

OKPOS

Optimus Service Manual

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Before Using the Product

Read this first

Before using your system, please read this Manual carefully, and keep it on hand for future reference.

- The contents of this manual may be changed without notice.
- Depending on the system model and type, some parts of this manual may differ from the actual product.
- The basic drivers and utilities that come with your system are subject to change.
- OKPOS assumes no responsibility for damages resulting from a use of the product that is not approved by OKPOS, or failure to follow the precautions and instructions provided in this User Manual.
- As some of the storage space is used for the system OS and built-in software, the actual capacity available is less than the storage capacity listed in the product specifications. In addition, the amount of available space may vary after you perform system OS and software updates.

Safety Information

Please observe the following safety instructions to protect your computer from damage and ensure your personal safety.

- Do not install the system in a location that is wet, damp, or near water. This may cause a fire or an electrical shock.
- Only use the system in the specified power environment. The system may not work, and may even cause a fire, if it is used with a different power source or equipment, or in a country that has different power specifications.
- Make sure the plug is not bent or crushed by a heavy object. A damaged plug can cause a fire or an electrical shock.
- Do not modify or extend the power cable. Cable damage may cause an electrical shock or fire.

- Do not use a damaged power cord or plug, or a loose outlet. These may cause a fire, short circuit, or electrical shock.
- Do not install the system in a location where it is likely to overheat or where it will be exposed to direct sunlight. Ensure the system is kept a safe distance away from any heating device. Installation in such locations could cause damage to the cabinet and the electronic components.
- Do not drop or apply any strong shock to the system. This may cause damage to the system and the SSD or HDD installed inside it.
- Do not use a sharp-pointed object on the display or apply excessive pressure to the display. This may cause damage to the touch LCD display.
- Do not block or cover slots or openings in the system cabinet. These have been provided for ventilation, to prevent the system from overheating.
- Do not use this system on a bed, sofa, rug or other similar surface.
- Never insert any object into the system through the cabinet openings, as they may touch dangerous voltage points or short out parts, which could result in a fire or electrical shock.
- Never spill liquid of any kind on the product.
- Unplug the system from the electrical power outlet before cleaning. Clean the system, using a damp or dry cloth. Do not use abrasives, kerosene, benzene, thinner, hydrochloric acid, or hot water, and do not use a tough sponge or a brush, as these may cause discoloration or deterioration of the cabinet.
- Use only a 3-wire grounding type plug to avoid electric shock and damages due to short circuits.
- If you have to use an extension cord, make sure that the total amperage rating of all equipment plugged into it does not exceed the amperage rating of the extension cord and only use a 3-wire grounding extension cord with a 3-prong grounding plug and outlet.

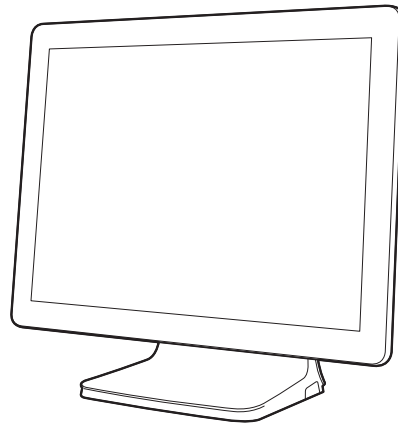
Information on Copyrights

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- This manual is protected under international copyright laws. No part of this manual may be reproduced, distributed, translated, or transmitted in any form or by any means without the prior written permission of OKPOS Co., Ltd.
- OKPOS and Optimus are registered trademark of OKPOS Co., Ltd.
- Windows 7/10 is a registered trademark of Microsoft.
- All other trademarks and copyrights are the property of their respective owners.

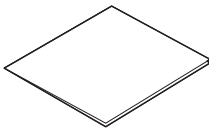
Overview

What's in the Box

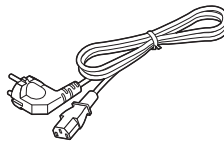
The package include the following items.



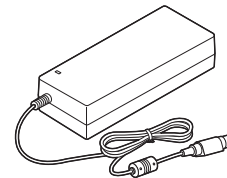
Optimus system



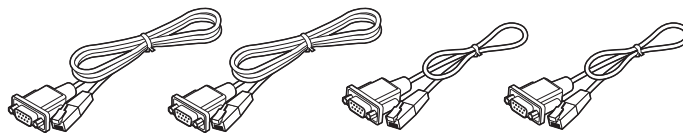
Quick Start Guide



Power cable



Adaptor



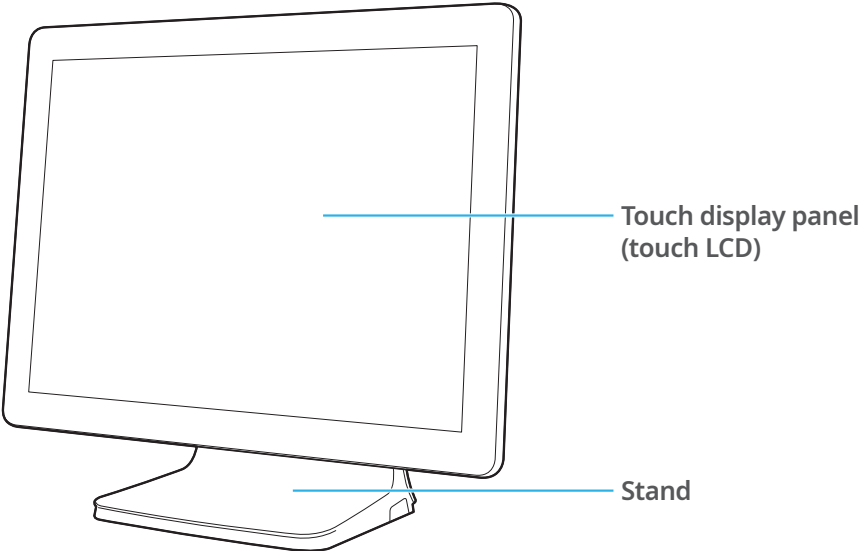
COM 1/2/3/4 cables(1.2 m x 2, 0.35 m x 2)

NOTE:

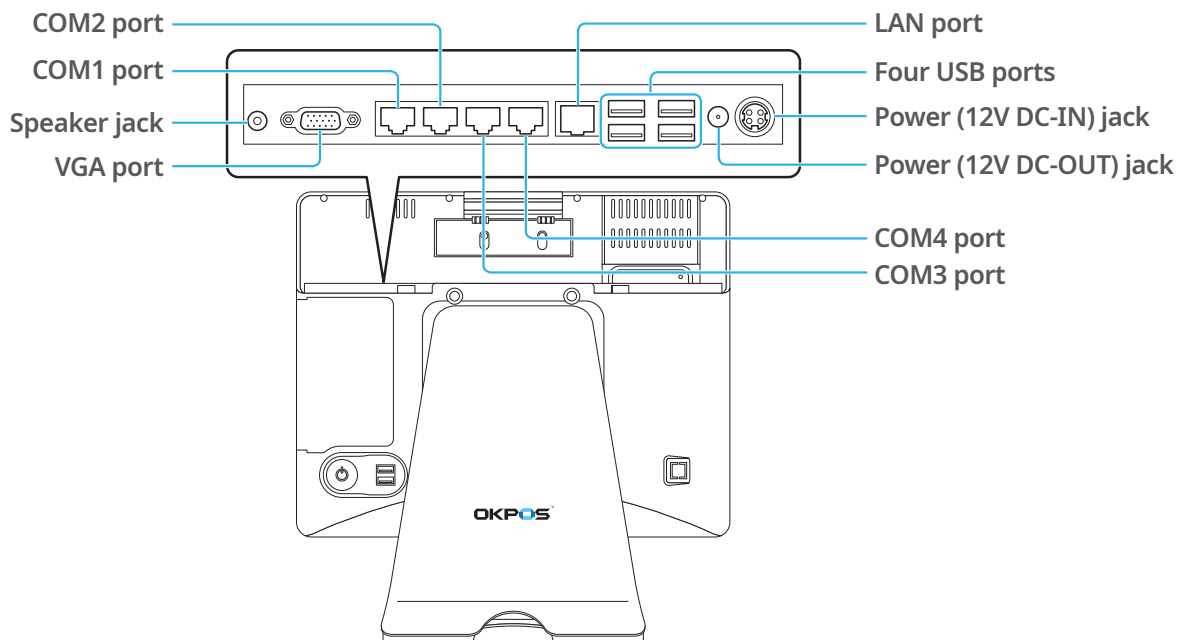
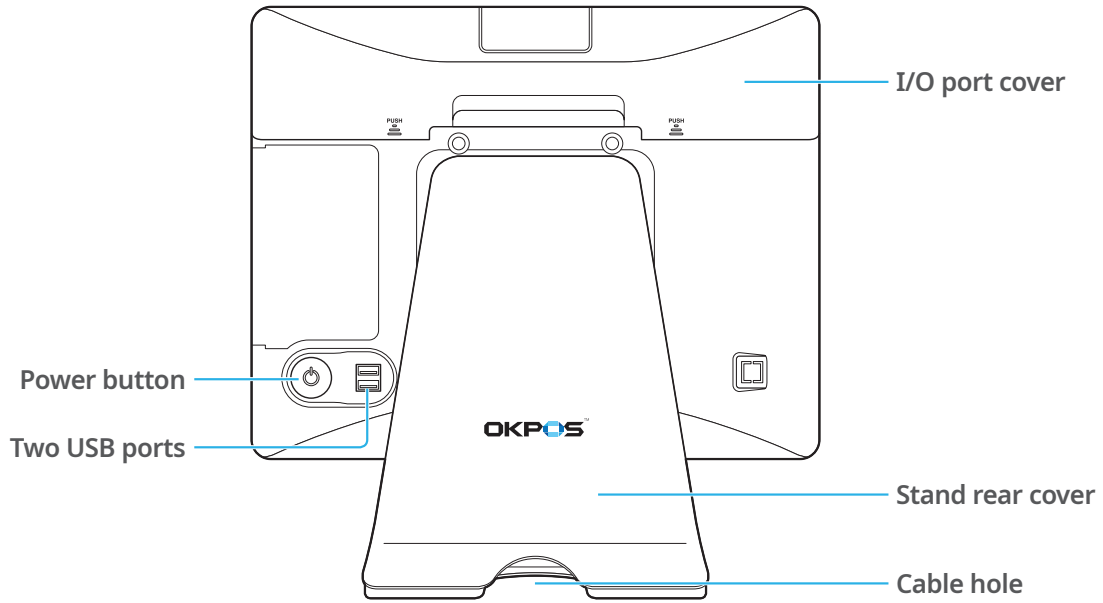
- If any of the above is missing, please contact the customer center.
- Only use devices with this system that have been supplied or approved by OKPOS. If you use a device supplied by another provider that is not approved, your system may malfunction or not work.
- The appearance and specifications of the system and accessories may be changed without notice.
- If you misplace one of the included components and want to purchase a new one, contact the customer center.

System Overview

Front



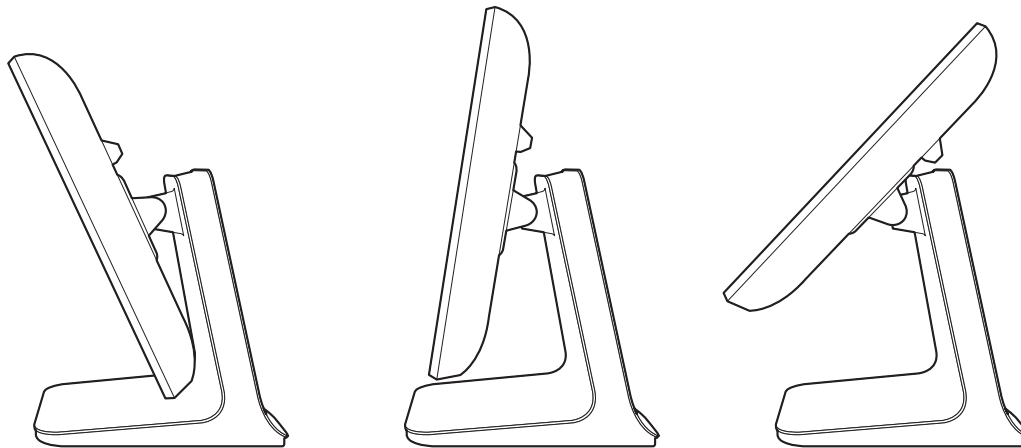
Rear and I/O ports



Adjusting LCD Angle

You can tilt the LCD to achieve the optimum viewing angle. The angle can be adjusted within 45 degrees up/down.

Adjust the tilt of the LCD for your convenience.



CAUTION:

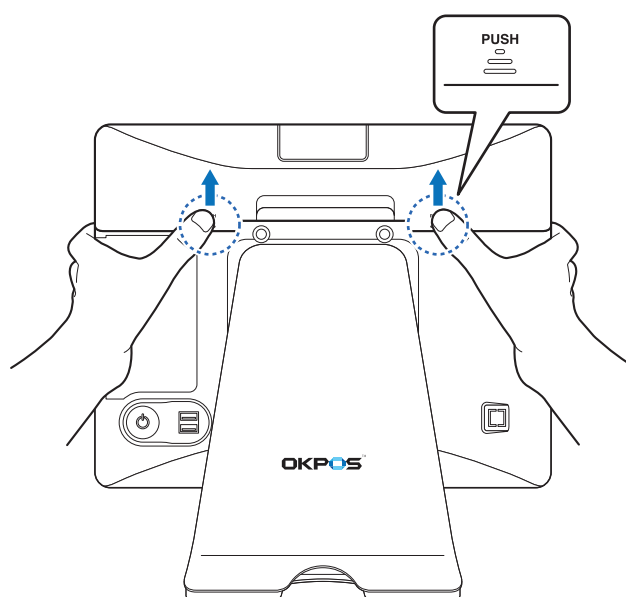
- Do not put sharp objects on the surface of the LCD, and never spray cleaner directly onto the display.
- Do not pull the display beyond the maximum tilt angle, and do not apply excessive pressure to the display.

Installation

Connecting Peripherals

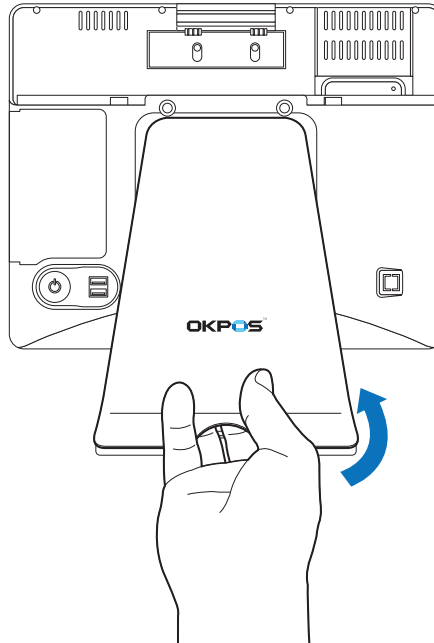
Removing the I/O port cover

Using your fingers, push and hold the two points marked PUSH on the I/O port cover, then slide the cover up.

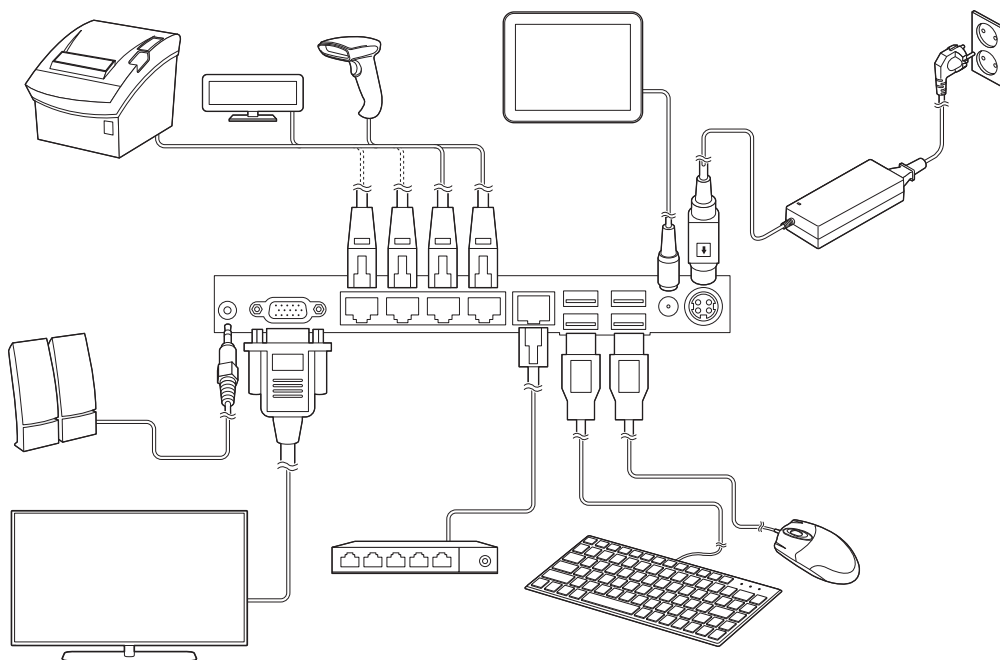


Removing the stand's rear cover

Hold the lower side of the stand's rear cover and pull it away from the stand.

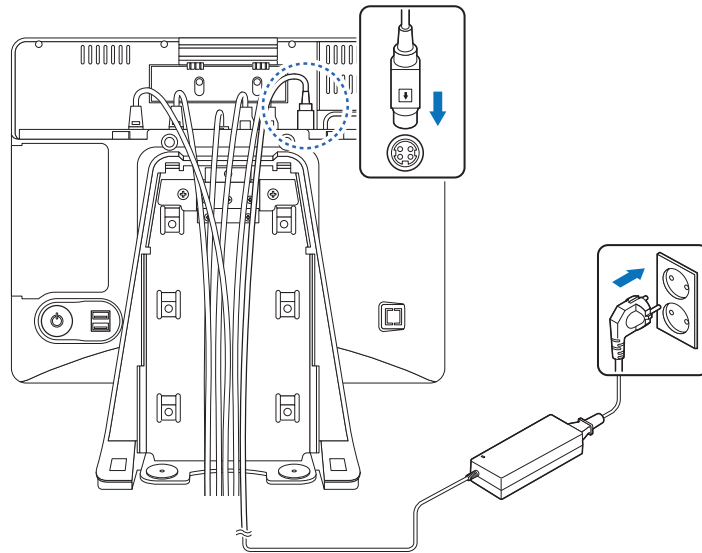


Connecting peripheral devices



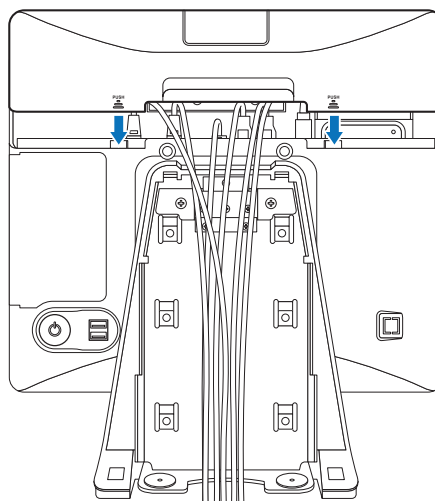
Connecting the power cord

Plug the power cord into the power jack on the I/O panel and then plug the other end of the power cord into an appropriately grounded electrical outlet.



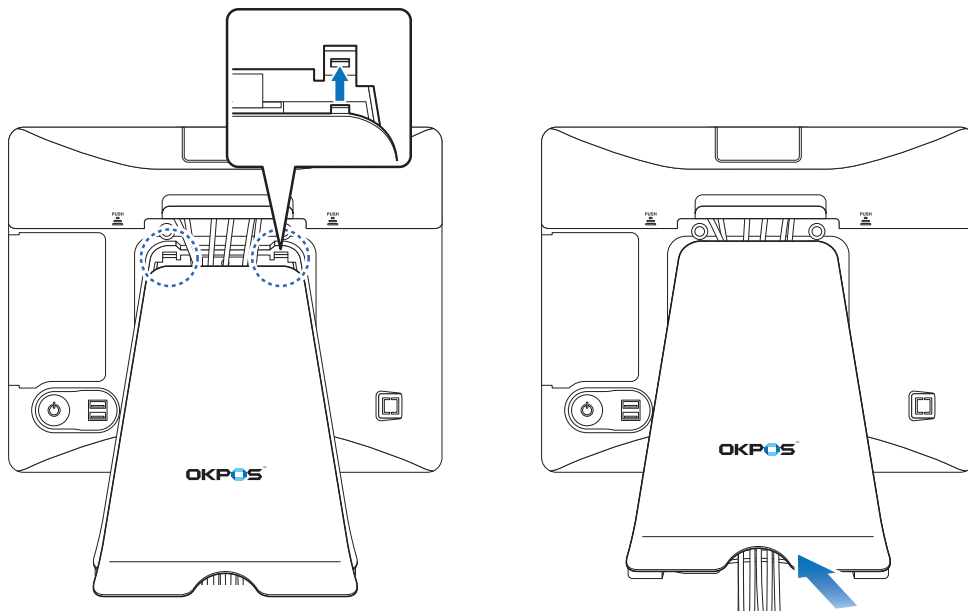
Replacing the I/O port cover

1. Make sure that all of the connected cables are arranged through the cable hole position of the I/O port cover so that they will not be pinched when you replace the cover.
2. Align the I/O port cover, then firmly slide the I/O port cover down.



Replacing the stand's rear cover

1. Make sure that all cables are arranged inside the cable path of the stand so that they will not be pinched when you close the stand's rear cover.
2. Align the two latch pins on the upper side of the cover with the stand latch holes, and press the lower side of the cover firmly into place.



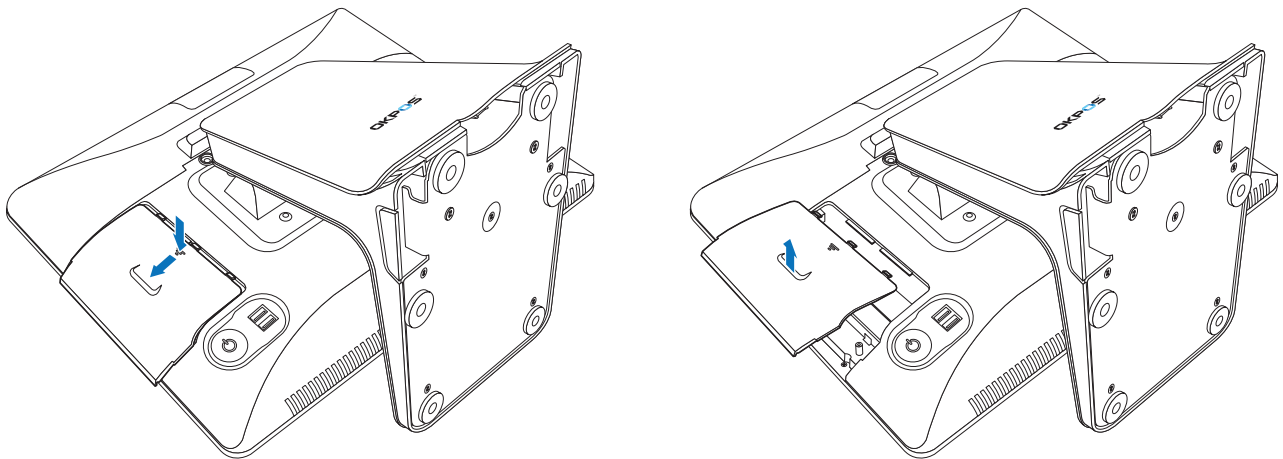
Installing Optional Devices

Card reader (IC & MSR)

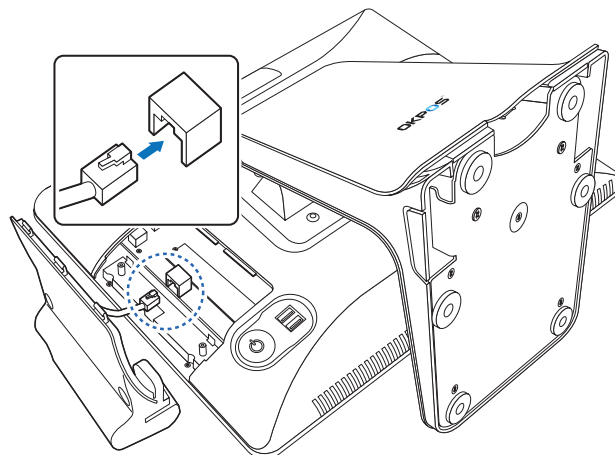
Installing the card reader

To install the card reader, follow these steps:

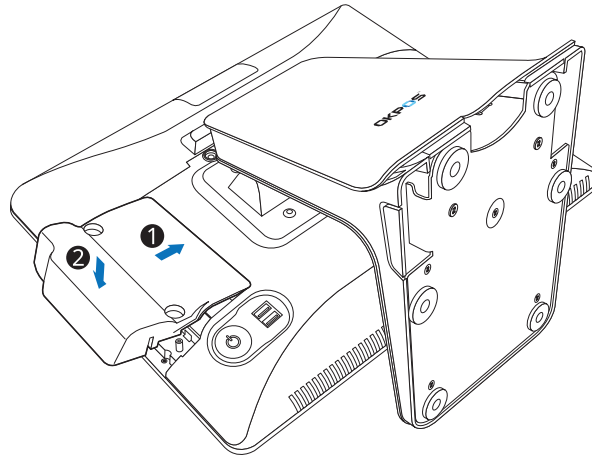
1. Place the touch LCD panel side down on a soft, flat surface. (Be careful not to damage the touch LCD panel.)
2. To remove the dummy cover, press the marked point and slide the dummy cover slightly, and then lift it up.



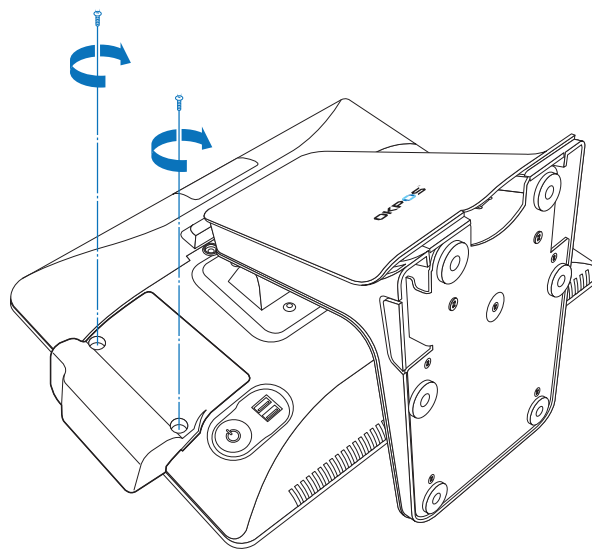
3. Connect the RJ-45 cable of the card reader to the main board.



4. Align the two latch pins on the card reader with the back cover holes and press the card reader down firmly into place.



5. Tighten the two screws.



Removing the card reader

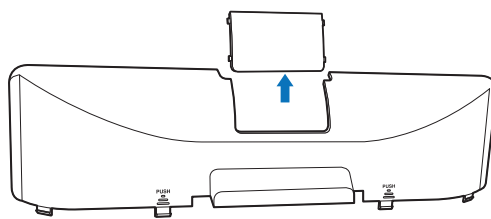
You can remove the card reader by following the steps in the installation procedure in reverse order.

VFD

Installing the VFD

To install the VFD, follow these steps:

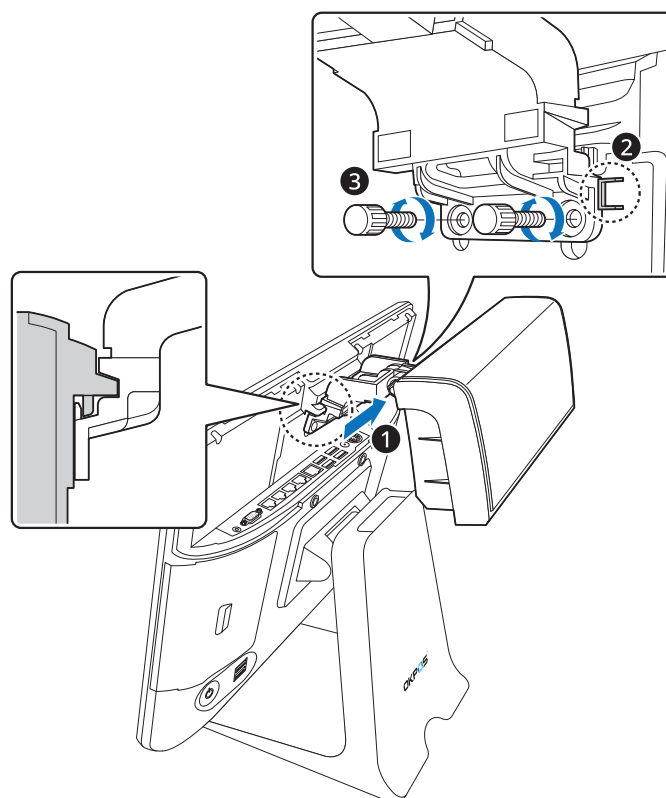
1. Remove the I/O port cover by following the instructions in “Removing the I/O port cover” on page 10.
2. Detach the plate on the I/O port cover to make space for installing the VFD.



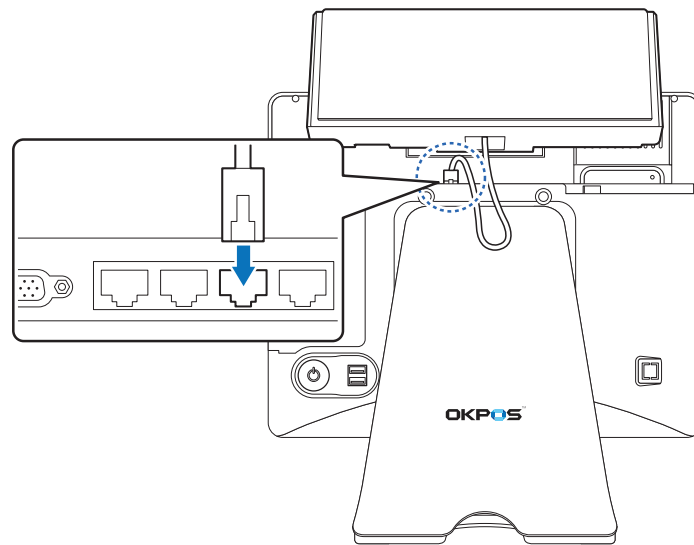
NOTE:

- Completely remove the plate, ensuring that no sharp parts remain. There is the risk of injuring yourself if the sharp edges are not completely removed.

3. Place the VFD and tighten it with two thumbscrews.



4. Connect the RJ-45 cable of the VFD to the COM3 port.



5. Replace the I/O port cover by following the instructions in “Replacing the I/O port cover” on page 12.
6. After installing the VFD, change the BIOS setting by following the instructions in “Setting Up the VFD” on page 44.

Removing the VFD

You can remove the VFD by following the steps in the installation procedure in reverse order.

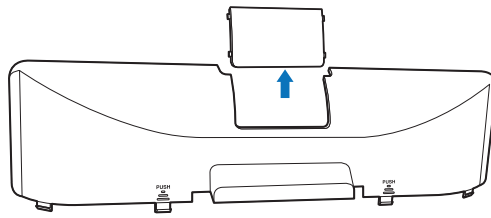
LCD Customer Display

Installing the LCD Customer Display

To assemble the LCD customer display, follow these steps:

1. Remove the I/O port cover by following the instructions in “Removing the I/O port cover” on page 10.

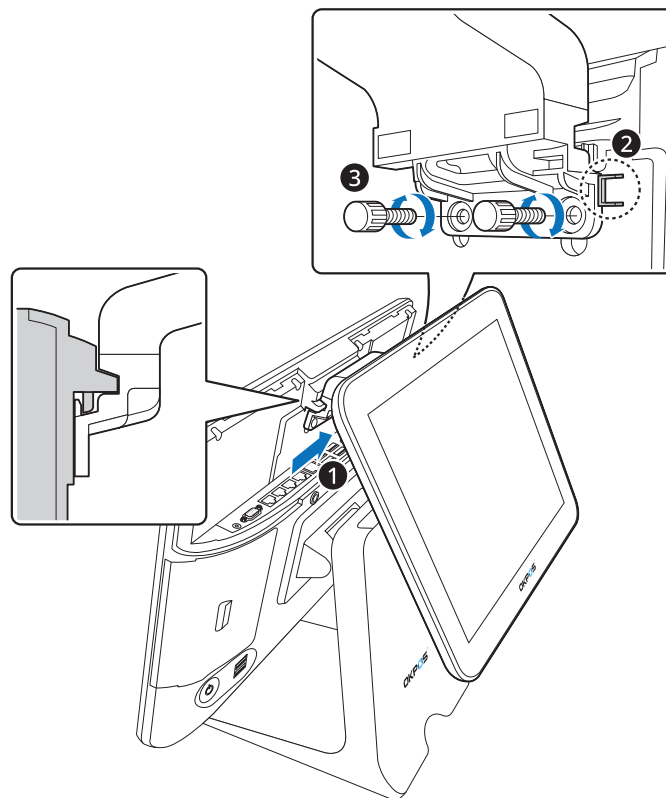
2. Detach the plate on the I/O port cover to make space for installing the LCD customer display.



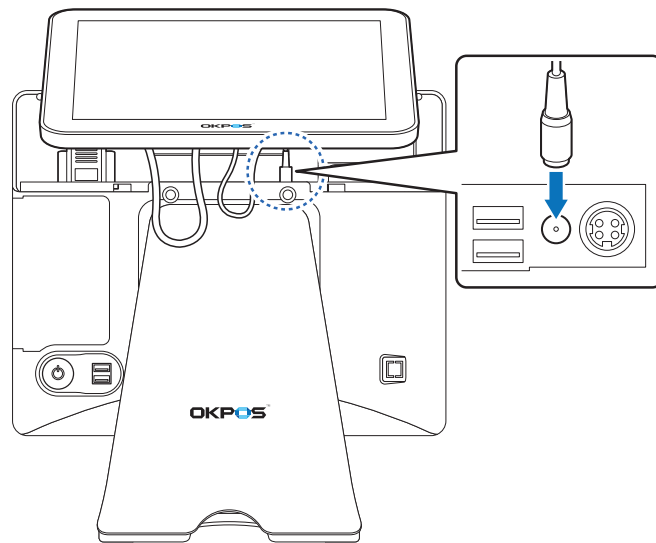
NOTE:

- Completely remove the plate, ensuring that no sharp parts remain. There is the risk of injuring yourself if the sharp edges are not completely removed.

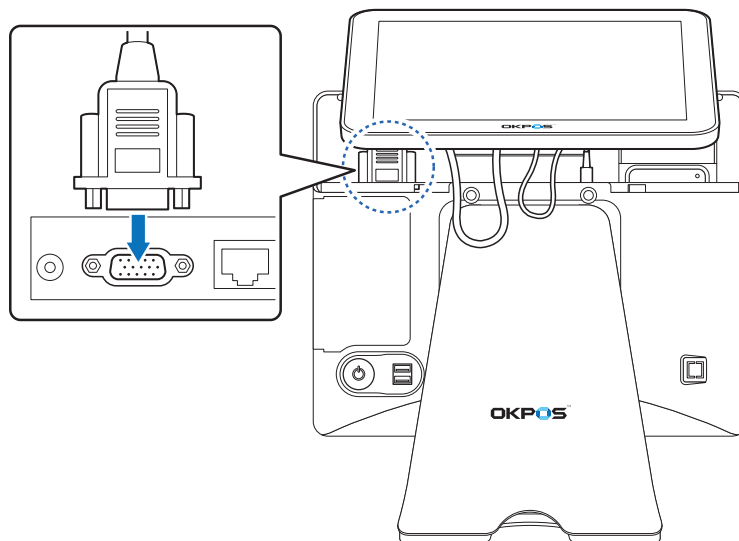
3. Place the LCD customer display and tighten it with two thumbscrews.



4. Connect the power cable of the LCD customer display to the power (12V DC-OUT) jack.



5. Connect the VGA cable of the LCD customer display to the VGA port.



6. Replace the I/O port cover by following the instructions in "Replacing the I/O port cover" on page 12.

Removing the LCD Customer Display

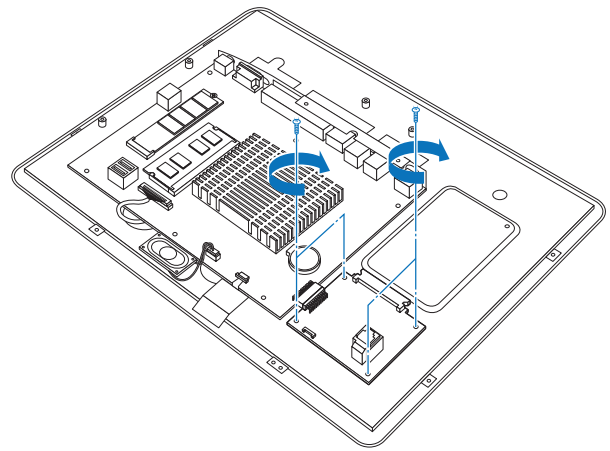
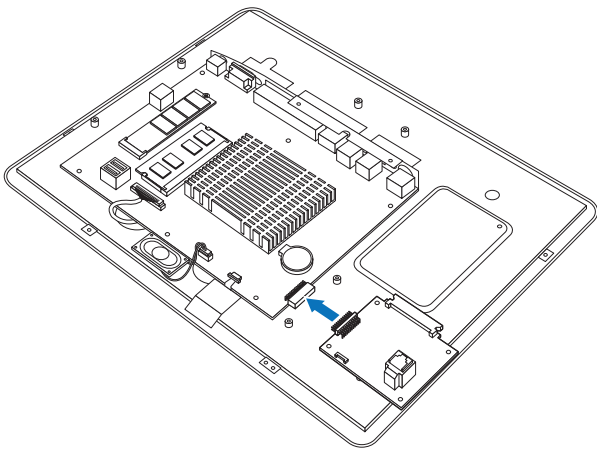
You can remove the LCD customer display by following the steps in the installation procedure in reverse order.

COM and SATA sub-board

Installing the COM and SATA sub-board

To install the COM and SATA sub-board, follow these steps:

1. Remove the system cover by following the instructions in “❶ Removing the cover” on page 22.
2. Connect the COM and SATA sub-board to the COM and SATA header on the main board, and tighten the two screws.



3. Replace the system cover by following the instructions for removal in reverse order.

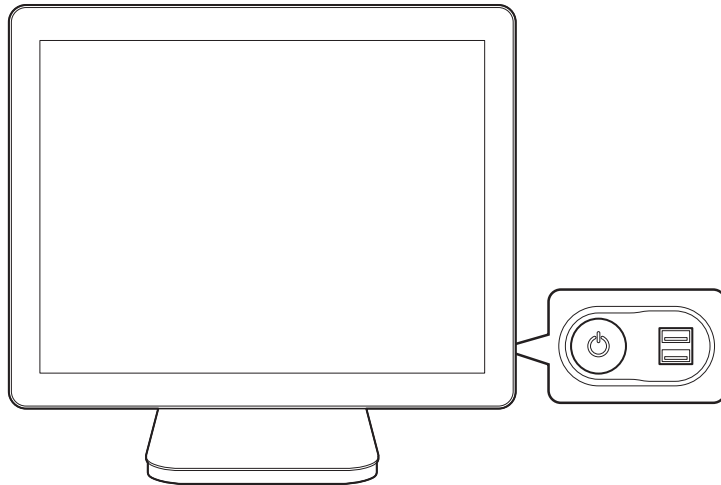
Removing the COM and SATA sub-board

You can remove the COM and SATA sub-board by following the steps in the installation procedure in reverse order.

Turning the SYSTEM On/Off

Turning On

1. Turn on the power of the peripheral devices connected to the system.
2. Press the power button on the lower right side of the back of the system.



Turning Off

1. Close all the applications currently running.
2. **Windows 7:** Click **Start** → **Shut down**.
Windows 10: Click **Start** → **Power** (⏻) → **Shut down**.

NOTE:

- You can also turn off the system by pressing the power button. After all of the programs close, your system will be turned off.
If the system is operating abnormally, you can reboot the system by holding down the Power button until the system turns off. Then, press the **Power** button again to boot back up.

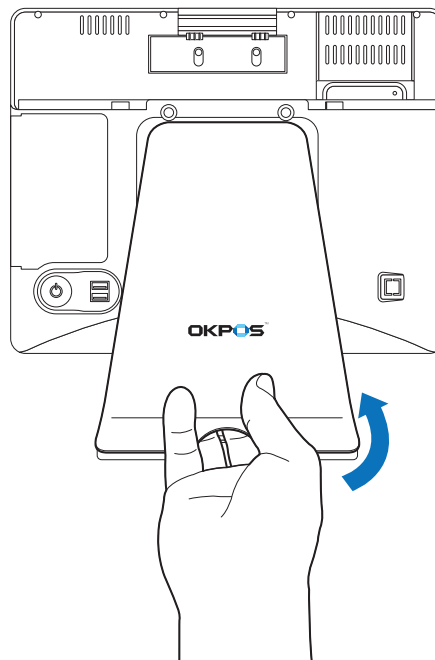
System Disassembly

Disassembling the System

① Removing the cover

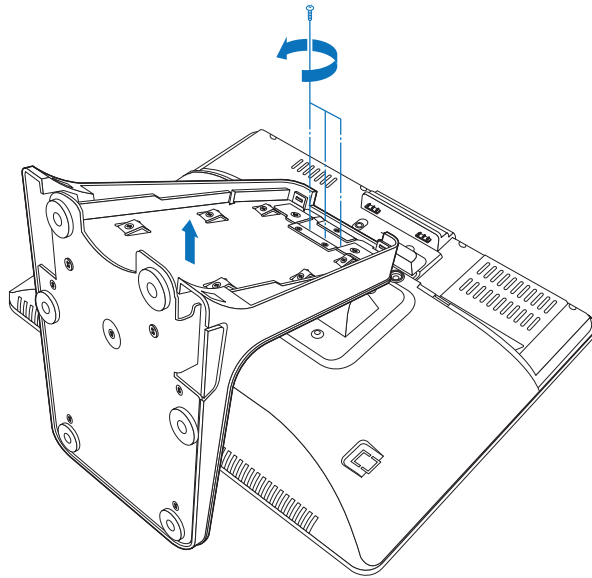
To remove the system cover, follow these steps:

1. Turn off the system and peripheral devices.
2. Remove the I/O port cover by following the instructions in “Removing the I/O port cover” on page 10.
3. Remove the stand’s rear cover by following the instructions in “Removing the stand’s rear cover” on page 11.
4. Remove the power cord and all cables from the system.
5. Place the touch LCD panel side down on a soft, flat surface. (Be careful not to damage the touch LCD panel.)
6. Remove the screws and stand.



NOTE:

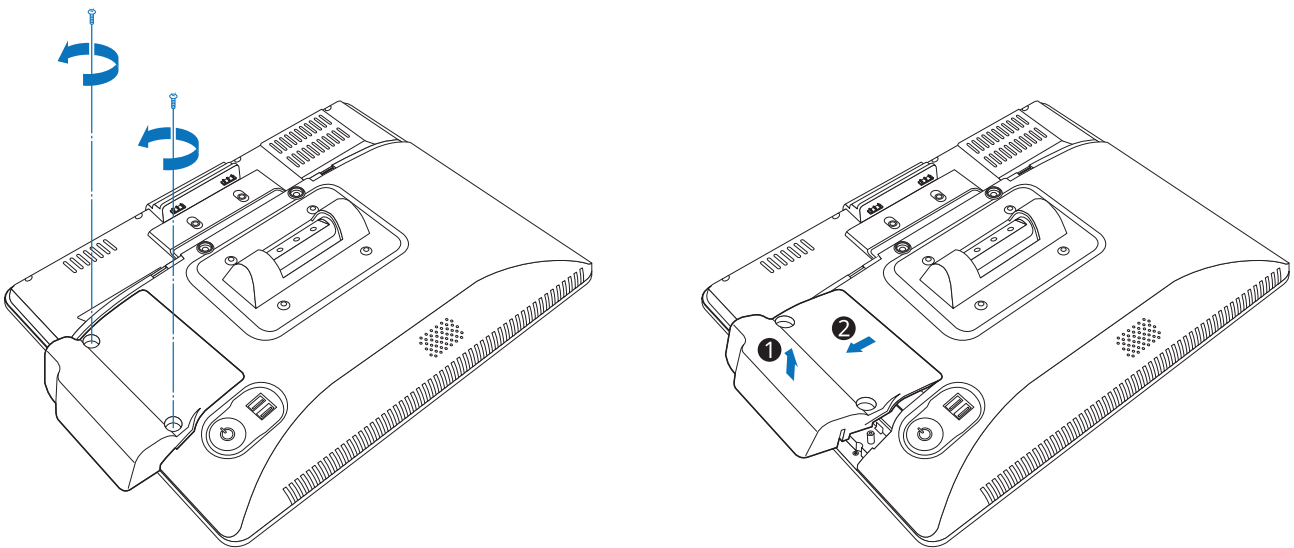
- This step is optional. If you do not need to disassemble the stand unit, go to step 7.
- To disassemble the stand, remove the screws and separate the metal frame from the plastic case.



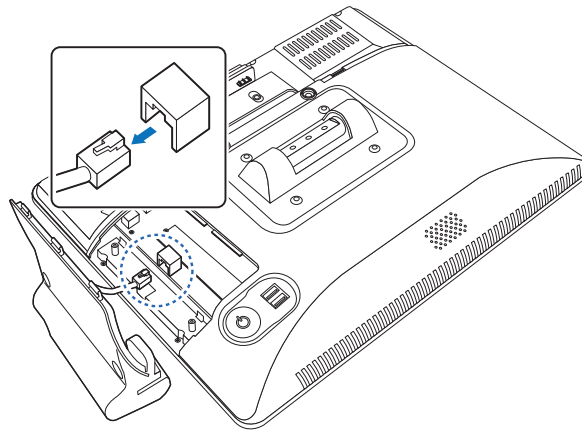
7. Remove the card reader or dummy cover.

[When a card reader is installed]

- ① Remove two screws, hold one end of the card reader and lift up slightly, and pull it out.

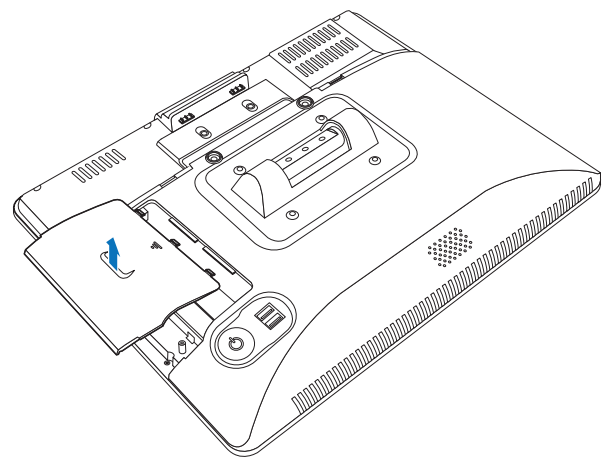
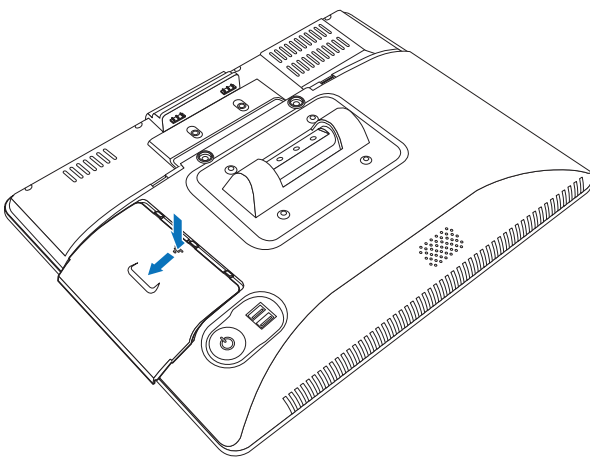


② Remove the RJ-45 cable from the main board.

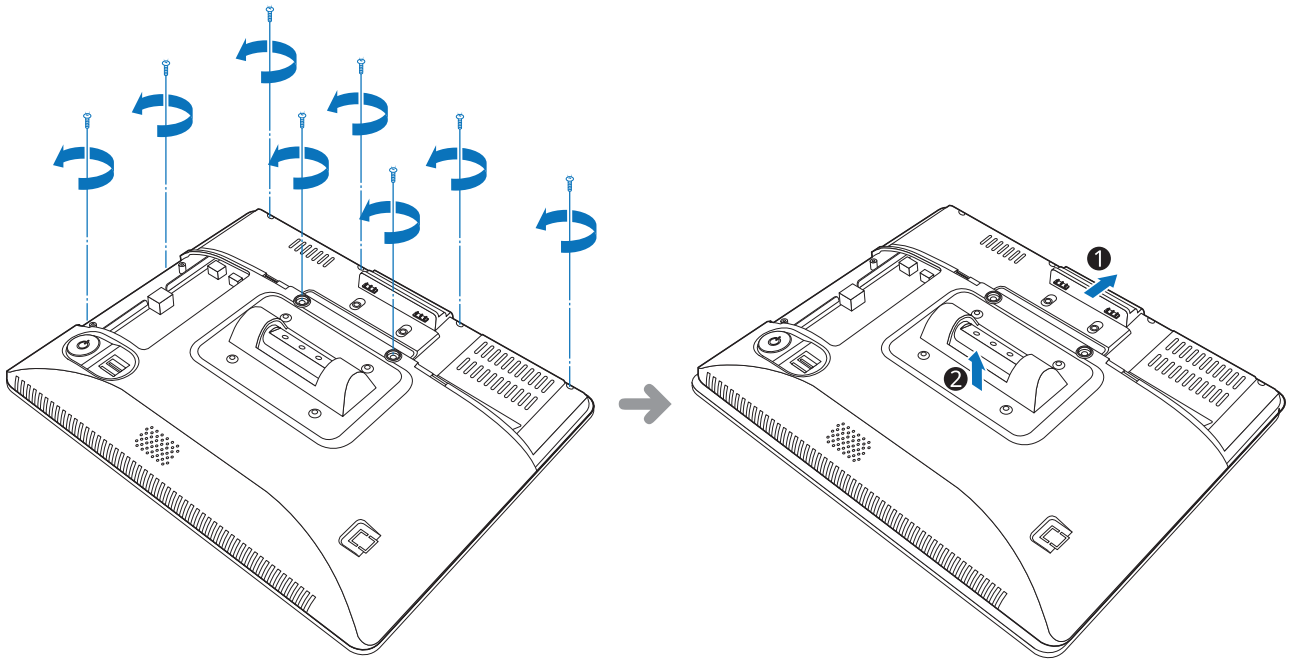


[When a dummy cover is installed]

To remove the dummy cover, hold one end of the dummy cover and lift up slightly, then pull it out.



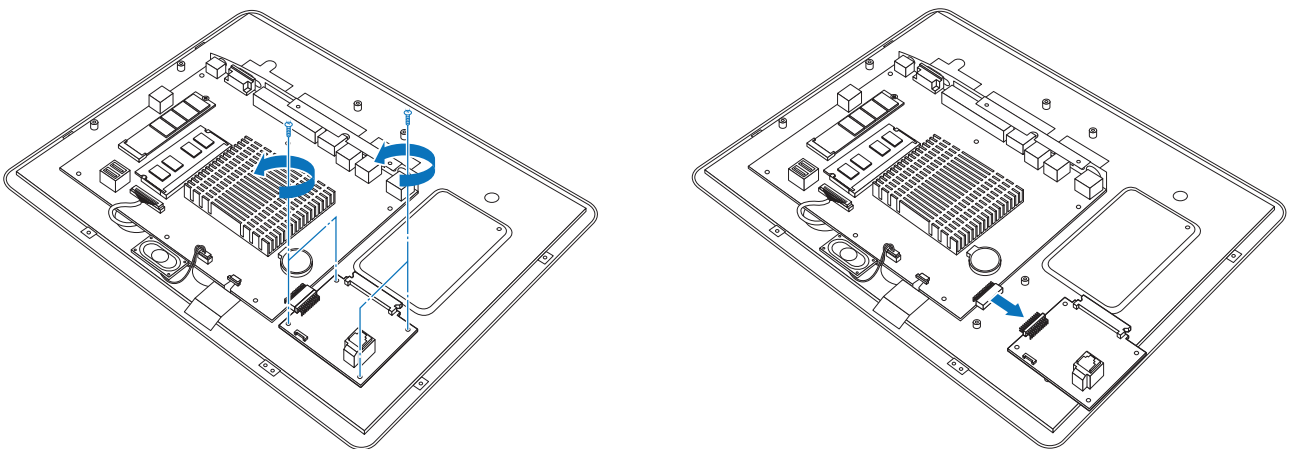
8. Remove the eight screws, slide the back cover slightly, and lift up the back cover.



2 Removing the COM and SATA sub-board (optional)

To remove the optional COM and SATA sub-board, follow these steps:

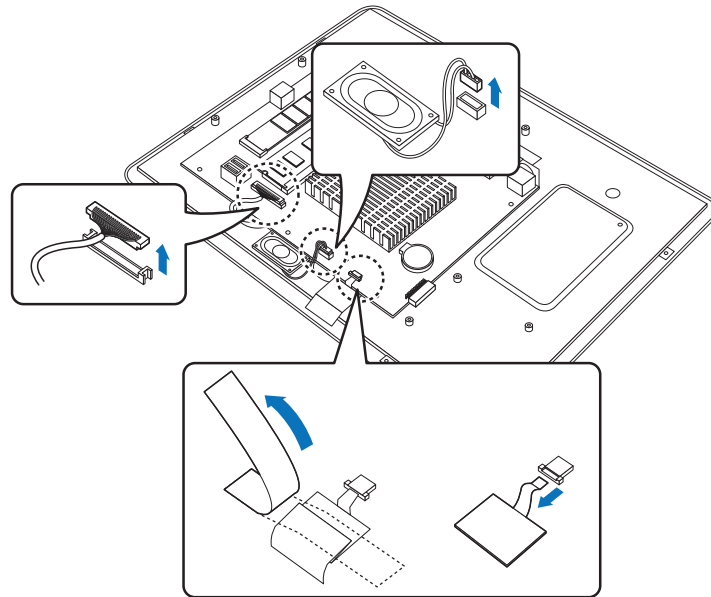
1. Remove the screws fixing the COM and SATA sub-board.
2. Remove the COM and SATA sub-board from the main board, and separate it from the chassis.



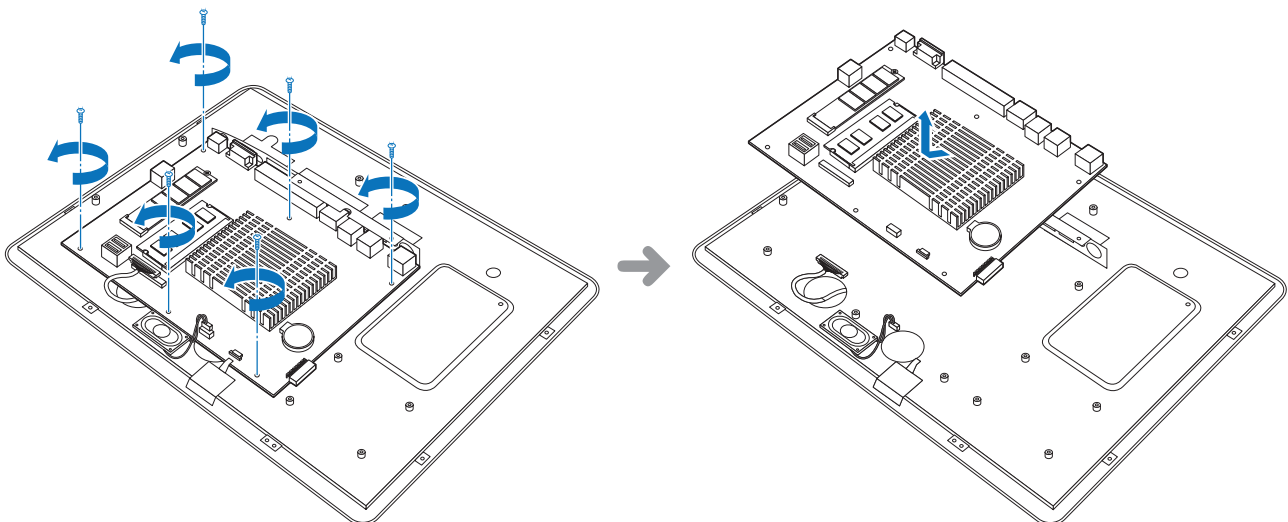
3 Removing the main board

To remove the main board, follow these steps:

1. Remove all cables (LVDS, speaker, touch cable, etc.) from the main board.



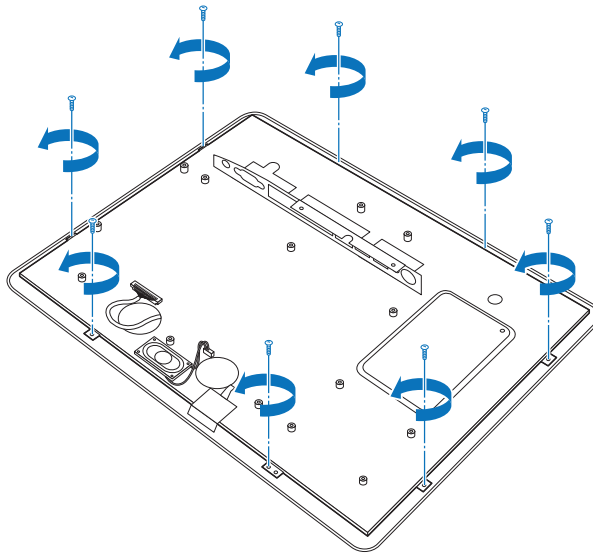
2. Remove the screws and separate the main board from the chassis.



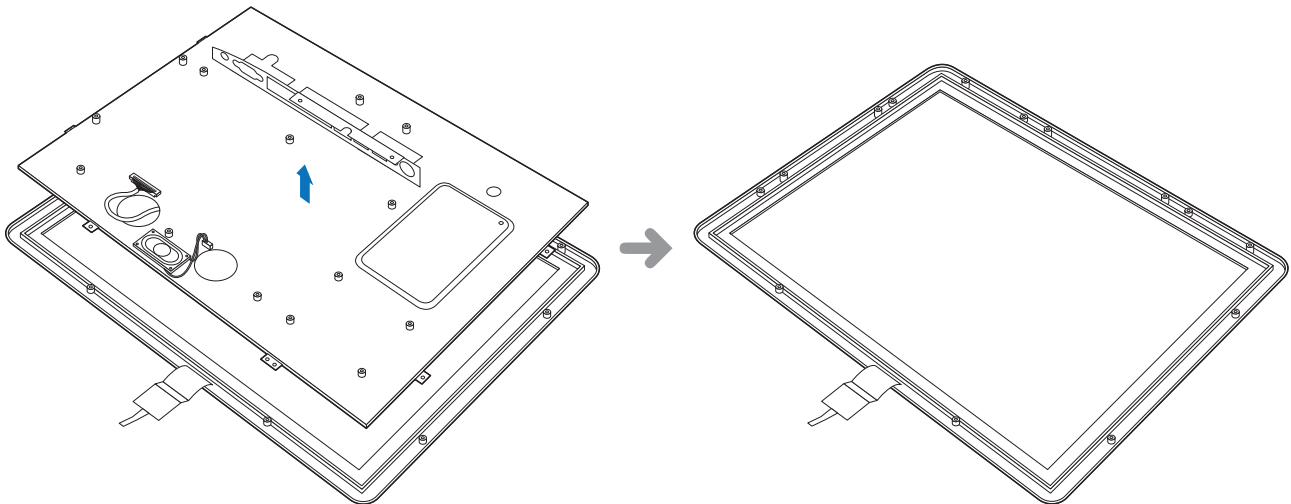
4 Removing the touch panel

To remove the touch panel, follow these steps:

1. Remove the screws fixing the touch panel module.



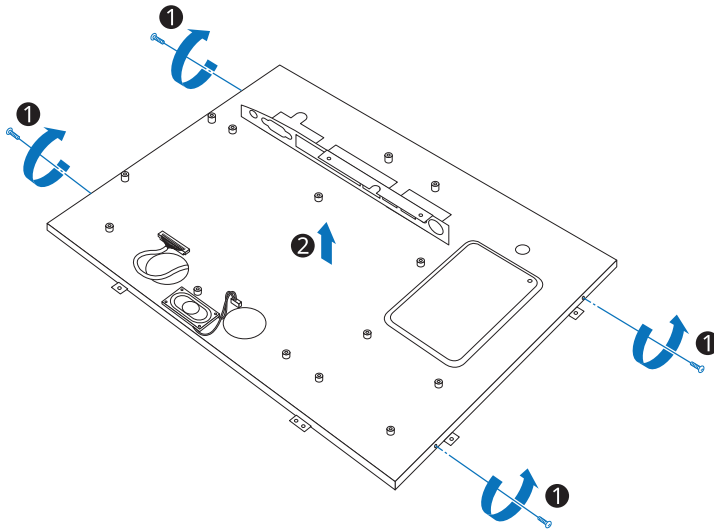
2. Separate the touch panel module.



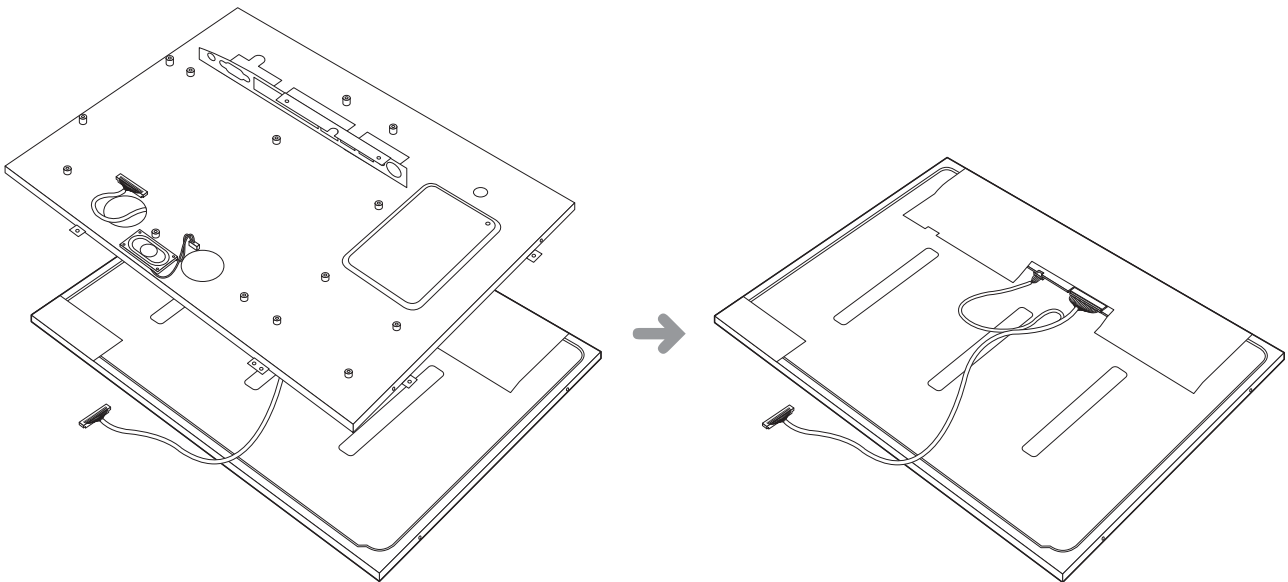
5 Removing the LCD module

To remove the LCD module, follow these steps:

1. Remove the screws fixing the LCD module.



2. Separate the LCD module.



Re-assembling the System

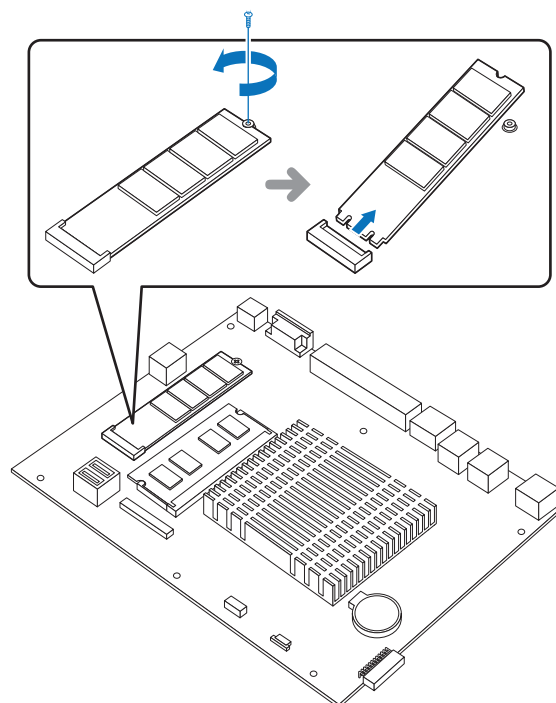
You can assemble the system by following the steps in the disassembly procedure in reverse order.

Components Replacement

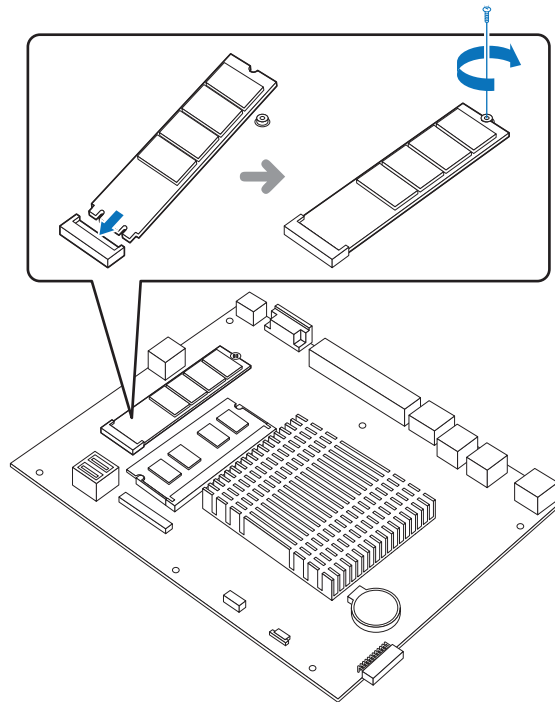
Replacing the M.2 SSD

To replace the M.2 SSD, follow these steps:

1. Turn off the system and peripheral devices.
2. Remove the I/O port cover by following the instructions in “Removing the I/O port cover” on page 10.
3. Remove the stand’s rear cover by following the instructions in “Removing the stand’s rear cover” on page 11.
4. Remove the power cord and all cables from the system.
5. Place the touch LCD panel side down on a soft, flat surface. (Be careful not to damage the touch LCD panel.)
6. Remove the card reader or dummy cover by following the instructions in “❶ Removing the cover” on page 22.
7. Remove the screw and the M.2 SSD card from the slot.



8. Install the new M.2 SSD card and tighten the screw.

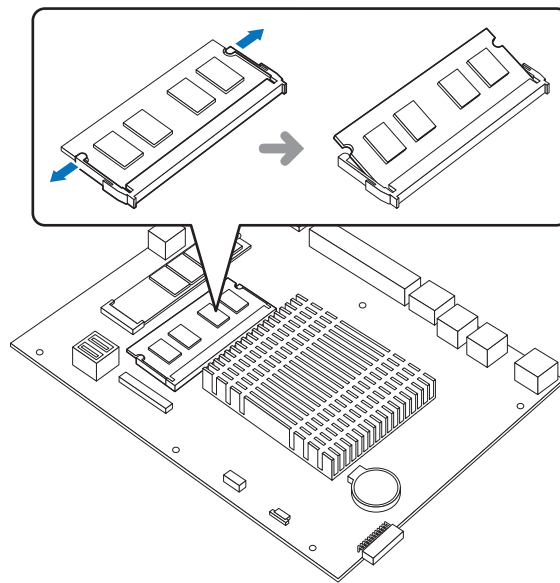


9. Replace the card reader or dummy cover.
10. Connect the power cord and all cables to the system.
11. Replace the I/O port cover by following the instructions in “Replacing the I/O port cover” on page 12.
12. Replace the stand rear cover by following the instructions in “Replacing the stand’s rear cover” on page 13.

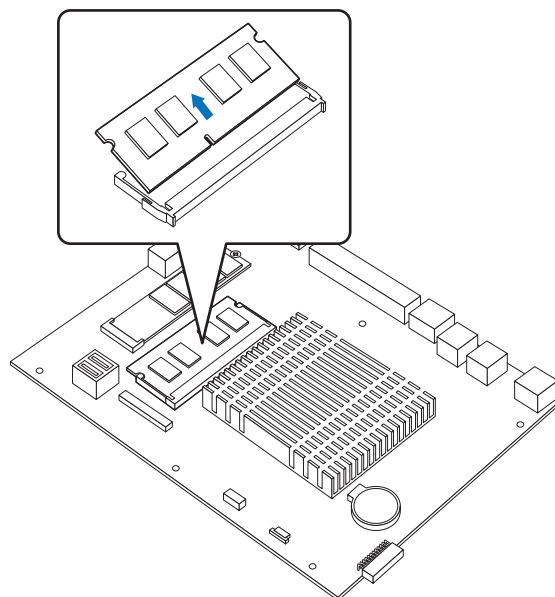
Replacing the memory module (RAM)

To replace the memory module, follow these steps:

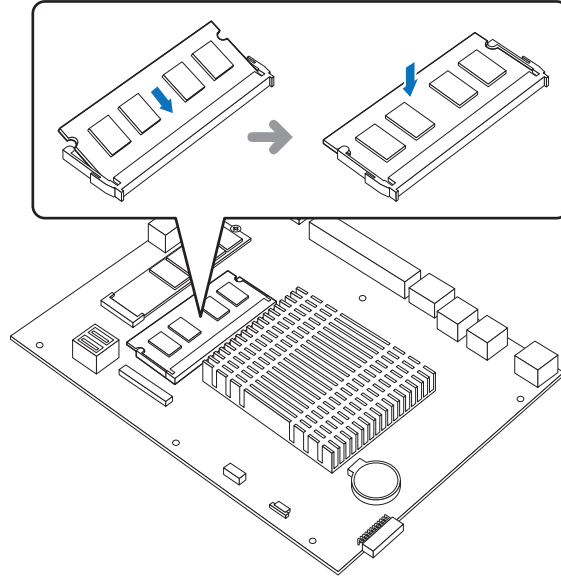
1. Remove the system cover by following the instructions in “❶ Removing the cover” on page 22.
2. Pull the clips on both sides of the memory slot outward to release the installed memory module. One end of the memory module will pop up.



3. Pull the memory module straight out from the memory slot.



4. Insert the new memory modules into the open slots at a 30-degree angle, and press down until both clips engage and click into place.

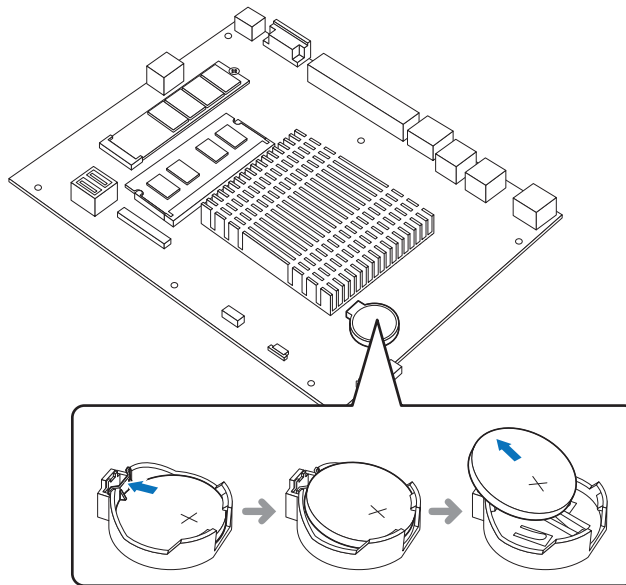


5. Replace the system cover by following the instructions for removal in reverse order.

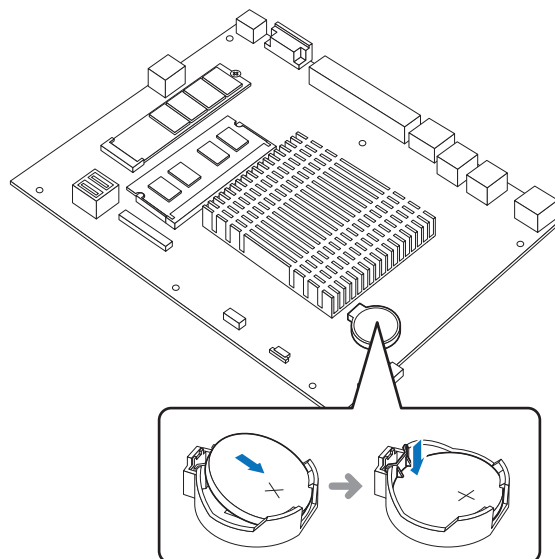
Replacing the CMOS battery

To replace the CMOS battery on the main board, follow these steps:

1. Remove the system cover by following the instructions in “❶ Removing the cover” on page 22.
2. Locate the CMOS battery on the main board and gently press the retaining clip on the CMOS battery socket.
3. When one side of the CMOS battery pops up, grab on to the edge of the battery and pull it up and out of the socket.



4. Insert one side of the new battery into the socket and press it down until the clip engages and clicks into place.

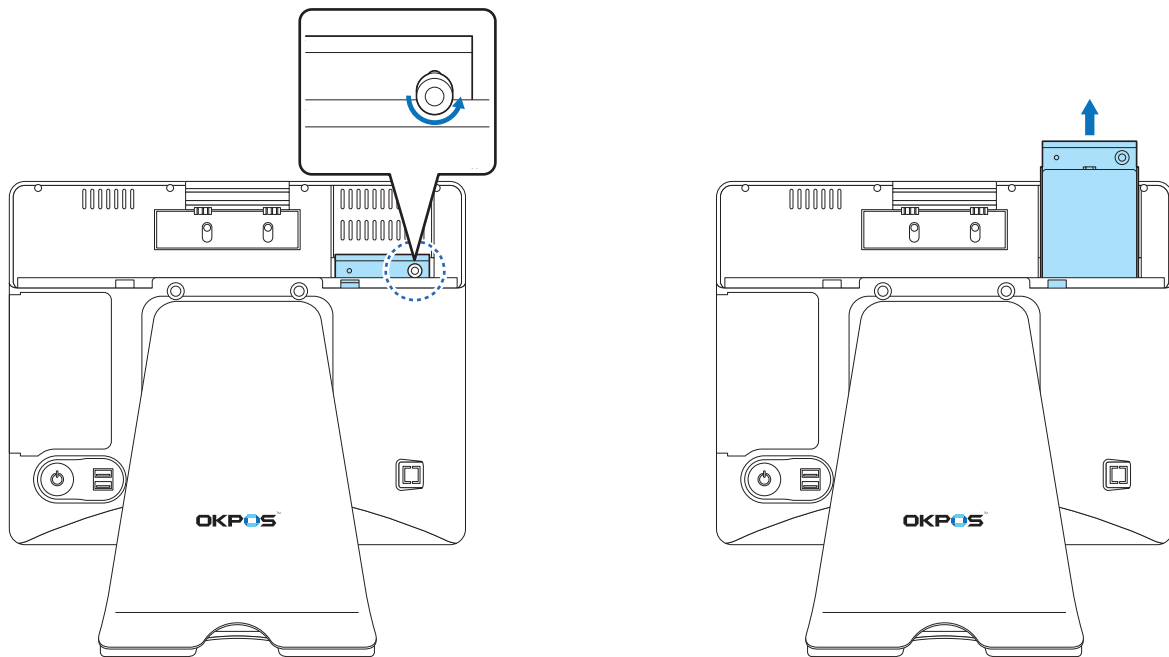


5. Replace the system cover by following the steps for removal in reverse order.

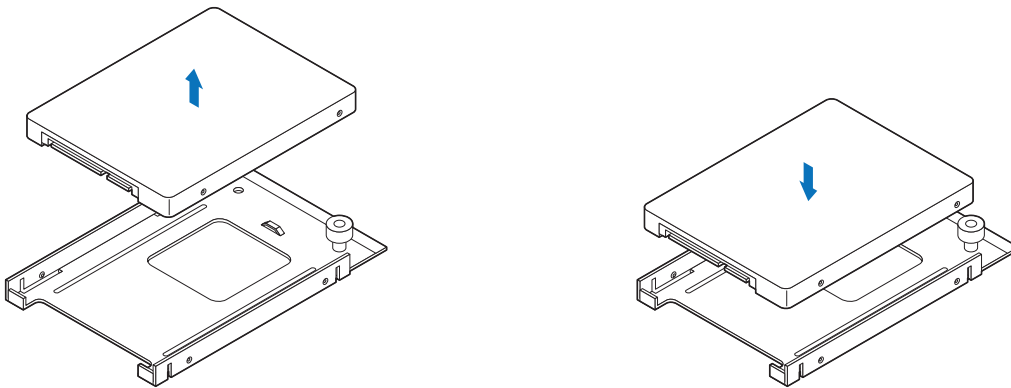
Replacing the SSD (optional)

To replace the optional SSD, follow these steps:

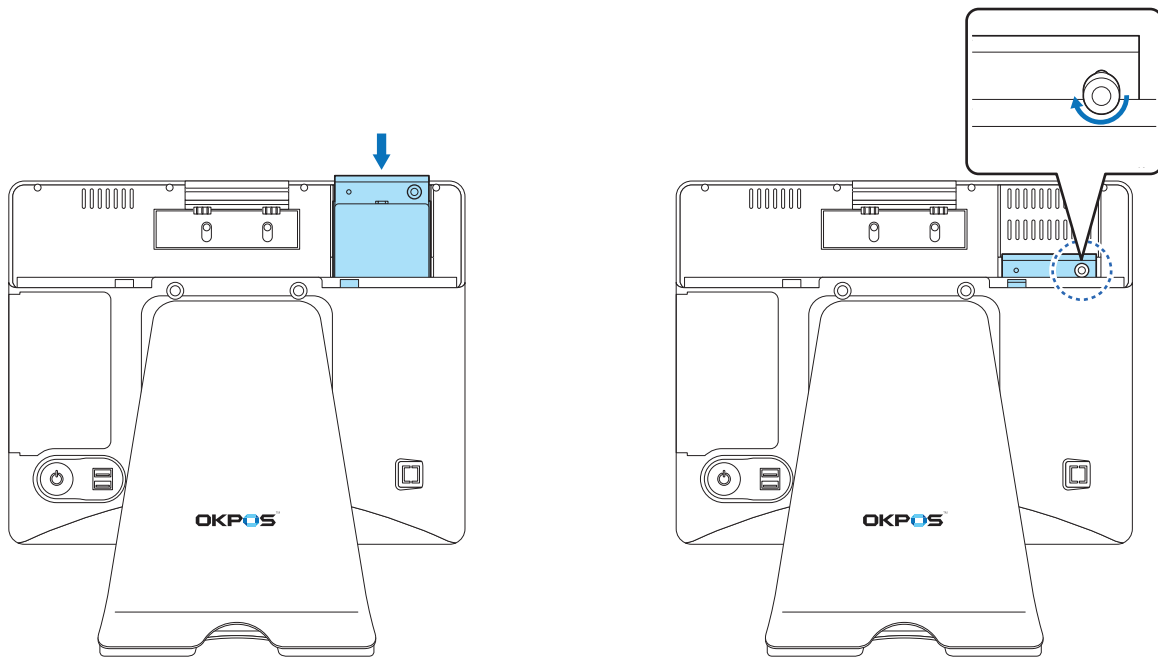
1. Turn off the system and peripheral devices.
2. Remove the I/O port cover by following the instructions in “Removing the I/O port cover” on page 10.
3. Remove the stand rear cover by following the instructions in “Removing the stand’s rear cover” on page 11.
4. Remove the power cord and all cables from the system.
5. Unscrew the thumbscrew and pull out the SSD module by holding the thumbscrew.



6. Replace the SSD.



7. Insert the SSD module into the slot and tighten the thumbscrew.



8. Connect the power cord and all cables to the system.

9. Replace the I/O port cover by following the instructions in "Replacing the I/O port cover" on page 12.

10. Replace the stand's rear cover by following the instructions in "Replacing the stand's rear cover" on page 13.

Application Programs

Drivers

All drivers are located in D:\OKPOS\DRIVER.

All drivers are pre-installed on your system. If you need to install a driver, you can install it using the driver installation files, which can be found in these folders.

BayTrail_WIN 7_32_Chipset	2017-11-01 오후...	파일 폴더
BayTrail_WIN 7_32_LAN	2017-11-01 오후...	파일 폴더
BayTrail_WIN 7_32_Realtek	2017-11-01 오후...	파일 폴더
BayTrail_WIN 7_32_TXE	2017-11-01 오후...	파일 폴더
BayTrail_WIN 7_32_USB 3.0	2017-11-01 오후...	파일 폴더
BayTrail_WIN 7_32_VGA	2017-11-01 오후...	파일 폴더

Windows 7 Drivers

or

BayTrail_WIN 8.10_32_Chipset	2018-02-21 오후...	파일 폴더
BayTrail_WIN 8.10_32_LAN	2018-02-21 오후...	파일 폴더
BayTrail_WIN 8.10_32_Realtek	2018-02-21 오후...	파일 폴더
BayTrail_WIN 8.10_32_TXE	2018-02-21 오후...	파일 폴더
BayTrail_WIN 8.10_32_VGA	2018-02-21 오후...	파일 폴더

Windows 8 & 10 drivers

Utilities

All utilities are installed in D:\OKPOS\Utility\MSR.

All utilities are pre-installed on your system. If you need to install a utility, you can install it using the utility installation files, which can be found in these folders.

Setting Up the Touch Screen

If the touch point is not correct, close all programs and run the calibration program to calibrate your touch screen.

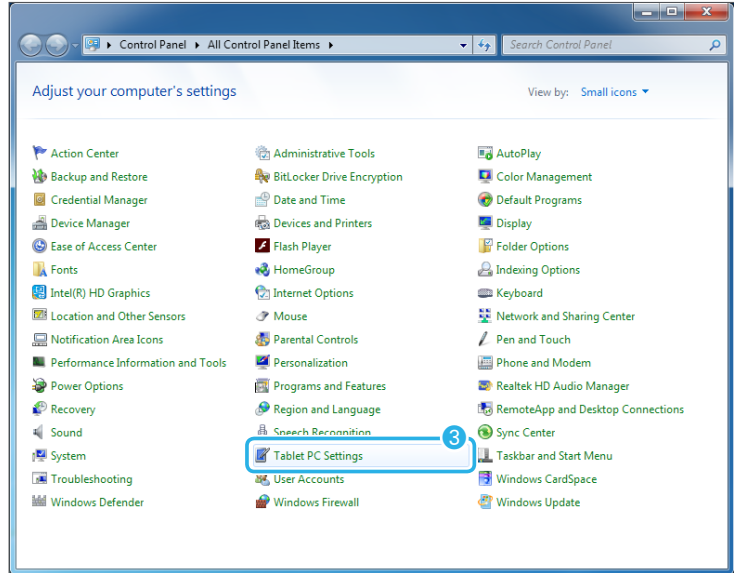
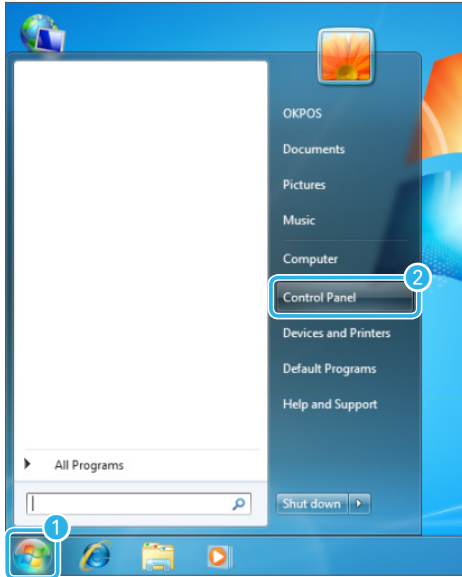
CAUTION:

- Do not use an object with a sharp point such as a ballpoint pen to calibrate the touch screen. This may cause damage to the touch screen.

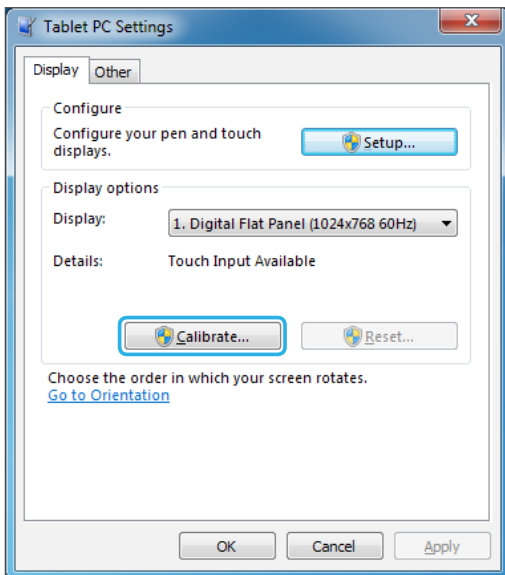
To calibrate the touch screen, please follow these steps:

[Windows 7]

1. Turn on your system.
2. Select **Start → Control Panel → Tablet PC Settings**.



3. When the Tablet PC Settings screen appears, click **Calibrate** in the **Display** tab.

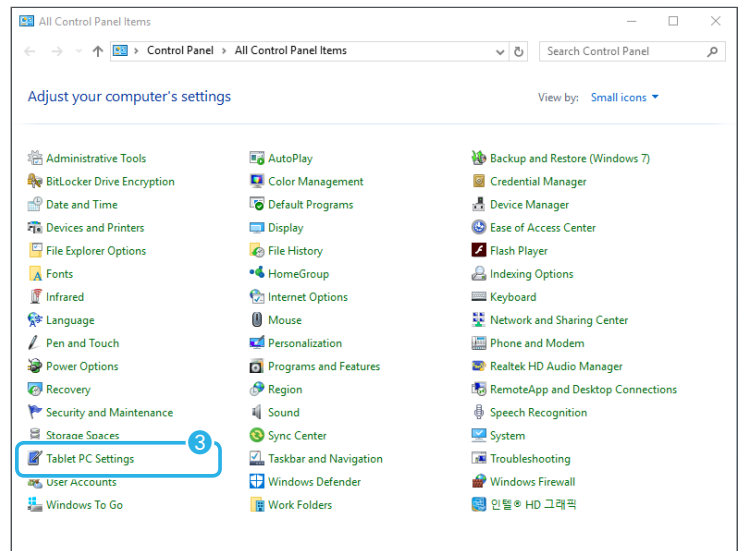
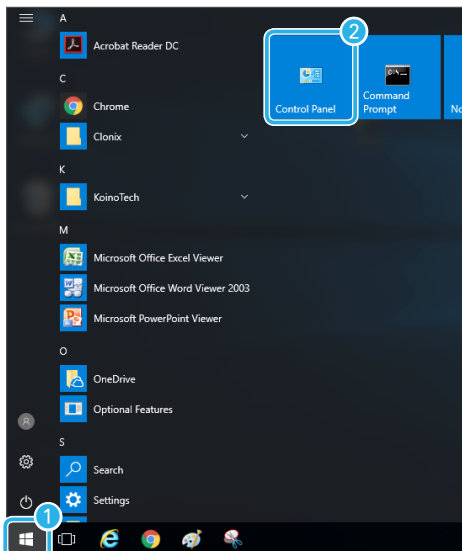


4. Calibrate your touch screen by following the on-screen instructions.

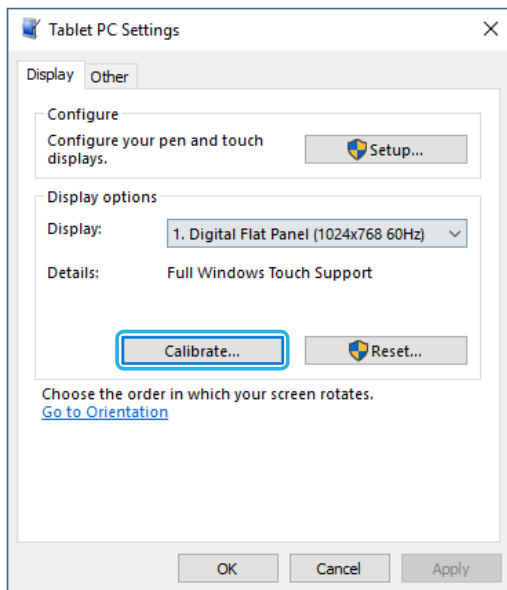


[Windows 10]

1. Turn on your system.
2. Select **Start** → **Control Panel** → **Tablet PC Settings**.



- When the Tablet PC Settings screen appears, click **Calibrate** in the **Display** tab.



- Calibrate your touch screen by following the on-screen instructions.

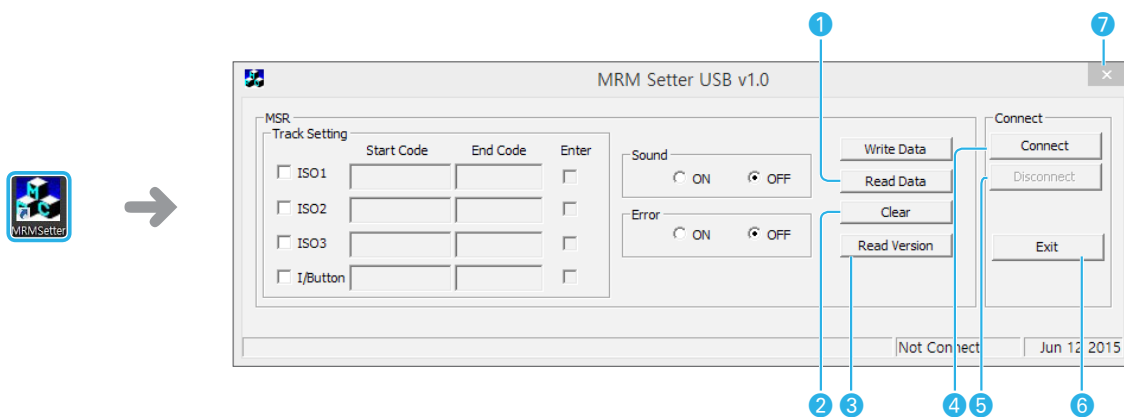


Setting Up the Card Reader

After connecting the card reader, run the MRMSetter program to setup the card reader.

Running the setup program

1. Double-click the **MRMSetter** icon on the desktop.



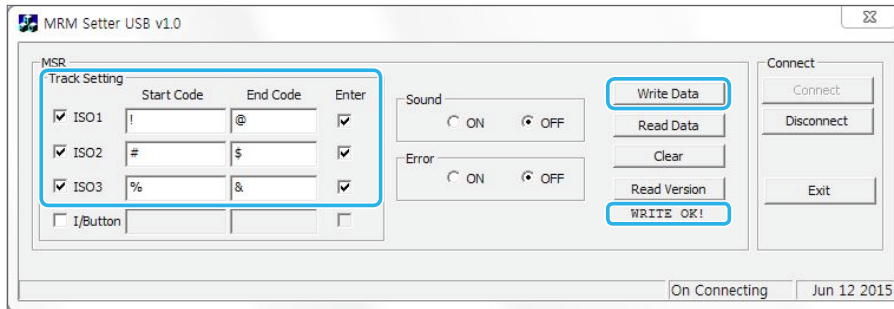
- 1 **Read Data:** Loads the previous setting values.
- 2 **Clear:** Clears all settings and returns to the default settings.
- 3 **Read version:** Displays the program version.
- 4 **Connect:** Connects the card reader to the system.
- 5 **Disconnect:** Disconnects the card reader from the system.
- 6 **Exit:** Closes the MRM Setter program.
- 7 **✕:** Closes the MRM Setter program.

2. Click **Connect**.
3. Select all settings for your card reader.
4. Click **Write Data** and check the **WRITE OK!** message.
5. Click **Exit**.

Track setting

You can set the track.

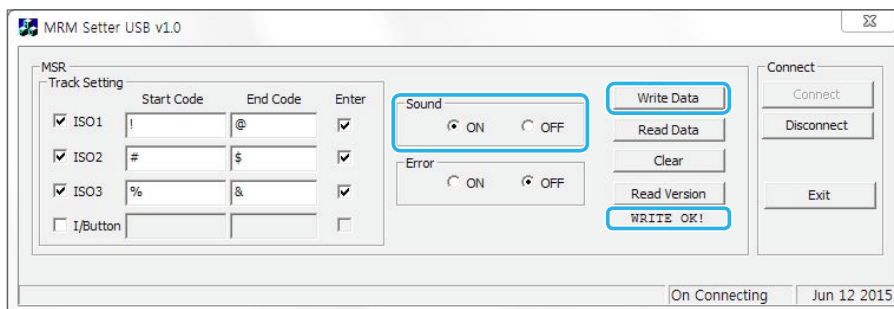
1. Select the track, input **Start Code** and **End Code**, and select **Enter**.
2. Click **Write Data** and check the **WRITE OK!** message.



Sound setting

You can set the alarm for the card reading failure.

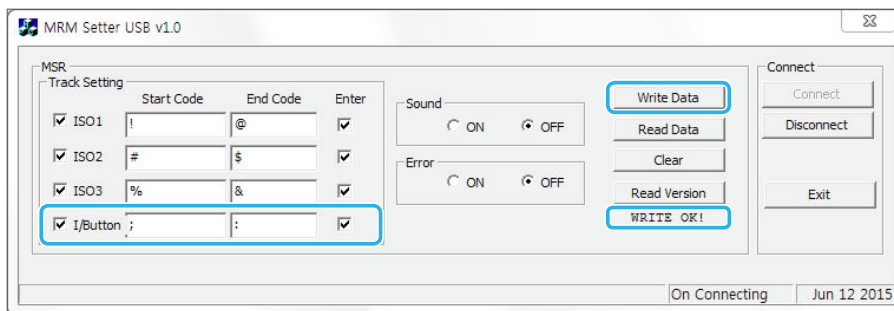
1. Click the **ON** button for **Sound**.
2. Click **Write Data** and confirm that the **WRITE OK!** message appears.



I/Button setting

You can set the I/Button.

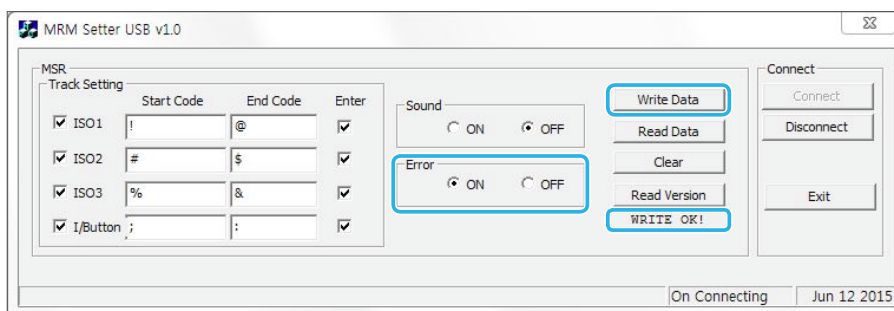
1. Select **I/Button** and **Enter**.
2. Click **Write Data** and check the message.
3. If there is no error, click **WRITE OK!**



Error code setting

You can set the Error Code.

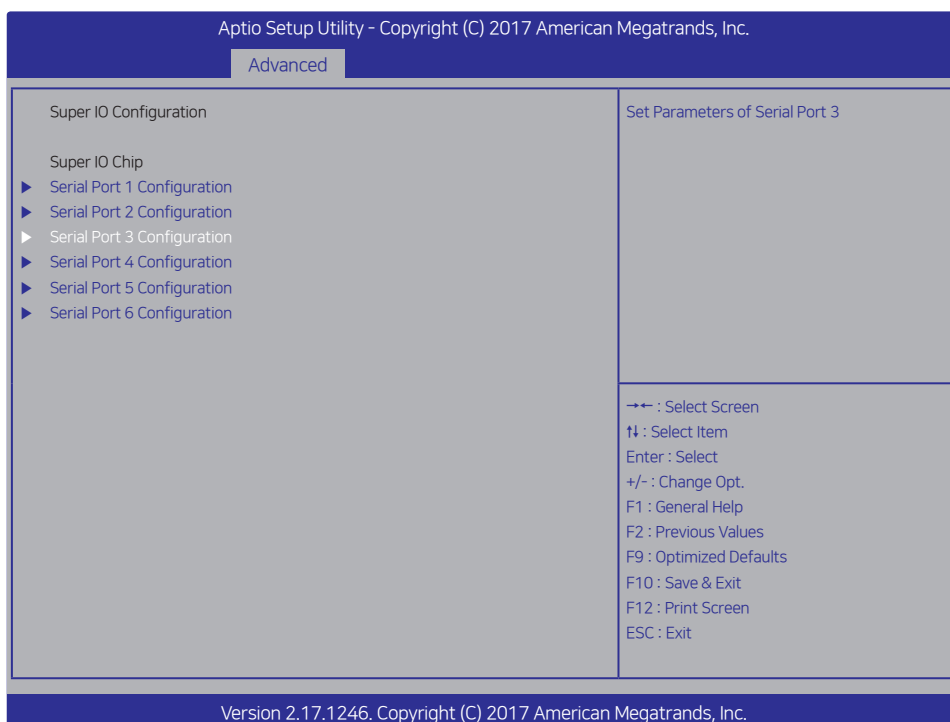
1. Click the **ON** button for **Error**.
2. Click **Write Data** and check the message.
3. If there is no error, click **WRITE OK!**



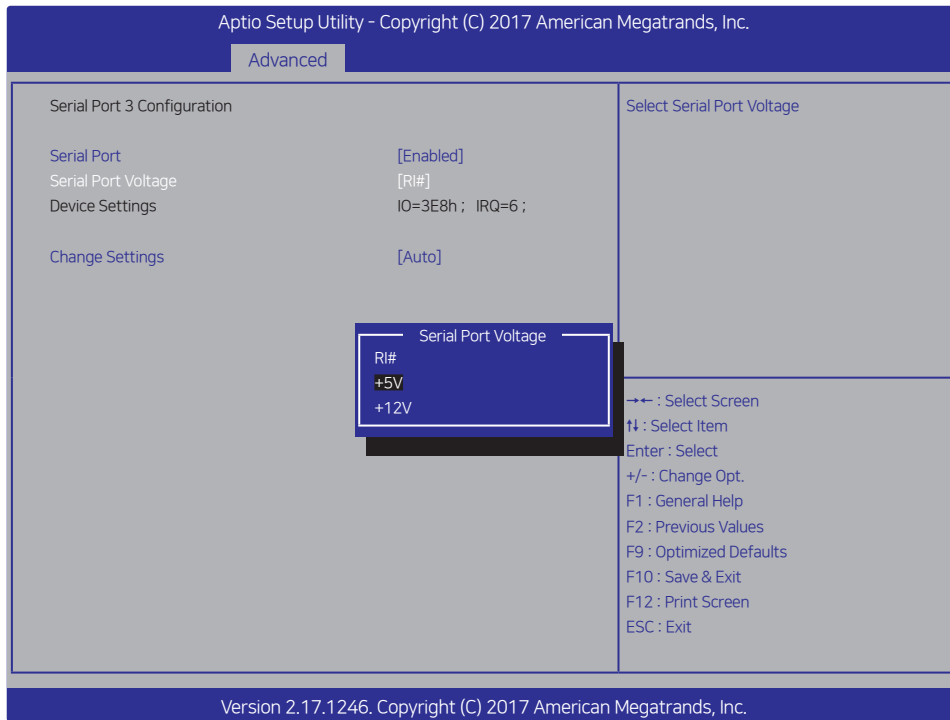
Setting Up the VFD

To setup the VFD, please follow these steps:

1. After powering on the system, press [**Del**] to enter the System Setup screen.
2. Go to the **Advanced** menu.
3. Select **Super IO Configuration**.
4. Select **Serial Port 3 Configuration**.



5. Select **Serial Port Voltage** and choose **+5V** from the option list.

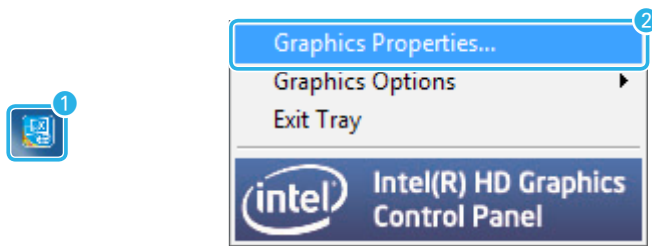


6. Press **[F10]** to save the settings and exit the System Setup program.
7. When the **Save & Exit** screen pops up, select **Yes** and press the **[Enter]** key.

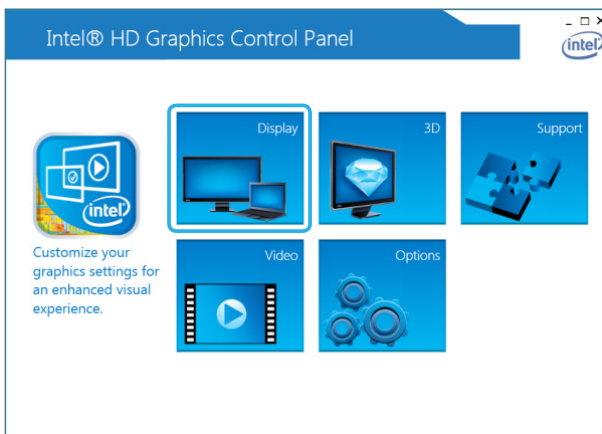
Setting Up the LCD Customer Display

To set up the LCD Customer Display, please follow these steps:

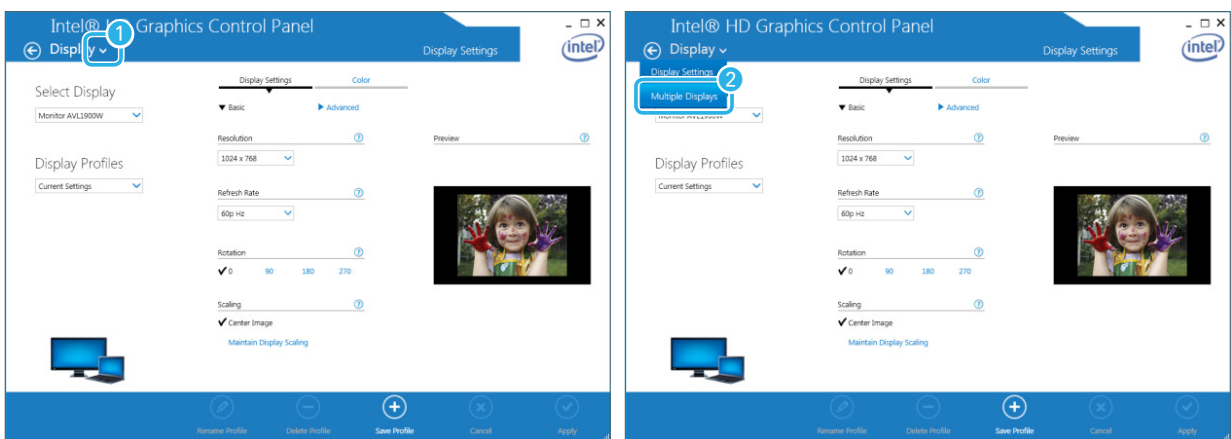
1. Turn on your system.
2. Click **Intel® HD Graphics** on the task bar and select **Graphics Properties...**



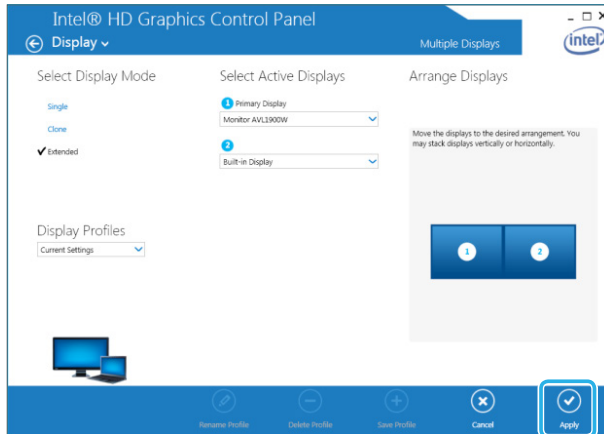
3. When the **Intel® HD Graphics Control Panel** screen appears, select **Display**.



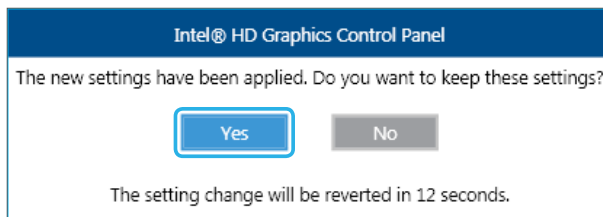
4. When the **Display** screen appears, click (♥) and select **Multiple Displays**.



5. Choose the display mode in the **Select Display Mode** menu. After finishing the other settings, click **Apply**.



6. To keep the changes you have made to the settings, click **Yes**.



System Setup (BIOS)

For System Set up, setup only the items that you need. Note that incorrect settings of Setup items could result in a system malfunction.

Entering Setup

After powering on the system, press [**Del**] to enter the System Setup screen.

BIOS action keys

Function key	Command	Description
→←	Select Screen	Select the menu
↑↓	Select Item	Select the item
Enter	Select	Shows the sub menu
+/-	Change Opt.	Selects the next value within a menu
F1	General Help	Shows the help screen
F2	Previous Values	Return to previous value
F9	Optimized Defaults	Saves default setting
F10	Save & Exit	Saves changes and reboots the computer.
ESC	Exit	Leaves a sub-menu to return to the previous menu or exits the BIOS setup while saving changes.

Main menu

This menu reports processor and BIOS information, and is for configuring the system date and time.

Features	Options	Description
BIOS Information	No options	Displays the BIOS information.
CPU Configuration	No options	Displays the processor configuration.
System Date	Month, day, and year	Specifies the current date.
System Time	Hour, minute, and second	Specifies the current time.
Access Level	No options	Displays your current access level. If you enter the system with a user password, it will display User . If no password is set or you enter the system with an administrator password, this item will display Administrator .

Feature menu

You can configure other features.

Features	Options	Description
Other Features		
↳ OS Selection	<ul style="list-style-type: none">• Windows 7• Windows 8.X• Android	Select OS of your system.
↳ Flash Write Protection	<ul style="list-style-type: none">• Enabled• Disabled	Enables or disables BIOS SPI region read/write protection.
↳ Launch PXE OpROM	<ul style="list-style-type: none">• Enabled• Disabled	Enables or disables onboard LAN boot option ROM.
↳ Onboard LAN Control	<ul style="list-style-type: none">• Enabled• Disabled	Enables or disables the onboard LAN controller.
BIOS Update Utility		
↳ Update BIOS		You can update the BIOS using the USB flash disk that contains the BIOS update files.

Advanced menu

This menu is for setting advanced features that are available through the chipset.

Features	Options	Description
ACPI Settings		
↳ Enable Hibernation	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables the system's ability to Hibernate (OS/S4 Sleep State). This option may be not effective with some OS.
↳ ACPI Sleep State	<ul style="list-style-type: none"> • Suspend Disabled • S3 (Suspend to RAM) 	Select the highest ACPI sleep state the system will enter when the SUSPEND button is pressed.
Super IO Configuration		
↳ Serial Port 1/2/3/4/5/6 Configuration		Set the parameters of Serial Port 1/2/3/4/5/6.
- Serial Port	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables the Serial Port (COM).
- Serial Port Voltage	<ul style="list-style-type: none"> • RI# • +5V • +12V 	Select the serial port voltage.
- Device Settings	No options	Displays the resource assigned to the serial port.
- Change Settings	<ul style="list-style-type: none"> • Auto • IO=3F8h; IRQ=4; • IO=3F8h; IRQ=3,4,5,6,7,10,11; • IO=2F8h; IRQ=3,4,5,6,7,10,11; • IO=3E8h; IRQ=3,4,5,6,7,10,11; • IO=2E8h; IRQ=3,4,5,6,7,10,11; 	Select the settings for the serial port.
H/W Monitor		
↳ PC Health Status	No options	Displays the temperature, fan speed, and voltage.

Features	Options	Description
Power Button Control		
↳ Restore AC Power Loss	<ul style="list-style-type: none"> • Power Off • Power On • Last State 	Determines the mode of operation when your system resumes after an AC power loss.
CPU Configuration		
↳ Socket 0 CPU Information	No options	Displays the CPU information of the specified socket.
↳ Limit CPUID Maximum	<ul style="list-style-type: none"> • Enabled • Disabled 	Disabled for Windows XP.
↳ Execute Disable Bit	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables Execute Disable Technology.
↳ Intel Virtualization Technology	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables Virtualization Technology. Virtualization allows a platform to run multiple operating systems and applications. This item will be displayed only when the CPU supports this feature.
SATA Configuration		
↳ SATA Controller	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables the SATA controller.
↳ SATA Speed Support	<ul style="list-style-type: none"> • Gen1 • Gen2 	Select the SATA speed. (Gen1 is 1.5 Gbit/s and Gen2 is 3 Gbit/s.)
↳ SATA Controller Mode	<ul style="list-style-type: none"> • IDE Mode • AHCI Mode 	Set the mode of your SATA ports.
↳ SATA Port 1	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables SATA Port 1.
↳ SATA Port 2	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables SATA Port 2.

Features	Options	Description
USB Configuration		
↳ USB Devices		
- Legacy USB Support	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables the support for USB devices on legacy operating systems.
- XHCI Hand-off	<ul style="list-style-type: none"> • Enabled • Disabled 	This is a workaround for OSEs that lack XHCI hand-off support. The XHCI ownership change should be claimed by the XHCI driver.
- EHCI Hand-off	<ul style="list-style-type: none"> • Enabled • Disabled 	This is a workaround for OSEs that lack EHCI hand-off support. The EHCI ownership change should be claimed by the EHCI driver.
- USB Mass Storage Driver Support	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables the USB mass storage driver support.
↳ USB hardware delays and time-outs		
- USB transfer time-out	<ul style="list-style-type: none"> • 1 sec • 5 sec • 10 sec • 20 sec 	Set the time-out value for control, bulk, and Interrupt transfers.
- Device reset time-out	<ul style="list-style-type: none"> • 10 sec • 20 sec • 30 sec • 40 sec 	Set the device reset time-out value.
- Device power-up delay	<ul style="list-style-type: none"> • Auto • Manual 	Set the device power-up delay value.
- Device power-up delay in seconds	Input box	Input the value of device power-up delay. Delay range is 1~40 seconds, and can be adjusted in one second increments.
Security Configuration		
↳ Intel(R) TXE Configuration		
- TXE	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables Intel TXE (Trusted Execution Engine) for security.

Chipset menu

You can change the values for the chipset to optimize system performance.

Features	Options	Description
North Bridge		
↳ Graphics Configuration		
- DVMT Pre-Allocated	<ul style="list-style-type: none">• 64 MB• 128 MB• 256 MB• 512 MB	Select the fixed amount of system memory allocated to the integrated graphics device video. Intel DVMT allows additional memory to be allocated for graphics usage based on an application's need. Once the application is closed, the memory that was allocated for graphics usage is then released and made available for system use.
- DVMT Total Gfx Mem	<ul style="list-style-type: none">• 128 MB• 256 MB• Max	Select the total amount of system memory allocated to the integrated graphics device video.
- Aperture Size	<ul style="list-style-type: none">• 128 MB• 256 MB• 512 MB	Select the aperture memory size of the system memory.
- GTT Size	<ul style="list-style-type: none">• 1 MB• 2 MB	Select the GTT memory size of the system memory.
- Primary IGFX Boot Display	<ul style="list-style-type: none">• VGA + LVDS• VGA Only• LVDS Only	Select the video device used when the system boots.
- LCD Panel Type	<ul style="list-style-type: none">• Auto• 640x480 LVDS• ...• 1920x1200 LVDS	Select the LCD panel type.
- Panel Channel	<ul style="list-style-type: none">• Single Channel• Dual Channel	Select the LCD panel channel.
- Panel Color Depth	<ul style="list-style-type: none">• 18 bit• 24 bit	Select the LCD panel color depth.
↳ Memory Configuration	No options	Displays the memory configuration.

Features	Options	Description
South Bridge		
↳ Azalia HD Audio		
- Audio Controller	<ul style="list-style-type: none"> • Enabled • Disabled 	Enables or disables the Azalia HD Audio controller.
↳ USB Configuration		
- USB 2.0 (EHCI) Support		Enables or disables USB 2.0 support.
- USB Port 1/2		Enables or disables the USB port 1/2.
- USB Hub 1/2		Enables or disables the USB hub 1/2.

Security menu

This menu is for setting passwords and security features.

Features	Options	Description
Administrator Password		Specifies the administrator password.
User Password		Specifies the user password.
HDD Security Configuration		
↳ HDD0 : SATA SSD	No options	Displays the HDD security configuration for the selected driver.

NOTE:

Setting up the password

1. Go to **Administrator Password** (or **User Password**), and then press the **[Enter]** key.
2. On the following screen, enter the password and then press the **[Enter]** key.

Create New Password

3. On the following screen, enter the same password again and press the **[Enter]** key.

Confirm New Password

4. This will complete the password setup.

Changing the password

1. Go to **Administrator Password** (or **User Password**) when you want to change the password, and then press the **[Enter]** key.
2. On the following screen, enter the current password and then press **[Enter]** key.

Enter Current Password

3. On the following screen, enter a new password and press the **[Enter]** key.

Create New Password

4. On the following screen, enter the same new password again and press the **[Enter]** key.

Confirm New Password

5. This will complete the password change.

Deleting the password

1. Go to **Administrator Password** (or **User Password**) when you want to delete the password, and then press **[Enter]** key.
2. On the following screen, enter the current password and then press the **[Enter]** key.

Enter Current Password

3. On the following screen, enter nothing and press the **[Enter]** key.

Create New Password

4. When you get a message that says “Clear Old Password, Continue?” select **Yes** and press the **[Enter]** key.
5. This will complete deletion of the password.

Boot menu

This menu is for setting the boot sequence.

Features	Options	Description
Boot Configuration		
↳ Setup Prompt Timeout	Input box	Input the number of seconds to wait for the setup activation key.
↳ Bootup NumLock State	<ul style="list-style-type: none">• On• Off	Turn the NumLock function of the keyboard on/off when you turn on the system.
↳ Customer Logo	<ul style="list-style-type: none">• Enabled• Disabled	Enables or disables displaying your logo when you turn on the system.
Boot Option Priorities		
↳ Boot Option #1	Depending on installed bootable devices	Select the first boot device from the available devices.
↳ Boot Option #2	Depending on installed bootable devices	Select the second boot device from the available devices.
↳ Hard Drive BBS Priorities		Set the boot order of the legacy devices.
- Boot Option #1	Depending on installed bootable legacy devices	Select the first boot device from the available devices.

Save & Exit menu

This menu is for exiting the Setup program, saving changes, and loading and saving defaults.

Features	Description
Save & Exit	
↳ Save Changes and Reset	Exits and saves the changes to CMOS RAM.
↳ Discard Changes and Reset	Exits without saving any changes made in Setup.
↳ Save Changes	Saves the changes to CMOS RAM.
↳ Discard Changes	Discards changes without exiting Setup.
↳ Restore Defaults	Loads the default values for all the Setup options.
Boot Override	After BIOS detects the currently connected devices, select the device you want to boot from and press the [Enter] key, and then the system will directly boot from the selected device.

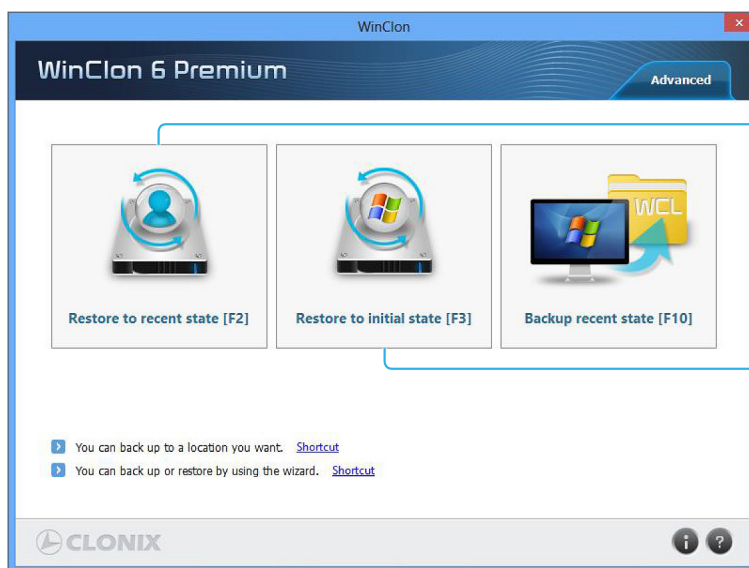
HDD Recovery

WARNING:

- The hard disk recovery process erases all of the data and programs that you installed on your hard disk. After a hard disk recovery, you must reinstall any software that was not originally installed at the factory.
- Be sure to backup your own data before running the recovery process.

To recover the hard disk to factory settings, use the follow steps:

1. Connect the power cord, keyboard, and mouse to your system.
2. Press the power button.
3. When the "F11 to WinClon..." message appears on the screen, press [F11] at the upper side of the keyboard.
4. When the **WinClon** screen appears, select the desired option ("Restore to recent state" or "Restore to initial state.")



Restore to the most recent state of Windows using a backup file.

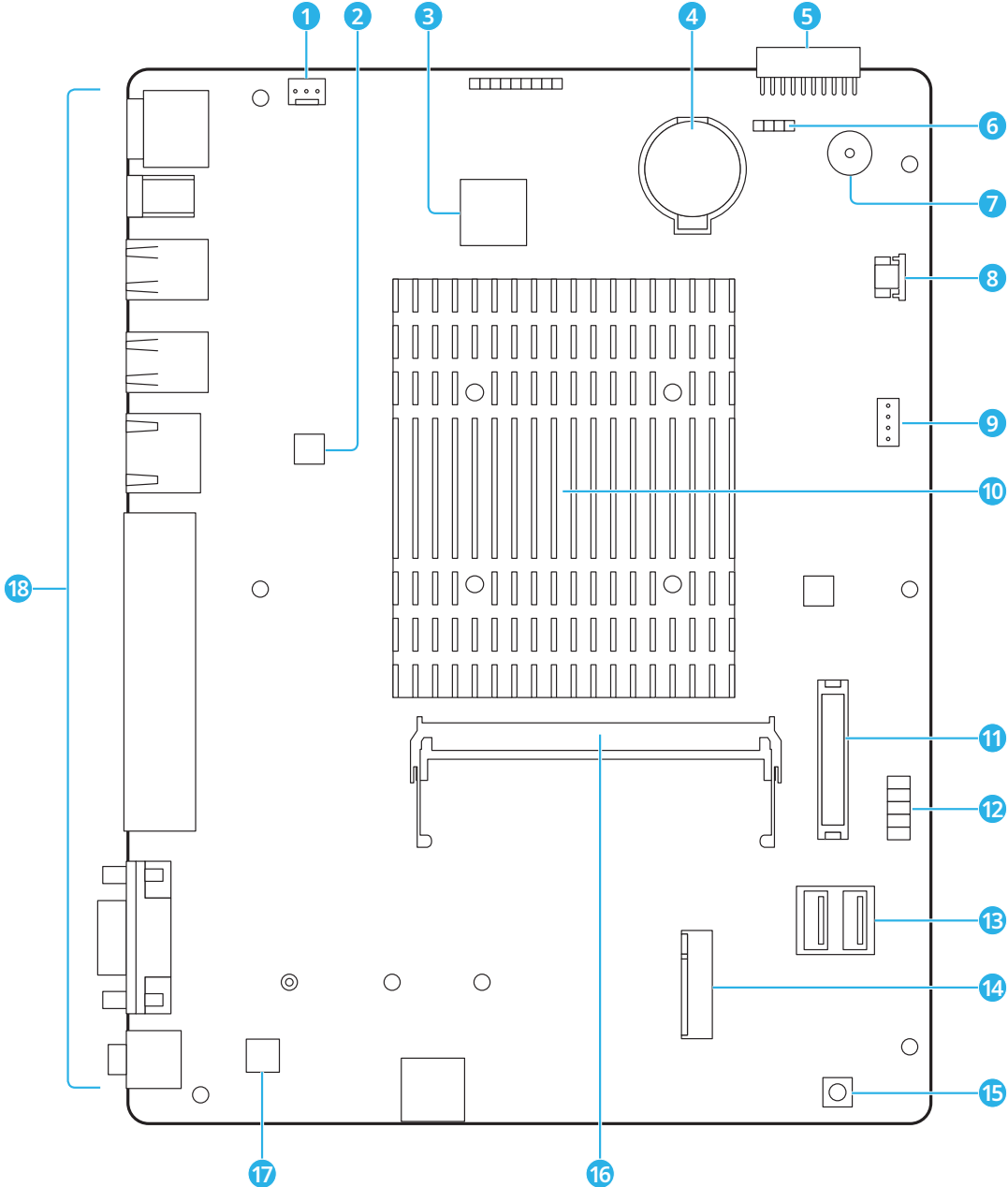
Restore to the factory default state of Windows.

5. Enter the password (the password is "pos") and press **OK** to continue the recovery.
6. The disk restoration procedure will start. Follow the on-screen instructions to recover your hard disk drive.

System Boards

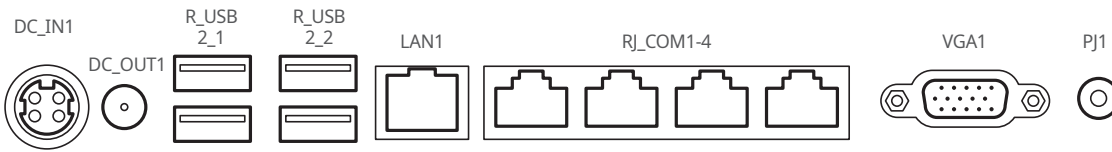
Main Board

Mainboard layout



- 1 System fan header
- 2 Realtek RTL 8111F LAN controller
- 3 ITE IT8766E-I super I/O controller
- 4 CMOS battery
- 5 COM and SATA connector
- 6 Clear CMOS jumper
- 7 Buzzer
- 8 USB 8 pins FPC connector for touch
- 9 Speaker header
- 10 CPU
- 11 LVDS header
- 12 Front panel header
- 13 USB ports
- 14 M.2 SATA2 2260/2280 SSD socket
- 15 Power button
- 16 Memory socket
- 17 Realtek Codec ALC662 audio controller
- 18 I/O ports

I/O Ports of Main B/D



DC-12V Input Connector



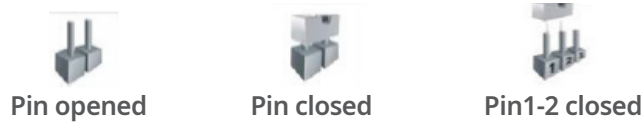
Pin	Definition
1	+12V DC_IN
2	+12V DC_IN
3	GND
4	GND

DC-12V Output Jack (3.5 Ø, Max. 2A)



Jumper Settings

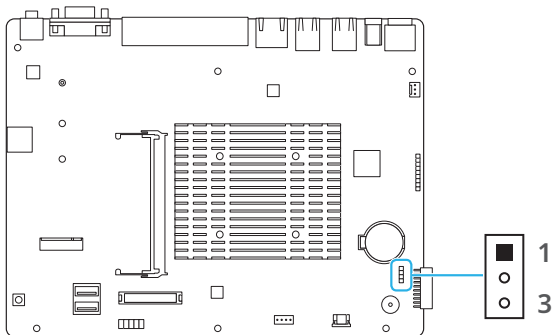
The illustration shows how to set up jumpers. When the jumper cap is placed on pins, the jumper is "close", if not, that means the jumper is "open".



JP1: Clear CMOS Jumper

Placing the jumper on pin2-3, it allows user to restore the BIOS safe setting and the CMOS data.

Please carefully follow the procedures to avoid damaging the motherboard.



Pin 1-2 Closed: Normal(Default)



Pin 2-3 Closed: Clear CMOS

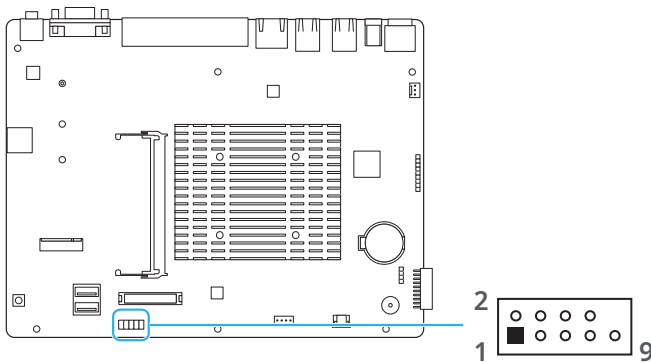
※ Clear CMOS Procedures:

1. Remove AC power line.
2. Set the jumper to "Pin 2-3 close".
3. Wait for five seconds.
4. Set the jumper to "Pin 1-2 close".
5. Power on the AC.
6. Load Optimal Defaults and save settings in CMOS.

Headers and connectors

Front panel header (F_PANEL1)

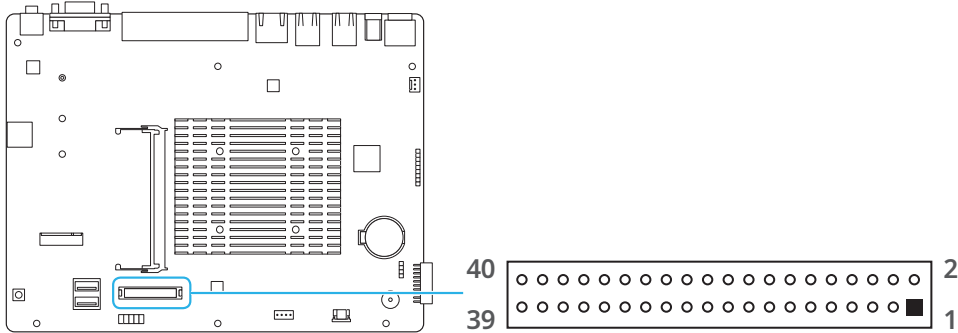
This 10-pin header includes HD LED, Power LED, Reset, PWR connection. It allows the user to connect the system case's front panel switch functions.



Pin	Definition	Pin	Definition
1	HD LED+	2	Power LED+
3	HD LED-	4	Power LED-
5	RESET-	6	PWR+
7	RESET+	8	PWR-
9	N/C		

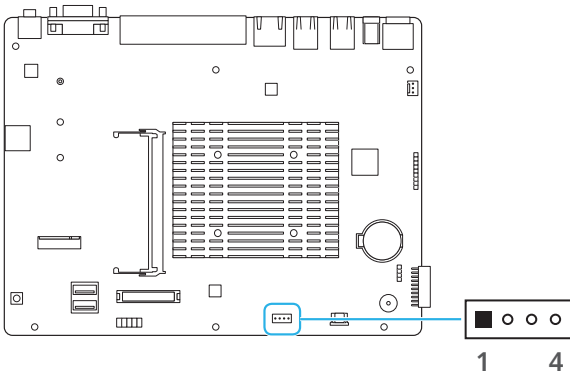
LVDS header (LVDS1)

This connector supports 18/24 bit dual-channel panels.



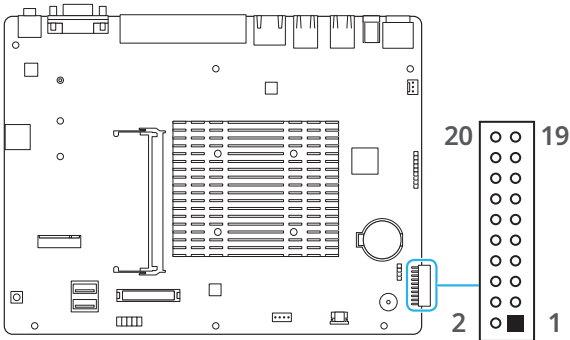
Pin	Definition	Pin	Definition
1	+12V	2	+12V
3	+12V	4	+12V
5	+12V	6	GND
7	+3.3V	8	GND
9	VDD	10	VDD
11	N/C	12	N/C
13	LVDS_BKL_ADJ	14	N/C
15	LVDS_BKL_EN	16	GND
17	LVDS_A_DATA0-	18	LVDS_A_DATA0+
19	LVDS_A_DATA1-	20	LVDS_A_DATA1+
21	LVDS_A_DATA2-	22	LVDS_A_DATA2+
23	LVDS_A_CLK-	24	LVDS_A_CLK+
25	LVDS_A_DATA3-	26	LVDS_A_DATA3+
27	GND(Detect)	28	GND
29	LVDS_B_DATA0-	30	LVDS_B_DATA0+
31	LVDS_B_DATA1-	32	LVDS_B_DATA1+
33	LVDS_B_DATA2-	34	LVDS_B_DATA2+
35	LVDS_B_CLK-	36	LVDS_B_CLK+
37	LVDS_B_DATA3-	38	LVDS_B_DATA3+
39	GND	40	GND

Speaker header (J_SPK1)



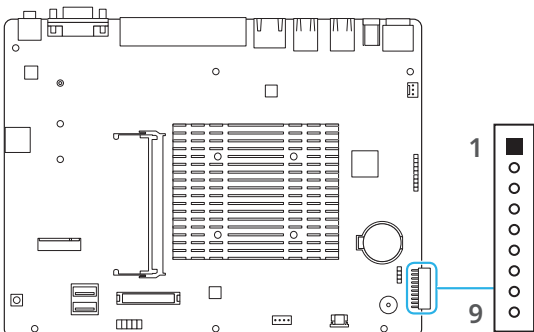
Pin	Definition	Pin	Definition
1	SPK_R+	2	SPK_L+
3	SPK_R-	4	SPK_L-

COM and SATA header (J_BD1)



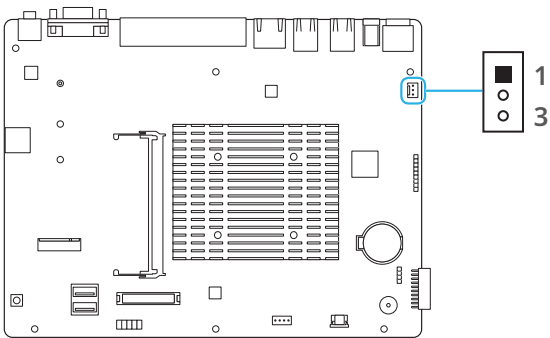
Pin	Definition	Pin	Definition
1	COM5_DCD#	2	+12V
3	COM5_RXD	4	COM5_DSR#
5	COM5_TXD	6	COM5_RTS#
7	COM5_DTR#	8	COM5_CTS#
9	COM5_RI#	10	+5V
11	GND	12	+5V
13	SATA_TX1+	14	GND
15	SATA_TX1-	16	GND
17	SATA_RX1-	18	GND
19	SATA_RX1+	20	GND

LPC header (J_LPC1)



Pin	Definition	Pin	Definition
1	LFRAME#	2	LAD3
3	LAD2	4	LAD1
5	LAD0	6	GND
7	+3.3V	8	LCLK1
9	+3.3V		

System fan header (SYS_FAN1)



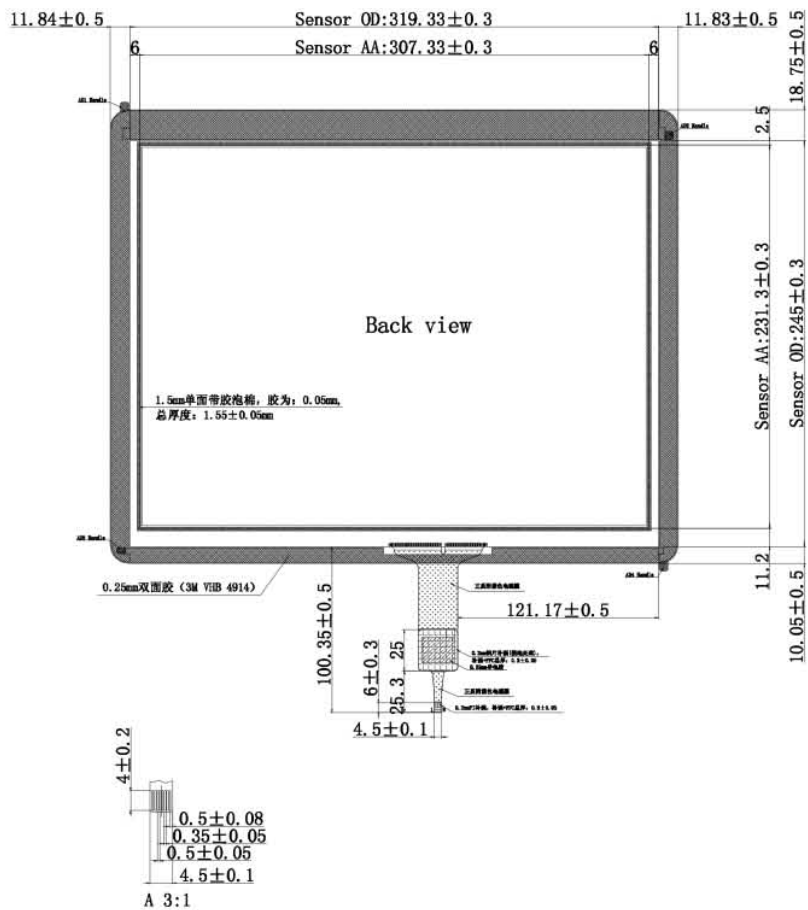
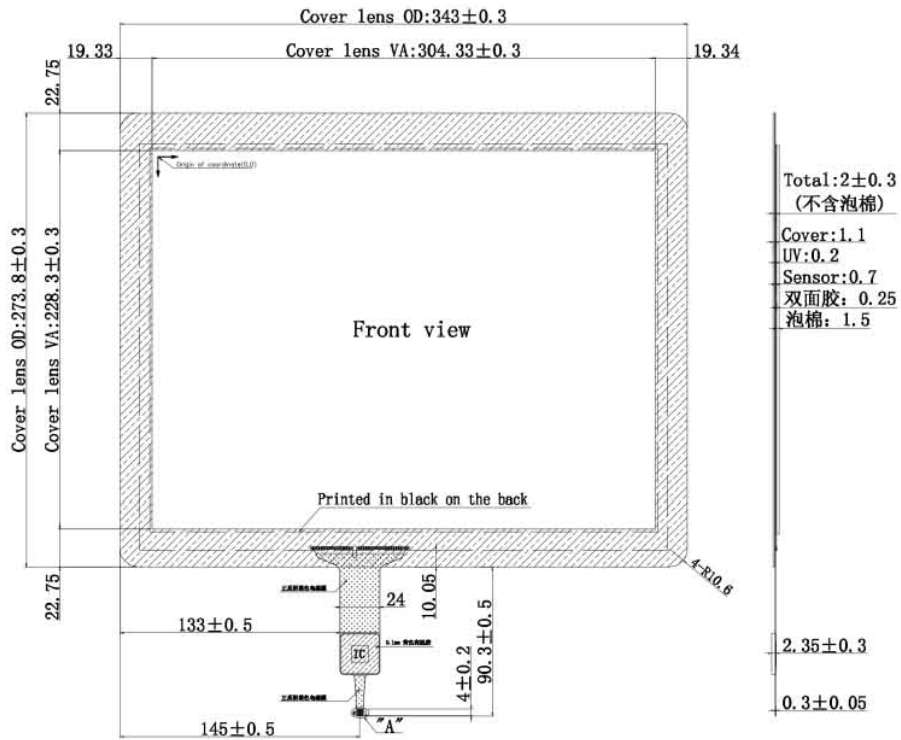
Pin	Definition	Pin	Definition
1	GND	2	+12V
3	FAN Speed Detection		

Touch Control B/D

Specifications

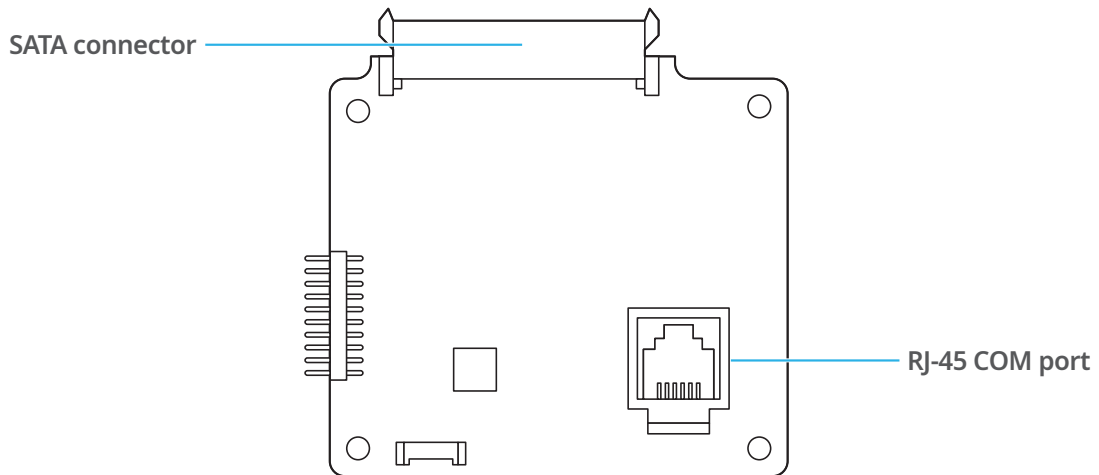
Features	Description
Type	Projected touch panel
Size	15 inches
Total thickness	2.0±0.3 mm
Outline of cover lens	343*273.8±0.3 mm
Outline of ITO sensor	319.33*245±0.3 mm
Viewing area	304.33*228.3±0.3 mm
Active area	307.33*231.3±0.3 mm
Interface	USB
Number of touch points	10 points
Input voltage	5V
Response time	10ms
Pressure endurance value	< 10g
Input	Hand writing or capacitive pen
Transmittance	> 85%
Surface Hardness	≥ 7H

Board Layout



COM and SATA Sub-board (optional)

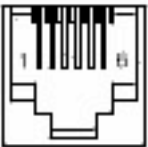
Board Layout



Connector Descriptions

RJ-45 COM port

Drawer Kick-out Connector



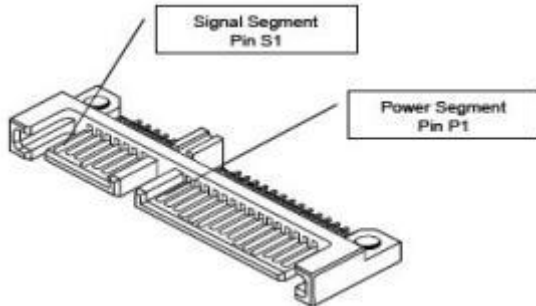
Drawer Kick-out Connector Pin Assignments

Pin Number	Signal Name	Direction
1	Frame GND	-
2	Drawer kick-out drive signal 1	Output
3	Drawer open/close signal	Input
4	+24V	-
5	Drawer kick-out drive signal 2	Output
6	Signal GND	-

+24V is output through pin 4 when the power is turned on. However, pin 4 must be used only for the drawer.

SATA connector

SATA Pin Assignment and Descriptions



Signal Segment Pin Assignment and Descriptions

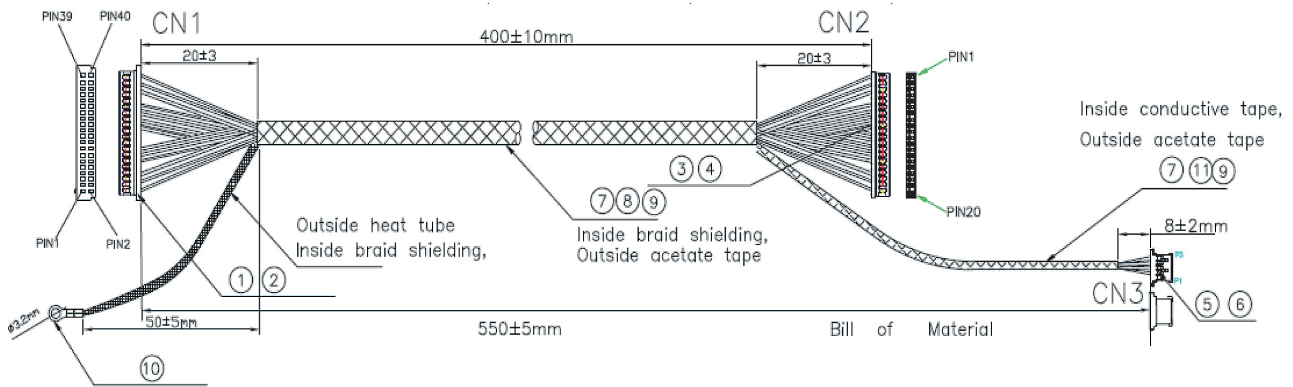
Pin Number	Function
S1	GND
S2	A+ (Differential Signal Pair A)
S3	A - (Differential Signal Pair A)
S4	GND
S5	B - (Differential Signal Pair B)
S6	B+ (Differential Signal Pair B)
S7	GND

Power Segment Pin Assignment and Descriptions

Pin Number	Function
P1	Not Used (3.3V)
P2	Not Used (3.3V)
P3	DEVSLP
P4	GND
P5	GND
P6	GND
P7	5V pre-charge
P8	5V
P9	5V
P10	GND
P11	Reserved
P12	GND
P13	Not Used (12V pre-charge)
P14	Not Used (12V)
P15	Not Used (12V)

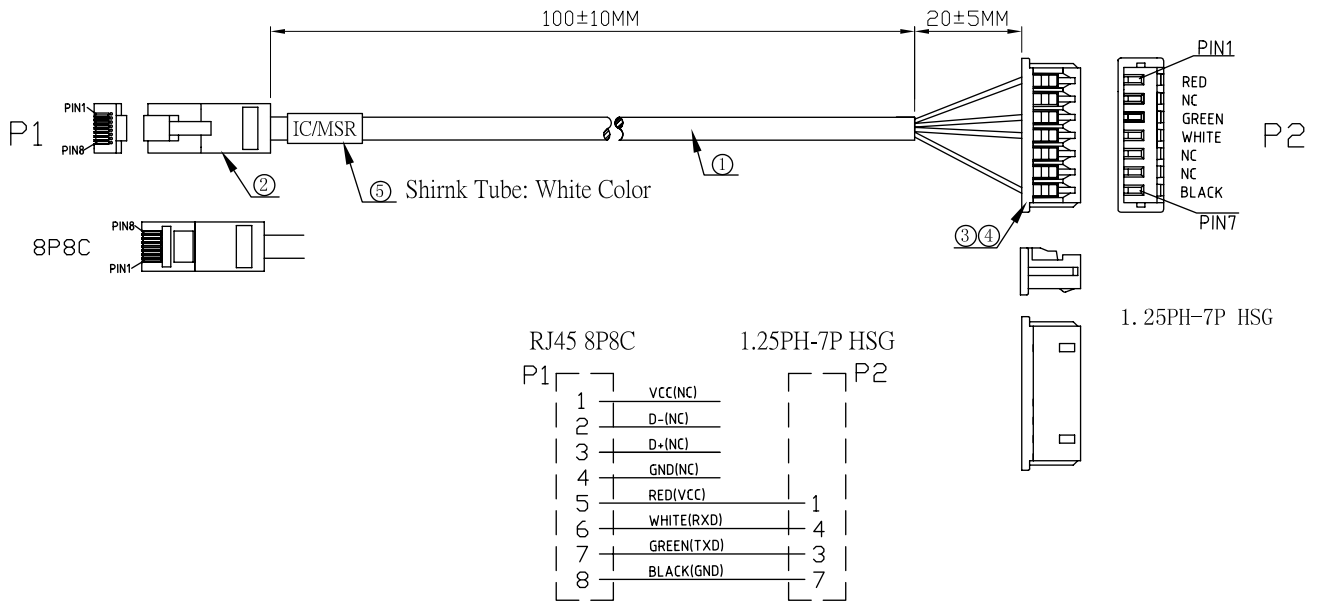
Cable Pin Assignment

LVDS Cable

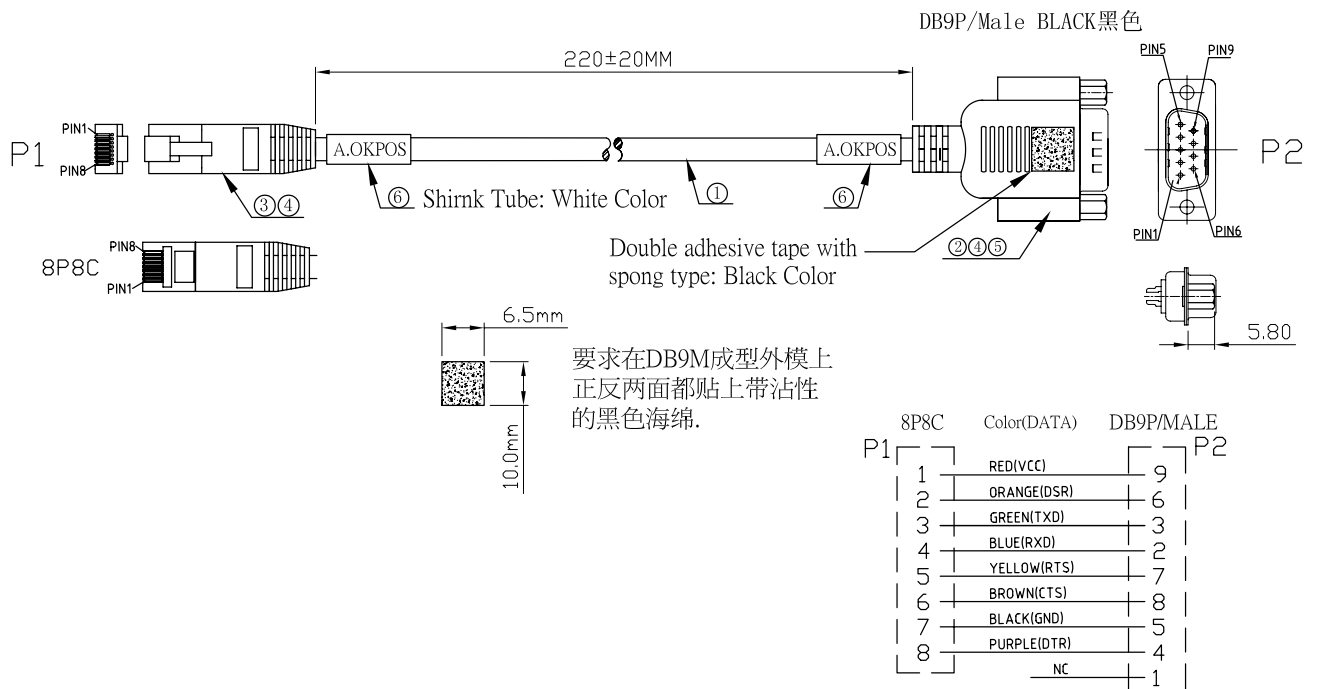


CONNECTION DIAGRAM								no	Material name	material spec.	description	Q'TY	UNIT	Supplier		
CN1	WIRE COLOR	CN2	SIGNAL	CN1	WIRE COLOR	CN2	SIGNAL	CN3	SIGNAL							
8	RED	3		23	BLACK	14				11	CONDUCTIVE TAPE	CONDUCTIVE TAPE:W10mm T:0.12mm	0.45	M	KHD	
9	BLACK	1		24	YELLOW	15				10	TERMINAL	TER:φ3.2	1	PCS	JINHUI	
10	RED	2		25	BLACK	17				9	ACETATE TAPE	ACETATE TAPE:W10mm T:0.12mm	0.45	M	KHD	black
16	YELLOW	10		26	GREEN	18				8	BRAID SHIELDING	144C/0.12mm(24x 6 /0.12mm)	0.45	M	QUANDE	
17	BLACK	5		27	YELLOW	13				7	WIRE	UL 10064 30AWG 7/0.1mm OD:0.50mm	9.5	M	QISHUO	
18	BROWN	6		28	YELLOW	16				6	TER	TER:1254T	4	PCS	ZHIJIE	
19	BLACK	8		39	WHITE	7				5	HSG	HSG:1254H00-05P-HF	1	PCE	ZHIJIE	
20	RED	9		40	RED	20				4	TER	TER:1255TOP-2	18	PCS	ZHIJIE	
21	BLACK	11		5	BLACK			1		3	HSG	HSG:1255H00-20P	1	PCE	ZHIJIE	
22	ORANGE	12		6	BROWN			2		2	TER	TER:1252-XX-A-S	22	PCS	ZHIJIE	
				13	ORANGE			4		1	HSG	HSG:1252H-2X20P	1	PCE	ZHIJIE	
				15	RED			3								

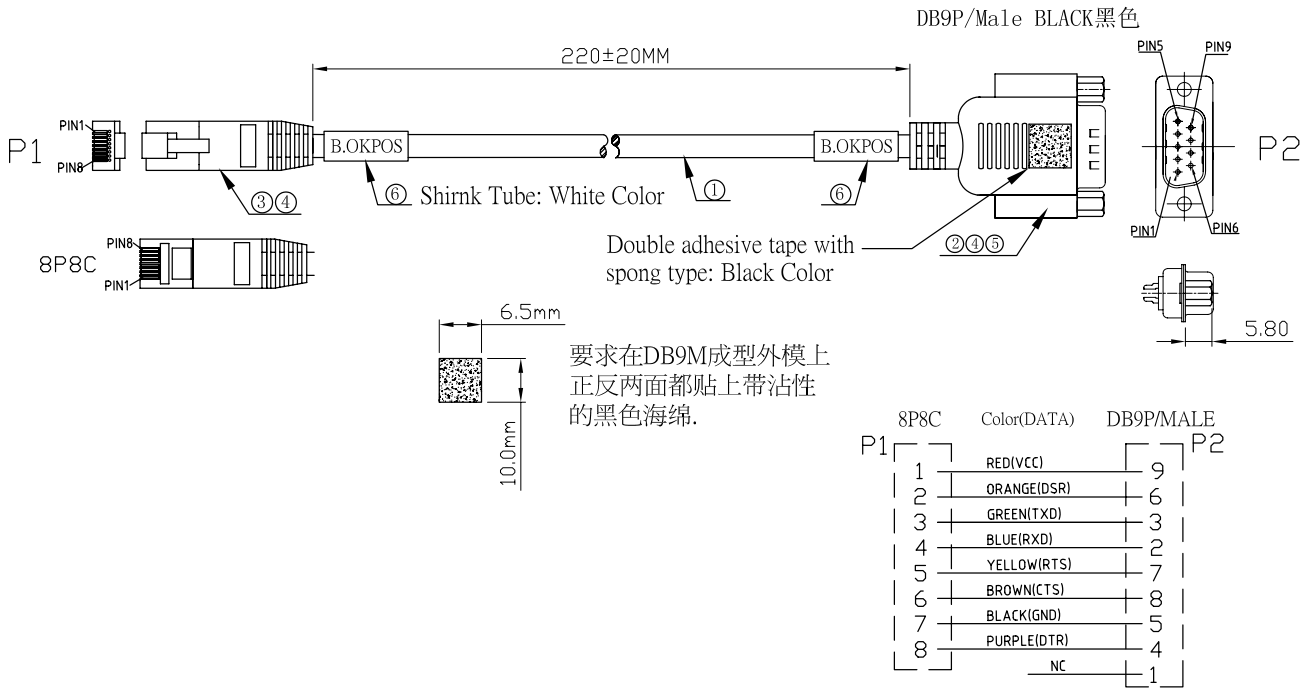
MSR/IC Cable



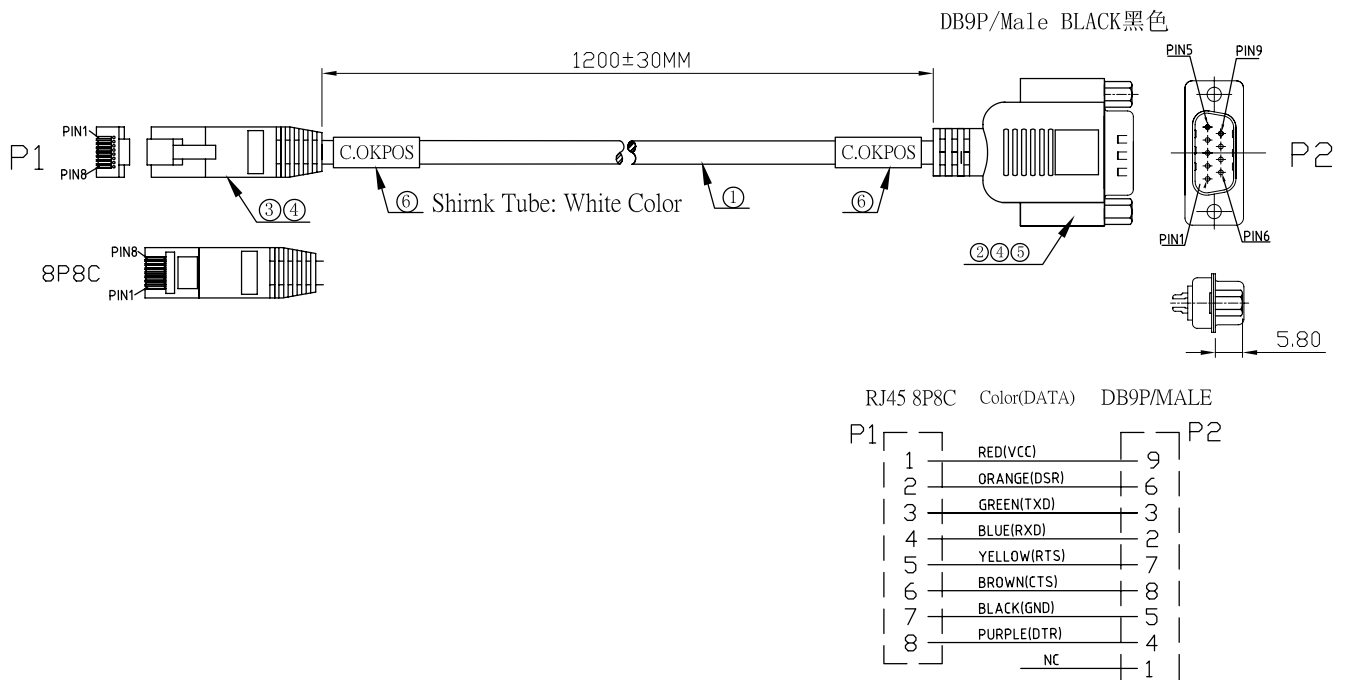
COM1 Cable



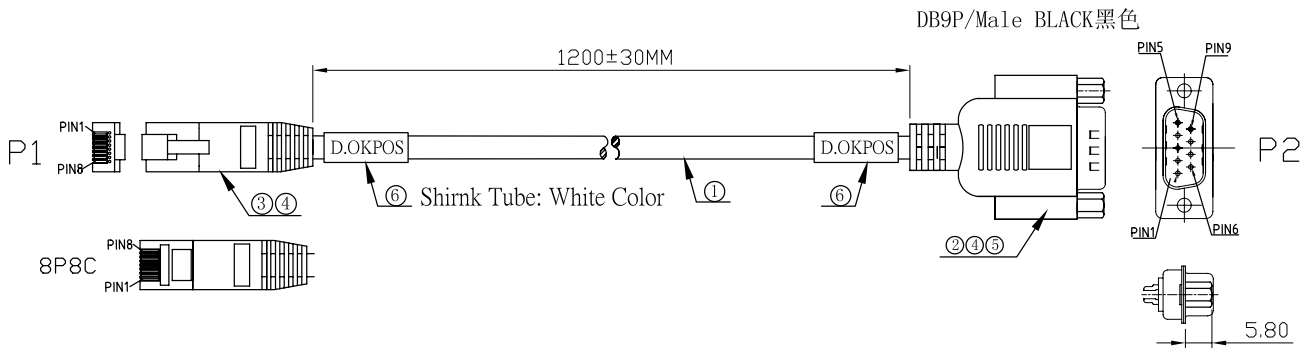
COM2 Cable



COM3 Cable



COM4 Cable



RJ45 8P8C	Color(DATA)	DB9P/MALE
P1 1	RED(VCC)	P2 9
2	ORANGE(DSR)	6
3	GREEN(TXD)	3
4	BLUE(RXD)	2
5	YELLOW(RTS)	7
6	BROWN(CTS)	8
7	BLACK(GND)	5
8	PURPLE(DTR)	4
	NC	1

Specifications

General

Features	Description
Model Name	Optimus
CPU	Intel® Celeron® J1900 (2.0 GHz) quad-core processor / fanless
Dimensions	414 x 251 x 361 mm (W x D x H)
Weight	8.4 kg
Power Adaptor	Input: 100-240V, 50/60Hz, 1.5A
	Output: 12V, 5.0A
Power button	Push button type, on the lower-right side of the rear
Memory	2 GB standard DDR3L 1600 MT/s, Socket 1 x SODIMM (up to 8 GB)
Storage	M.2 SSD64
	2.5-inch SATA2 320 GB HDD or 64 GB/128 GB SSD (optional)
Display	15-inch, 1024 x 768 pixels
Touch Panel	10 points projective capacitive touch
Environment	Operating Temperature: 0°C to 60°C
	Storage Temperature: -20°C to 80°C
	Operating Humidity: 20% to 90%
	Storage Humidity: 10% to 90%
Speaker	1 x 1 W
USB	6 ea (USB 2.0, rear x 4, back x 2), 4 ea (internal, reserved for MSR, SCR, i-Button, and touch controller)
Power	12 V DC-IN (4 pins connector), 12 V DC-OUT (for the second display)
OS (optional)	Windows 7, 10, POSReady7, Windows 10 IoT Entry
Card Reader (optional)	ISO/IEC7813 Track Reading
VFD (optional)	20 x 2 Line VFD
LCD Customer Display (optional)	9.7" TFT LCD (1024 x 768)

Main Board

Features	Description
CPU	Intel® Celeron® Processor J1900 (2M Cache, up to 2.42 GHz)
Graphic	Integrated Intel HD Graphics engine
	Graphics Frequency: Intel Graphics HD 688 MHz~854 MHz
	Dual independent displays as follows: <ol style="list-style-type: none"> 1. Support D-Sub 15 pin VGA output 2. By using the eDP to LVDS transmitter (PS8625) and supports the dual channel 18-24 Bits LCD panel
Super I/O	ITE IT8786E-I
Main memory	Single Channel DDR3L 1066/1333 MHz SO-DIMM (1.35V only), Max 8GB
SATA	Built-in M.2 M key support 2260/2280 (SATA II)
	2*10 pins, 2 mm pitch right angle female header (SATA II) for daughter board
LAN	Realtek RTL 8111F 10/100/1000 Mb/s, RJ45 connector and wake up on LAN
USB	4 x USB 2.0 ports on I/O ports
	2 x USB 2.0 ports on board
	1 x USB 2.0 port on 0.5 mm, 8 pins FPC connector for touch
	1 x USB 2.0 port on RJ45 with COM6
Audio Codec	Realtek Codec ALC662, supports Line-out
I/O ports	1 x DC +12V jack with black color (DIN-422)
	1 x DC jack for DC +12V output (M2. 1mm)
	1 x D-Sub 15-pin VGA output
	4 x RJ-45 (COM1~4 ports)
	1 x RJ-45 (COM6)
	2 x USB 2.0 dual stack connectors
	1 x RJ-45 (Gigabit LAN)

Features	Description
On Board Connectors & Headers	Built-in M.2 M key support 2260/2280 (SATA II)
	1 x 20*2 pins, LVDS connector support 18/24 dual channel
	1 x 4*1 pins, speaker out, 3W*2 channel
	1 x 5*2 pins, front panel header as Power/Reset/HDD
	2 x 4*1 pins, connectors for 2x USB 2.0
	1 x 9*1 pins, header for debug
	1 x 3*1 pins, jumper for clear CMOS
	1 x 8*1 pins, FPC connector for touch
	1 x 3*1 pins, system fan
Board Size	205 mm (W) x 160 mm (L)
Operating Temperature	0°C to 60°C
Storage Temperature	-20°C to 80°C
Relative Humidity	10% to 90 (non-condensing)