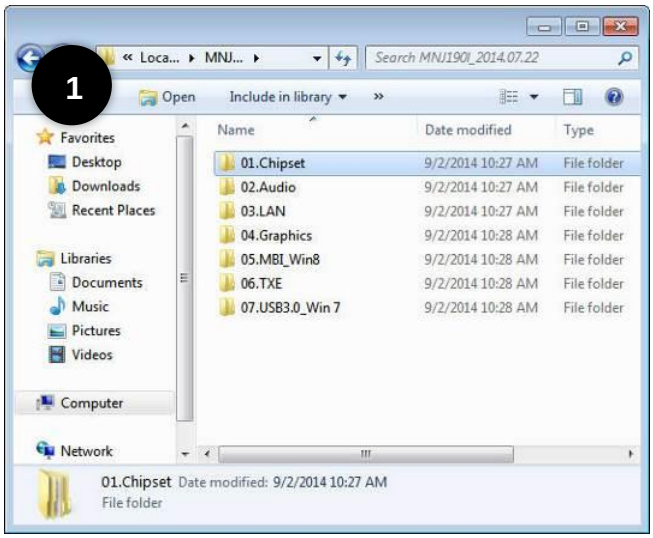
Installation Sequence

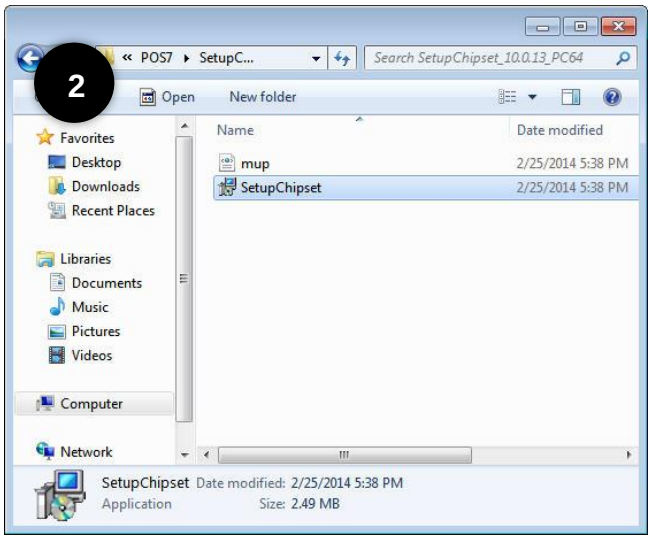
1. **Chipset Driver**
2. **Audio Driver**
3. **LAN Driver**
4. **Graphic Driver**
5. **TXE Driver → TXE Update**
6. **USB3.0 Driver**
7. **Touch Tools (Touch Utility)**

Intel J1900 Chipset Utilities

Note: Images are for Windows 10 Enterprise, however many divers may be the same. Refer to the FEC website under SUPPORT > DOWNLOADS to filter the correct drivers and utilities for your product..



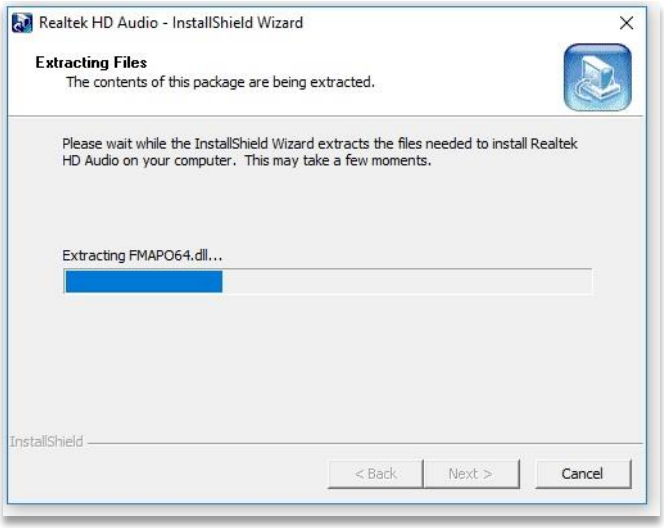


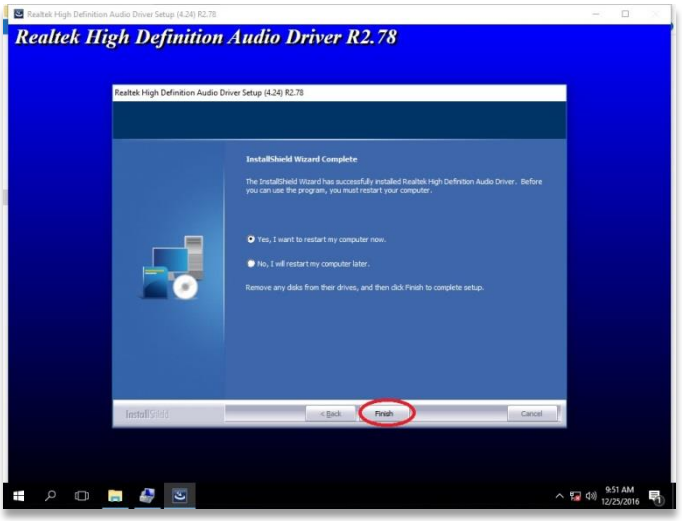


1. Download drivers from www.fecpos.com/en-global/ams/Download
2. Locate and run SetupChipset.exe

Audio Driver

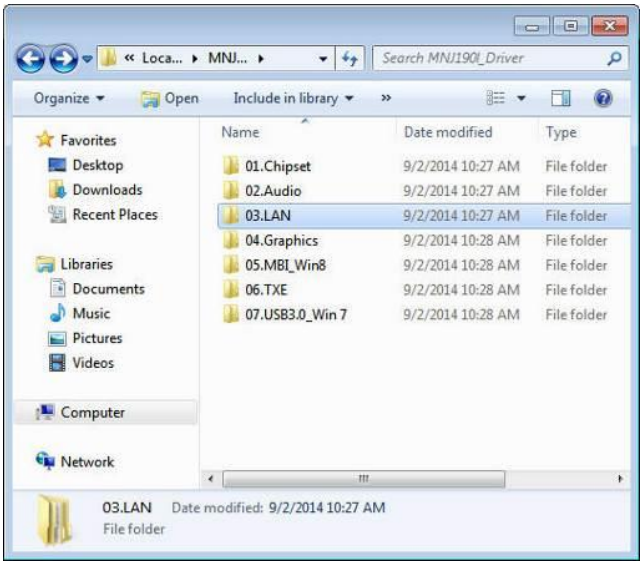
1. Download drivers from www.fecpos.com/en-global/ams/Download
2. run **Steup.exe**
3. restart PP-9635 to complete installation

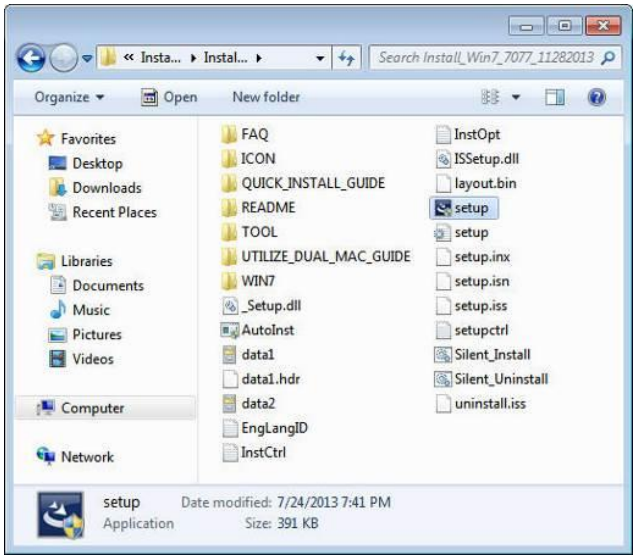


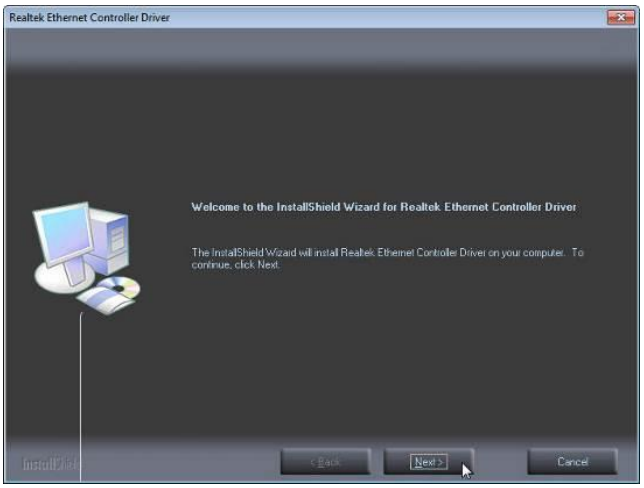


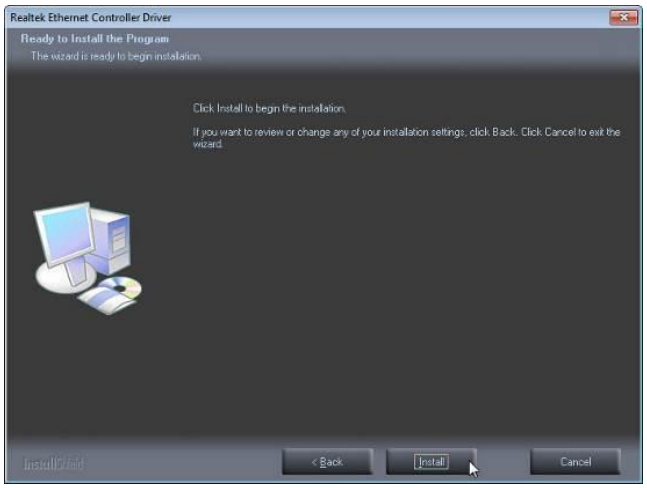
Realtek LAN Driver

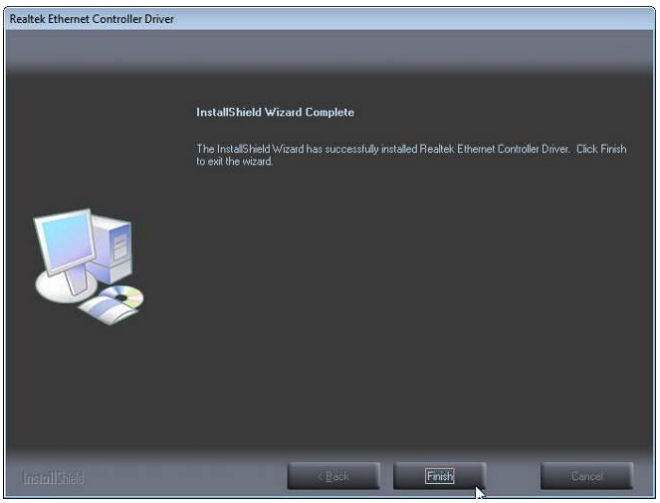
1. Download drivers from www.fecpos.com/en-global/ams/Download
2. run **Steup.exe**





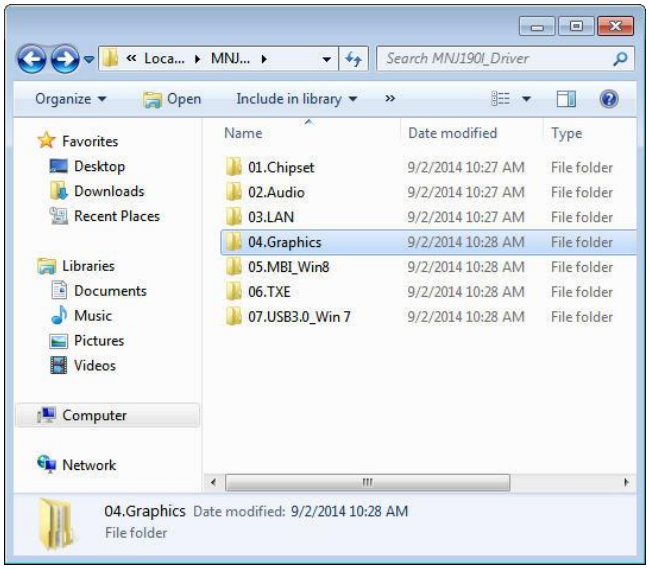


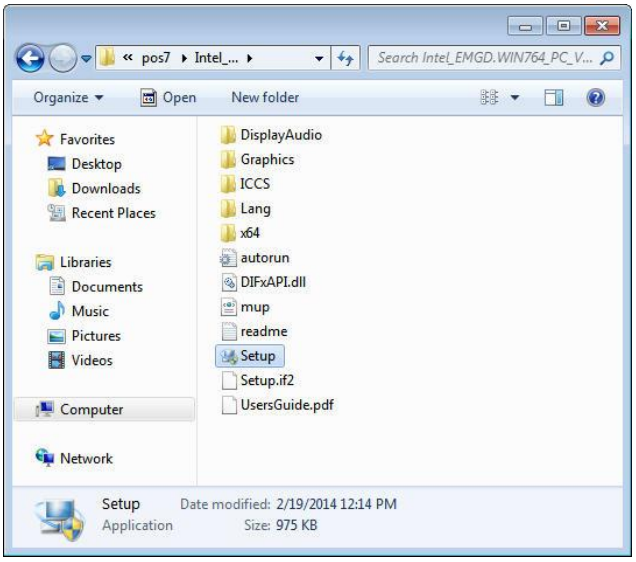


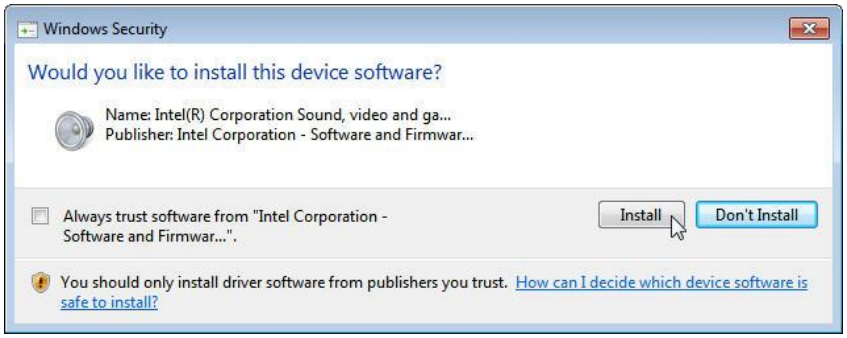


Intel Graphic Driver

1. download drivers from www.fecpos.com/en-global/ams/Download
2. run **Steup.exe**
3. restart PP-9635 to complete installation





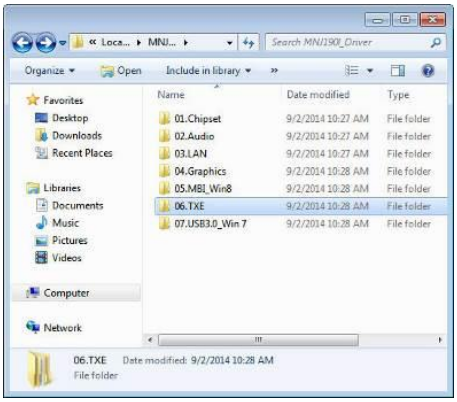


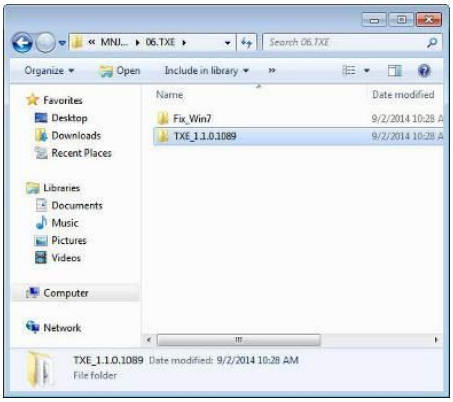
Intel TXE Driver

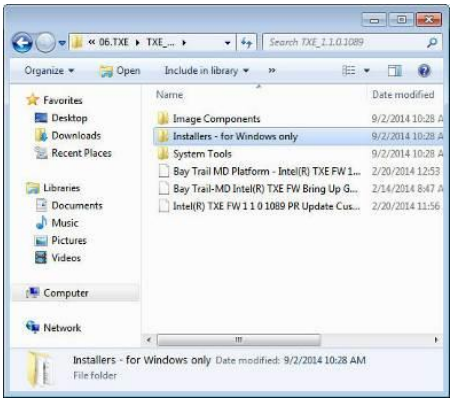
1 Download drivers from www.fecpos.com/en-global/ams/Download

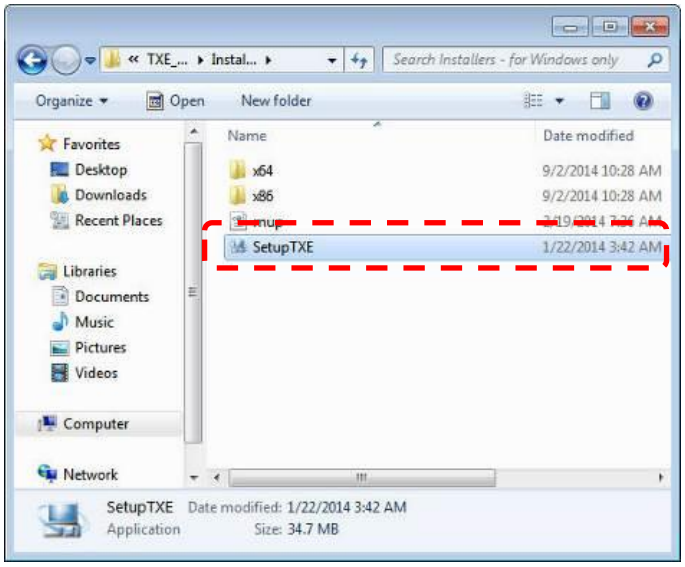
2 run **Setup.exe**

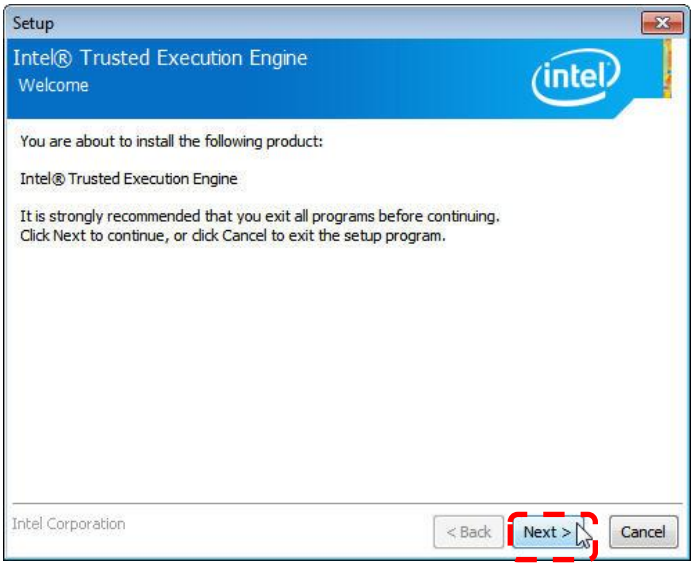
3 restart PP-9635 to complete installation

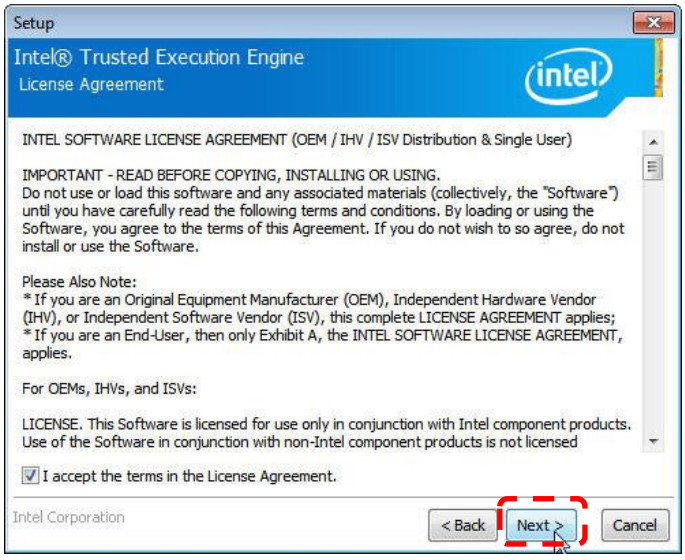


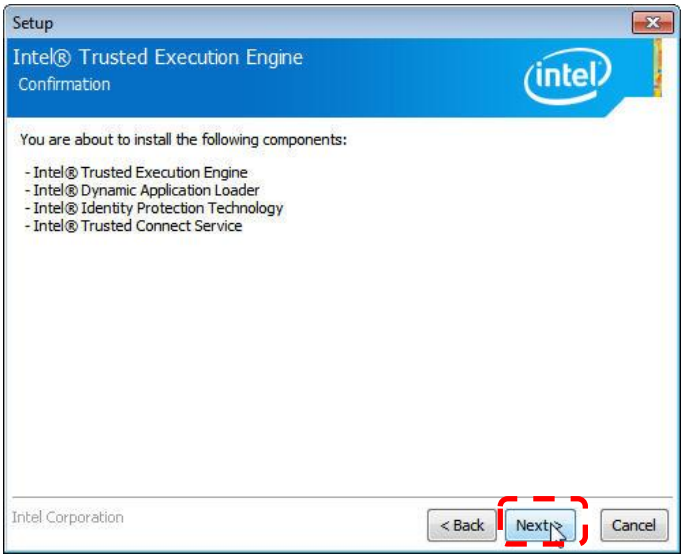






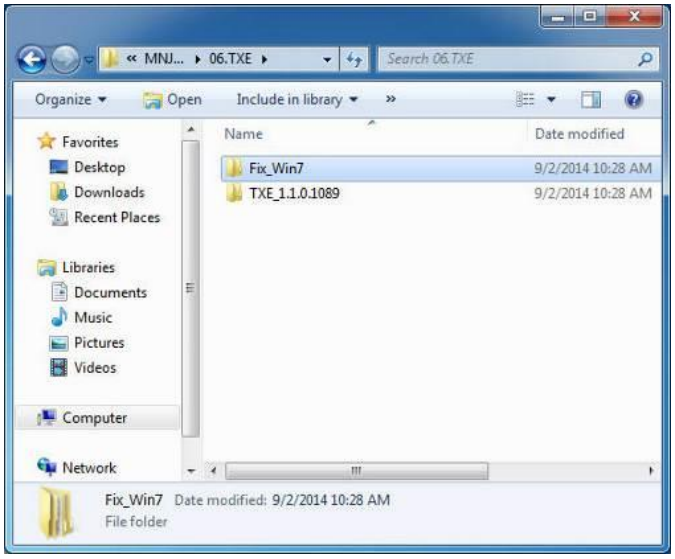


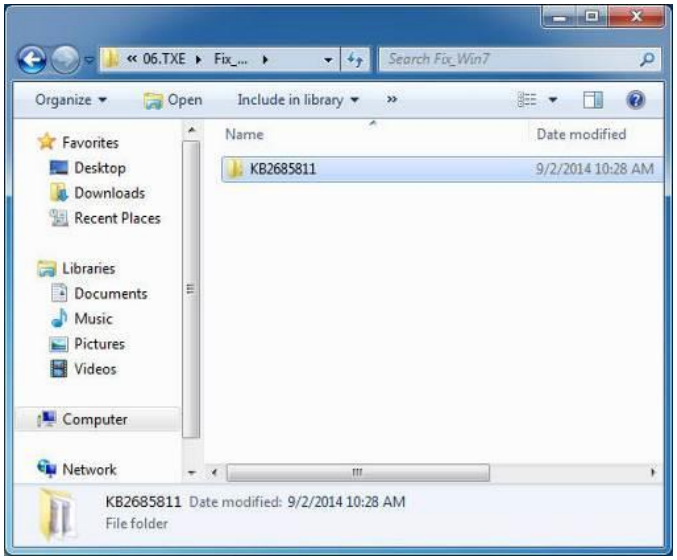


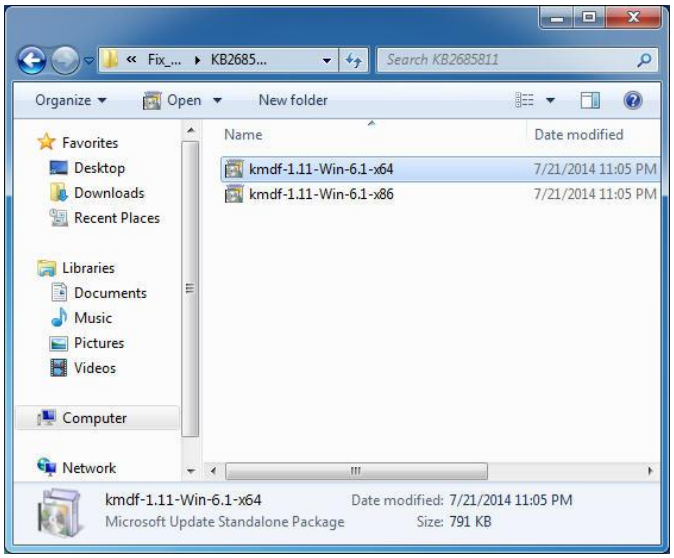


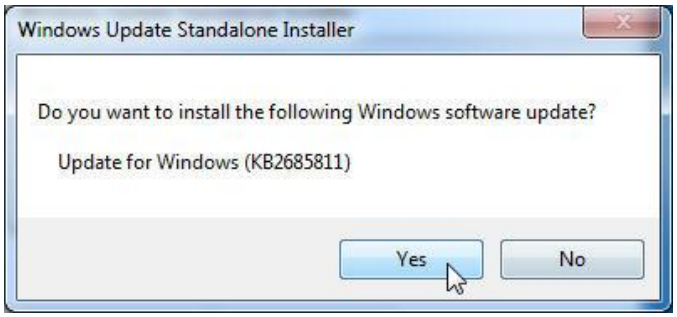
Intel TXE Installation (Intel® Trusted Execution Engine)

1. Download drivers from www.fecpos.com/en-global/ams/Download
2. run **kmdf1.11-win-6.1-x64.exe**
3. restart PP-9635 to complete installation



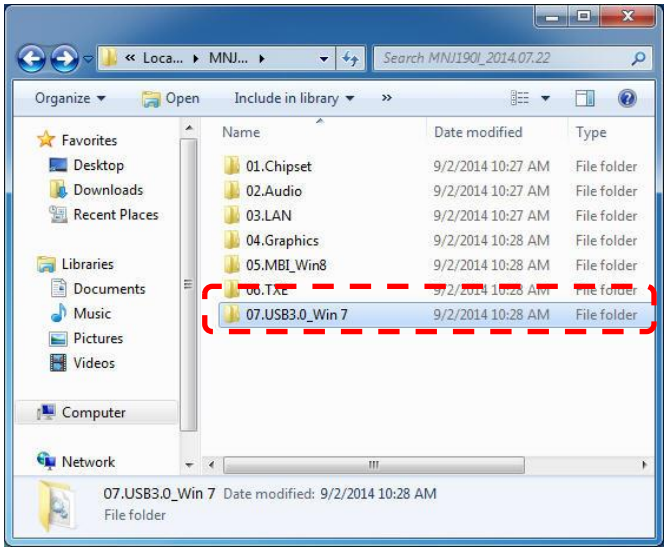


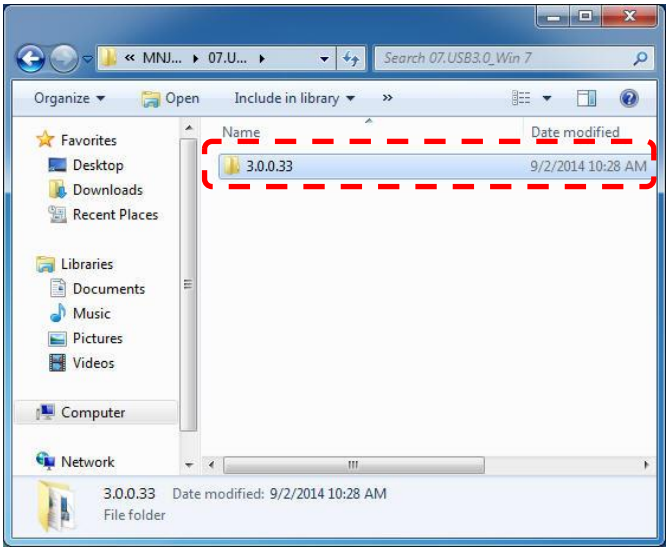


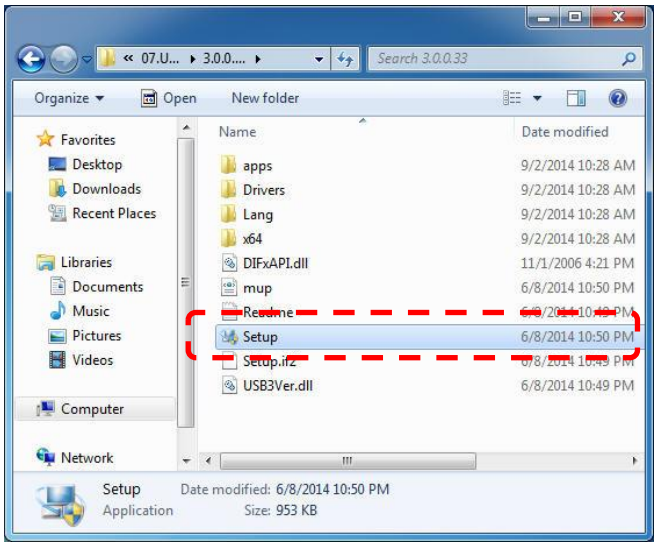


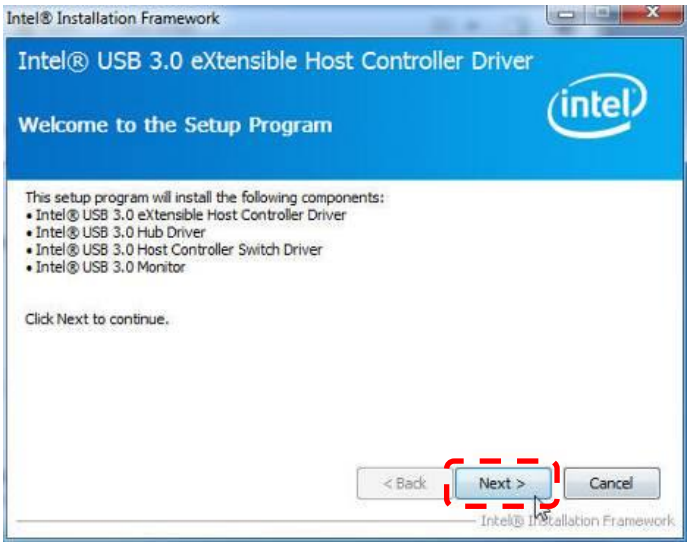
USB 3.0 Driver

1. Download drivers from www.fecpos.com/en-global/ams/Download
2. run **Steup.exe**
3. restart PP-9635 to complete installation



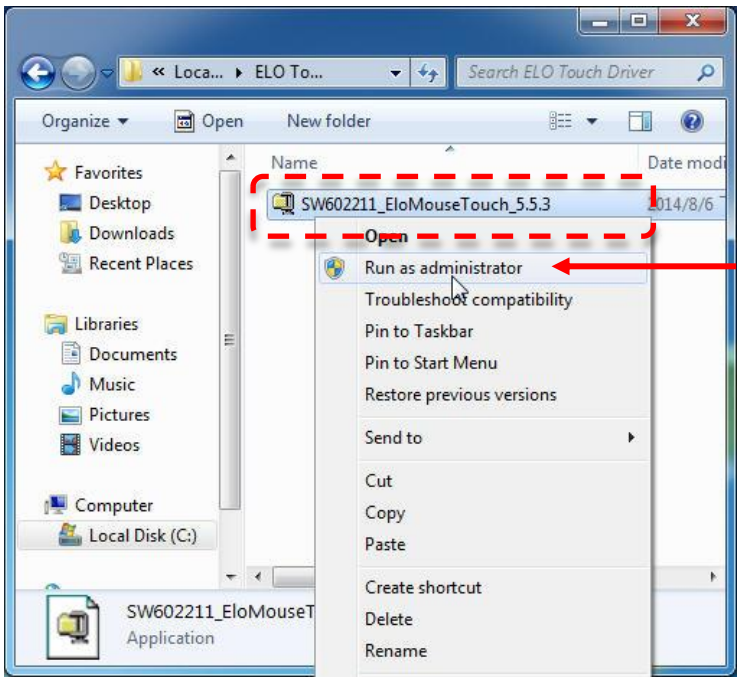


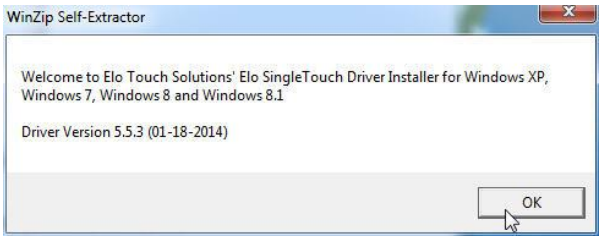




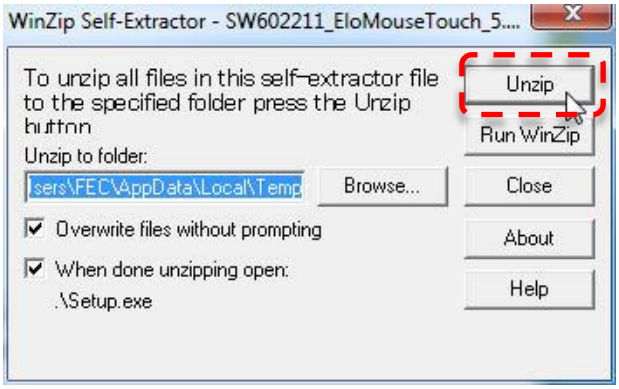
ELO Touch Tools Installation (For PP-9635B Only)

1. Right click on ELO Touch (SW602211_ELOMouseTouch_5.5.3.exe) then click RUN as administrator
2. Click “OK” to authorize to unzip the file

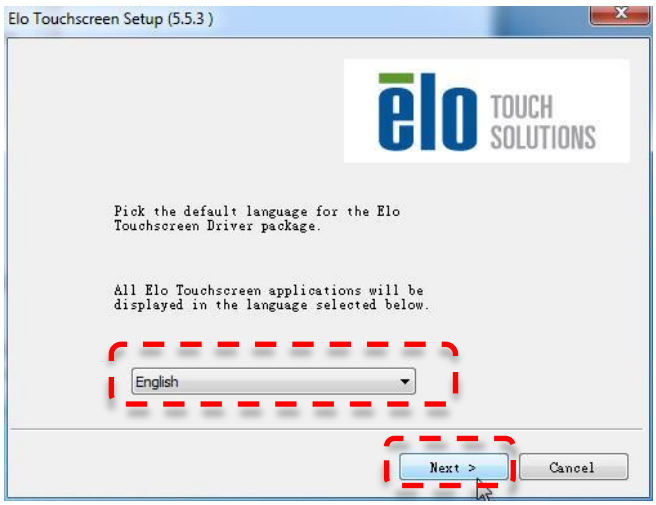


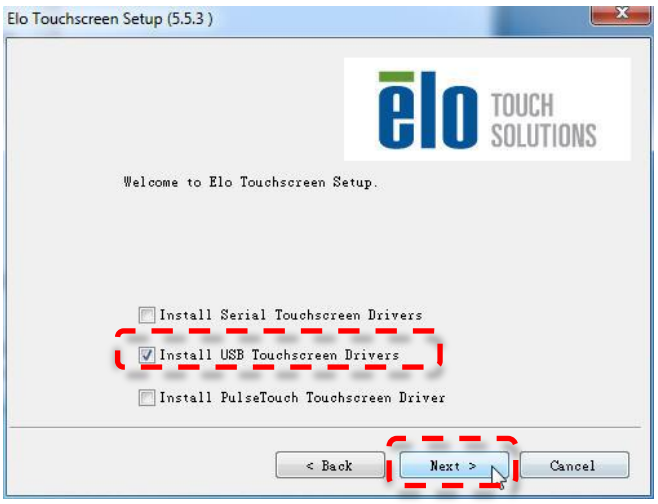


3. Unzip file and start to Install USB Touch Screen Driver

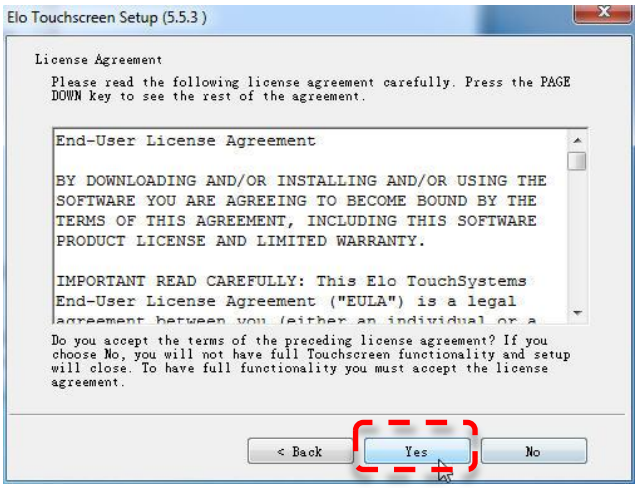


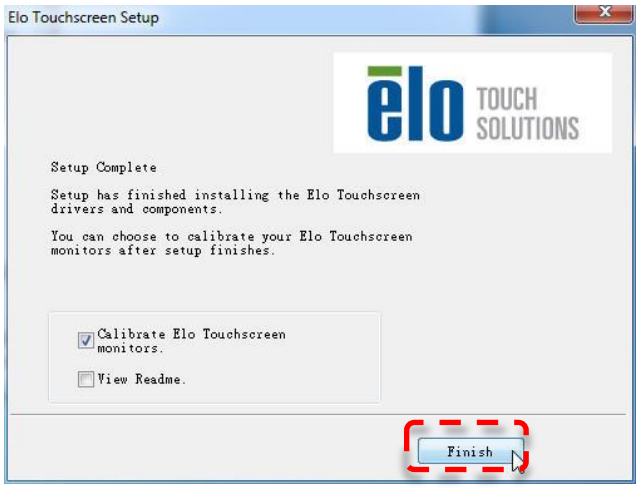
4. Choose Language then click “Next”
5. Mark the box that says “Install USB Touchscreen Driver” then click “Next”





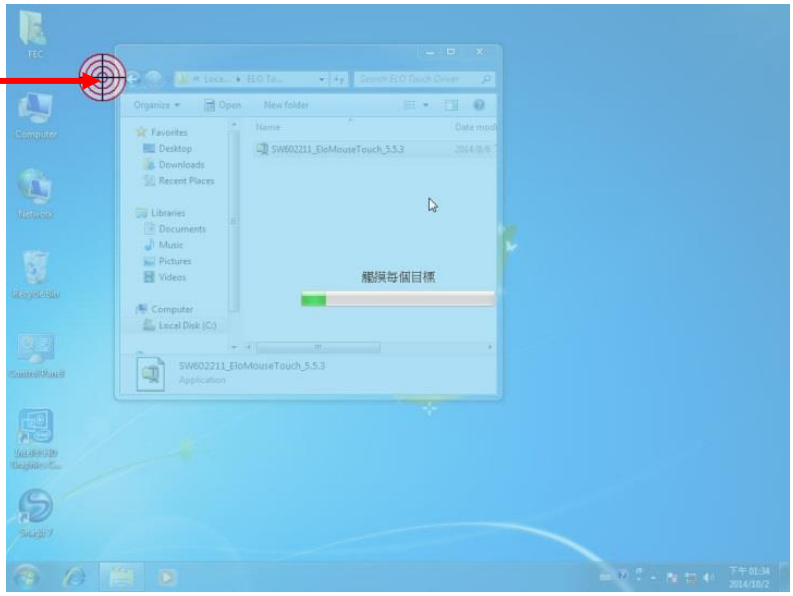
6. Start installation and choose “Calibrate ELO ToucScreen” as finished



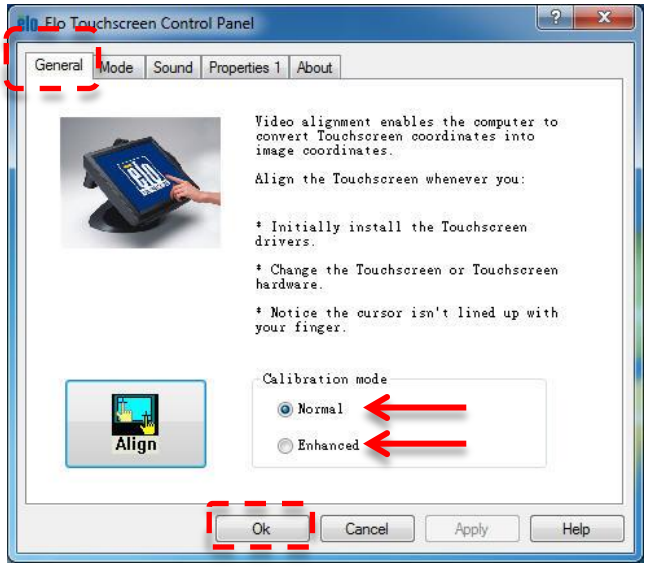


7. Four Corners Calibration

Click on the Target as it appears

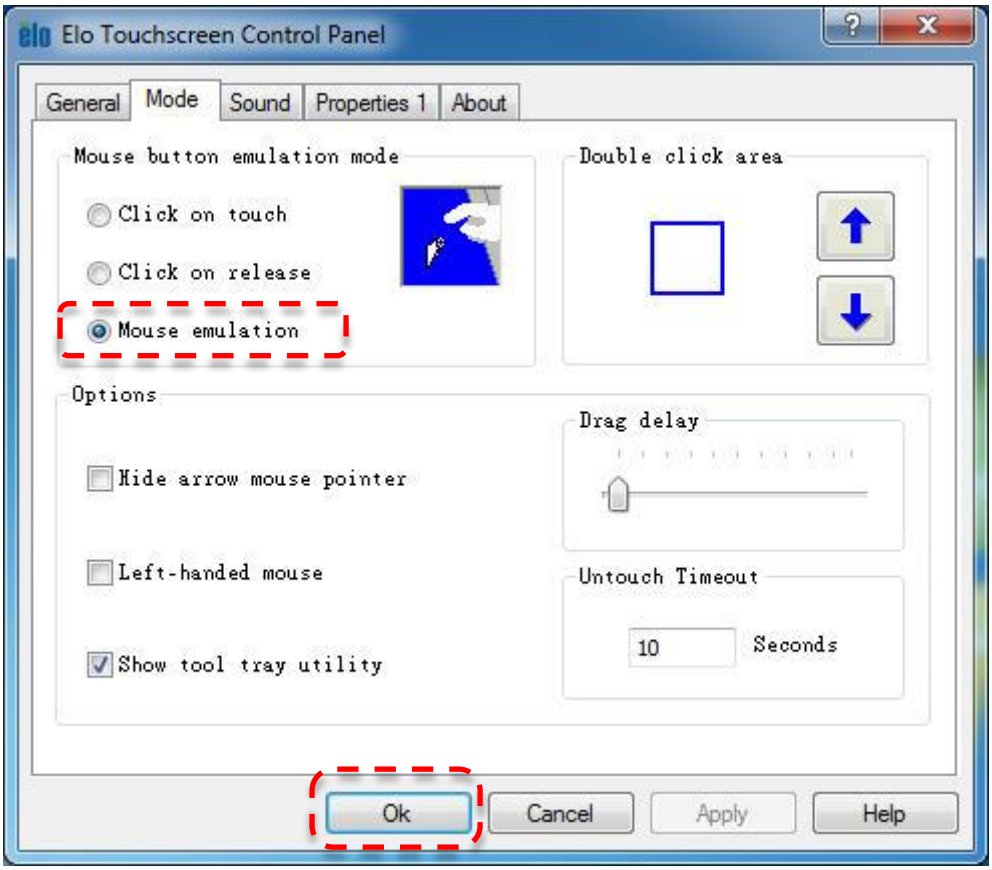


8. ELO Touchscreen Control Panel → General Page → You can choose either “Normal Mode” or “Enhanced Mode”



9. Mode Page:

Mouse Button emulation mode →Click on touch, Click on release, Mouse emulation
Double Click Area
Options → Hide arrow mouse pointer, left-hand mouse, show tool tray utility
Drag delay
Untouch Timeout

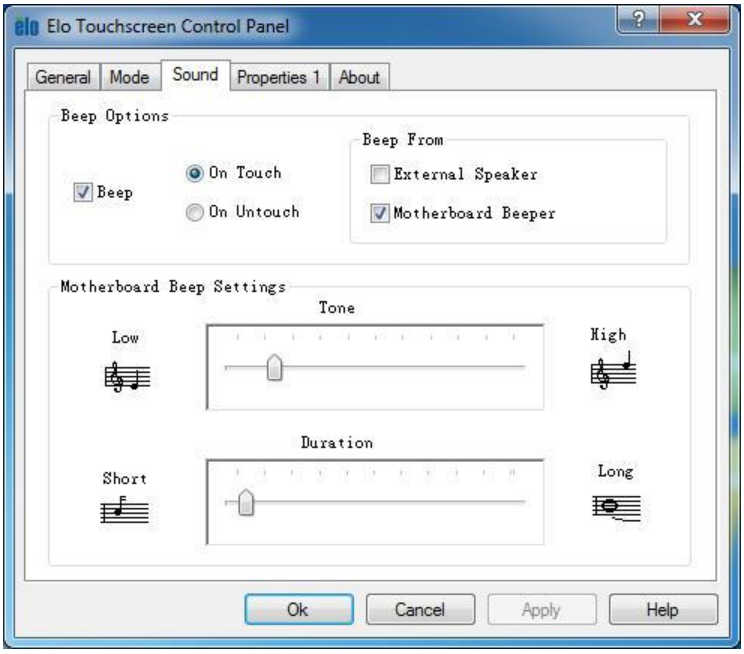


10. Sound Page:

Beep options→ without Beep, Beep on touch, Beep on untouch

Beep from→ External Speaker, Motherboard Beeper

Motherboard Beep settings → Tone and Duration

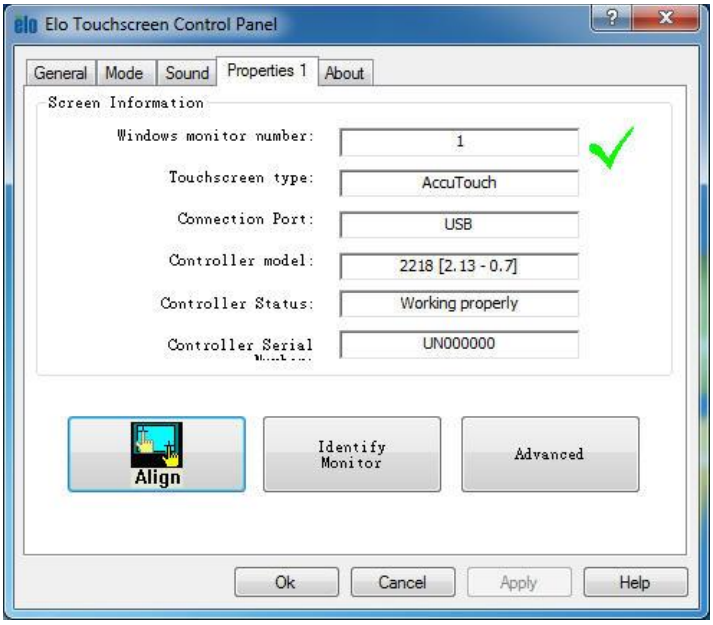


11. Properties 1:

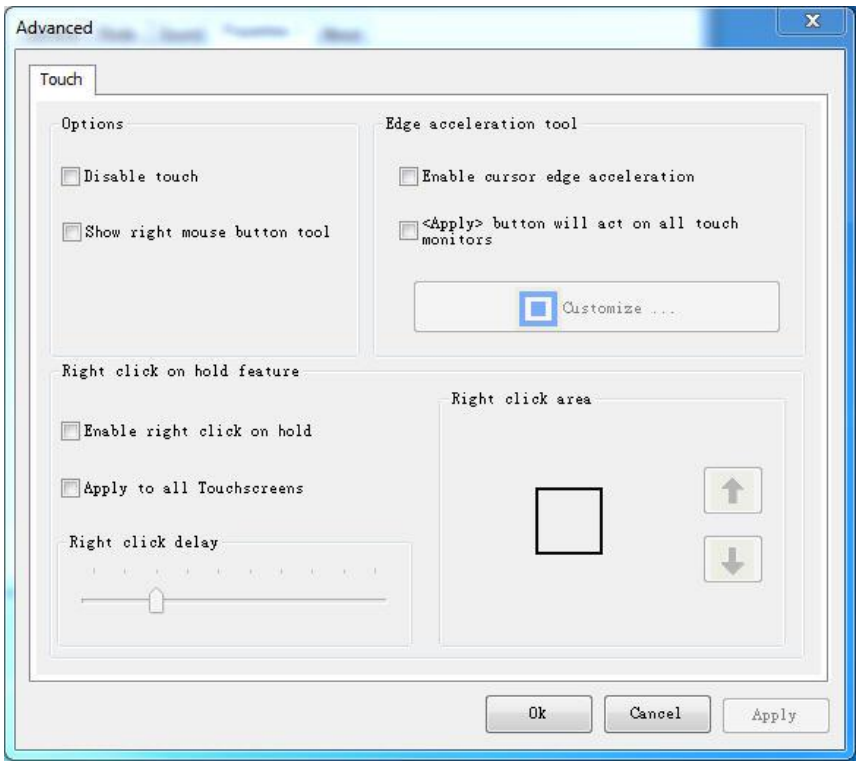
Screen Information

Align → touch calibration

Identify Monitor → identification of 1st screen touch or 2nd screen touch

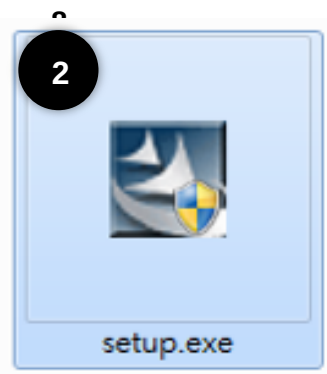


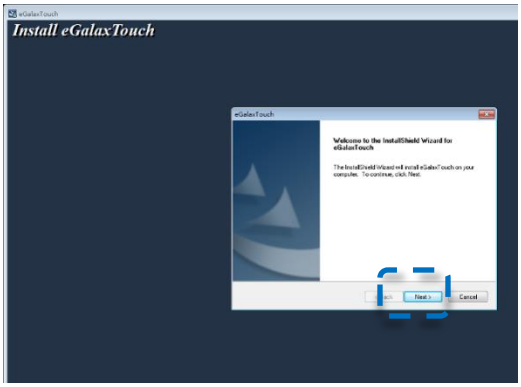
Advanced:

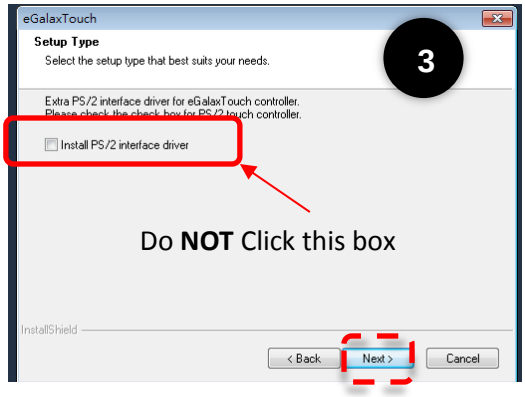

Advanced
Touch
Options
Disable touch
Show right mouse button tool
Edge acceleration tool
Enable cursor edge acceleration
<Apply> button will act on all touch monitors
Customize ...
Right click on hold feature
Enable right click on hold
Apply to all Touchscreens
Right click delay
Right click area
Ok
Cancel
Apply

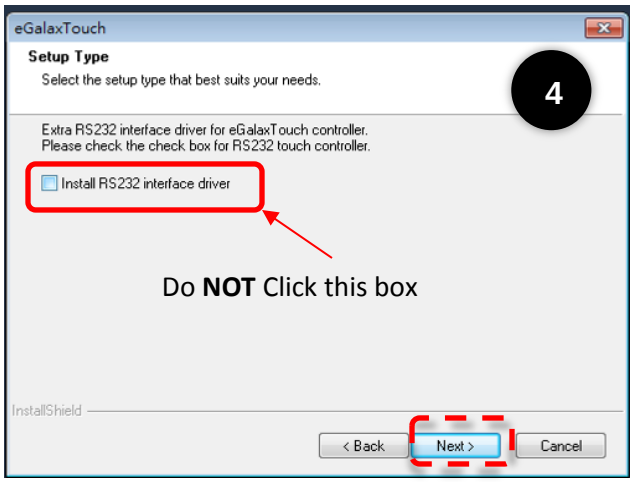
EETI Touch Kit Installation (For PP-9635A / PP-9635C)

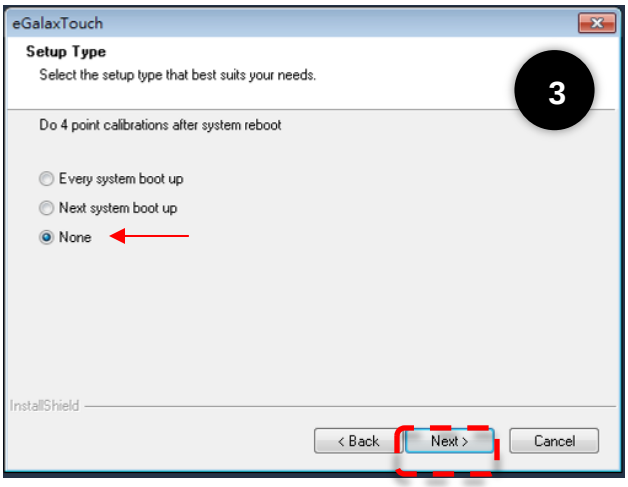
1. Download drivers from www.fecpos.com/en-global/ams/Download
2. Run **Steup.exe;** Click **"Next"**
3. Do **NOT** check **Install PS/2 interface driver** and continue
4. Do **NOT** check **Install RS232 interface driver** and continue
5. Confirm USB touch device is in use
6. Check **Support Multi-Monitor System"** and continue
7. Restart PP-9635 to complete installation

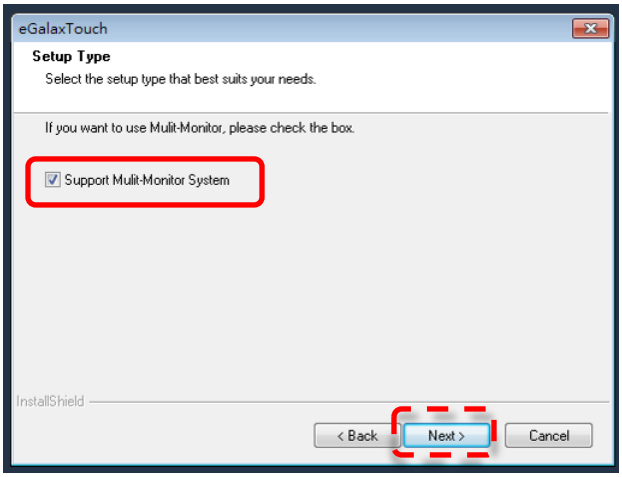


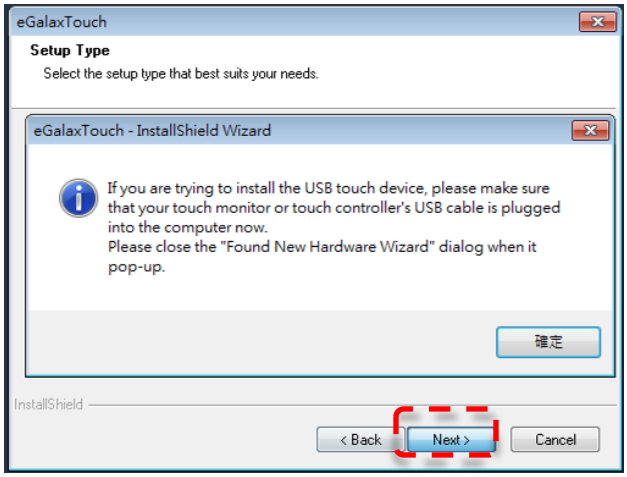






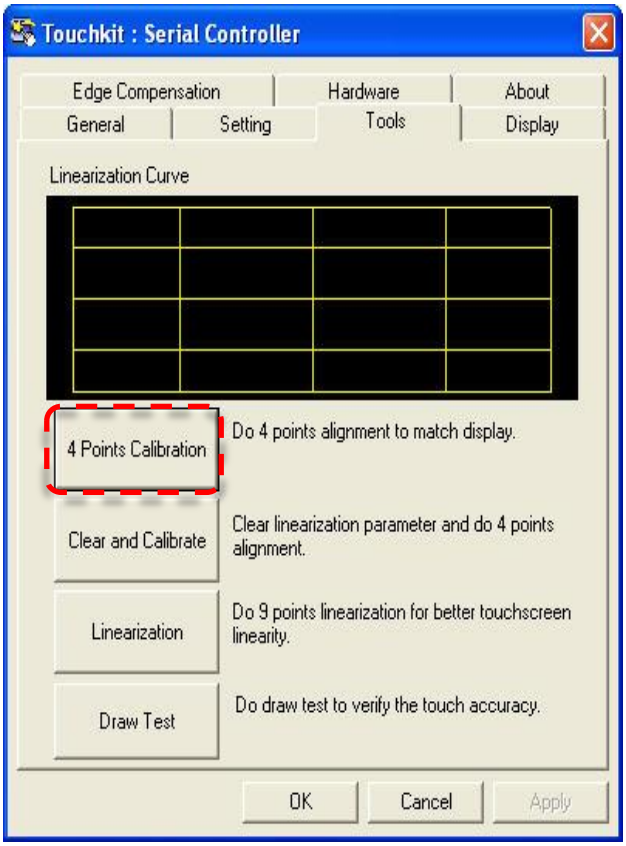




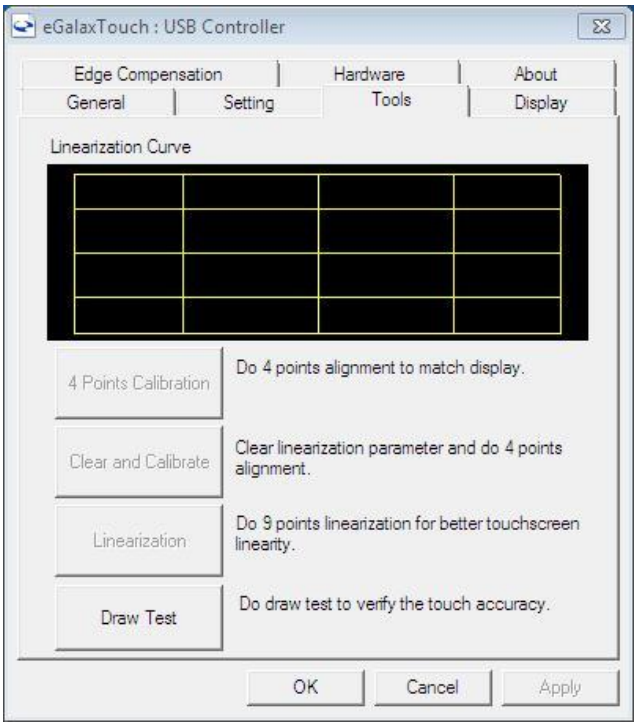


EETI TouchKit Control Panel

Tools allows the user to calibrate the touch panel via **4 Points Calibration**



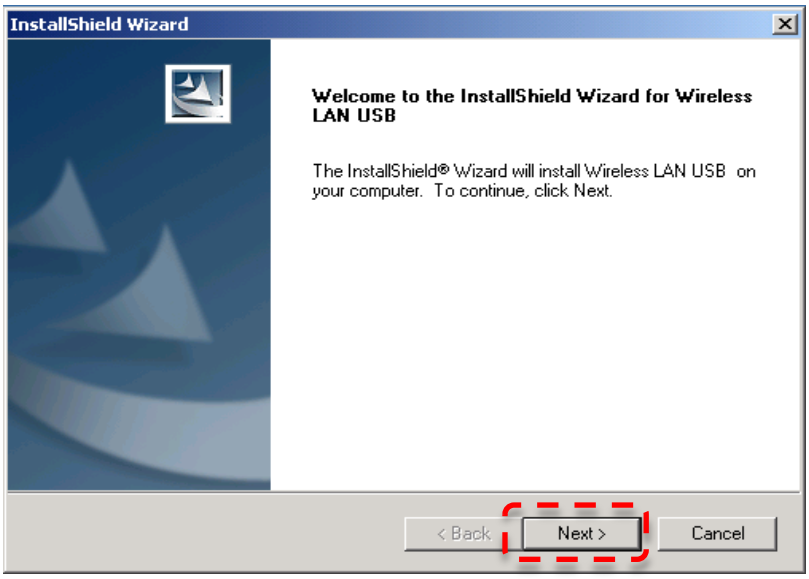
For Resistive Touch(PP-9635A)

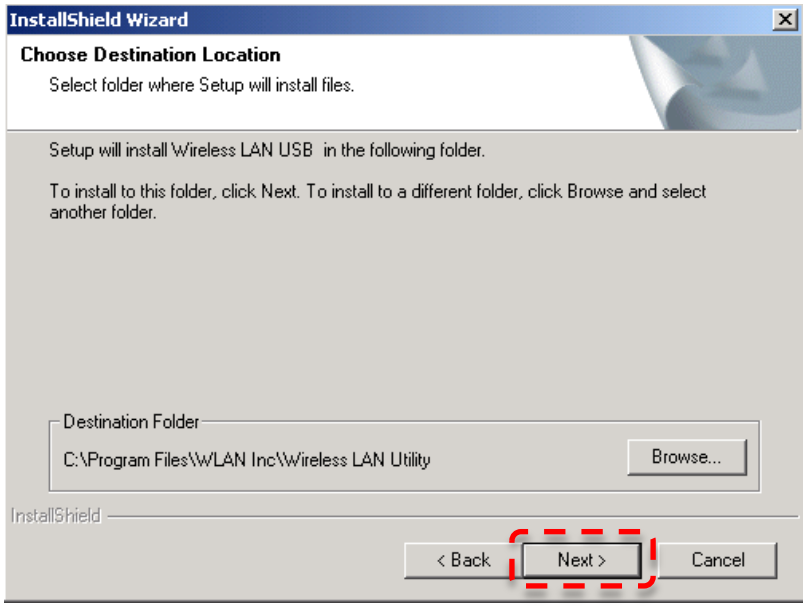


For P-Cap Touch(PP-9635C) , it doesn't need Calibration

Wireless LAN Driver for Windows

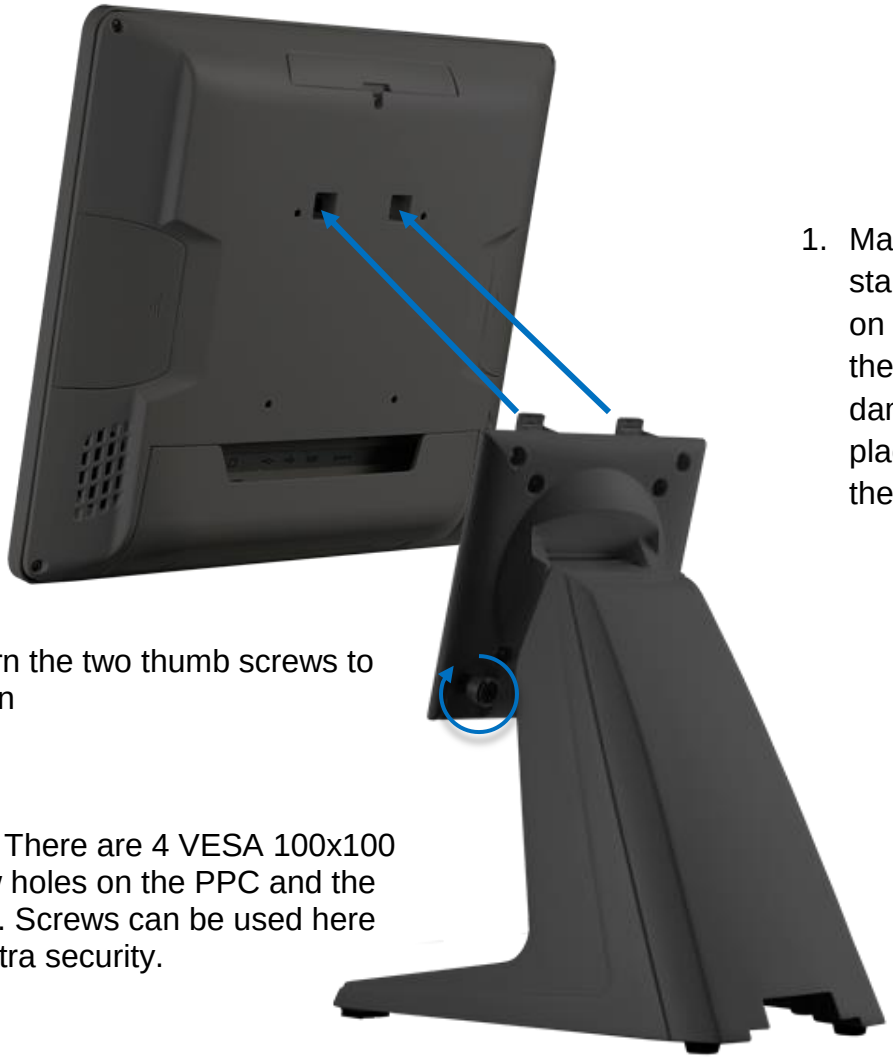
1. download drivers from www.fecpos.com/en-global/ams/Download
2. run **Setup.exe**





How to Guides

How to Install the Stand

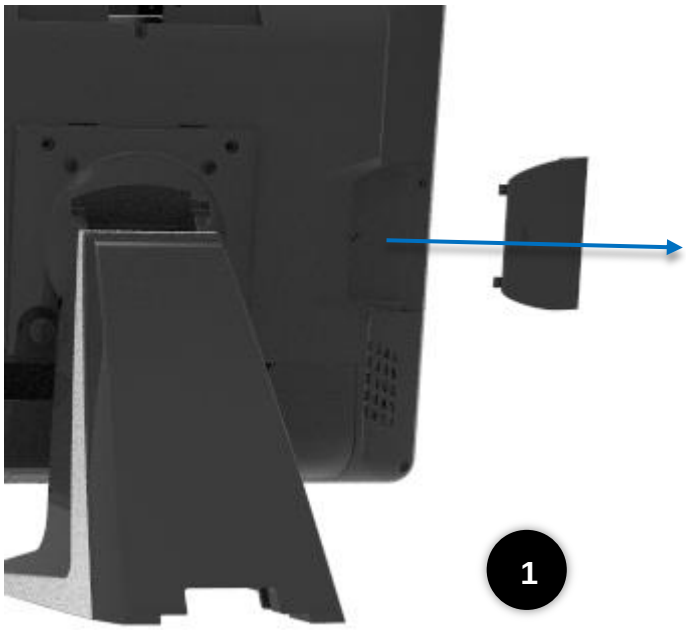


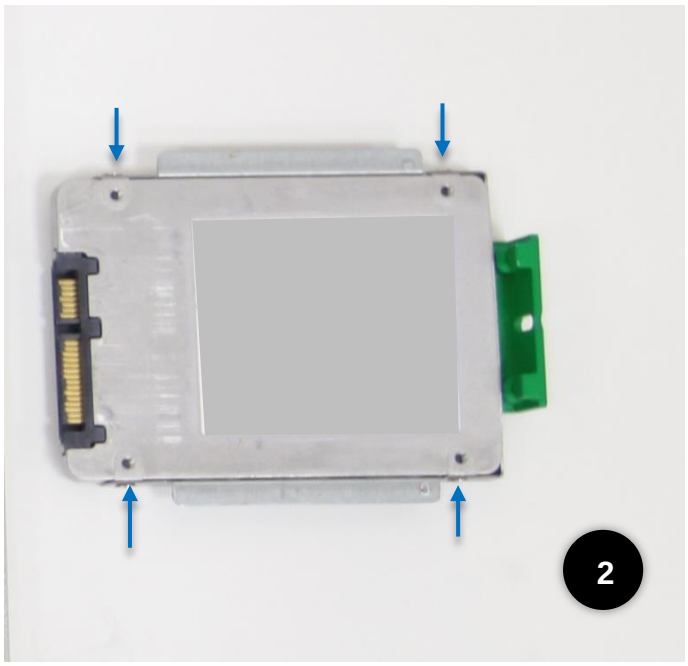
1. Match the two hooks from the stand to the two square holes on the panel PC. Be careful of the alignment as to not damage the paint. Slowly place the PPC down to meet the base.

2. Turn the two thumb screws to tighten

Note: There are 4 VESA 100x100 screw holes on the PPC and the stand. Screws can be used here for extra security.

How to Replace the Storage Device





Read First:

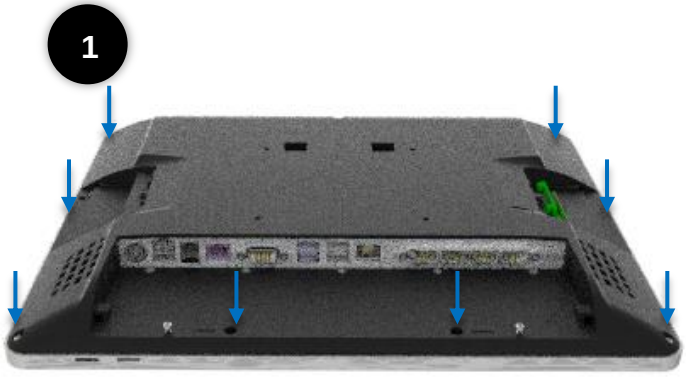
Make sure the power is off and adaptor is unplugged before moving forward

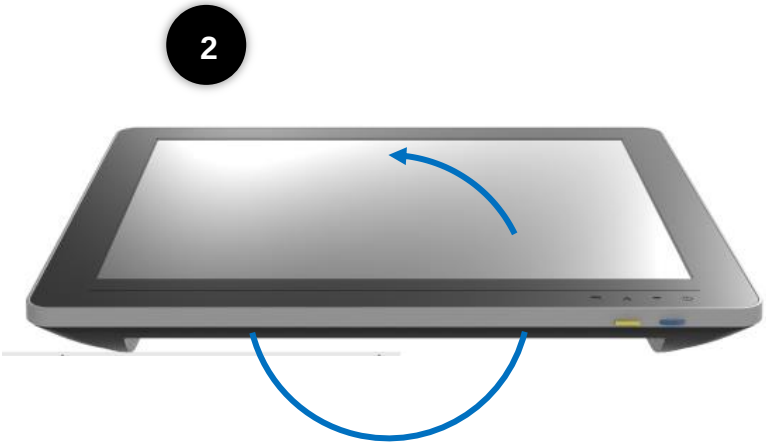
1. Remove the side cover (Part Number: RCAIOPPC1845)
2. Install the storage device to the bracket using 4 screws (Part Number: RBAIOPMC2070)
3. Slide the storage into PP-9635
    - Lock in storage with 1 x M3 screw
4. Replace the side cover (Part Number: RCAIOPPC1845)

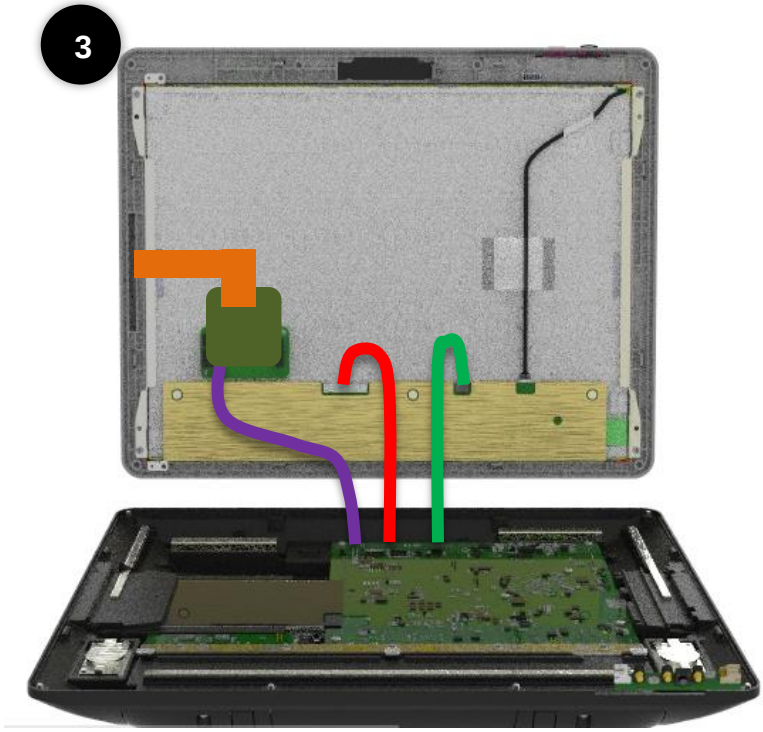
How to Install the Cable Cover

1. Connect cable to DC-in 12V
    - Flat end facing down
2. Connect all devices
    - Lift up the cables
3. Install the cable cover (Part Number: RCAIOPPC1515)
4. Lock in with the 2 x M3

How to Open the PPC





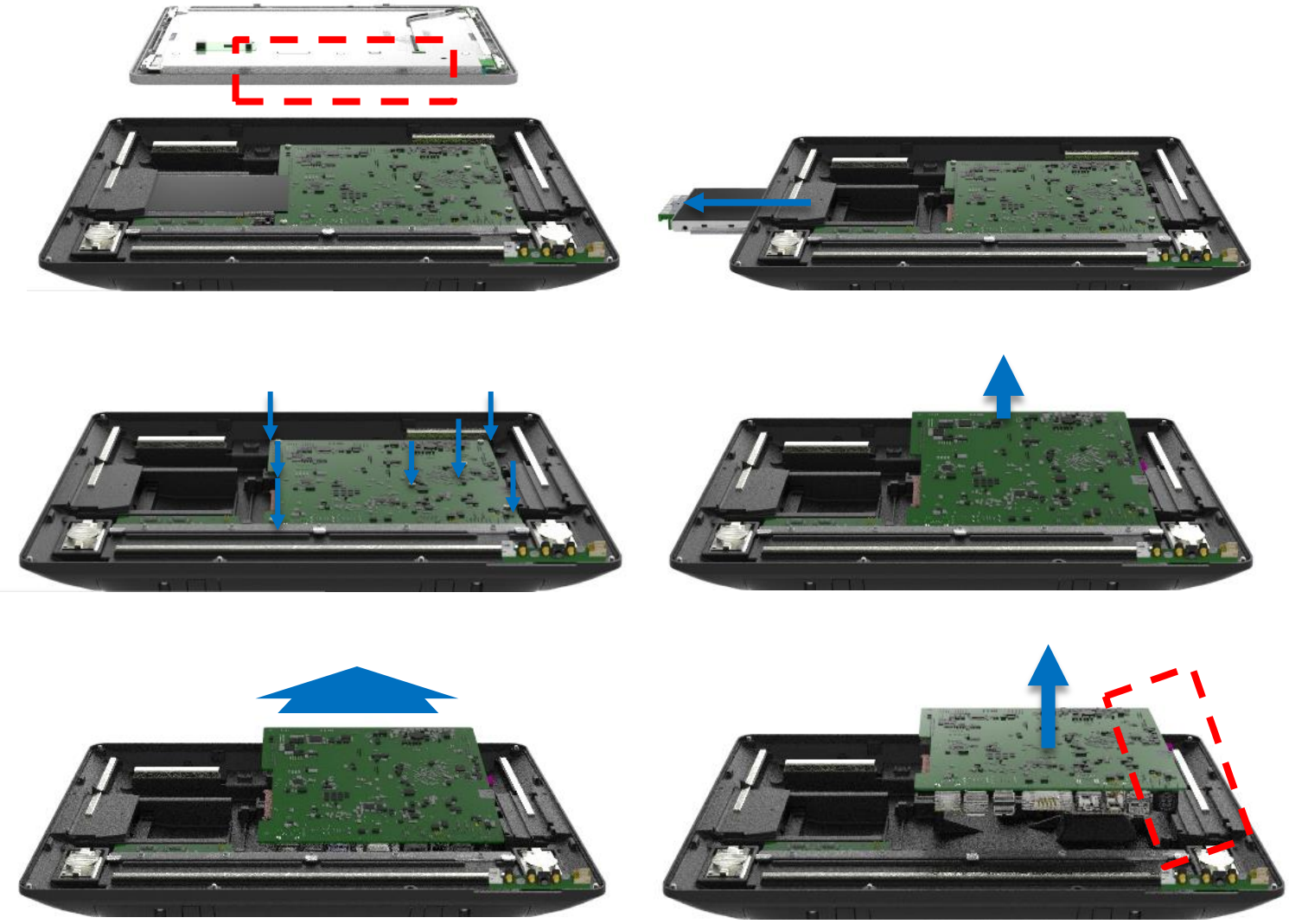


Read First: Make sure power is off and all of the cables and peripherals have been detached.

1. Remove the 8 screws
2. Flip the PPC so that the screen is facing up and the OSD is near your
3. Flip open the display as shown. There will be three connectors (Indicated by lines **RED**, **PURPLE**, **GREEN**) from the display to the motherboard.

H

REMOVE CABLES

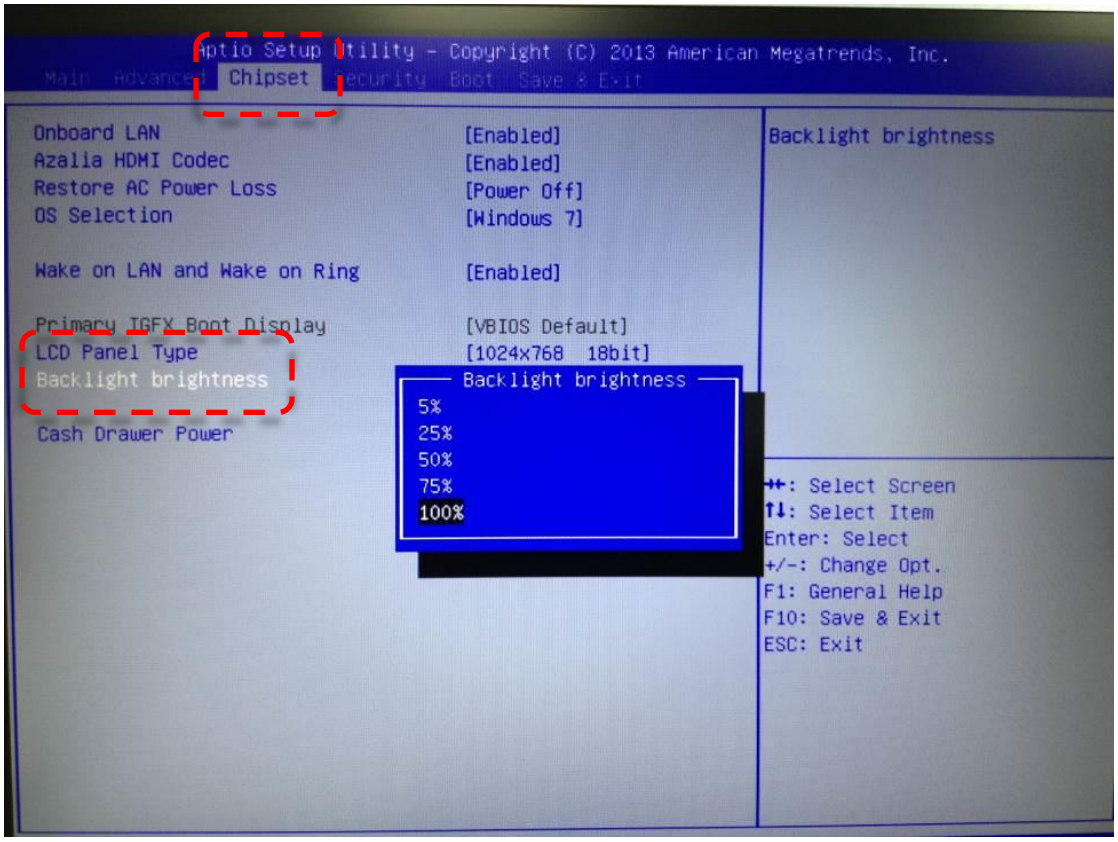


Read First: First follow instructions of how to open the PPC.

1. Remove the cables from the display side
2. Remove the storage device
3. Remove 7 screws
4. Lift the mother board slightly from the top end
5. Move the motherboard our very slightly to remove the IO from the IO bracket
6. Carefully lift up not to bump into any connectors
7. Remove cables from the board

How to Adjust Display Brightness

1. Connect a USB keyboard to the system and restart/boot up
2. During boot up press “delete” key to enter the BIOS
3. Using the arrow buttons, find “Backlight brightness” under the “Chipset” tab
    - Settings available include: 5%, 25%, 50%, 75%, 100%

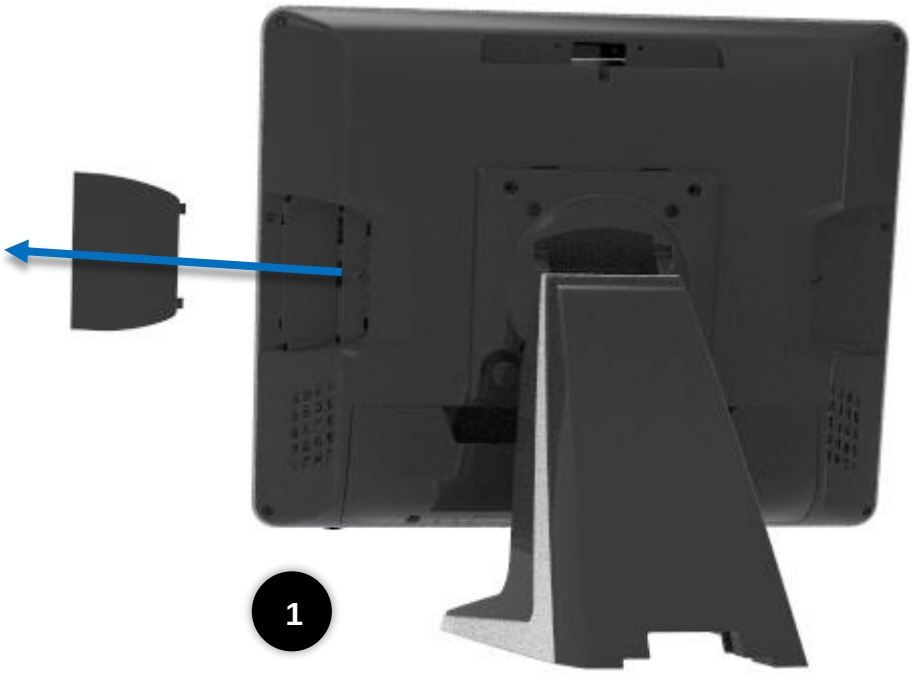


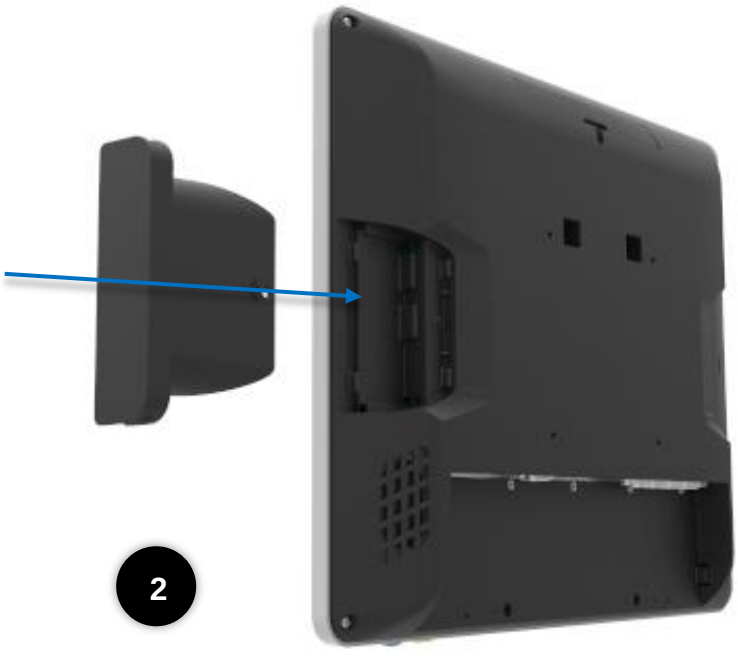
How to Install an ID Device (MSR / iButton / RFID / FingerPrint)

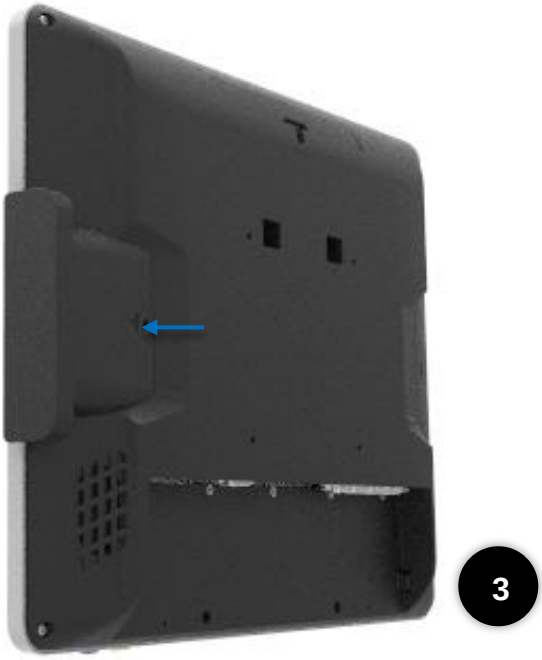
Read First:

- **Make sure the power is off and adaptor is unplugged before moving forward**

1. Remove the side cover
2. Install the ID device
3. Lock in storage with 1 x M3 screw



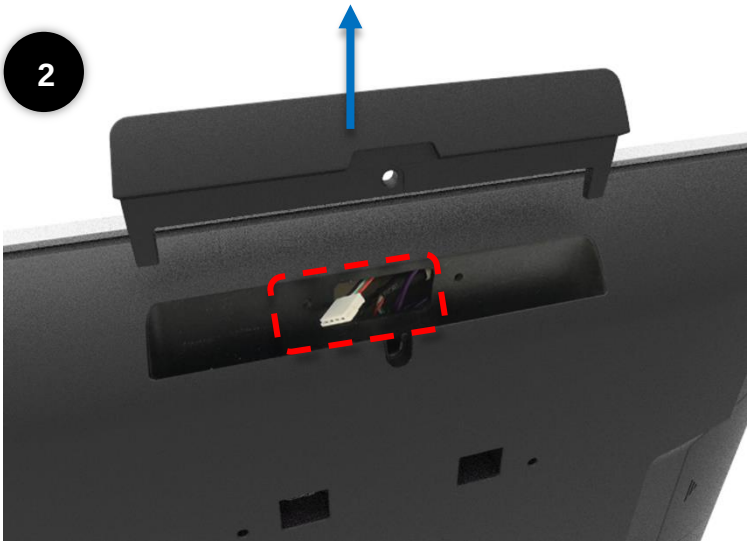




How to Install the Integrated Customer Display (VFD & LCM)

1

2

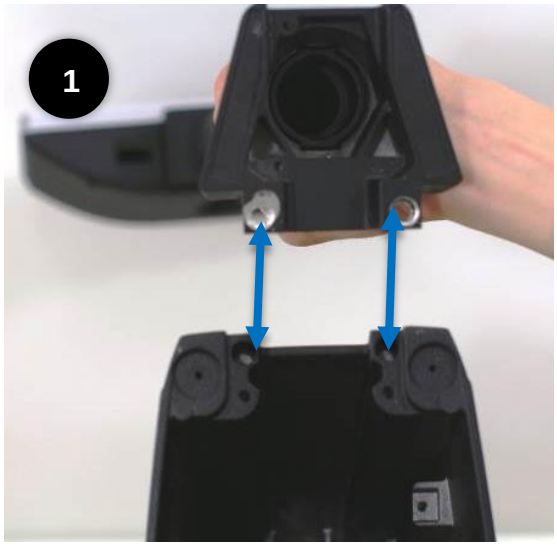


3

Read First:

- Customer display (integrated type) is connected to COM6
- **Make sure the power setting is correct before the customer display is connected**
- 5mm LCM Module (AP-2025) is 5V
- 9mm VFD (AP-2029), 9mm LCM 20x2 (AP-2024), LCM 240x64 (AP-240G) are 12V
- Do not exceed the tilt angle as this may damage the internal cable
  1. Loosen the 1 x M3 screw
  2. Remove the cover
     - Connect the cable
  3. Slide the customer display in place and screw in the 3 x M3 screw

How to Install the 2nd Display



1. Fasten the 2nd monitor to PP-9635 with 2 x M5 screw
2. Connect the VGA and 12V DC Cables

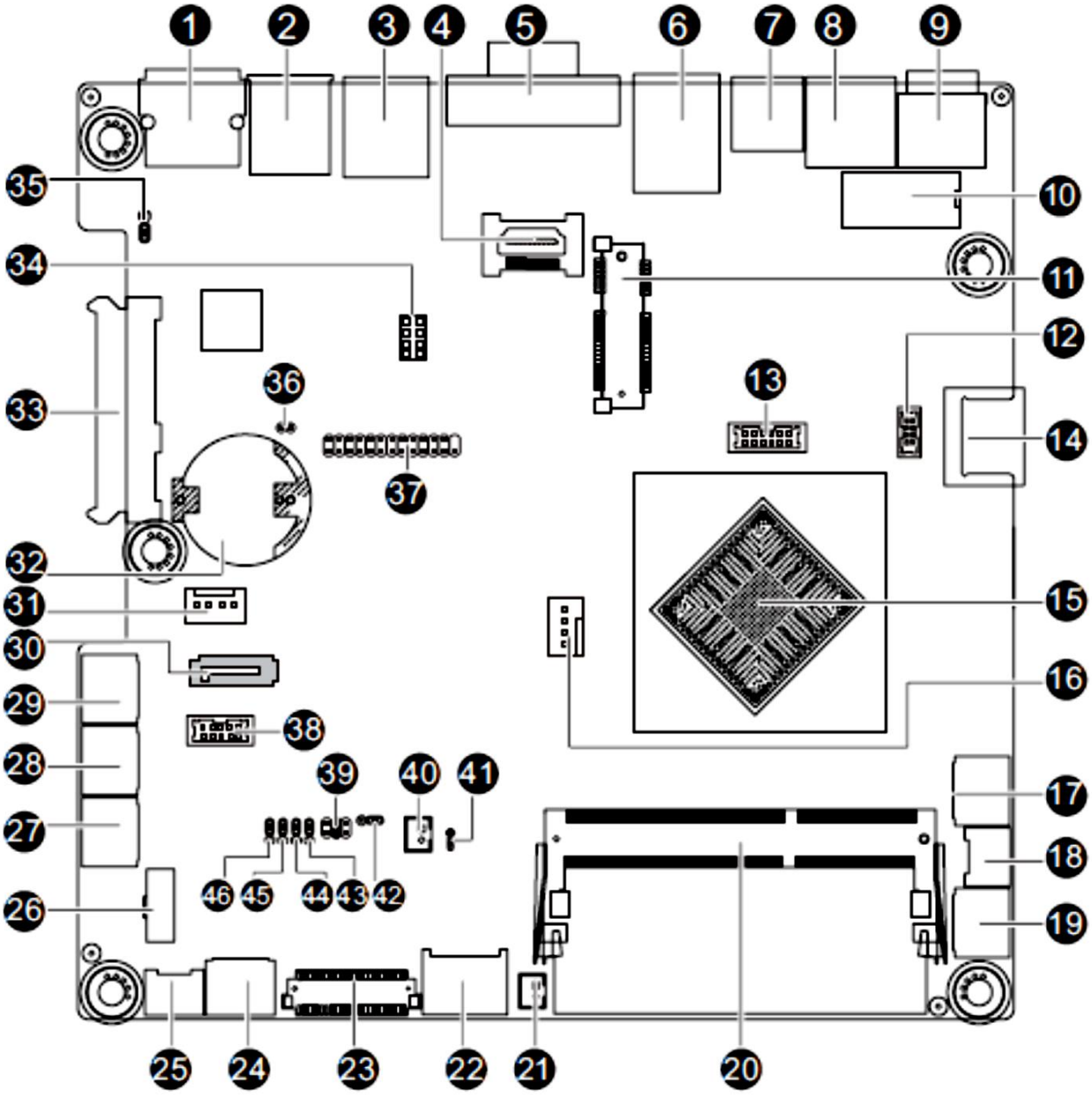
How to Setup the Cash Drawer

Read First:

- Please make sure the voltage and cable pin assignment of your cash drawer matches the cash drawer port on **PP-9635**.
- You may find the jumper setting and pin definition in M/B J1900 user manual.
- Please refer to **trouble shooting** if the cash drawer cannot be detected by PP-9635

To open drawer 1 (default):	port[openaddr] <= open1 wait(sleep(ms)) port[openaddr] <= close
To open drawer 2:	port[openaddr] <= open2 wait(sleep(ms)) port[openaddr] <= close
To get status:	StatusValue <= port[status] and statusmask The parameters, which are in the cashdrawer.ini openaddr=a04 status=a05 sleep=200 open1=40 open2=80 close=00 statusmask=01

Motherboard Specifications



Item	Code	Description
1	COM1	Serial port
2	R_USB30	USB 2.0 port (top)/USB 3.0 port (buttom)
3	R_USB1	USB 2.0 ports
4	HDMI	HDMI connector
5	VGA	VGA port
6	LAN	LAN port
7	RJ11	Cash drawer port
8	J5	24V USB power connector
9	DC_IN	DC jack
10	DC_OUT	4 pin power connector
11	MIN_PCIE	Mini PCI Express slot
12	F_USB1	USB 2.0 header

13	GPIO_CNT	GPIO connector
14	F_USB3	USB 2.0 port
15	U1	Intel Celeron J1900 processor
16	CPU_FAN	CPU fan cable connector
17	F_PANEL	Front panel header
18	SPK_OUT	Speak out header
19	F_AUDIO	Front audio header
20	SODIMM1	DDR3 SO-DIMM slot
21	BKLTEN_CON	LVDS backlight enable signal connector
22	BKL_CN	LVDS backlight control connector
23	LVDS	LVDS connector
24	COM6	Serial port connector #6
25	F_USB3	USB 2.0 header
26	F_USB2	USB 2.0 header
27	COM3	Serial port connector #3
28	COM2	Serial port connector #2
29	COM4	Serial port connector #4
30	SATA1	SATA 3Gb/s connector
31	SATAPW_1	SATA power connector
32	BAT	Battery socket
33	SATA0	SATA 7+15 pins cable connector
34	SMB_I2C	SMBus connector
35	CLR_CMOS	Clear CMOS jumper
36	CASE_OPEN	Chassis intrusion alert header
37	LPT	Parallel port header
38	COM5	COM Power Select jumper
39	JCOM2	RS232/RS422/RS485 Select jumper
40	LCDPWR_CON	LCD power connector
41	JRS6	LVDS enable/disable jumper
42	LVDS_PWR	LVDS power select jumper
43	JRS1	JRS1 RS232/RS422/RS484 Select Jumper for COM2
44	JRS2	RS232/RS422/RS485 Select Jumper for COM2
45	JRS3	JRS3 RS232/RS422/RS484 Select Jumper for COM2
46	JRS4	JRS3 RS232/RS422/RS484 Select Jumper for COM2

Motherboard Installation

Installation Precautions

The motherboard contains numerous delicate electronic circuits and components which can become damaged as a result of electrostatic discharge (ESD). Prior to installation, carefully read the user's manual and follow these procedures:

- Prior to installation, do not remove or break motherboard S/N (Serial Number) sticker or warranty sticker provided by your dealer. These stickers are required for warranty validation.
- Always remove the AC power by unplugging the power cord from the power outlet before installing or removing the motherboard or other hardware components.
- When connecting hardware components to the internal connectors on the motherboard, make sure they are connected tightly and securely.
- When handling the motherboard, avoid touching any metal leads or connectors.

- It is best to wear an electrostatic discharge (ESD) wrist strap when handling electronic components such as a motherboard, CPU or memory. If you do not have an ESD wrist strap, keep your hands dry and first touch a metal object to eliminate static electricity.

- Prior to installing the motherboard, please have it on top of an antistatic pad or within an electrostatic shielding container.
- Before unplugging the power supply cable from the motherboard, make sure the power supply has been turned off.
- Before turning on the power, make sure the power supply voltage has been set according to the local voltage standard.
- Before using the product, please verify that all cables and power connectors of your hardware components are connected.
- To prevent damage to the motherboard, do not allow screws to come in contact with the motherboard circuit or its components.
- Make sure there are no leftover screws or metal components placed on the motherboard or within the computer casing.
- Do not place the computer system on an uneven surface.

- Do not place the computer system in a high-temperature environment.

- Turning on the computer power during the installation process can lead to damage to system components as well as physical harm to the user.
- If you are uncertain about any installation steps or have a problem related to the use of the product, please consult a certified computer technician.

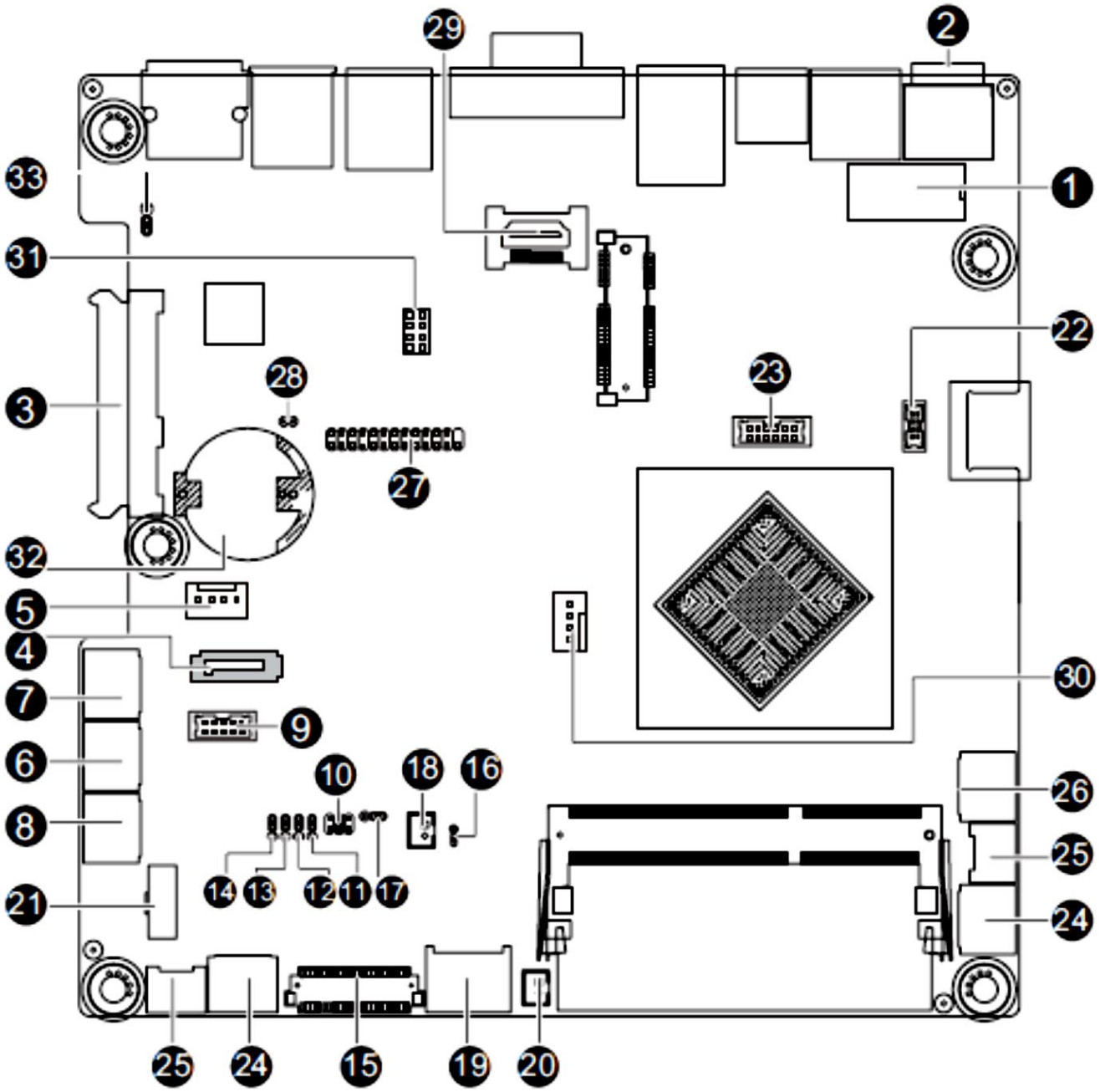
Motherboard Specification

CPU	• Support for Intel® Celeron® J1900 (2.0 GHz) processor • TDP 10W • L1/L2 cache varies with CPU
Memory	• 1 x SO-DIMM slots support 1.35V DDR3L 1333MHz • Support up 8GB
Audio	• Realtek® ALC262 Codec • High Definition Audio • 2 channel
LAN	• 2 x Realtek RTL8111G GbE controllers supports 10/100/1000 Mbps
Expansion Slots	• 1 x Mini PCI Express slot (half size)
Onboard Graphics	• Build in Intel® Intel® processor
Storage Interface	• 1 x SATA 3Gb/s connector • 1 x 7 pin & 15 pin SATA connector
USB	• Up to 8 USB 2.0 ports(4 on the back panel, 3 via the USB • brackets connected to the internal USB headers, 1 header – F_USB1 co-lay with USB port – S_USB) • 1 x USB 3.0 ports
Internal Connectors	• 1 x 4 pin ATX 12V power connector • 1 x SATA 3Gb/s connector • 1 x SATA Power connector • 1 x 7 pin & 15 pin SATA connector • 1 x CPU fan header • 5 x Serial port cable connectors • 1 X COM RS232/RS422/RS485 select header • 1 x Front panel header • 1 x Front Panel Audio header • 1 x USB 2.0 header • 1 x LVDS connector • 1 x Brightness control connector • 1 x Parallel port connector • 1 x GPIO connector • 1 x Speaker out header • 1 x SMBus I2C connector • 1 x HDMI connector

Back Panel Connectors	• 1 x USB 3.0 port • 3 x USB 2.0 ports • 1 x VGA port • 1 X USB 24V power connector • 1 x RJ11 Cash drawer port • 1 x RJ45 LAN port • 1 X RJ45 COM port
I/O Controller	• iTE IT8786E-I chip
Hardware Monitor	• System voltage detection • CPU/System temperature detection • CPU/System fan speed control * Whether the CPU fan speed control function is supported will depend on the CPU/ system cooler you install.
BIOS	• AMI BIOS
Form Factor	• Mini ITX Form Factor; 170CM x 170CM

Motherboard Connectors

Internal Connectors

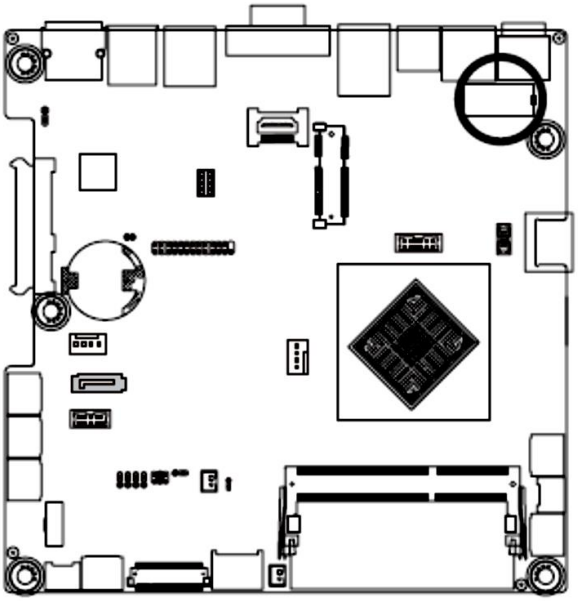


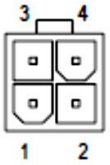
1)	DC_OUT	18)	LCDPWR_CON
2)	DC_IN	19)	BKL_CN
3)	SATA0	20)	BLKTEN_CON
4)	SATA1	21)	F_USB2
5)	SATAPW_1	22)	F_USB1
6)	COM2	23)	GPIO_CNT
7)	COM4	24)	F_AUDIO
8)	COM3	25)	SPK_OUT
9)	COM5	26)	F_PANEL
10)	JCOM2	27)	LPT
11)	JRS1	28)	CASE_OPEN
12)	JRS2	29)	HDMI
13)	JRS3	30)	CPU_FAN
14)	JRS4	31)	SMB_I2C
15)	LVDS	32)	BAT
16)	JRS6	33)	CLR_CMOS
17)	LVDS_PWR		

1) DC_OUT (2x4 12V Power Connector)

With the use of the power connector, the power supply can supply enough stable power to all the components on the motherboard. Before connecting the power connector, first make sure the power supply is turned off and all devices are properly installed. The power connector possesses a foolproof design. Connect the power supply cable to the power connector in the correct orientation. The 12V power connector mainly supplies power to the CPU. If the 12V power connector is not connected, the computer will not start.

To meet expansion requirements, it is recommended that a power supply that can withstand high power consumption be used (150W or greater). If a power supply is used that does not provide the required power, the result can lead to an unstable or unbootable system.

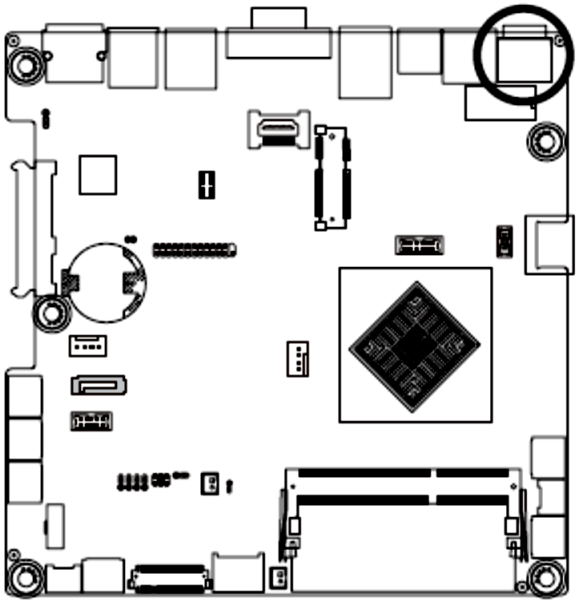




DC_OUT

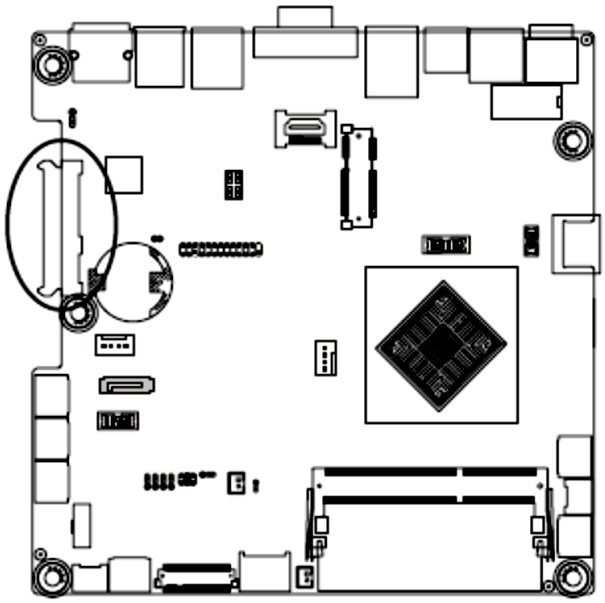
Pin No.	Definition
1	GND
2	GND
3	+12V
4	+12V

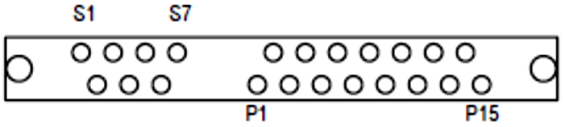
2) DC_IN (DC In Power Connector)



Pin No.	Definition
1	DC_IN
2	GND
3	DC_IN
4	GND

3) SATA0 (SATA 7+15 Pins Header)

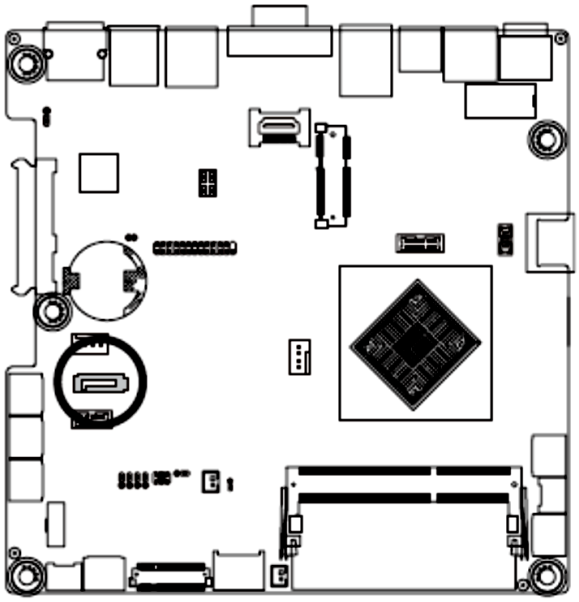




Pin No.	Definition	Pin No.	Definition
S1	GND	P1	+3V
S2	SATA TX+	P2	+3V
S3	SATA TX-	P3	+3V
S4	GND	P4	GND
S5	SATA RX-	P5	GND
S6	SATA RX+	P6	GND
S7	GND	P7	+5V
		P8	+5V
		P9	+5V
		P10	GND
		P11	NC
		P12	GND
		P13	NC
		P14	NC
		P15	NC

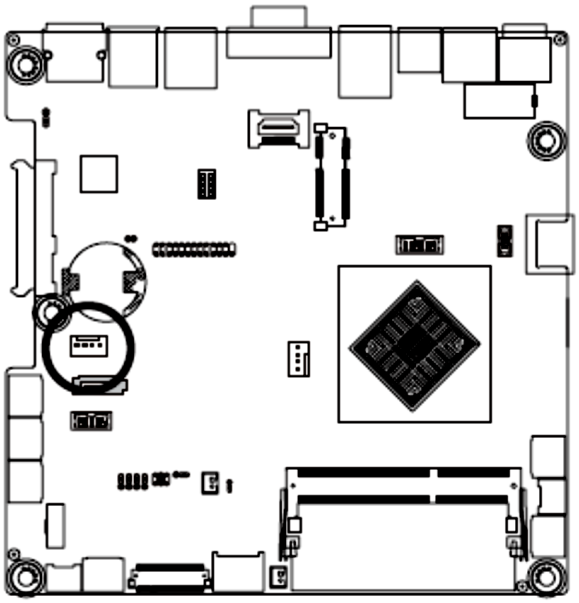
4) SATA1 (SATA 3Gb/s Connector)

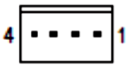
The SATA connectors conform to SATA 3Gb/s standard and are compatible with 1.5Gb/s standard. Each SATA connector supports a single SATA device.



Pin No.	Definition
1	GND
2	TXP
3	TXN
4	GND
5	RXN
6	RXP
7	GND
8	VCC
9	GND

5) SATAPW_1 (SATA HDD Power Connector)





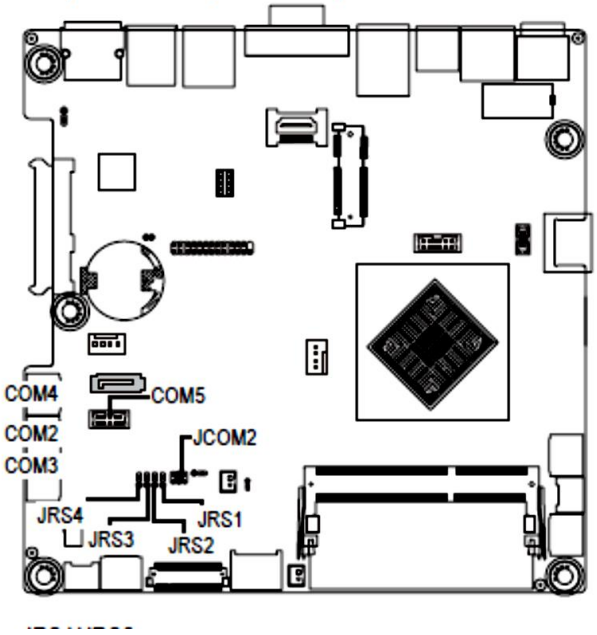
Pin No.	Definition
1	+12V
2	GND
3	GND
4	VCC

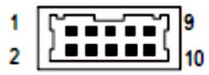
6/7/8/9) COM2/COM3/COM4/COM5 (Serial Port 2/3/4/5 Cable Connector)

10) JCOM2 (COM2 Select RS232/422/485 Jumper)

11/12/13/14) RS232/RS422/RS485 Select Jumpers for COM2)

The COM header can provide one serial port via an optional COM port cable. For purchasing the optional COM port cable, please contact the local dealer.





COM2

Pin No.	Definition
1	NDCD2_D-
2	NDSR2-
3	NRXD2_D-
4	NRTS2-
5	NTXD2_D-
6	NCTS2-
7	NDTR2_D-
8	NRI2-
9	GND
10	NRI2-

COM3

Pin No.	Definition
1	NDCD3_D-
2	NDSR3-
3	NRXD3_D-
4	NRTS3-
5	NTXD3_D-
6	NCTS3-
7	NDTR3_D-
8	NRI3-
9	GND
10	NRI3-

JRS1/JRS2:

1-2 Close: RS485

2-3 Close: RS232 (Default setting)

JRS3/JRS4:

1-2 Close: RS422

2-3 Close: RS232 (Default setting)

JCOM2:

1-2 Close: RS232

3-4 Close: RS422

5-6 Close: RS485

COM4

Pin No.	Definition
1	NDCD4_D-
2	NDSR4-
3	NRXD4_D-
4	NRTS4-
5	NTXD4_D-
6	NCTS4-
7	NDTR4_D-
8	NRI4-
9	GND
10	NRI4-

COM5

Pin No.	Definition
1	NDCD5_D-
2	NDSR5-
3	NRXD5_D-
4	NRTS5-
5	NTXD5_D-
6	NCTS5-
7	NDTR5_D-
8	NRI5-
9	GND
10	NRI5-

JCOM2

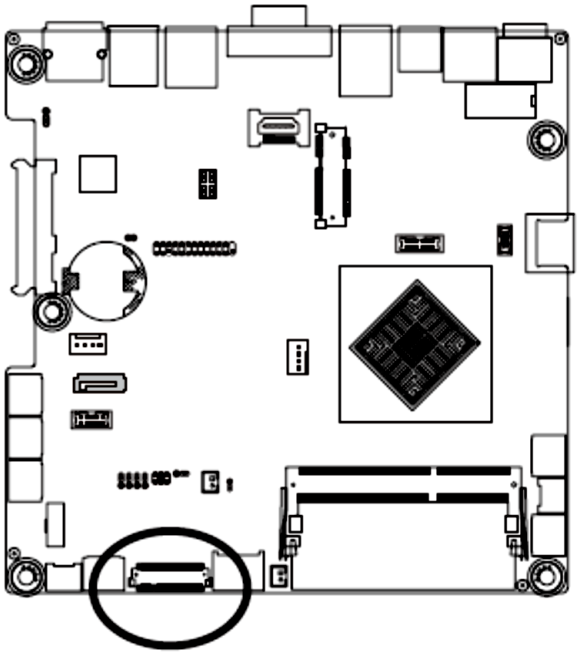
Pin No.	Definition
1	RXD232
2	RXD1
3	RXD422
4	RXD1
5	RXD485
6	RXD1

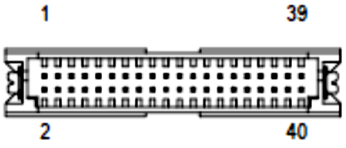
COM6

Pin No.	Definition
1	NDCD6_D-
2	NDSR6-
3	NRXD6_D-
4	NRTS6-
5	NTXD6_D-
6	NCTS6-
7	NDTR6_D-
8	NRI6-
9	GND
10	NRI6-

15) LVDS (LVDS Connector)

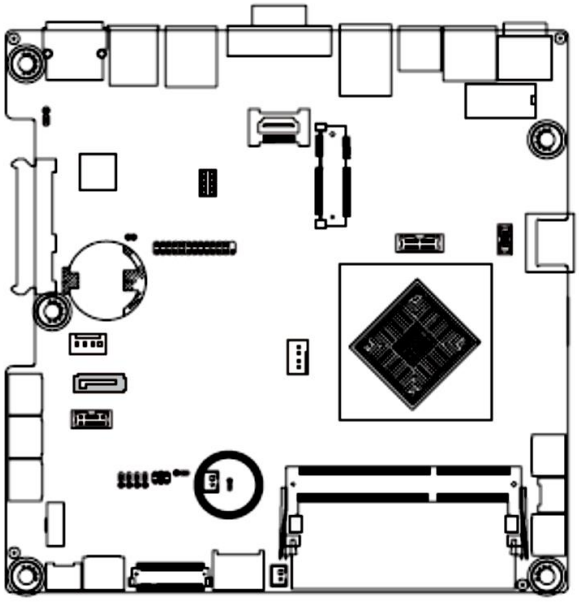
LVDS stands for Low-voltage differential signaling, which uses high-speed analog circuit techniques to provide multigigabit data transfers on copper interconnects and is a generic interface standard for high-speed data transmission.





Pin No.	Definition	Pin No.	Definition
1	PANEL_VCC	21	LVDS_DATA5+(EVEN_1+)
2	PANEL_VCC	22	LVDS_DATA1+(ODD_1+)
3	PANEL_VCC	23	GND
4	PANEL_VCC	24	GND
5	PANEL_VCC	25	LVDS_DATA6-(EVEN_2-)
6	PANEL_VCC	26	LVDS_DATA2-(ODD_2-)
7	GND	27	LVDS_DATA6+(EVEN_2+)
8	GND	28	LVDS_DATA2+(ODD_2+)
9	GND	29	GND
10	GND	30	GND
11	GND	31	LVDS_DATA7-(EVEN_3-)
12	GND	32	LVDS_DATA3-(ODD_3-)
13	LVDS_DATA4-(EVEN_0-)	33	LVDS_DATA7+(EVEN_3+)
14	LVDS_DATA0-(ODD_0-)	34	LVDS_DATA3+ (ODD_3+)
15	LVDS_DATA4+(EVEN_0+)	35	GND
16	LVDS_DATA0+(ODD_0+)	36	GND
17	GND	37	LVDS_CLK2-(EVEN_CLK-)
18	GND	38	LVDS_CLK1-(ODD_CLK-)
19	LVDS_DATA5-(EVEN_1-)	39	LVDS_CLK2+(EVEN_CLK+)
20	LVDS_DATA1-(ODD_1-)	40	LVDS_CLK1+(ODD_CLK+)

16) JRS6 (LVDS Enable/Disable Jumper)

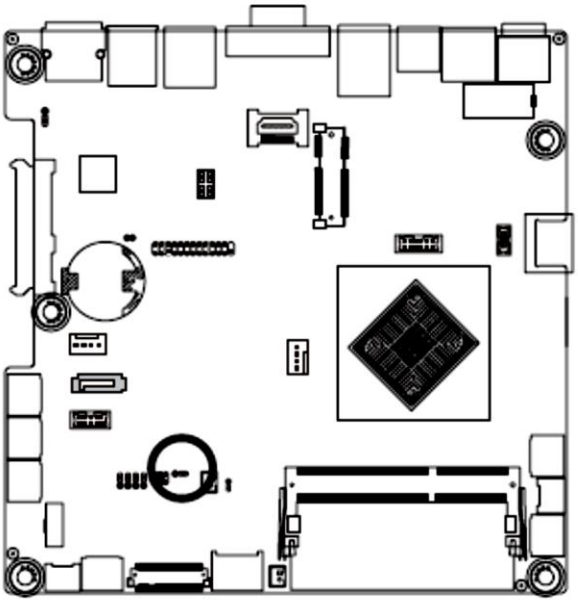


1 1-2 Close: Enable LVDS funciton. (Default setting)

1 2-3 Close: Disable LVDS funciton.

Pin No.	Definition
1	NC
2	LVDS_DISABLE
3	GND

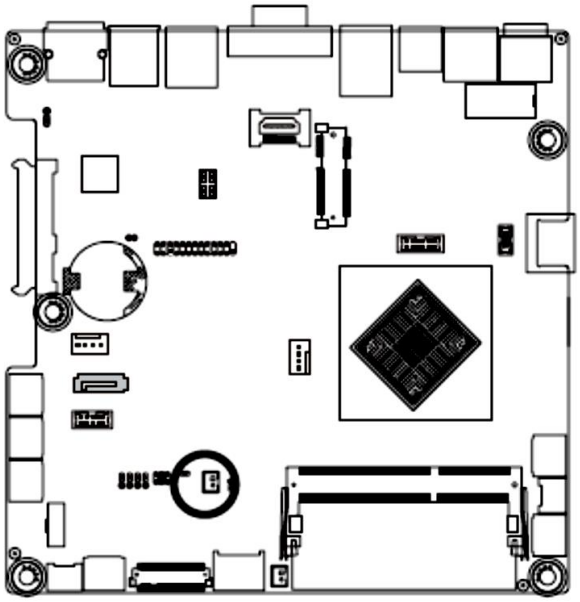
17) LVDS_PWR (LVDS 3.3V/5V Select Jumper)



1 1-2 Close: 3.3V

1 2-3 Close: 5V

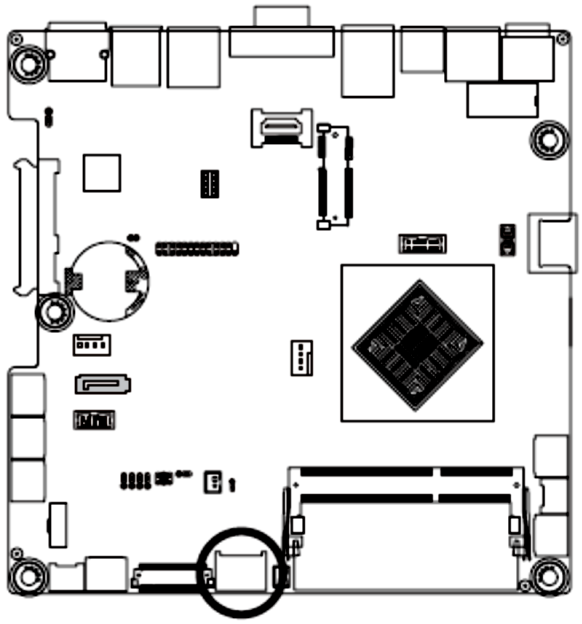
18) LCDPWR_CON (LCD Power Control Jumper)

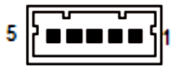


Open: VDD Power Enabled by external control

Close: VDD Power Enabled by M/B

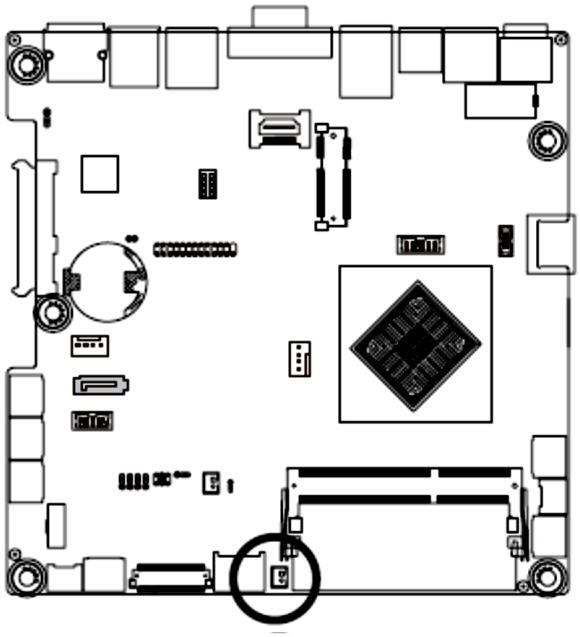
19) BKL_CN (LVDS Backlight Control Connector)





Pin No.	Definition
1	+12V LVDS
2	+12V LVDS
3	GND
4	L_BKLTCTL_INV
5	L_BKLTEN_INV

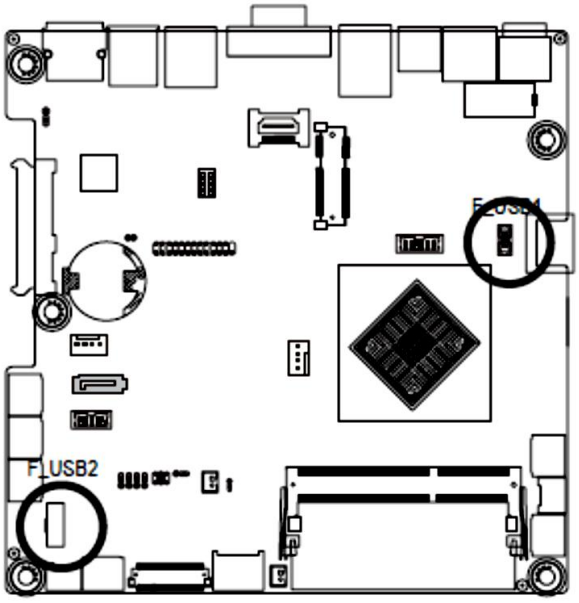
20) BKLTEN_CON (LVDS Backlight Enable Signal Connector)

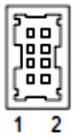


Pin No.	Definition
1	L_BKLTEN_INV
2	BKL_CN pin5

21/22) F_USB2/FUSB1 (USB Header)

The headers conform to USB 2.0/1.1 specification. Each USB header can provide two USB ports via an optional USB bracket. For purchasing the optional USB bracket, please contact the local dealer.



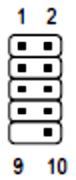


Pin No.	Definition
1	FUSEVCC_F1
2	FUSEVCC_F1
3	-FUSBP1_2_C
4	-FUSBP1_2
5	+FUSBP1_2_C
6	+FUSBP1_2
7	GND
8	GND

3-4, 5-6 Close: Enable S_USB

3-4, 5-6 Open: Disable S_USB

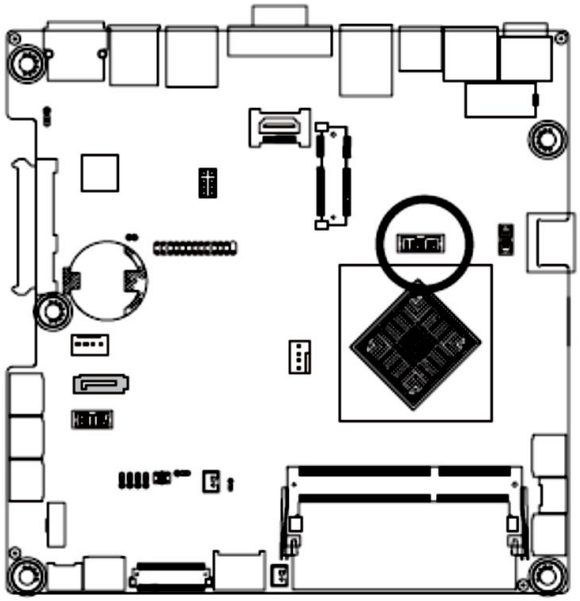
F_USB2

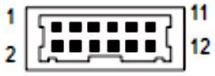


Pin No.	Definition
1	Power (5V)
2	Power (5V)
3	USB DX-
4	USB DY-
5	USB DX+
6	USB DY+
7	GND
8	GND
9	No Pin
10	NC

F_USB1 supports 1 port USB2.0 only.

23) GPIO_CNT (GPIO connector)

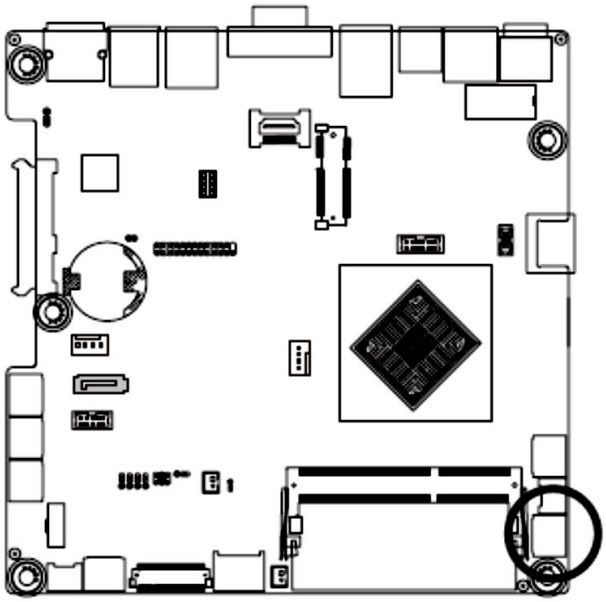




Pin No.	Definition
1	VCC
2	VCC
3	GPI_1
4	GPO_1
5	GPI_2
6	GPO_2
7	GPI_3
8	GPO_3
9	GPI_4
10	GPO_4
11	GND
12	GND

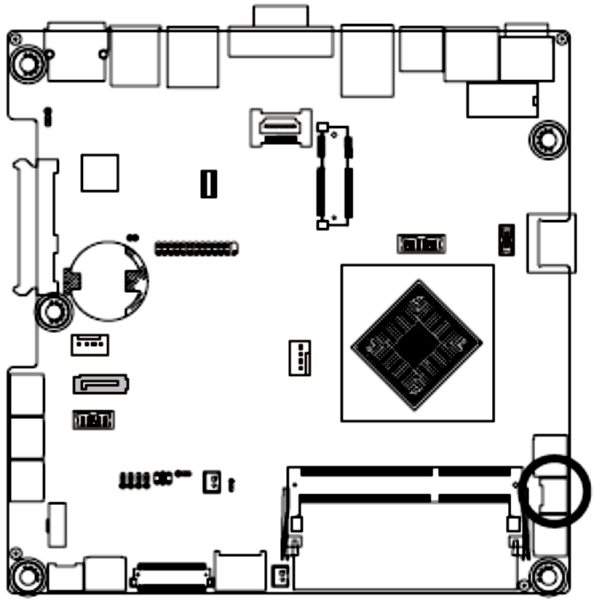
24) F_AUDIO (Front Panel Audio Header)

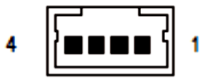
The front panel audio header supports Intel High Definition audio (HD) and AC'97 audio. You may connect your chassis front panel audio module to this header. Make sure the wire assignments of the module connector match the pin assignments of the motherboard header. Incorrect connection between the module connector and the motherboard header will make the device unable to work or even damage it.



Pin No.	Definition
1	MIC_L
2	GND
3	MIC_R
4	-ACZ_DET
5	HPOUT_R
6	GND
7	FAUDIO_J
8	NC
9	HPOUT_L
10	GND

25) SPK_OUT (Audio Amplifier Connector)

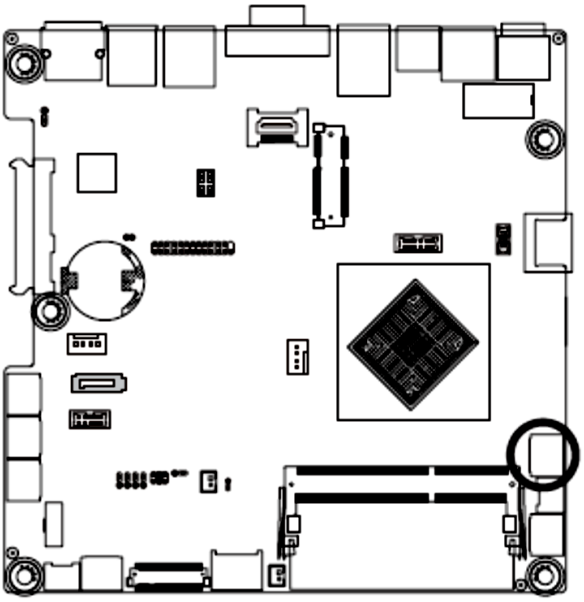




Pin No.	Definition
1	OUT_L+
2	OUT_L-
3	OUT_R-
4	OUT_R+

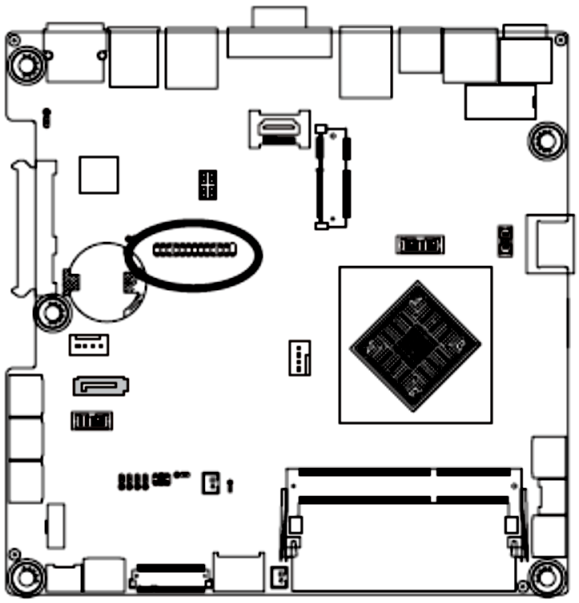
26) F_PANEL (Front Panel Header)

Connect the power switch, reset switch, speaker, and system status indicator on the chassis to this header according to the pin assignments below. Note the positive and negative pins before connecting the cables.



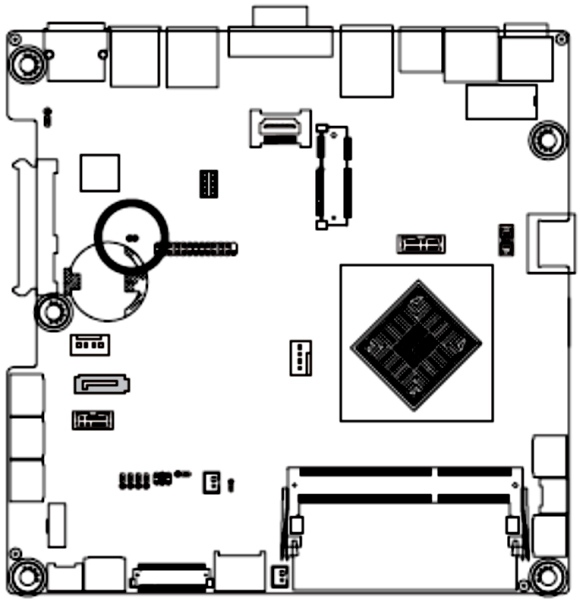
Pin No.	Signal Name	Definition
1	MPD-	Hard Disk LED Signal cathode(-)
2	MPD+	Hard Disk LED Signal anode (+)
3	PWR_F_BTN#	Power Button
4	GND	Ground
5	-ACT_LED	LAN Activity LED cathode(-)
6	+ACT_LED	LAN Activity LED anode (+)
7	HD-	Hard Disk LED Signal cathode(-)
8	HD+	Hard Disk LED Signal anode (+)
9	-SYS_RST	Reset button
10	5VDUAL	5V

27) LPT (Printer Port Cable Connector)



Pin No.	Definition	Pin No.	Definition
1	LPT1	14	GND
2	LPT14	15	LPT8
3	LPT2	16	GND
4	ERR-	17	LPT9
5	LPT3	18	GND
6	LPT16	19	ACK-
7	LPT4	20	GND
8	LPT17	21	BUSY
9	LPT5	22	GND
10	GND	23	PE
11	LPT6	24	GND
12	GND	25	SLCT
13	LPT7	26	No Pin

28) CASE_OPEN (Chassis intrusion Alert Header)

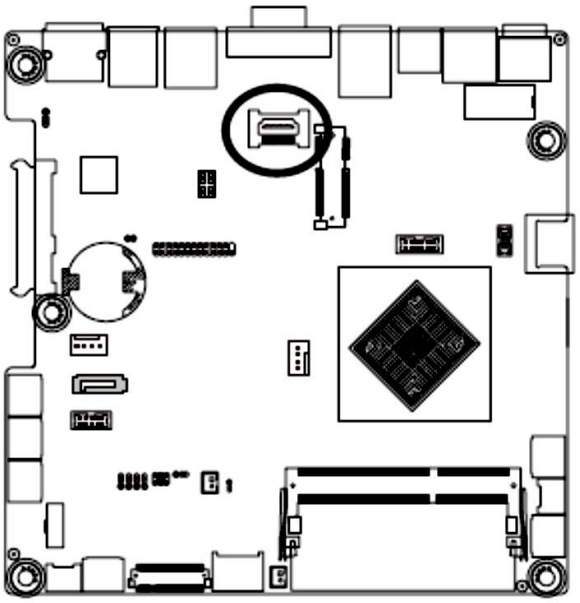


Open: Normal operation (Default setting)

Closed: Enable chassis intrusion alter.

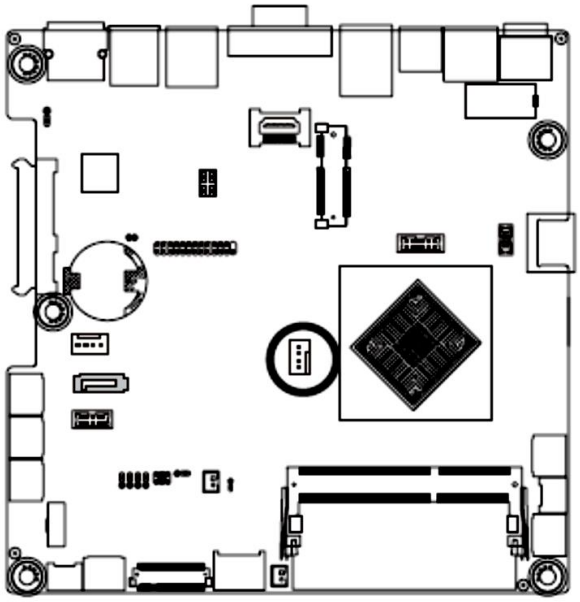
29) HDMI (HDMI Connector)

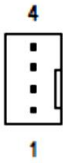
The HDMI port is HDCP compliant. You can use this port to connect your HDMI-supported monitor. The maximum supported resolution is 4096x2160@24Hz or 3840x2160@24Hz/25Hz/30Hz, but the actual resolutions supported are dependent on the monitor being used.



30) CPU_FAN (CPU Fan Header)

The motherboard has one 4-pin CPU fan header (CPU_FAN) header. Most fan headers possess a foolproof insertion design. When connecting a fan cable, be sure to connect it in the correct orientation (the black connector wire is the ground wire). The motherboard supports CPU fan speed control, which requires the use of a CPU fan with fan speed control design. For optimum heat dissipation, it is recommended that a system fan be installed inside the chassis.

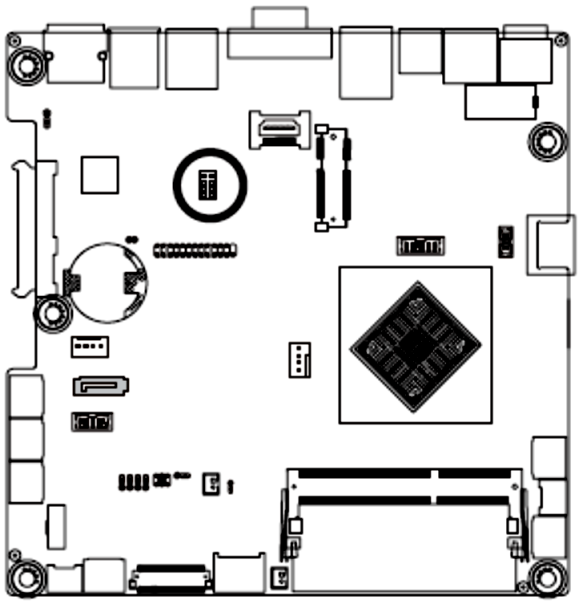




Pin No.	Definition
1	GND
2	+12V
3	Sense
4	Speed Control

- Be sure to connect fan cables to the fan headers to prevent your CPU and system from overheating. Overheating may result in damage to the CPU or the system may hang.
- These fan headers are not configuration jumper blocks. Do not place a jumper cap on the headers.

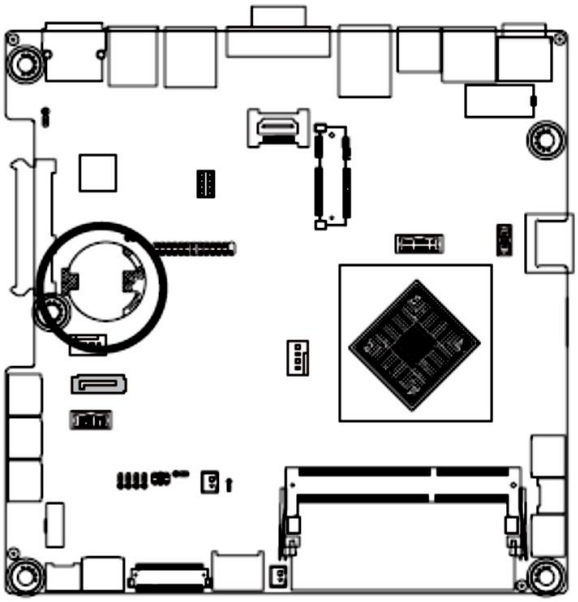
31) SMB_I2C (SMBus Connector)

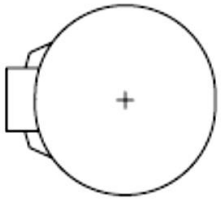


Pin No.	Definition
1	3VDUAL
2	ATX_PSON#
3	SMB_CLK1
4	I2CCLK
5	SMB_DATA1
6	I2CDAT
7	GND
8	GND

32) BAT (Battery Scoket)

The battery provides power to keep the values (such as BIOS configurations, date, and time information) in the CMOS when the computer is turned off. Replace the battery when the battery voltage drops to a low level, or the CMOS values may not be accurate or may be lost.

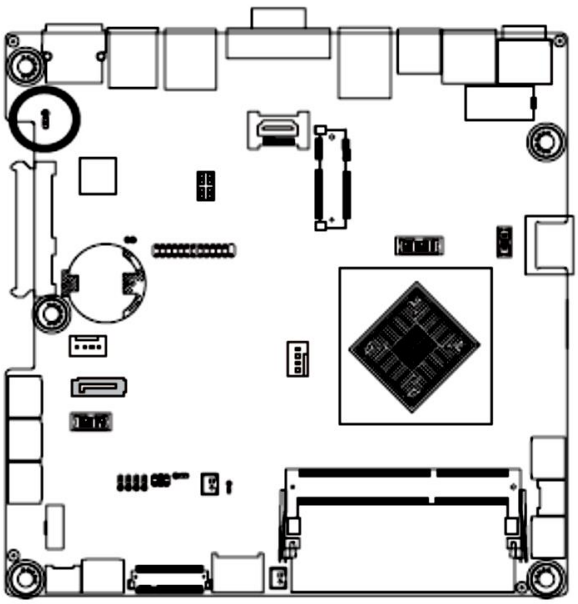




- Always turn off your computer and unplug the power cord before replacing the battery.
- Replace the battery with an equivalent one. Danger of explosion if the battery is replaced with an incorrect model.
- Contact the place of purchase or local dealer if you are not able to replace the battery by yourself or uncertain about the battery model.
- Used batteries must be handled in accordance with local environmental regulations.

33) CLR_CMOS (Clearing CMOS Jumper)

Use this jumper to clear the CMOS values (e.g. date information and BIOS configurations) and reset the CMOS values to factory defaults. To clear the CMOS values, place a jumper cap on the two pins to temporarily short the two pins or use a metal object like a screwdriver to touch the two pins for a few seconds.



1-2 Close: Normal operation (Default setting)

2-3 Close: Clear CMOS data

BIOS

BIOS (Basic Input and Output System) records hardware parameters of the system in the CMOS on the motherboard. Its major functions include conducting the Power-On Self-Test (POST) during system startup, saving system parameters and loading operating system, etc. BIOS includes a BIOS Setup program that allows the user to modify basic system configuration settings or to activate certain system features. When the power is turned off, the battery on the motherboard supplies the necessary power to the CMOS to keep the configuration values in the CMOS.

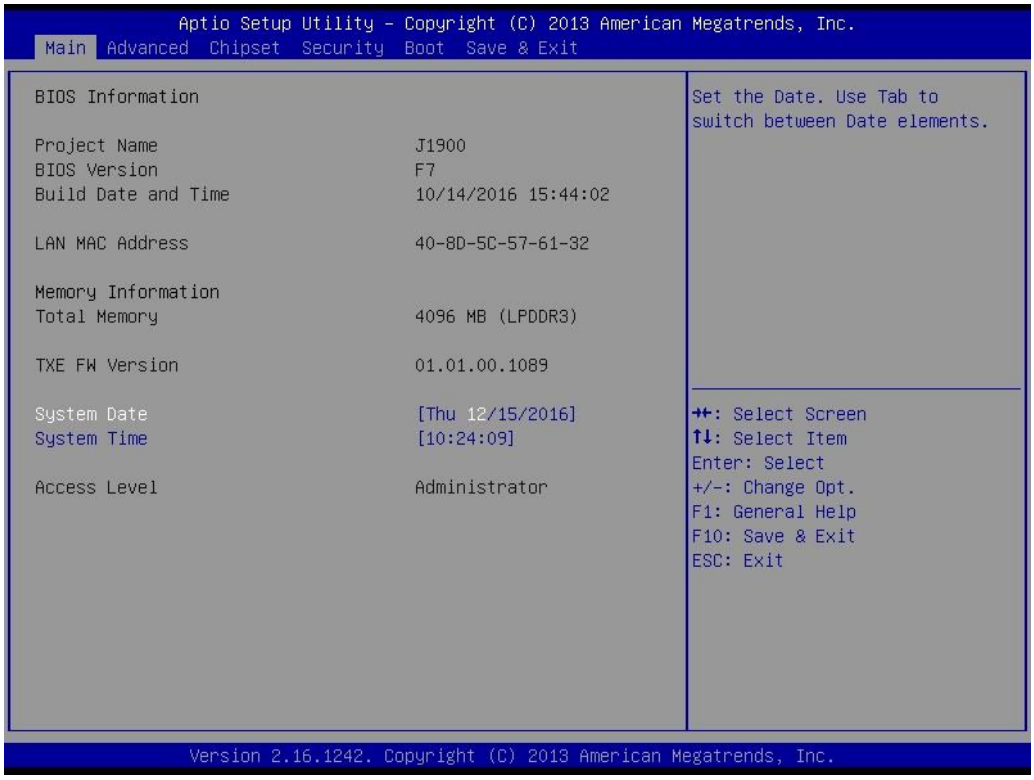
To access the BIOS Setup program, press the <DEL> key during the POST when the power is turned on.

- BIOS flashing is potentially risky, if you do not encounter problems of using the current BIOS version, it is recommended that you don't flash the BIOS. To flash the BIOS, do it with caution. Inadequate BIOS flashing may result in system malfunction.
- It is recommended that you not alter the default settings (unless you need to) to prevent system instability or other unexpected results. Inadequately altering the settings may result in system's failure to boot. If this occurs, try to clear the CMOS values and reset the board to default values. (Refer to the "Restore Defaults" section in this chapter or introductions of the battery/clearing CMOS jumper in Chapter 1 for how to clear the CMOS values.)

BIOS Setup Program Function Keys

<↑><↓>	Move the selection bar to select an item
<←><→>	Move the selection bar to select the screen
<Enter>	Execute command or enter the submenu
<Esc>	Main Menu: Exit the BIOS Setup program Submenus: Exit current submenu
<+>	Increase the numeric value or make changes
<->	Decrease the numeric value or make changes
<F1>	General Help
<F2>	Restore the previous BIOS settings for the current submenus
<F3>	Load the Optimized BIOS default settings for the current submenus
<F4>	Save all the changes and exit the BIOS Setup program

Main



- **Main**
  This setup page includes all the items in standard compatible BIOS
- **Advanced**
  This setup page includes all the items of AMI BIOS special enhanced features.
  (ex: Auto detect fan and temperature status, automatically configure hard disk parameters.)
- **Chipset**
  Northbridge and Southbridge additional features configuration.
- **Boot**
  This setup page provides items for configuration of boot sequence.
- **Security**
  Change, set, or disable supervisor and user password. Configuration supervisor password allows you to restrict access to the system and BIOS Setup.
  A supervisor password allows you to make changes in BIOS Setup.
  A user password only allows you to view the BIOS settings but not to make changes.
- **Save & Exit**
  Save all the changes made in the BIOS Setup program to the CMOS and exit BIOS Setup.
  Abandon all changes and the previous settings remain in effect. Pressing <Y> to the confirmation message will exit BIOS Setup. (Pressing <Esc> can also carry out this task.)

Once you enter the BIOS Setup program, the Main Menu (as shown below) appears on the screen. Use arrow keys to move among the items and press <Enter> to accept or enter other sub-menu.

Main Menu Help

The on-screen description of a highlighted setup option is displayed on the bottom line of the Main Menu.

Submenu Help

While in a submenu, press <F1> to display a help screen (General Help) of function keys available for the menu. Press <Esc> to exit the help screen. Help for each item is in the Item Help block on the right side of the submenu.

• When the system is not stable as usual, select the **Restore Defaults** item to set your system to its defaults.

• The BIOS Setup menus described in this chapter are for reference only and may differ by BIOS version.

- **BIOS Information**
- **Project Name**

  Display name of the project.
- **BIOS Version**

  Display version number of the BIOS.
- **BIOS Build Date and Time**

  Displays the date and time when the BIOS setup utility was created.
- **LAN MAC Address**

  Displays the LAN MAC address information.
- **Memory Information**
- **Total Memory**

  Display the total memory size of the installed memory.
- **TXE FW Version**

  Display the TXE firmware version.
- **System Date**

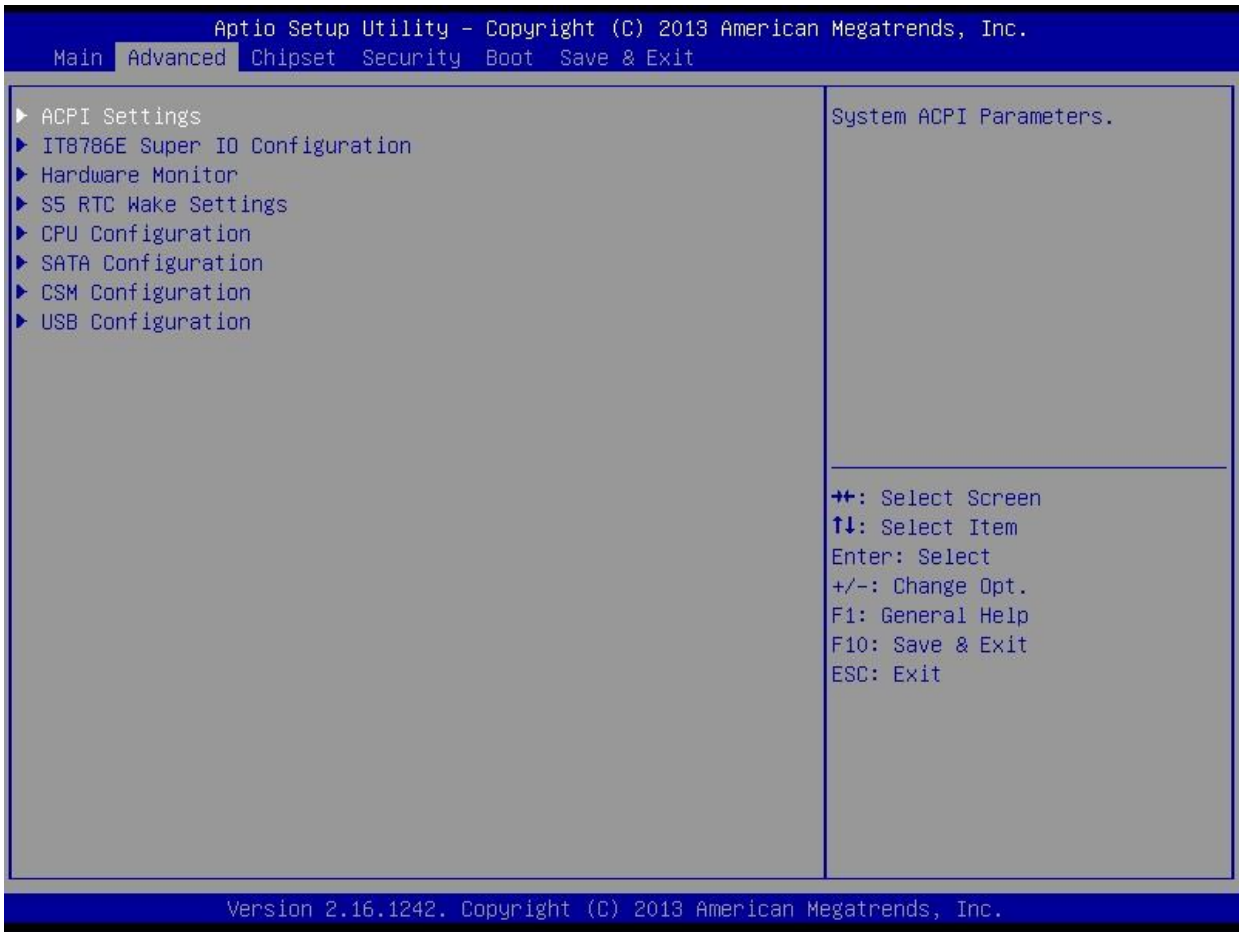
  Set the date following the weekday-month-day- year format.
- **System Time**

  Set the system time following the hour-minute- second format.
- **Access Level**

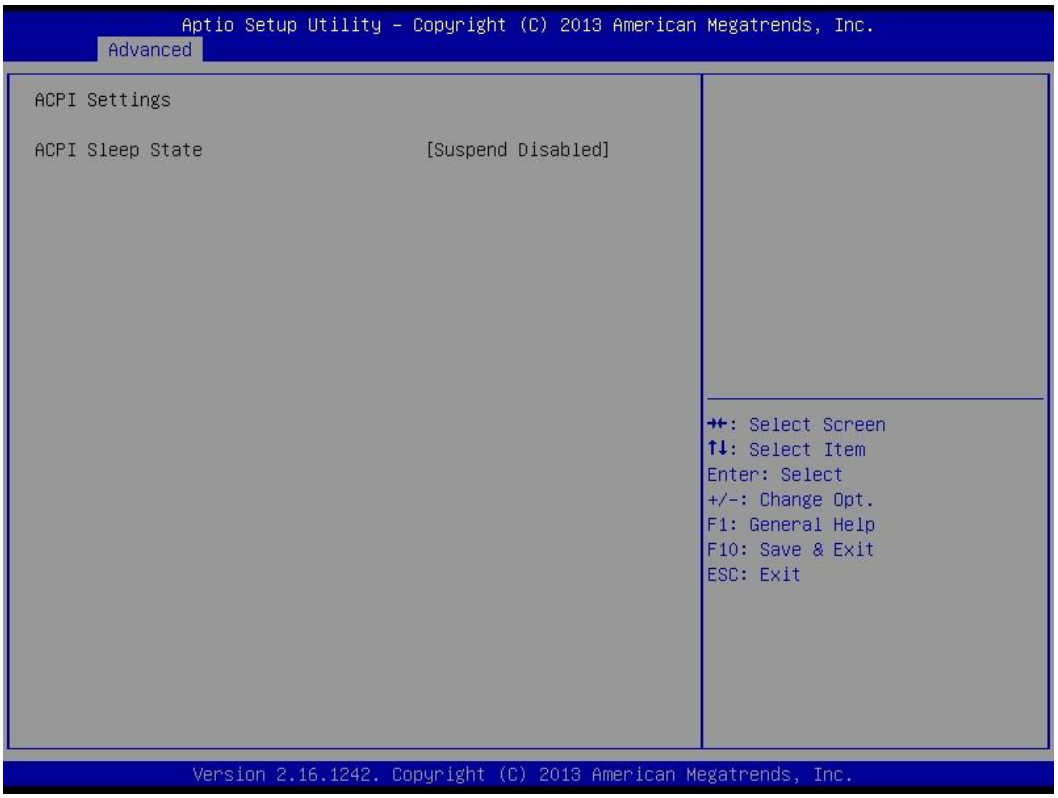
  Display the privilege access information .

Advanced

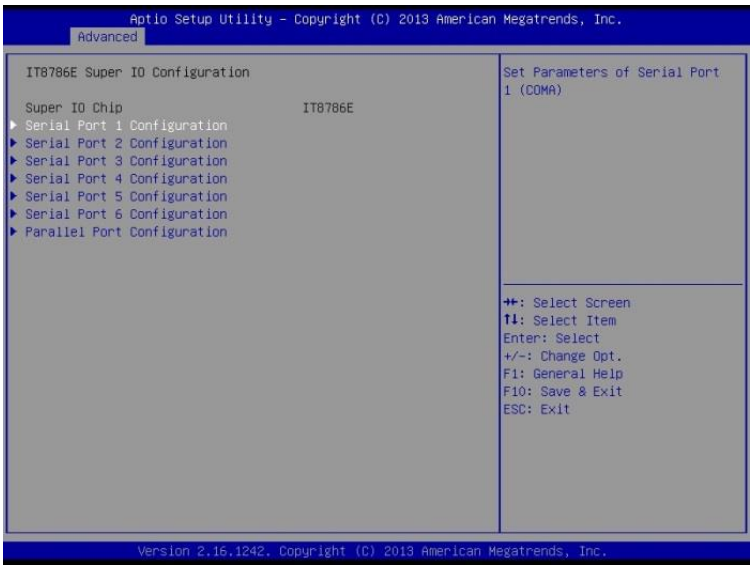
The Advanced menu display submenu options for configuring the function of various hardware components. Select a submenu item, then press Enter to access the related submenu screen.

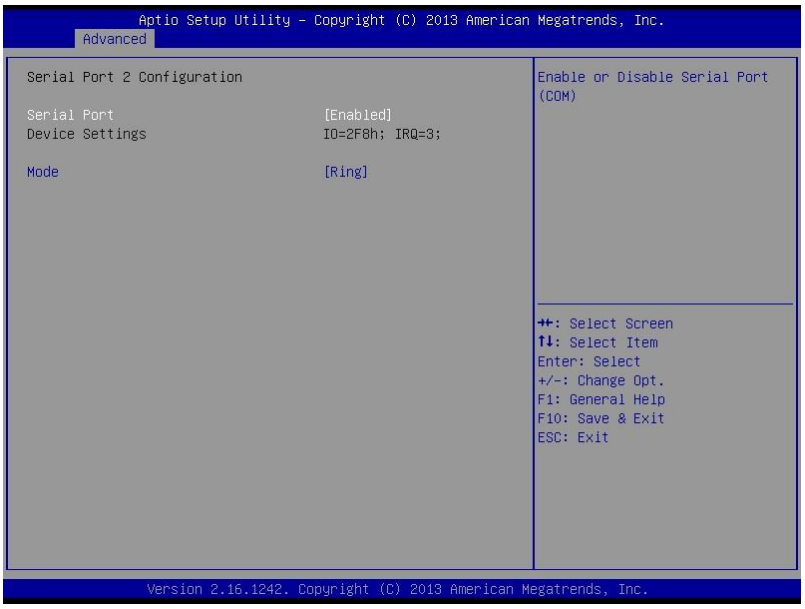


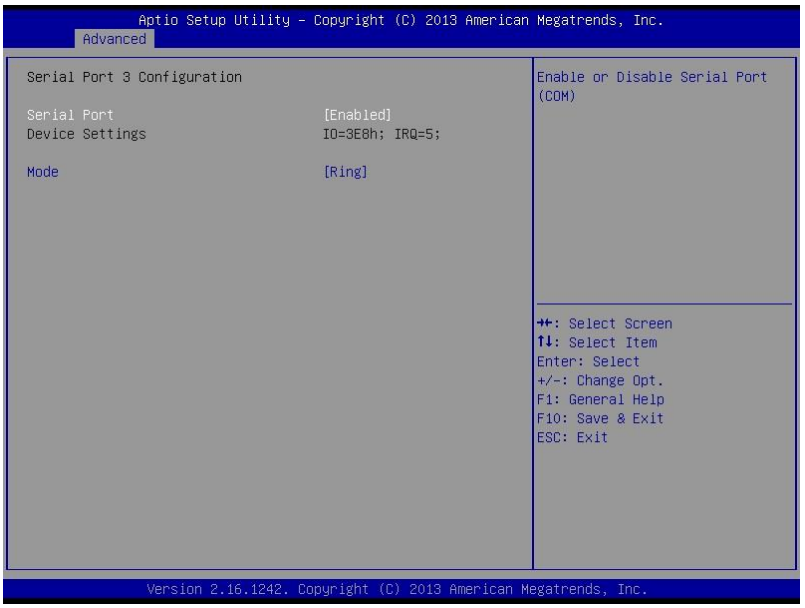
Advanced > ACPI Settings

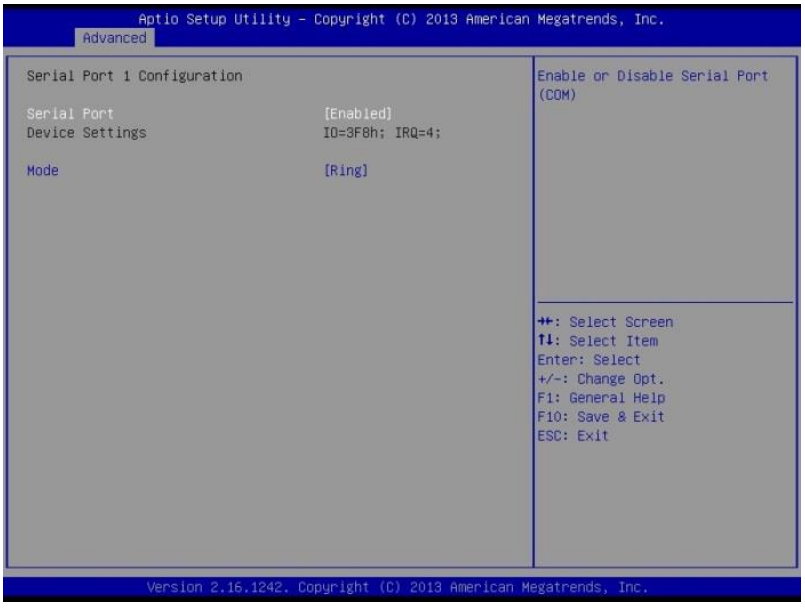


Advanced → IT8786E Super IO Configuration




Aptio Setup Utility – Copyright (C) 2013 American Megatrends, Inc.
Advanced
Serial Port 2 Configuration
Serial Port [Enabled]
Device Settings IO=2F8h; IRQ=3;
Mode [Ring]
Enable or Disable Serial Port (COM)
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F10: Save & Exit
ESC: Exit
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.


Aptio Setup Utility – Copyright (C) 2013 American Megatrends, Inc.
Advanced
Serial Port 3 Configuration
Serial Port [Enabled]
Device Settings IO=3E8h; IRQ=5;
Mode [Ring]
Enable or Disable Serial Port (COM)
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F10: Save & Exit
ESC: Exit
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.


Aptio Setup Utility – Copyright (C) 2013 American Megatrends, Inc.
Advanced
Serial Port 1 Configuration
Serial Port [Enabled]
Device Settings IO=3F8h; IRQ=4;
Mode [Ring]
Enable or Disable Serial Port (COM)
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F10: Save & Exit
ESC: Exit
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.

- **IT8786E Super IO Configuration**
- **Super IO Chip**

  Display the model name of Super IO chip.
- **Serial Port 1/2/3/4/5/6 Configuration**

  Press [Enter] for confuguration of advanced items.
- **Parallel Port Configuration**

  Press [Enter] for confuguration of advanced items.
- **Serial Port #1/#2/#3/#4/#5/#6**

  When enabled allows you to configure the serial port settings. When set to Disabled, displays no configuration for the serial port.
  Options available: Enabled/Disabled. Default setting is **Enabled**.
- **Device Settings**

  Display the specified Serial Port base I/O addressand IRQ.
- **Mode**

  Option available: Ring/12V/5V. Default setting is **Ring**.
- **Parallel Port**

  When enabled allows you to configure the parallel settings.
  Options available: Enabled/Disabled. Default setting is **Enabled**.
- **Device Settings**

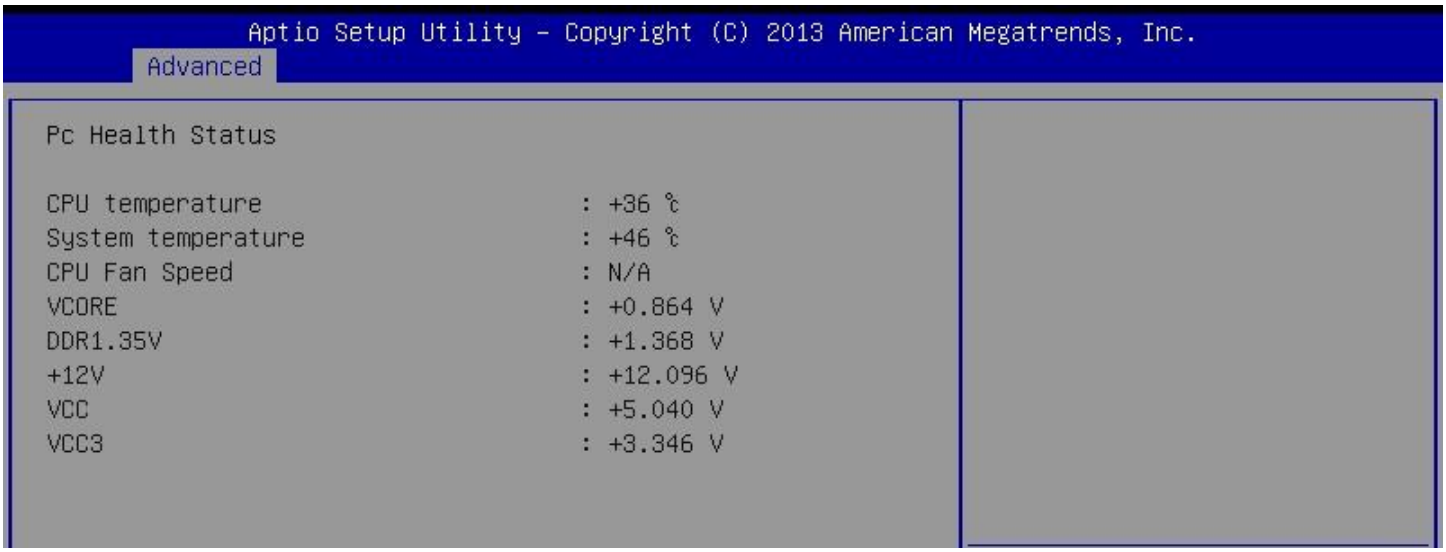
  Display the specified Parallel port base I/O addressand IRQ.
- **Change Settings**

  Change Paralle port device settings. When set to Auto allows the server's BIOS or OS to select a configuration.
  Options available: Auto/IO=378h;IRQ=5/IO=378h;IRQ=5,6,7,9,110,11,12/
  IO=278h;IRQ=5,6,7,9,110,11,12/ IO=3BCh;IRQ=5,6,7,9,110,11,12
  Default setting is **Auto**.

- **Device Mode**

  Configure parallel port mode.
  Standard Parallet Port mode (SPP): Standard Parallet Port mode is the same as SPP Mode. SPP stands for Standard Parallel Port. Set this item to Normal Mode, system will transfer protocol for the parallel port. It works all parallel devices.
  EPP Mode: The Extended Capabilities Port transfer mode uses DMA protocol to achieve data transfer rates of up tp 2MB/s and provides symmetric bidirectional communication.
  ECP Mode: Enhanced Parallel Port using existing parallel port signals to provide a asymmetric bidirectional communication. It's offering transfer rates of up tp 2MB/s.
  ECP & EPP Mode: Enable EPP and ECP Mode.
  Options available: Standard Parallet Port mode (SPP)/EPP Mode/ECP Mode/EPP+ECP Mode.
  Default setting is **Standard Parallet Port mode (SPP)**.

Advanced > Hardware Monitor



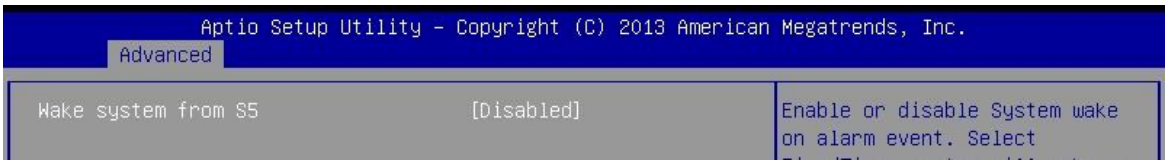
- **PC Health Status**
- **CPU Temperature/System Temperature**

  Displays current CPU and System temperature.
- **CPU Fan Speed (RPM)**

  Displays current CPU fan speed information.
- **VCORE/DDR1.35/+12V/VCC/VCC3**

  Displays current CPU and system voltage status.

Advanced > S5 RTC Setting



- **Wake system from S5**

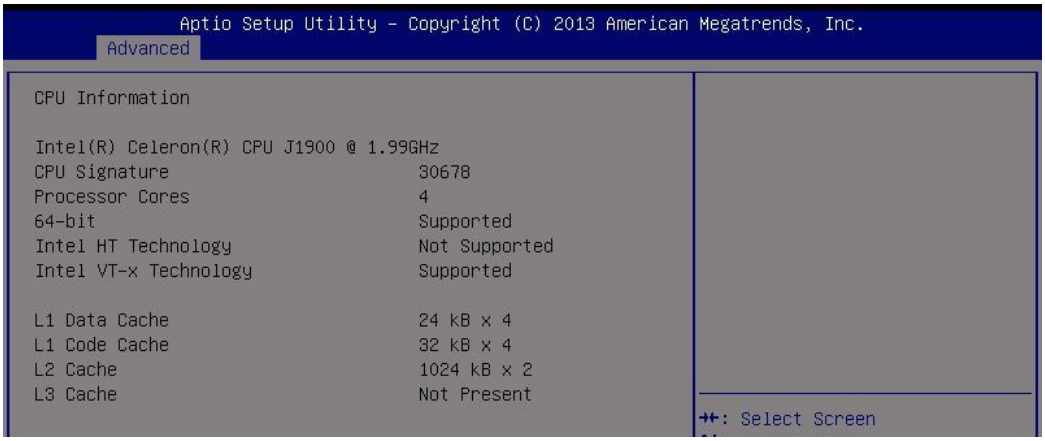
  Enable or disable System wake on alarm event. When enabled, System will wake on the hr:min:sec specified. Default setting is **Disabled**.
- **Wake up hour**(Note)

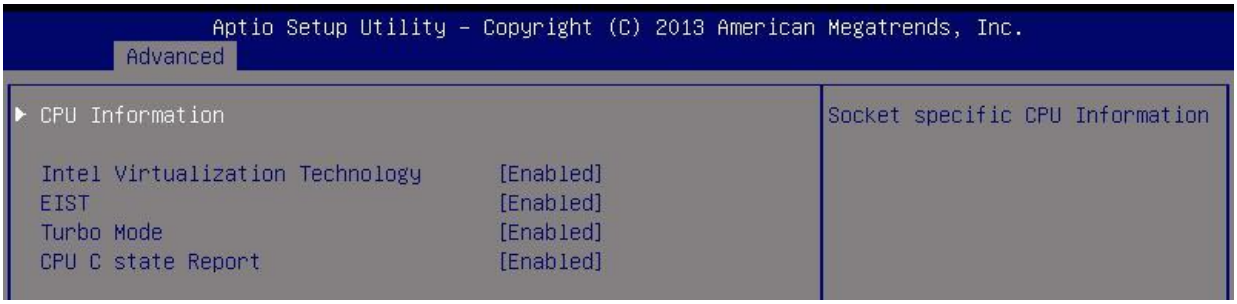
  Press <+> and <-> to define the wake up hour.
- **Wake up minute**(Note)

  Press <+> and <-> to define the wake up minute.
- **Wake up second**(Note)

  Press <+> and <-> to define the wake up second.

Advanced > CPU Configuration





- **CPU Information**

  Press [Enter] to view the installed CPUinformation.

- **Intel Virtualization Technology**

  Select whether to enable the Intel Virtualization Technology function. VT allows a single platform to run multiple operating systems in independent partitions.
  Options available: Enabled/Disabled. Default setting is **Enabled**.

- **EIST (Enhanced Intel SpeedStep Technology)**

  Conventional Intel SpeedStep Technology switches both voltage and frequency in tandem between high and low levels in response to processor load.
  Options available: Enabled/Disabled. Default setting is **Enabled**.

- **Turbo Mode**

  When this feature is enabled, the processor can dynamically overclock one or two of its four processing cores to improve performance with applications that are not multi-threaded or optimized for quad-core processors.
  Options available: Enabled/Disabled. Default setting is **Enabled**.

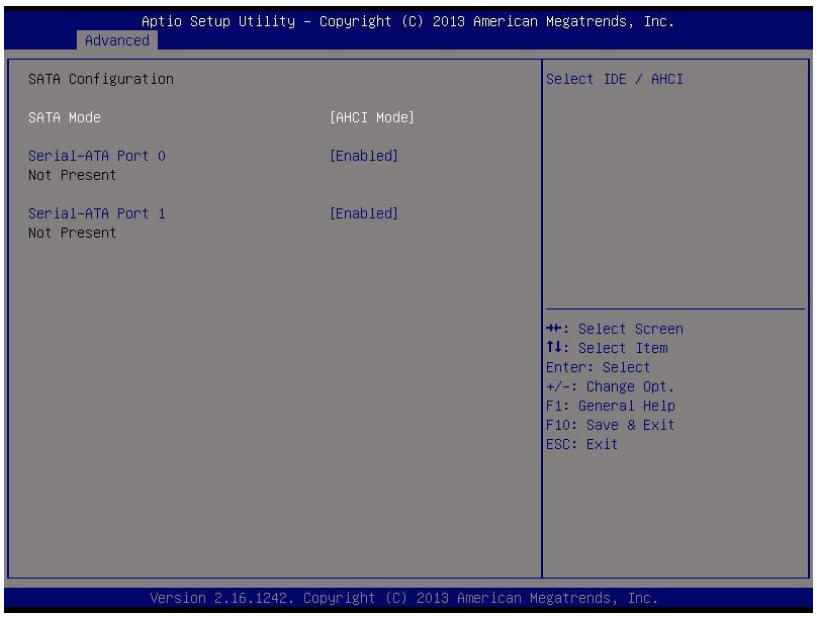
- **CPU C State Report**

  Enable/Disable CPU C State report function.
  Options available: Enabled/Disabled. Default setting is **Enabled**.

- **L1 Data Cache / L1 Code Cache / L2 Cache / L3 Cache**

  Displays the technical specifications for the installed processor.

Advanced > SATA Configuration



SATA Mode Selection

Select the on chip SATA type.

IDE Mode: When set to IDE, the SATA controller disables its AHCI function and runs in the IDE emulation mode.

AHCI Mode: When set to AHCI, the SATA controller enables its AHCI functionality.

Options available: IDE/AHCI. Default setting is **AHCI Mode**.

Serial ATA Port 0/1

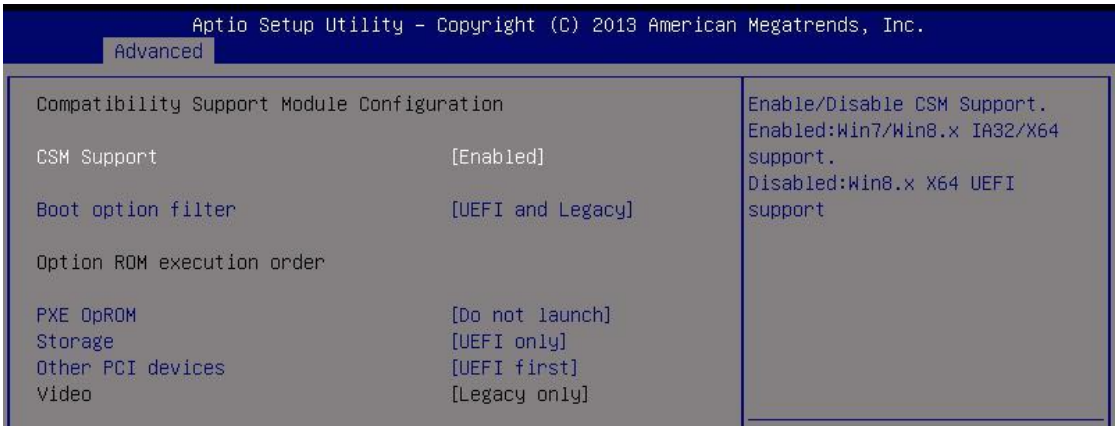
The category identifies Serial ATA type of hard disk that are installed in the computer.

System will automatically detect HDD type.

Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category.

Hard drive information should be labeled on the outside device casing. Enter the appropriate option based on this information.

Advanced > CSM Configuration



Other PCI devices

Determines OpROM execution policy for devices other than network, Storage, or Video.
Options available: Do not launch/UEFI only/Legacy only/Legacy first/UEFI first.
Default setting is **UEFI first**.

Video

Controls the execution UEFI and Legacy Video OpROM.
Options available: Do not launch/UEFI only/Legacy only/Legacy first/UEFI first.
Default setting is **Legacy only.**

Compatibility Support Module Configuration

Press Enter to configure the advanced items.

CSM Support

Enable/Disable Compatibility Support Module (CSM) support function.
Options available: Enabled/Disabled. Default setting is **Enabled**.

- The following five items appears and configurable when the **Launch CSM** is set to **Enabled**.
- If the **Launch CSM** is set to **Disabled,** the following five items will not be able to support Legacy mode.

Boot option filter

Determines which devices system will boot to.
Options available: UEFI and Legacy/Legacy only/UEFI only. Default setting is **UEFI and Legacy**.

Option ROM execution order

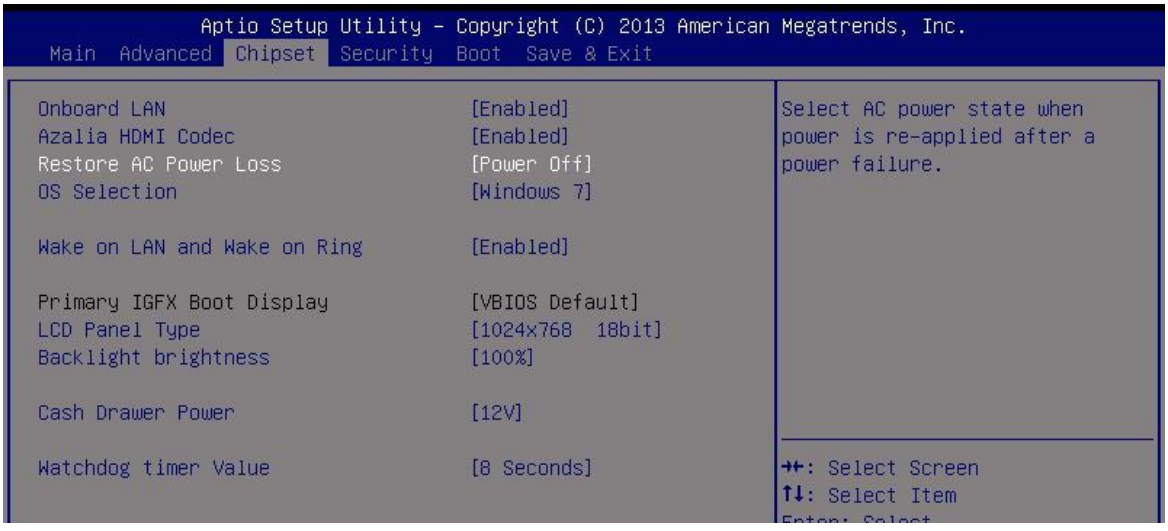
PXE OpROM

Controls the execution UEFI and Legacy PXE OpROM.
Options available: Do not launch/UEFI/Legacy. Default setting is **Legacy**.

Storage

Controls the execution UEFI and Legacy Storage OpROM.
Options available: Do not launch/UEFI only/Legacy only/Legacy first/UEFI first.
Default setting is **Legacy only.**

Chipset Menu



Onboard LAN

Enable/Disable onboard LAN controller.

Options available: Enabled/Disabled. Default setting is **Enabled**.

Azalia HDMI Codec

Enable/Disable onboard audio controller.

Options available: Enabled/Disabled. Default setting is **Enabled**.

Restore AC Power Loss

This option provides user to set the mode of operation if an AC / power loss occurs.

Power On: System power state when AC cord is re-plugged.

Power Off: Do not power on system when AC power is back.

Last State: Set system to the last sate when AC power is removed.

Options available: Power On/Power Off/Last State. Default setting is **Power Off**.

OS Selection

Options available: Windows 7. Default setting is **Windows 7**.

Wake on LAN and Wake on Ring

Enable/Disable Wake on LAN and Wake on Ring function.

Options available: Enabled/Disabled. Default setting is **Enabled**.

Wake on LAN default is **Enabled**; Wake on Ring default is **Disabled**

Primary IGFX Boot Display

LCD Panel Type

Selecting by Internal Graphics Device by selecting appropriate setup item.

Options available: 800x600 (18 bit)/1024x768 (18 bit).

Backlight brightness

Configure the backlight brightness.

Options available: 5%/25%/50%/75%/100%. Default setting is **100%**.

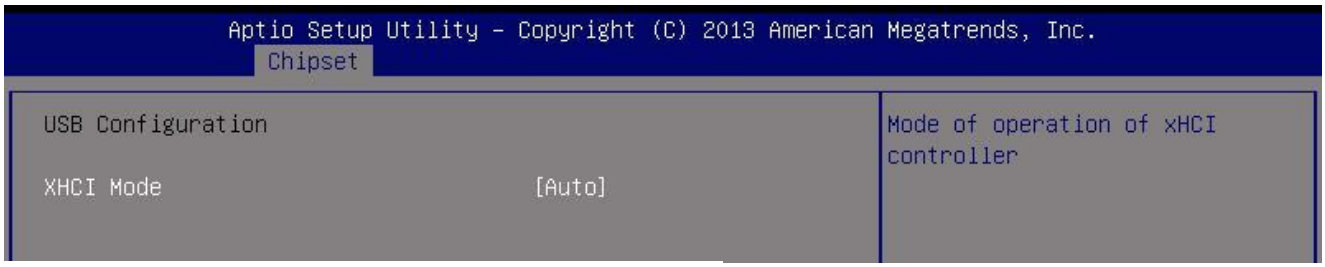
Cash Drawer Power

Options available: 12V/24V. Default setting is **12V**.

Watchdog time value

Options available: 8 seconds. Default setting is **8 seconds**.

Chipset > USB Configuration

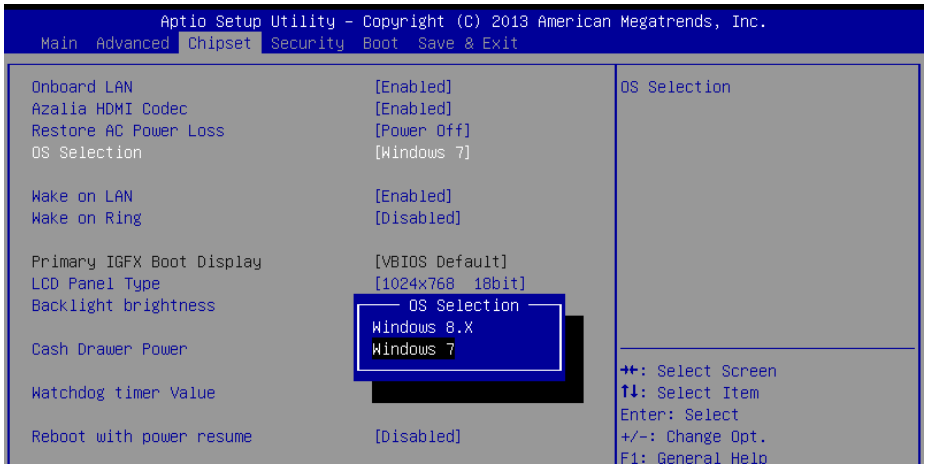


- **USB Configuration**
- **XHCI mode**

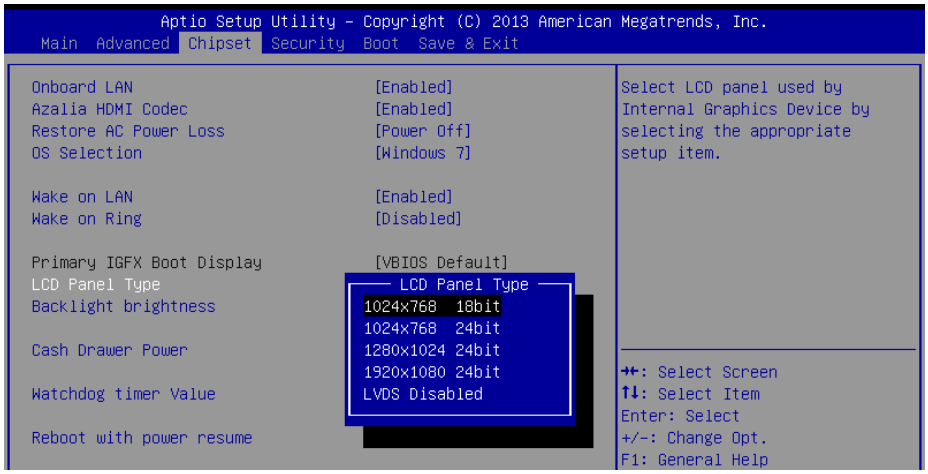
  Enable/Disable XHCI (USB 3.0) Hand-off support.

  Options available: Auto/Disabled. Default setting is **Auto**.

Chipset > OS Selection

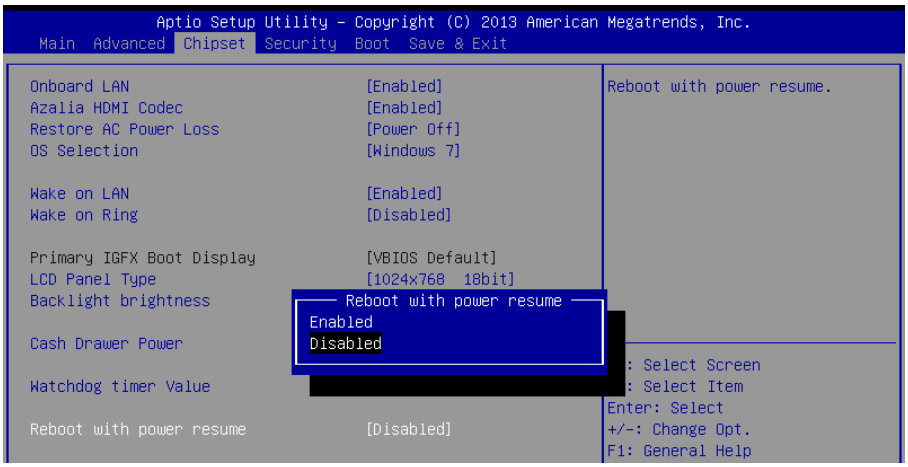


Options available : Windows7 , Windows8 .
Default setting is windows7, *Windows 8* and *later versions; Please select Windows 8.X*



LCD Panel Type
Selecting by Internal Graphics Device by selecting appropriate setup item
Options available: 1024x768(18bit) / 1024x768(24bit) / 1280x1024(24bit) / 1920x1080(24bit) / LVDS Disable

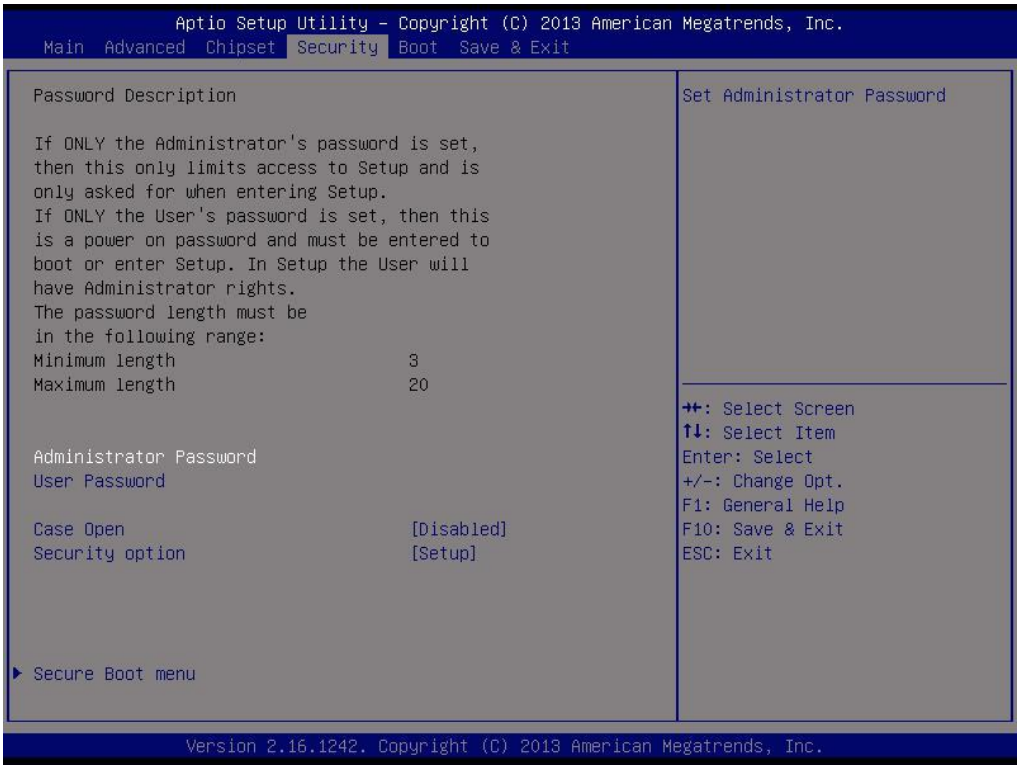
Reboot with power resume



Options available: Enable or Disable .
Default setting is **Disable**; Using Linux OS reboot stuck must be selected **Enable**

Security Menu

The Security menu allows you to safeguard and protect the system from unauthorized use by setting up access passwords.



There are two types of passwords that you can set:

- Adminstrator Password
  Entering this password will allow the user to access and change all settings in the Setup Utility.
- User Password
  Entering this password will restrict a user's access to the Setup menus. To enable or disable this field, a Administrator Password must first be set. A user can only access and modify the System Time, System Date, and Set User Password fields.

☞ **AdministratorPassword**

Press Enter to configure the Administrator password.

☞ **User Password**

Press Enter to configure the user password.

☞ **Case Open**

Enable/Disable chassis intrusion alert function.

Options available: Enabled/Disabled. Default setting is **Disabled**.

☞ **Security Option**

Select whether the password is required every time when the system boots or only when user enterthe setup.

Options available: Setup/System. Default setting is **Setup**.

☞ **Secure Boot menu**

Press [Enter] for configuration of advanced items.

Security > Secure Boot

System Mode

Display the System Mode state.

Secure Boot

Display the System Mode State.

Secure Boot

Secure Boot requires all the applications that are running during the booting process to be pre-signed with valid digital certificates. This way, the system knows all the files being loaded before Windows 8 loads and gets to the login screen have not been tampered with.

Options available: Enabled/Disabled. Default setting is **Disabled**.

Secure Boot Mode(Note)

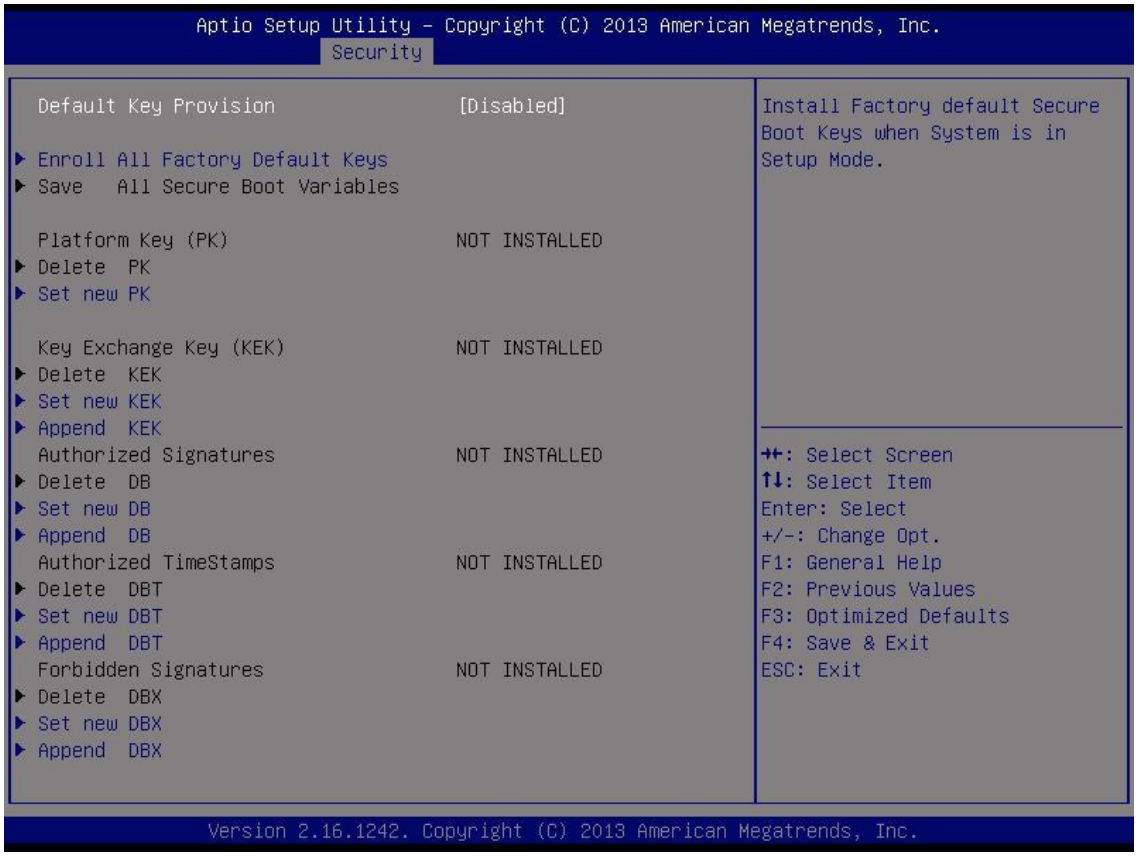
Define the Secure Boot Mode. Set this item to **Custom** to advanced items configuration.

Option available: Standard/Custom. Default setting is **Custom**.

Key Management

Press Enter to configure the advanced items.

Security > Key Management



☞ **Set new KEK**

Press [Enter] to configure a new KEK.

☞ **Append Var to KEK**

Press [Enter] to load additional KEK from a storage devices for an additional db and dbx management.

☞ **Authorized Signature Database (DB)**

Display the status of Authorized Signature Database.

☞ **Delete DB**

Press [Enter] to delete the db from your system.

☞ **Set new DB**

Press [Enter] to configure a new db.

☞ **Append aVar to DB**

Press [Enter] to load additional db from a storage devices.

☞ **Forbidden Signature Database (DBX)**

Display the status of Forbidden Signature Database.

☞ **Delete the DBX**

Press [Enter] to delete the dbx from your system.

☞ **Set DBX from File**

Press [Enter] to configure a new dbx.

☞ **Append Var to DBX**

Press [Enter] to load additional db from a storage devices.

☞ **Key Management**

This item appears only when the **Secure Boot Mode** is set to **Custom**.

☞ **Default Key Provisioning**

Force the system to Setup Mode. This will clear all Secure Boot Variables such as Platform Key (PK), Key-exchange Key (KEK), Authorized Signature Database (db), and Forbidden Signaures Database (dbx).

Options available: Enabled/Disabled. Default setting is **Disabled**.

☞ **Enroll All Factory Default Keys**

Press [Enter] to install all factory default keys.

☞ **Save All Secure Boot Variables**

Press [Enter] to save all Secure Boot Variables.

☞ **Platform Key (PK)**

Display the status of Platform Key.

☞ **Delete the PK**

Press [Enter] to delete the existed PK. Once the PK is deleted, all the system's Secure Boot keys will not be activated.

☞ **Set new PK File**

Press [Enter] to configure a new PK.

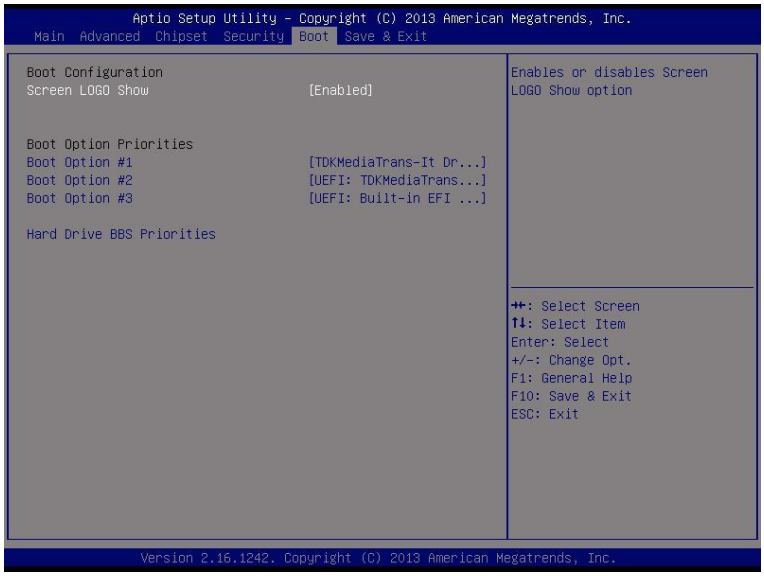
☞ **Key Exchange Key Database (KEK)**

Display the status of Platform Key.

☞ **Delete KEK**

Press [Enter] to delete the KEK from your system.

Boot Menu



- **Boot Configuration**
- **Screen LOGO Show**

  When this item is enabled, the BIOS will display the full-screen logo during the boot-up sequence.

  Options available: Enabled/Disabled. Default setting is **Enabled**.
- **Boot Option Priorities**
- **Boot Option #1/#2/#3/#4**

  Press Enter to configure the boot priority.
- **Hard Drive BBS Priorities**

  Press Enter to configure the boot priority.

Save & Exit Menu

The Exit menu displays the various options to quit from the BIOS setup. Highlight any of the exit options then press **Enter**.

- **Save Changes and Exit**

  Saves changes made and close the BIOS setup.
  Options available: Yes/No.

- **Discard Changes and Exit**

  Discards changes made and close the BIOS setup.
  Options available: Yes/No.

- **Save Changes**

  Active this option to save all the changes.

- **Discard Changes**

  Discards changes made and close the BIOS setup.

- **Restore Factory Defaults**

  Loads the default settings for all BIOS setup parameters. Setup Defaults are quite demanding in terms of resources consumption. If you are using low-speed memory chips or other kinds of low-performance components and you choose to load these settings, the system might not function properly.
  Options available: Yes/No.

- **Boot Override**

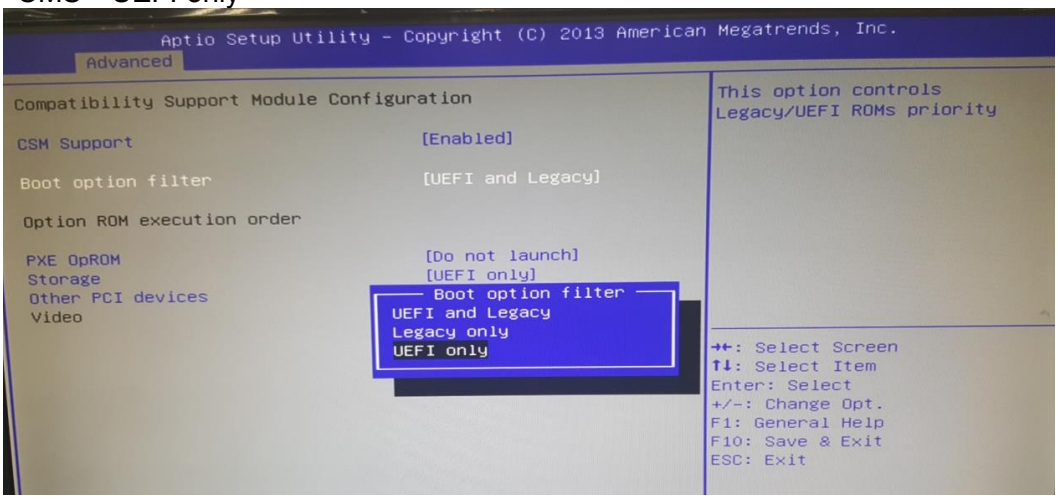
  Press Enter to configure the device as the boot-up drive.

- **UEFI: Built-in in EFI Shell**

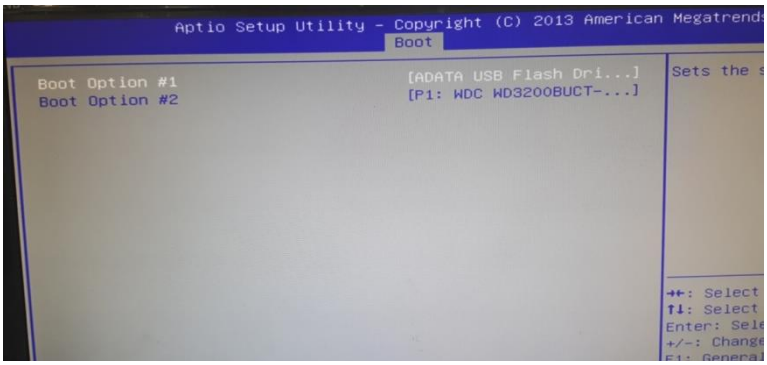
  Press <Enter> on this item to Launch EFI Shell from filesystem device.

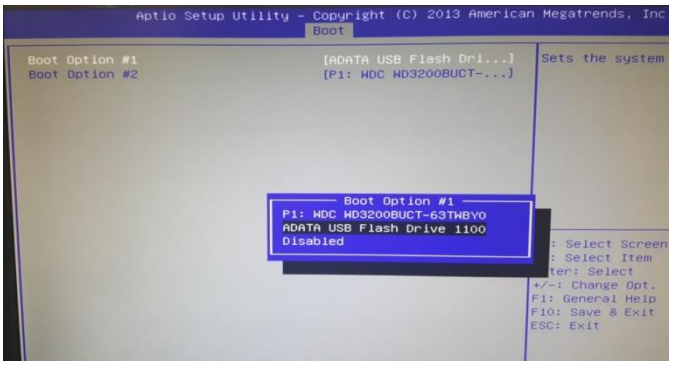
Update BIOS Version Instructions

1. MNJ190I_F7 download
2. F7 BIOS file put on the USB bootable disc,and connect the machine
3. Turn on the power and Click “Delete button” Enter the BIOS
4. Advanced→CMS→UEFI only

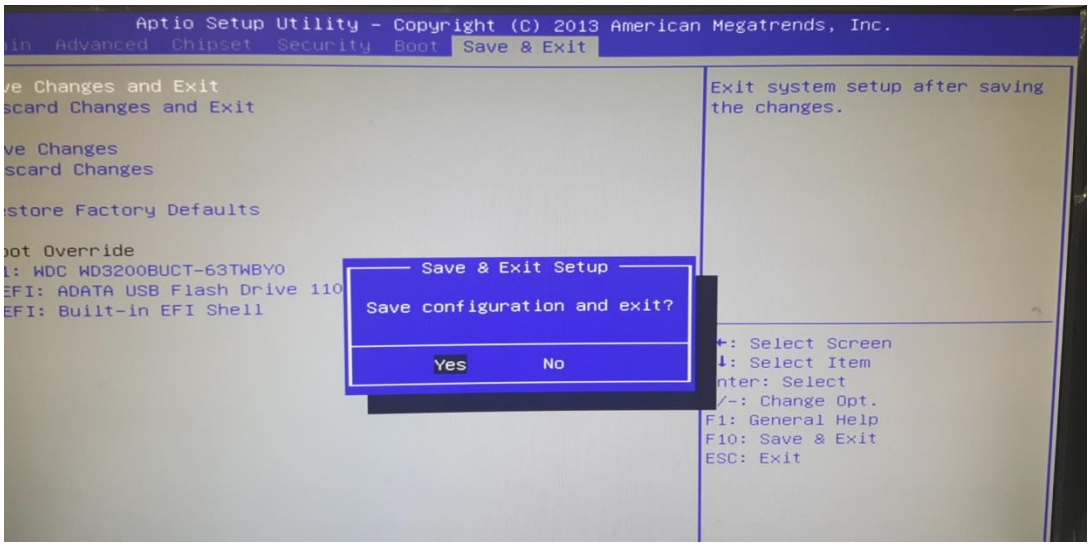


5. Select USB as Boot Option #1

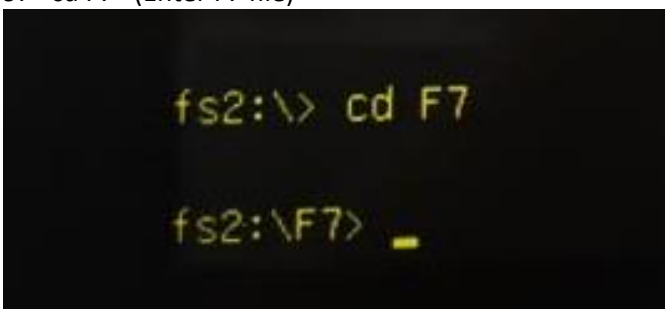




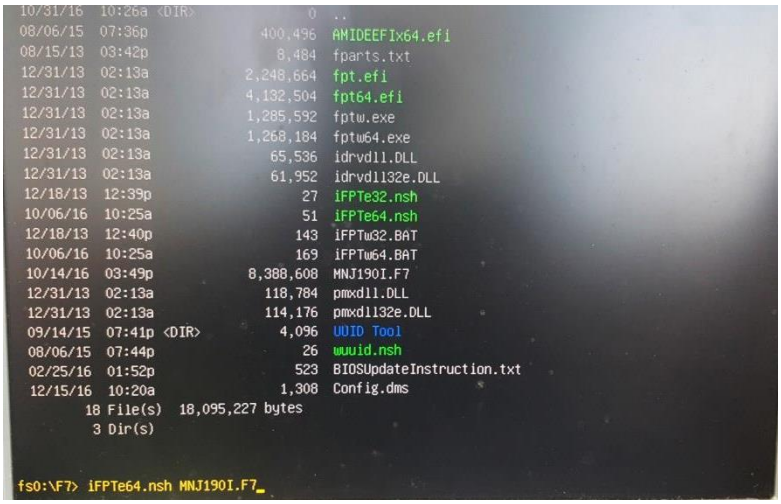
6. Save & EXIT

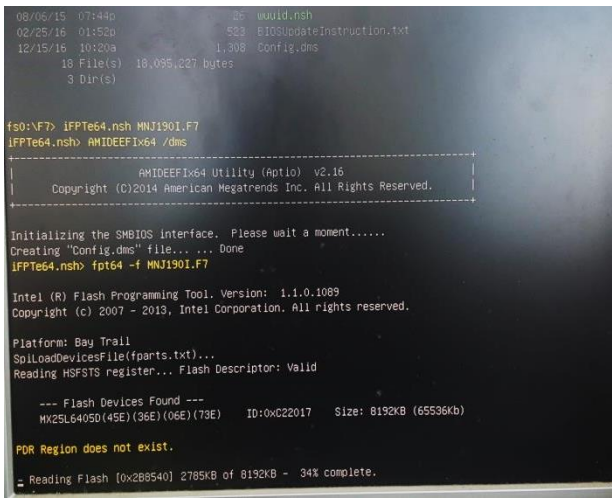


7. Find your USB disc, here is fs2 system configuration
8. Enter “fs2:”
9. cd F7 (Enter F7 file)



10. Type “iFPTe64.nsh MNJ190I.F7”; Press Enter

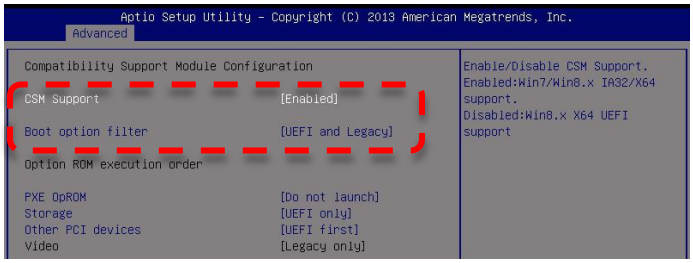




BIOS Settings

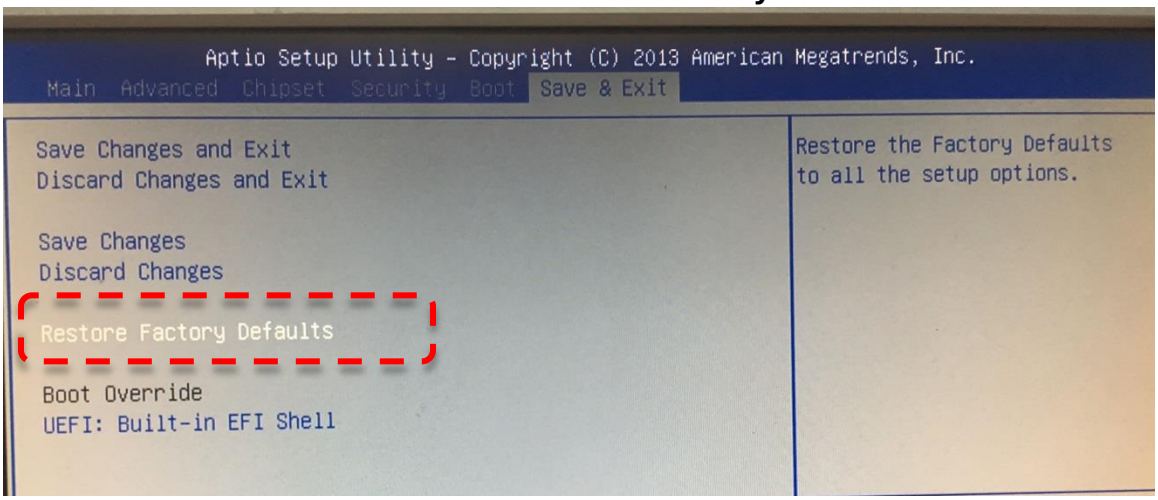
- BIOS Setting of **Advanced > CSM Support > Disabled** in combination with **Chipset > OS Selection > Windows 8.X** will not be able to enter the system
- Legacy OS (Windows 7 /8.X / 10) with **CSM Support > Enabled** and **Chipset > Windows 7** will not be able to enter the system
- At present, J1900 BIOS can only contain one kind of UEFI (currently 64bit), so CSM Disable or CSM Enable (UEFI only) will not support 32bit.

Advanced > CSM Support



Chipset > OS Selection

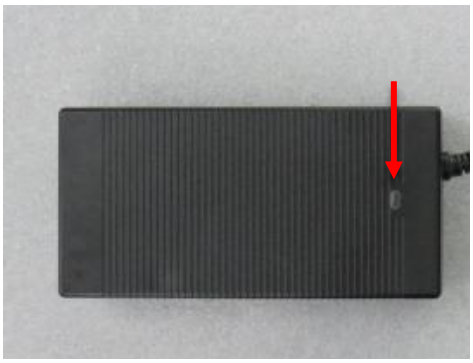
Save & Exit > Restore Factory Defaults



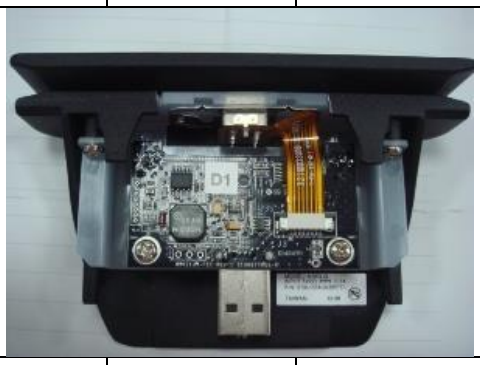
Troubleshooting

Category	Symptom	Factor	Part Number	Check Point
Monitor	No Display	LVDS cable is loose or LCD Panel is defective	RA9000XC3543	• Check if LVDS cable is connected well • Replace LCD module, please contact FEC service center
				
Monitor	Vertical line display on screen White screen	LVDS cable is loose or LCD Panel is defective	RD9000PH03DY	• Check if LCD Panel PIN assignment is connected well • LVDS cable is loose • Signal cable is loose Replace LCD module, please contact FEC service center
				

	Symptom	Factor	Part Number	Check Point
Touch	Cannot calibrate Or No function	Touch can't calibrate Touch cable is loose	RA9000XC3325	• Check if Touch Controller PIN assignment is connected well • Touch Cable is loose Replace Touch Cable or Touch Panel
				
OS	**Can't enter OS**		RD9000PH060C	1. Reimage Install another working HDD test again.
Monitor	No display	LVDS cable is loose or LCD Panel is defective	RA9000XC3543	1. Check if LVDS cable is connected well Replace LCD module, please contact FEC service center
				

Category	Symptom	Factor	Part Number	Check Point
System	Power on but no boot	1. No LED light 2. Power on and LED light on	RD9000PH01BG (90W Adapter 12V 4Pin)	1. Make sure if power on but no LED light, it should be M/B issue 2. Can the adaptor work probably after reconnecting the AC cord 3. Please contact FEC service center
 				
System	Power Shut down during operation			1. Replace AC outlet 2. Replace Adaptor 3. Replace MB
System	No power on BOOT FAIL	1. M/B is defective 2. RAM is defective	RH9000MB1141 FH-J190M/B BT-I(E3826)1.467G M/B:1.2 BIOS:F1	1. Check if M/B is connected well after re-installing 2. Replacing new RAM 3. Please contact FEC service center
				

Category	Symptom	Factor	Part Number	Check Point
System	After power on black screen	System standby LED light on		1. Connect an external monitor check if it can display then replace the LED panel 2. Replace HDD 3. Clear CMOS and load factory BIOS default 4. Replace CMOS battery 5. Check RAM is seat firmly 6. Replace MB
System	Auto reboot			1. Make sure RAM is seated firmly/replace RAM 2. Do HDD virus scan/re-image with a known clean source 3. Replace MB 4. Contact FEC Service Center
System	System keeps beeping while power on			1. Check RAM is seated firmly 2. Check RAM module is correct as specification described 3. Replace MB 4. Contact FEC Service Center
HDD	Can't detect HDD	1. HDD is defective 2. Cable   	RD9000PH060C	1. Does HDD connect well after re-installing? 2. If not, please replace new HDD or contact FEC service center

Category	Symptom	Factor	Part Number	Check Point
MCR	No working	MCR cable is loose or MCR device is defective	RD9000PH1046	1. Check if MCR cable is connected well 2. Replace MCR module, please contact FEC service center
				
LCM	No working	LCM cable is loose or LCM device is defective	AP-2025 : RD9000PH03FK FEC-240G : RD9000PH03B3	Check if LCM cable is connected well Replace LCM module, please contact FEC service cent
				
Wireless LAN	No working	Wireless LAN PCI-e(USB)802.11n	RD9000PH17HV	Check if **Wireless** cable is connected well Replace **Wireless** module, please contact FEC service cent
				

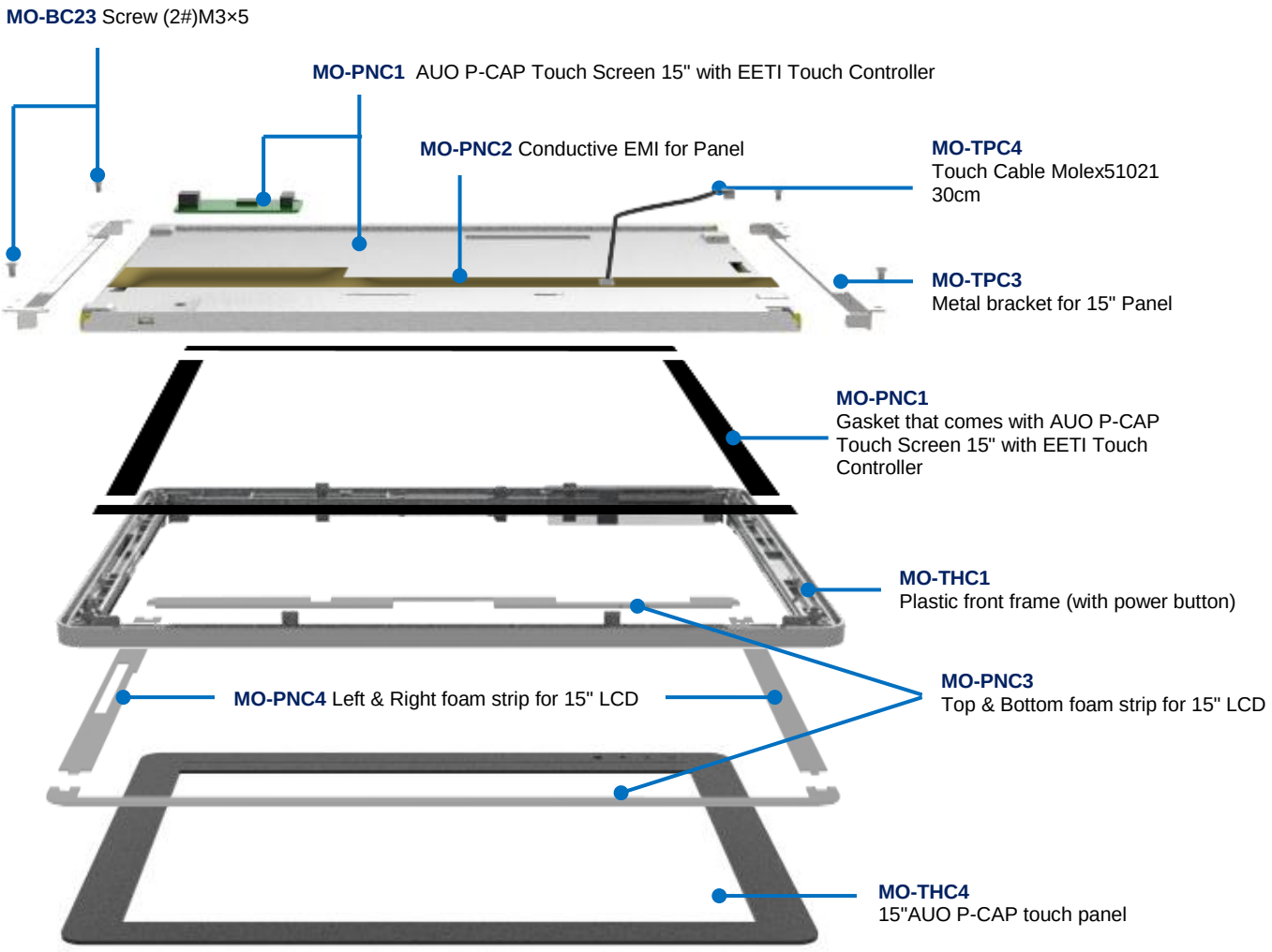
Category	Symptom	Factor	Part Number	Check Point
M/B IO	I/O board is defective	M/B I/O is defective	RH9000MB1141 FH-J190M/B BT-I(E3826)1.467G M/B:1.2 BIOS:F1	Check if the M/B defective or I/O board is connected well Replace new M/B or check please contact FEC service center
				

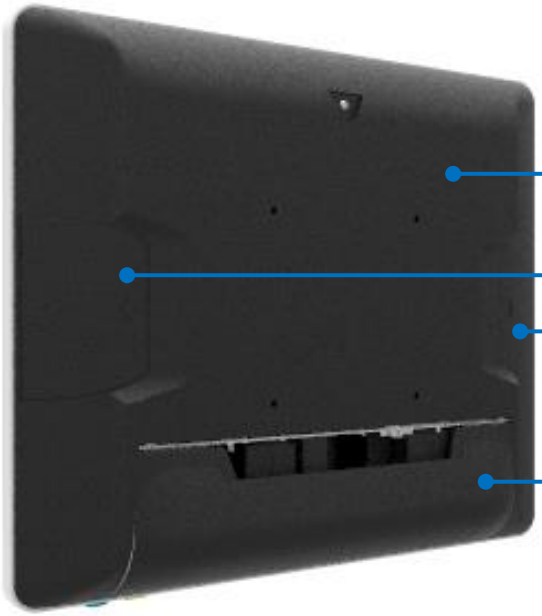
AMI BIOS Beep Codes:

Beeps	Error Message	Description
1 short	DRAM refresh failure	The programmable interrupt timer or programmable interrupt controller has probably failed
2 short	Memory parity error	A memory parity error has occurred in the first 64K of RAM. The RAM IC is probably bad
3 short	Base 64K memory failure	A memory failure has occurred in the first 64K of RAM. The RAM IC is probably bad
4 short	System timer failure	The system clock/timer IC has failed or there is a memory error in the first bank of memory
5 short	Processor error	The system CPU has failed
6 short	Gate A20 failure	The keyboard controller IC has failed, which is not allowing Gate A20 to switch the processor to protected mode. Replace the keyboard controller
7 short	Virtual mode processor exception error	The CPU has generated an exception error because of a fault in the CPU or motherboard circuitry
8 short	Display memory read/write error	The system video adapter is missing or defective
9 short	ROM checksum error	The contents of the system BIOS ROM does not match the expected checksum value. The BIOS ROM is probably defective and should be replaced
10 short	CMOS shutdown register read/write error	The shutdown for the CMOS has failed
11 short	Cache error	The L2 cache is faulty
1 long, 2 short	Failure in video system	An error was encountered in the video BIOS ROM, or a horizontal retrace failure has been encountered
1 long, 3 short	Memory test failure	A fault has been detected in memory above 64KB
1 long, 8 short	Display test failure	The video adapter is either missing or defective
2 short	POST Failure	One of the hardware testa have failed
1 long	POST has passed all tests	

Service Parts

PCAP Display Module



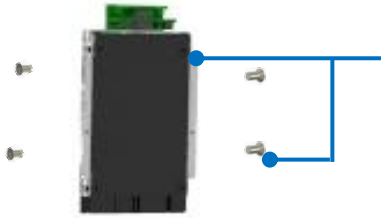


MO-BC6 Aluminum die-casting back cover

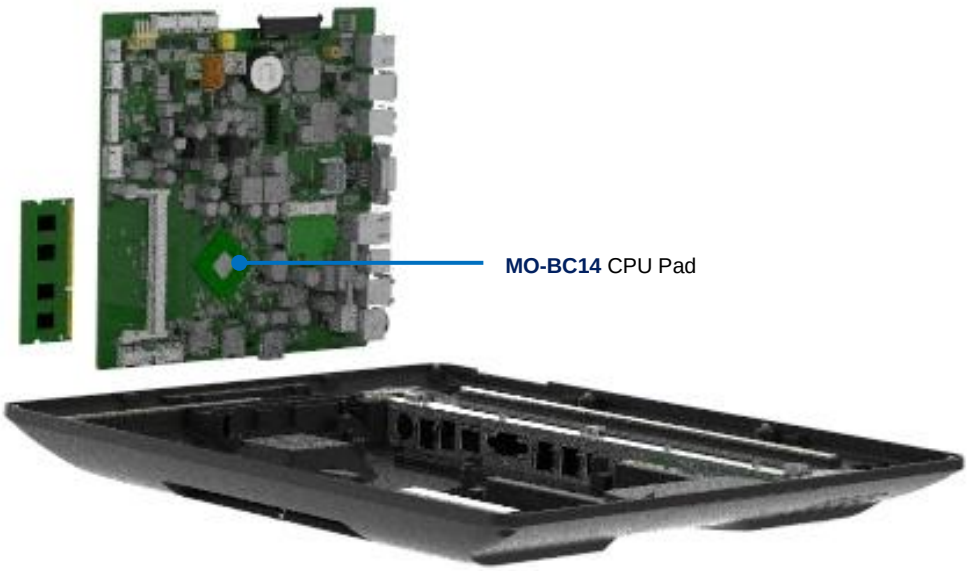
MO-BC16 Side MSR Cover

MO-BC16 Side MSR Cover

MO-BC5 Cable Cover

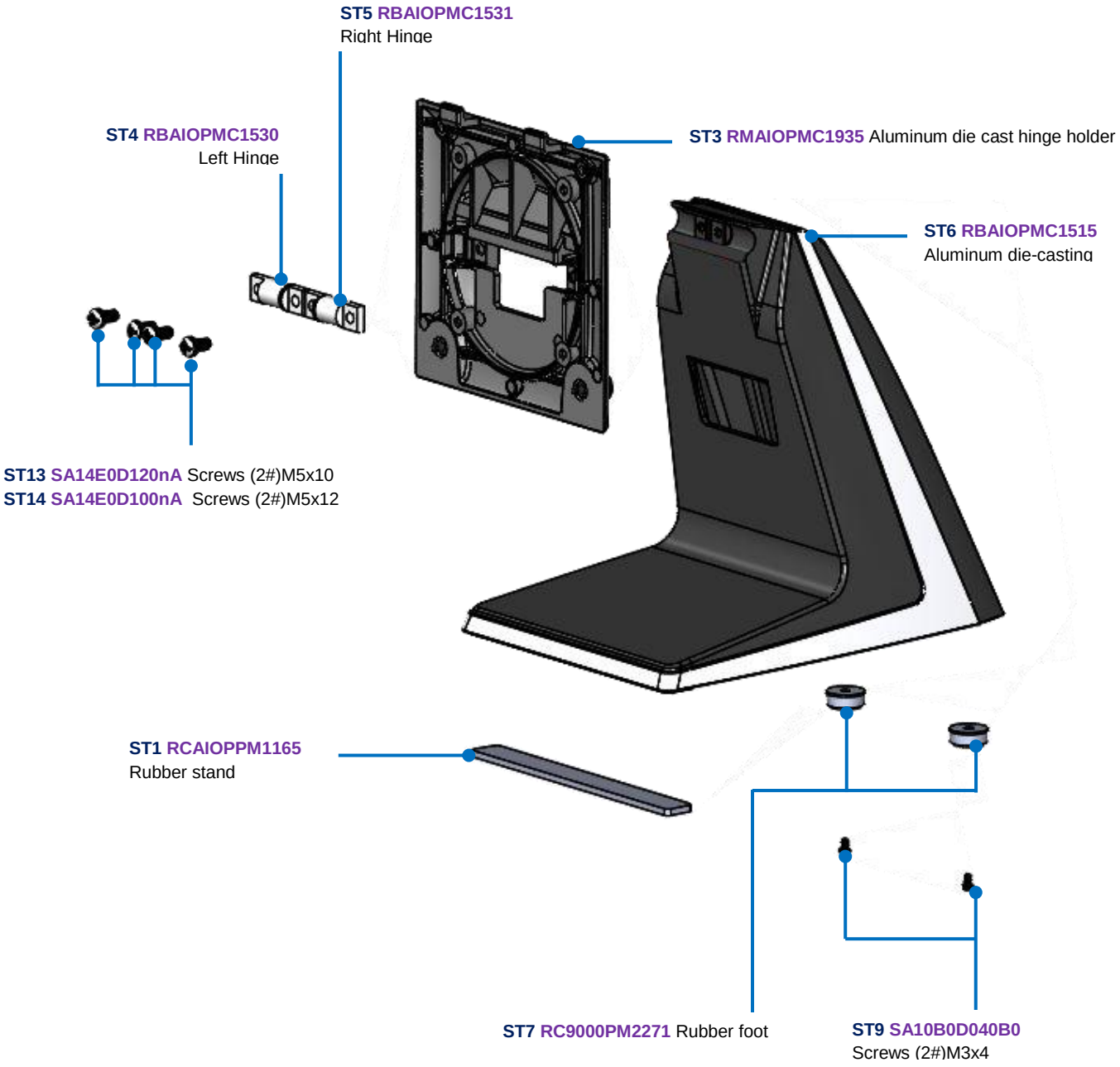


HDD1 HDD Bracket (4 x M screw included; No Storage device Included)

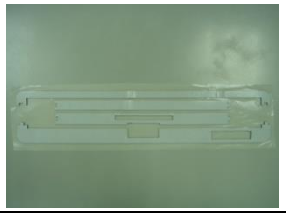


MO-BC14 CPU Pad

Stand

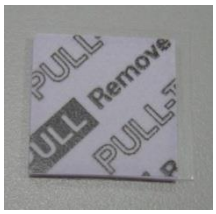
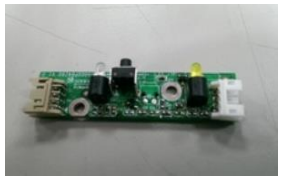
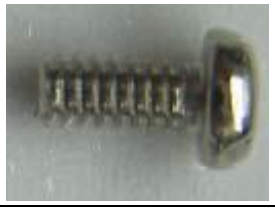

ST5 RBAIOPMC1531
Right Hinge
ST4 RBAIOPMC1530
Left Hinge
ST3 RMAIOPMC1935 Aluminum die cast hinge holder
ST6 RBAIOPMC1515
Aluminum die-casting
ST13 SA14E0D120nA Screws (2#)M5x10
ST14 SA14E0D100nA Screws (2#)M5x12
ST1 RCAIOPPM1165
Rubber stand
ST7 RC9000PM2271 Rubber foot
ST9 SA10B0D040B0
Screws (2#)M3x4

ALL

Item No.	Parts No.	Parts Description	Photo	Q'ty/Unit
	PPCC79MW005	PP-9635C		
MO-THC1	RCAIOPPC161p	Plastic front frame (with power button)		1
MO-THC2	RCAIOPPM1895	Silicon ahdhesive tape kit for front frame		1
MO-THC3	RD9000PH04BD	AUO P-CAPTouch Screen 15" (with EETI Touch Controller)		1
MO-THC4	RJ9000LB1426	FEC LOGO Sticker 30x8mm		1
MO-PNC1	RD9000PH03DY	LCD Panel AUO 15" 1024x768		1
MO-PNC2	RE9000EM14A7	Conductive EMI for Panel		1

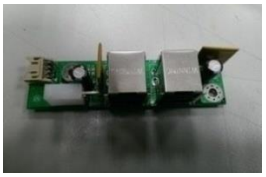
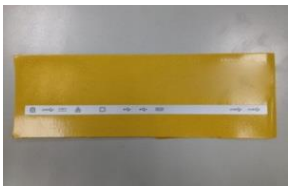
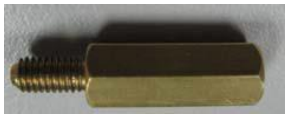
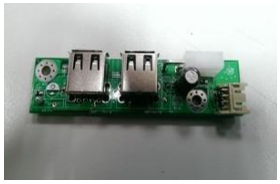
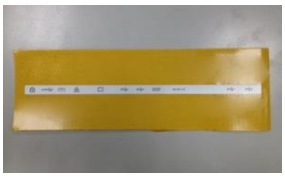
MO-PNC3	**RCAL97PM1070**	**Top & Bottom foam strip for 15" LCD**		**2**
MO-PNC4	**RCAL97PM1080**	**Left & Right foam strip for 15" LCD**		**2**
MO-TPC3	**RBAIOPMC2050**	**Panel Bracket**		**2**
MO-TPC4	**RA9000XC3325**	**Touch Cable - Molex51021 4P-PHR4P**		**1**
MO-BC1	**RA9000XC3543**	**LVDS Cable**		**1**
MO-BC2	**RA9000XC3545**	**PWM Cable**		**1**
MO-BC3	**SA10B0D050B0**	**Screws (2#) M3×5**		**4**
MO-BC4	**SA10B0Q060B0**	**Screws (2#) M3×6**		**4**

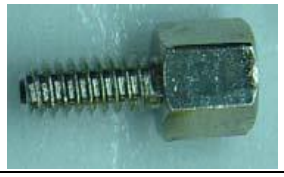
MO-BC5	**RCAIOPPC1515**	**Cable Cover**		**1**
MO-BC6	**RMAIOPMC2045**	**Aluminum die-casting back cover**		**1**
MO-BC7	**RA9000XC3244**	**VFD/LCM Cable**		**1**
MO-BC8	**RA9000XC3568**	**Switch Cable**		**1**
MO-BC9	**RA9000XC3550**	**Speak Cable**		**1**
MO-BC10	**RE9000EM1043**	**Speaker 8ohm 2W 40x20mm**		**2**
MO-BC11	**RE9000EM14A8**	**EMI foam strip-125x5x2mm**		**4**
MO-BC12	**RE9000EM14A9**	**EMI foam strip-67x10x8mm**		**2**

MO-BC13	**RE9000EM14AA**	**EMI foam strip-14x10x8mm**		**1**
MO-BC14	**RCTRANPM1050**	**CPU PAD**		**1**
MO-BC15	**RG9000CB4282**	**Switch Board**		**1**
MO-BC16	**RCAIOPPC1845**	**Plastic Monitor Side MSR Cover**		**2**
MO-BC17	**RCAIOPPC1785**	**Plastic VFD cover with hook**		**1**
MO-BC18	**SA10B0D050K0**	**Screw (2#)M3×5**		**8**
MO-BC19	**SA10B0D040K0**	**Screw (2#)M3×4**		**1**
MO-BC20	**SA07B0D040B0**	**Screw (1#) M2×4**		**4**

MO-BC21	**SA10B0Q060K0**	**Screw (2#) M3×6**		**5**
MO-BC22	**SA10B0K060B0**	**Screw (2#)M3X6**		**4**
MO-BC23	**SA10B0D050B0**	**Screw (2#)M3×5**		**5**
OT5	**RH9000MB1142**	**FH-J190 M/B:V1.2 BIOS:F4 (J1900) 2GHz**		**1**
HDD1	**ASAIOP3690**	**HDD Bracket**		
OT6	**RD9000PH01BG**	**150W Adapter 12V 4Pin**		**1**
OT1	**RA9000XC1702**	**COM Port Cable(RJ45 To DB9M)**		**1**
IOA	**ASAIOP1600**	**Type-A Group - DB9x2+DC2.5 Group**		**1**

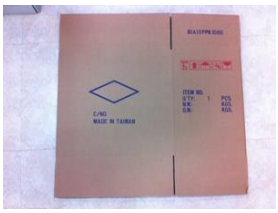
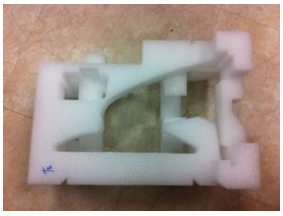
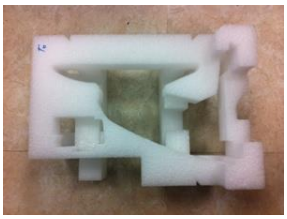
IOA1	**RBAIOPMC2090**	**I/O bracket for Type A**		**1**
IOA2	**RA9000XC3551**	**Power Cable - DCJack2.5-MiniFit2P**		**1**
IOA3	**RA9000XC2933**	**COM Cable - PHDR10P-DSUB9**		**2**
IOA4	**RJ9000LB1699**	**I/O Sticker for Type A**		**1**
IOA5	**B0050EA03A07**	**Pillars**		**4**
IOB	**ASAIOP1620**	**Type-B Group -12V Power USBx2 Group**		**1**
IOB1	**RBAIOPMC2110**	**I/O bracket for Type B**		**1**
IOB2	**RA9000XC3552**	**Power Cable - MiniFit2P-MiniFit2P**		**1**
IOB3	**RA9000XC2549**	**I/O-USBx2 Cable**		**1**

IOB4	**RG9000CB4290**	**Power USB Board - 12Vx2**		**1**
IOB5	**RJ9000LB1701**	**I/O Sticker for Type B**		**1**
IOB6	**B0135A307304**	**Pillars**		**1**
IOC	**ASAIOP1610**	**Type-C Group - USBx2+DC2.5 Group**		**1**
IOC1	**RBAIOPMC2100**	**I/O bracket for Type C**		**1**
IOC2	**RA9000XC3551**	**Power Cable - DC Jack2.5-MiniFit2P**		**1**
IOC3	**RA9000XC2549**	**I/O-USBx2 Cable**		**1**
IOC4	**RG9000CB4291**	**USBx2 I/O Board**		**1**
IOC5	**RJ9000LB1700**	**I/O Sticker for Type C**		**1**
IOC6	**B0135A307304**	**Pillars**		**1**

IOC7	SA10B0Q060B0	Screws (2#) M3×6		2
IOD	ASAIOP2480	Type-D Group - DB9x2+RJ45 Group		1
IOD1	RBAIOPMC2520	I/O bracket - RS-232+RJ45		1
IOD2	RA9000XC2779	Cable RS232 RJ45-JST2.0 2x5P		1
IOD3	RA9000XC2933	COM Cable		2
IOD4	RA9000XC1702	COM Port Cable - RJ45 to DB9M		1
IOD5	RCAIOPPM1433	I/O Sticker for Type B		1
IOD6	B0050EA03A07	Pillars		4
IOD7	SA10B0Q040B0	Screws (2#) M3×4		1
IOD	ASAIOP1790	Non I/O Group (Default)		1

IOD1	**RBAIOPMC2060**	**I/O bracket (Default)**		**1**
IOD2	**RA9000XC3551**	**Power Cable - DCJack2.5-MiniFit2P**		**1**
IOD3	**RJ9000LB1698**	**I/O Sticker (Default)**		**1**
ST	**ASAIOP0585**	**PP-9635C & AerMonitor Stand Group**		**1**
ST1	**RCAIOPPM1165**	**Rubber stand**		**1**
ST2	**RCAIOPPC1320**	**Plastic Pillow - PL-3-V0**		**1**
ST3	**RMAIOPMC1935**	**Aluminum die-casting hinge holder**		**1**
ST4	**RBAIOPMC1530**	**Left Hinge**		**1**

ST5	**RBAIOPMC1531**	**Right Hinge**		**1**
ST6	**RBAIOPMC1515**	**Aluminum die-casting Stand**		**1**
ST7	**RC9000PM2271**	**Rubber Foot**		**2**
ST8	**RCRICHPC1280**	**Cable Clip**		**1**
ST9	**SA10B0D040B0**	**Screws (2#)M3×4**		**1**
ST10	**SA10B0D080B0**	**Screws (2#)M3×8**		**2**
ST11	**SA12B0F080B0**	**Screws (2#)M4×8**		**1**
ST12	**SA12B0D100K0**	**Screws (2#)M4×10**		**2**
ST13	**SA14E0D120nA**	**Screws (2#)M5×12**		**2**

ST14	SA14E0D100nA	Screws (2#)M5×10		2
PK	ASAIOP0100	PP-9635 Packing Group		
PK1	RI9000PK0210	Plastic Bag - 55cmx65cmx0.08mm		1
PK2	RIAIOPPK1060	Outter Box		1
PK3	RIAIOPPK1070	Left EPE		1
PK4	RIAIOPPK1071	Right EPE		1
PK5	RIITLEPK1040	Accessory Box		1

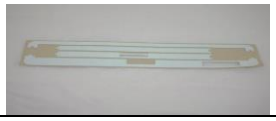
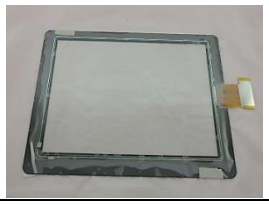
PK6	**RD9000PH1869**	**Silica Gel**		**2**
PK7	**RC9000PM1371**	**Ziplock bags**		**1**
PK8	**RC9000PM2318**	**Protection Mylar film for Monitor**		**1**

Service Parts by Category

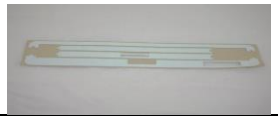
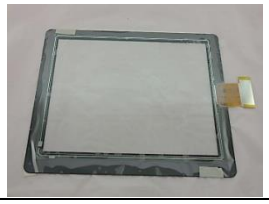
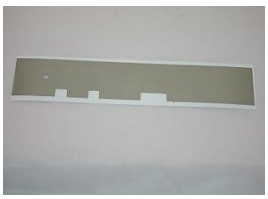
LED Panel

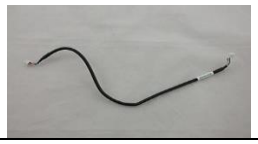
Item No.	Parts No.	Parts Description	Photo	Q'ty/Unit
MO-PN	SVPPLDY000B0	LED Panel Kit		
MO-PNC1	RD9000PH03DY	LCD Panel AUO 15" 1024x768		1
MO-PNC2	RE9000EM14A7	Conductive EMI for Panel		1
MO-PNC3	RCAL97PM1070	Top & Bottom foam strip for 15" LCD		2
MO-PNC4	RCAL97PM1080	Left & Right foam strip for 15" LCD		2

Touch

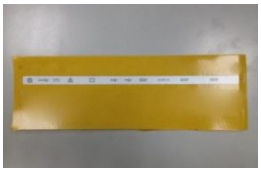
Item No.	Parts No.	Parts Description	Photo	Q'ty/Unit
MO-TH	SVPPT00AU1B0	15" PCAP bezel free touch panel kit		
MO-THC1	RCAIOPPC161p	Plastic front bezel for PCAP		1
MO-THC2	RCAIOPPM1895	Twin adhesive for front frame		1
MO-THC3	RD9000PH04BD	15"AUO P-CAP touch panel		1
MO-THC4	RJ9000LB1426	FEC LOGO Sticker 30x8mm		1

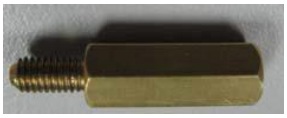
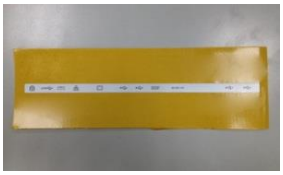
Touch & Panel

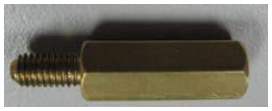
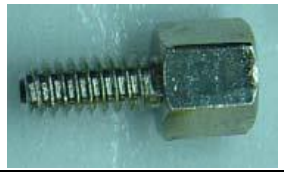
Item No.	Parts No.	Parts Description	Photo	Q'ty/Unit
MO-TP	CVPPADYAU1B0	Touch + LED Assembly (Item no. MO-THC+MO-PNC and MO-TPC)		
MO-THC1	RCAIOPPC161p	Plastic front bezel for PCAP		1
MO-THC3	RCAIOPPM1895	Twin adhesive kit for front frame		1
MO-THC4	RD9000PH04BD	15"AUO PCAP touch panel		1
MO-THC5	RJ9000LB1426	FEC LOGO Sticker 30x8mm		1
MO-PNC1	RD9000PH03DY	15" AUO LED Panel 1024x768		1
MO-PNC2	RE9000EM14A7	Conductive fabric 320x50mm		1

MO-PNC3	**RCAL97PM1070**	**Poron strip upper&lower**		**2**
MO-PNC4	**RCAL97PM1080**	**Poron strip left & right**		**2**
MO-TPC3	**RBAIOPMC2050**	**Metal bracket for 15" Panel**		**2**
MO-TPC4	**RA9000XC3325**	**Touch Cable Molex51021 30cm**		**1**

IO

Item No.	Parts No.	Parts Description	Photo	Q'ty/Unit
IOA	ASAIOP1600	Type-A Group - DB9x2+DC2.5 Group		1
IOA1	RBAIOPMC2090	I/O bracket for Type A		1
IOA2	RA9000XC3551	Power Cable - DCJack2.5-MiniFit2P		1
IOA3	RA9000XC2933	COM Cable - PHDR10P-DSUB9		2
IOA4	RJ9000LB1699	I/O Sticker for Type A		1
IOA5	B0050EA03A07	Pillars		4
IOB	ASAIOP1620	Type-B Group - 12V Power USBx2 Group		1
IOB1	RBAIOPMC2110	I/O bracket for Type B		1

IOB2	**RA9000XC3552**	**Power Cable - MiniFit2P-MiniFit2P**		**1**
IOB3	**RA9000XC2549**	**I/O-USBx2 Cable**		**1**
IOB4	**RG9000CB4290**	**Power USB Board - 12Vx2**		**1**
IOB5	**RJ9000LB1701**	**I/O Sticker for Type B**		**1**
IOB6	**B0135A307304**	**Pillars**		**1**
IOC	**ASAIOP1610**	**Type-C Group - USBx2+DC2.5 Group**		**1**
IOC1	**RBAIOPMC2100**	**I/O bracket for Type C**		**1**
IOC2	**RA9000XC3551**	**Power Cable - DC Jack2.5-MiniFit2P**		**1**
IOC3	**RA9000XC2549**	**I/O-USBx2 Cable**		**1**
IOC4	**RG9000CB4291**	**USBx2 I/O Board**		**1**
IOC5	**RJ9000LB1700**	**I/O Sticker for Type C**		**1**

IOC6	B0135A307304	Pillars		1
IOC7	SA10B0Q060B0	Screws (2#) M3×6		2
IOD	ASAIOP2480	Type-D Group - DB9x2+RJ45 Group		1
IOD1	RBAIOPMC2520	I/O bracket - RS-232+RJ45		1
IOD2	RA9000XC2779	Cable RS232 RJ45-JST2.0 2x5P		1
IOD3	RA9000XC2933	COM Cable		2
IOD4	RA9000XC1702	COM Port Cable - RJ45 to DB9M		1
IOD5	RCAIOPPM1433	I/O Sticker for Type B		1
IOD6	B0050EA03A07	Pillars		4
IOD7	SA10B0Q040B0	Screws (2#) M3×4		1

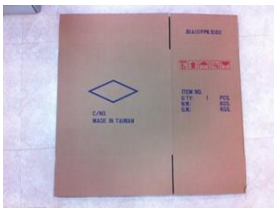
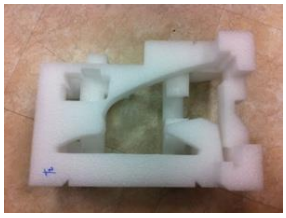
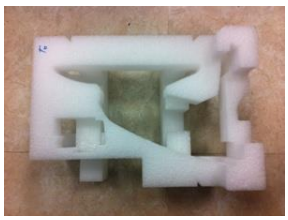
IOD	**ASAIOP1790**	**Non I/O Group (Default)**		**1**
IOD1	**RBAIOPMC2060**	**I/O bracket (Default)**		**1**
IOD2	**RA9000XC3551**	**Power Cable - DCJack2.5-MiniFit2P**		**1**
IOD3	**RJ9000LB1698**	**I/O Sticker (Default)**		**1**

Stand

Item No.	Parts No.	Parts Description	Photo	Q'ty/Unit
ST	ASAIOP0585	PP-9635 & AerMonitor Stand Group		1
ST1	RCAIOPPM1165	Rubber stand		1
ST2	RCAIOPPC1320	Plastic Pillow - PL-3-V0		1
ST3	RMAIOPMC1935	Aluminum die-casting hinge holder		1
ST4	RBAIOPMC1530	Left Hinge		1
ST5	RBAIOPMC1531	Right Hinge		1
ST6	RBAIOPMC1515	Aluminum die-casting Stand		1

ST7	**RC9000PM2271**	**Rubber Foot**		**2**
ST8	**RCRICHPC1280**	**Cable Clip**		**1**
ST9	**SA10B0D040B0**	**Screws (2#)M3×4**		**1**
ST10	**SA10B0D080B0**	**Screws (2#)M3×8**		**2**
ST11	**SA12B0F080B0**	**Screws (2#)M4×8**		**1**
ST12	**SA12B0D100K0**	**Screws (2#)M4×10**		**2**
ST13	**SA14E0D120nA**	**Screws (2#)M5×12**		**2**
ST14	**SA14E0D100nA**	**Screws (2#)M5×10**		**2**

Packing

Item No.	Parts No.	Parts Description	Photo	Q'ty/Unit
PK	ASAIOP0100	PP-9635 Packing Group		
PK1	RI9000PK0210	Plastic Bag - 55cmx65cmx0.08mm		1
PK2	RIAIOPPK1060	Outter Box		1
PK3	RIAIOPPK1070	Left EPE		1
PK4	RIAIOPPK1071	Right EPE		1
PK5	RIITLEPK1040	Accessory Box		1
PK6	RD9000PH1869	Silica Gel		2

PK7	**RC9000PM1371**	**Ziplock bags**		**1**
PK8	**RC9000PM2318**	**Protection Mylar film for Monitor**		**1**