



KS310-IMX6
10.1" Touch Panel PC
User's Manual

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Changes after the publication's first release will be based on the product's revision. The website will always provide the most updated information.

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Trademarks

Product names or trademarks appearing in this manual are for identification purpose only and are the properties of the respective owners.

FCC and DOC Statement on Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio TV technician for help.

Notice:

1. The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. Shielded interface cables must be used in order to comply with the emission limits.

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About this Manual

An electronic file of this manual is included in the CD. To view the user's manual in the CD, insert the CD into a CD-ROM drive. The autorun screen (Main Board Utility CD) will appear. Click "User's Manual" on the main menu.

Warranty

1. Warranty does not cover damages or failures that arised from misuse of the product, inability to use the product, unauthorized replacement or alteration of components and product specifications.
2. The warranty is void if the product has been subjected to physical abuse, improper installation, modification, accidents or unauthorized repair of the product.
3. Unless otherwise instructed in this user's manual, the user may not, under any circumstances, attempt to perform service, adjustments or repairs on the product, whether in or out of warranty. It must be returned to the purchase point, factory or authorized service agency for all such work.
4. We will not be liable for any indirect, special, incidental or consequential damages to the product that has been modified or altered.

Static Electricity Precautions

It is quite easy to inadvertently damage your PC, system board, components or devices even before installing them in your system unit. Static electrical discharge can damage computer components without causing any signs of physical damage. You must take extra care in handling them to ensure against electrostatic build-up.

1. To prevent electrostatic build-up, leave the system board in its anti-static bag until you are ready to install it.
2. Wear an antistatic wrist strap.
3. Do all preparation work on a static-free surface.
4. Hold the device only by its edges. Be careful not to touch any of the components, contacts or connections.
5. Avoid touching the pins or contacts on all modules and connectors. Hold modules or connectors by their ends.



Important:

Electrostatic discharge (ESD) can damage your processor, disk drive and other components. Perform the upgrade instruction procedures described at an ESD workstation only. If such a station is not available, you can provide some ESD protection by wearing an antistatic wrist strap and attaching it to a metal part of the system chassis. If a wrist strap is unavailable, establish and maintain contact with the system chassis throughout any procedures requiring ESD protection.

Safety Measures

To avoid damage to the system:

- Use the correct AC input voltage range.

To reduce the risk of electric shock:

- Unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.

Battery:

- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to local ordinance.

Safety Precautions

- Use the correct DC input voltage range.
- Unplug the power cord before removing the system chassis cover for installation or servicing. After installation or servicing, cover the system chassis before plugging the power cord.
- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to local ordinance.
- Keep this system away from humidity.
- Place the system on a stable surface. Dropping it or letting it fall may cause damage.
- The openings on the system are for air ventilation to protect the system from overheating. **DO NOT COVER THE OPENINGS.**
- Place the power cord in such a way that it will not be stepped on. Do not place anything on top of the power cord. Use a power cord that has been approved for use with the system and that it matches the voltage and current marked on the system's electrical range label.
- If the system will not be used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
- If one of the following occurs, consult a service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated the system.
 - The system has been exposed to moisture.
 - The system is not working properly.
 - The system dropped or is damaged.
 - The system has obvious signs of breakage.
- The unit uses a three-wire ground cable which is equipped with a third pin to ground the unit and prevent electric shock. Do not defeat the purpose of this pin. If your outlet does not support this kind of plug, contact your electrician to replace the outlet.
- Disconnect the system from the DC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.

About the Package

The package contains the following items. If any of these items are missing or damaged, please contact your dealer or sales representative for assistance.

- 1 10.1" Touch Panel PC
- 1 Quick Installation Guide

Optional Items

- Wall Mount kit
- Panel Mount kit
- Power Cord
- Power Adapter

The board and accessories in the package may not come similar to the information listed above. This may differ in accordance to the sales region or models in which it was sold. For more information about the standard package in your region, please contact your dealer or sales representative.

Chapter 1 - Introduction

Overview

KS310-IMX6



Side View



Top View



Bottom View

Key Features

Model Name	KS310-IMX6
Processor	Freescall i.MX 6 series processor
LAN	1 LAN
COM	2 COM
Display	1 HDMI
USB	1 USB Client port and 2 USB 2.0/1.1 ports
Audio	Line-out/Mic-in jack

Specifications

Processor	<ul style="list-style-type: none"> • Freescale i.MX 6 series processor - i.MX6L: i.MX 6DualLite at 1.0GHz, two cortex-A9 cores
System Memory	<ul style="list-style-type: none"> • 2GB DDR3 memory down
LCD and Touch Screen	<ul style="list-style-type: none"> • 10.1" (1280x800) TFT touch screen LCD • 300 NITS • Projected capacitive touch screen
Storage	<ul style="list-style-type: none"> • 1 SD card socket • Supports 4GB eMMC onboard
Onboard LAN Features	<ul style="list-style-type: none"> • One Atheros AR8033 Ethernet PHY • Supports 10Mbps, 100Mbps and 1Gbps data transmission
Audio	<ul style="list-style-type: none"> • 2 built-in 1W speakers (left and right sides)
I/O Ports	<ul style="list-style-type: none"> • Bottom <ul style="list-style-type: none"> - 1 DB-9 RS232 serial port - 1 HDMI port - 1 USB Client port (Type Mini B) - 2 USB 2.0/1.1 ports (Type A) - 1 Line-out/Mic-in jack - 1 2-pole terminal block DC-in - 1 LAN port - 12-bit GPIO 7-pole terminal block (6-bit in/ 6-bit out) - 1 Power switch • Side <ul style="list-style-type: none"> - 2 built-in 1W speakers (left and right sides) • Top <ul style="list-style-type: none"> - 1 SD card socket - 1 DB-9 RS232/422/485 serial port
Power	<ul style="list-style-type: none"> • Power input voltage: 12~36V DC-in
Expansion Slots	<ul style="list-style-type: none"> • 1 Mini PCIe slot <ul style="list-style-type: none"> - Supports PCIe and USB signals - Supports full size Mini PCIe card • 1 mSATA slot (Mini PCIe type) • 1 SIM card socket <ul style="list-style-type: none"> - Reserved for 3G/LTE module
Environment	<ul style="list-style-type: none"> • Temperature <ul style="list-style-type: none"> - Operating: 0°C ~ 55°C - Storage: -30°C ~ 80°C • Relative Humidity <ul style="list-style-type: none"> - 85% RH at 65°C

Front Panel Protection	<ul style="list-style-type: none"> • IP65 (Dust Tight; Water Proof protection)
Construction	<ul style="list-style-type: none"> • Aluminum front bezel • Rear cover: sheet metal
Mounting	<ul style="list-style-type: none"> • Wall mount (VESA 75x75) • Panel mount (Mounting clamp)
Vibration	<ul style="list-style-type: none"> • Operating: random 1G, 5~500 Hz • Non-operating: Sine wave, 2G, 10~500Hz
Shock	<ul style="list-style-type: none"> • Operating: 3G peak acceleration (11 m sec. duration) • Non-operating: 10G peak acceleration (11 m sec. duration) • IEC 68-2-64 compliant
Dimensions	<ul style="list-style-type: none"> • 293mm x 204mm x 43.4mm (W x H x D)
Weight	<ul style="list-style-type: none"> • 1.74 kg
OS Support	<ul style="list-style-type: none"> • Android 4.3
Certification	<ul style="list-style-type: none"> • CE • FCC Class A • RoHS

Getting to Know the KS310-IMX6

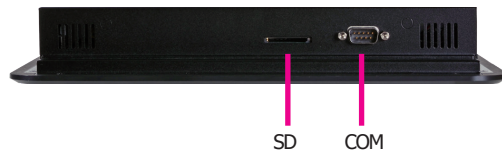
Side View



Speakers

It is built-in with 2 1W speakers on the left and right sides of the system unit.

Top View



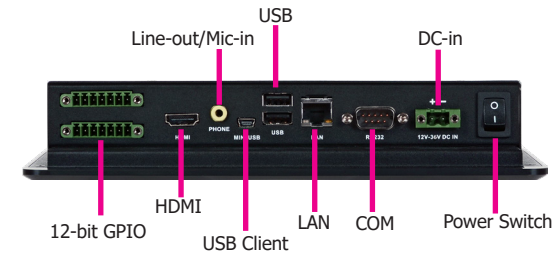
COM Port

Used to connect a serial device.

SD

Used to insert a SD card.

Bottom View



COM Port

Used to connect a serial device.

USB Ports

Used to connect USB 2.0/1.1 devices.

USB Client Port

Used to connect a USB device operating as a client port.

HDMI Port

Use to connect a HDMI device.

LAN Port

Used to connect the system to a local area network.

12-bit GPIO

Supports 12-bit GPIO 7-pole terminal block (6-bit in/ 6-bit out)

Line-out/Mic-in

Used to connect to a speaker or to an external microphone.

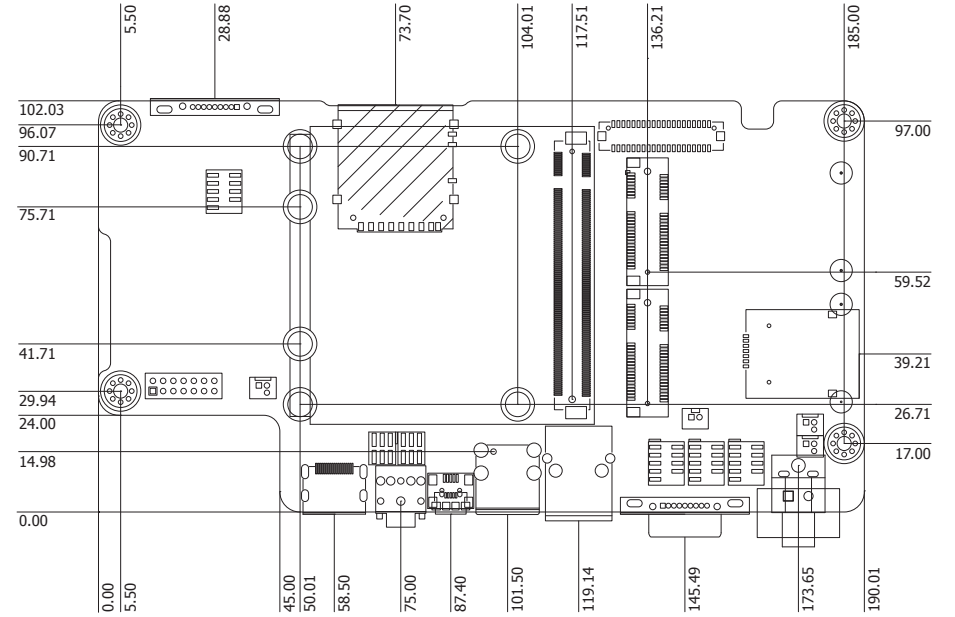
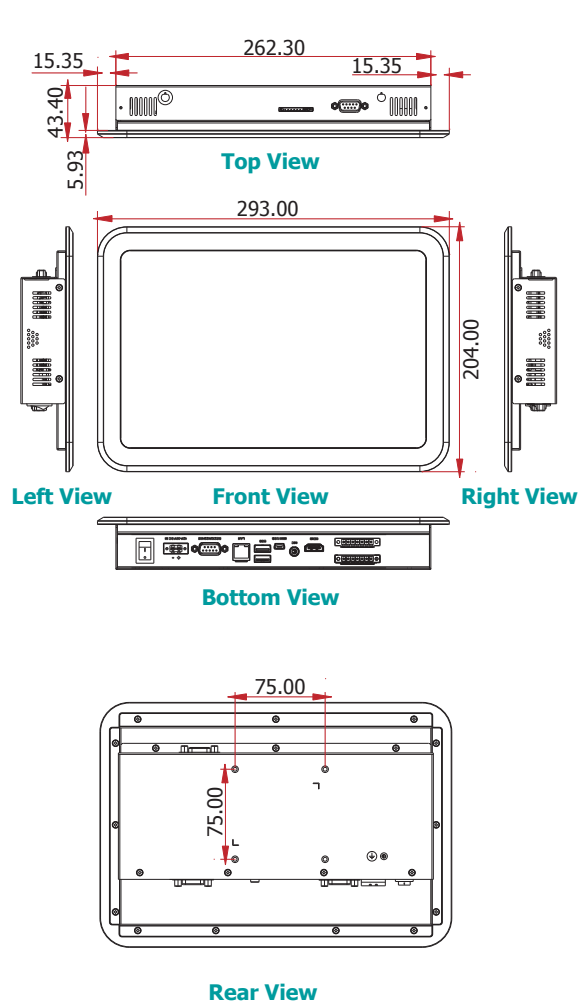
DC-in

Used to plug a power adapter.

Power Switch

Press to power-on or power-off the system.

Mechanical Dimensions



Chapter 2 - Installing the Devices

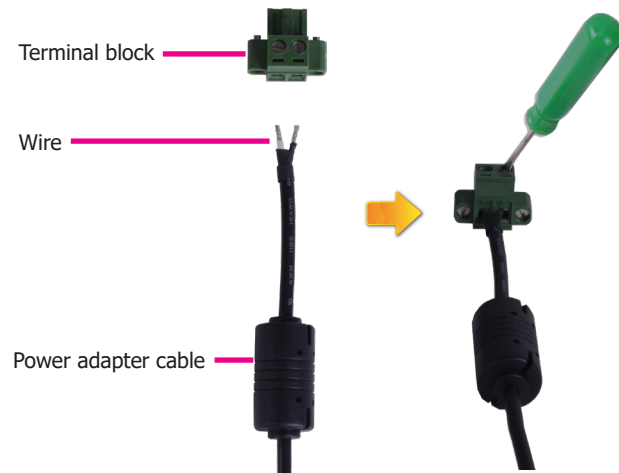
Connecting the Cable to the Terminal Block



Note:

The system unit used in the following illustrations may not resemble the actual one. These illustrations are for reference only.

1. Insert the cable end of the power adapter to the terminal block. To firmly fix the cable into the terminal block, use a screwdriver to clamp down the wires to the screw that is in the terminal block.



2. Plug the terminal block into the DC-in connector and then tighten the screws to secure the terminal block in place.



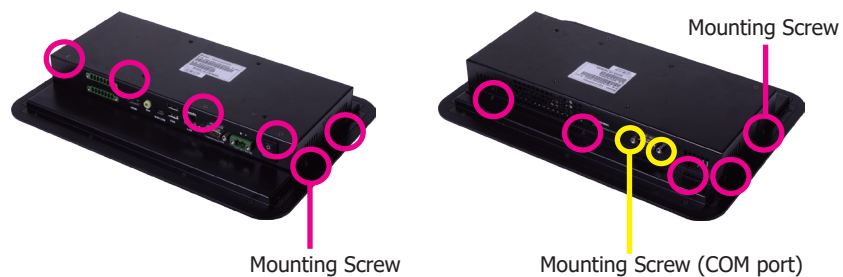
Removing the Chassis Cover



Note:

The system unit used in the following illustrations may not resemble the actual one. These illustrations are for reference only.

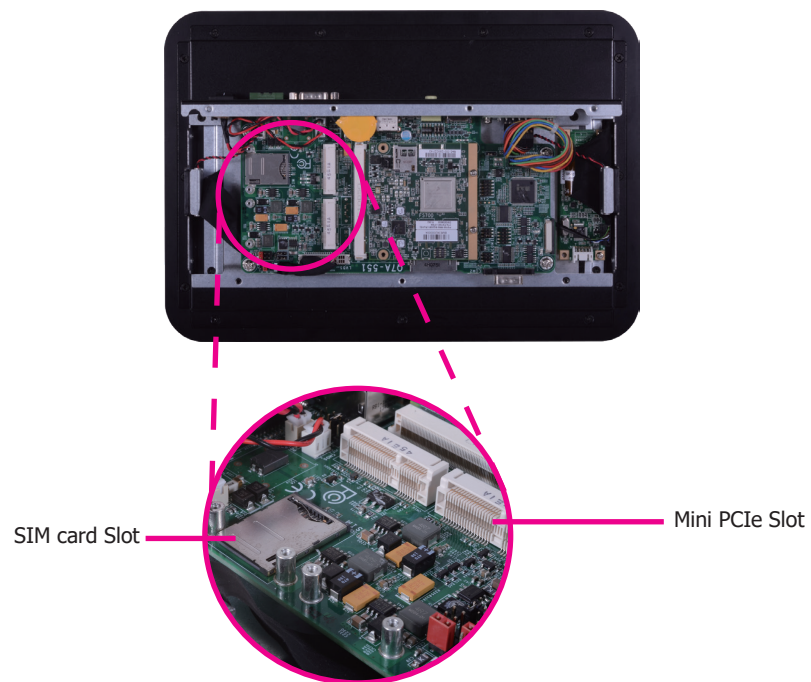
1. Make sure the system and all other peripheral devices connected to it has been powered-off.
2. Disconnect all power cords and cables.
3. The 11 mounting screws on the rear side of the system are used to secure the cover to the chassis and the 2 mounting screws are used to fix the COM port. Remove these screws and then put them in a safe place for later use.



4. After removing the mounting screws, lift the cover up.



5. The Mini PCIe slots and SIM card slot are readily accessible after removing the chassis cover.



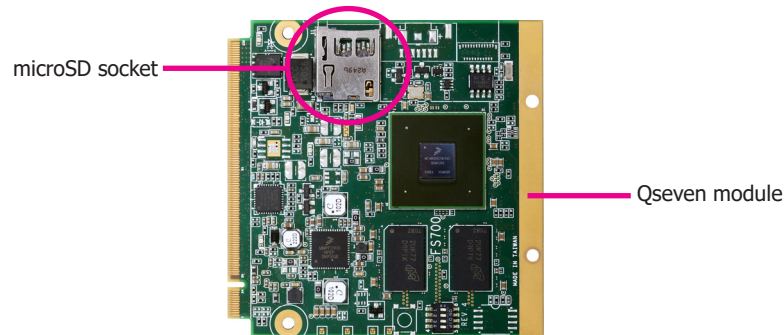
Installing the microSD Card and the Qseven Module



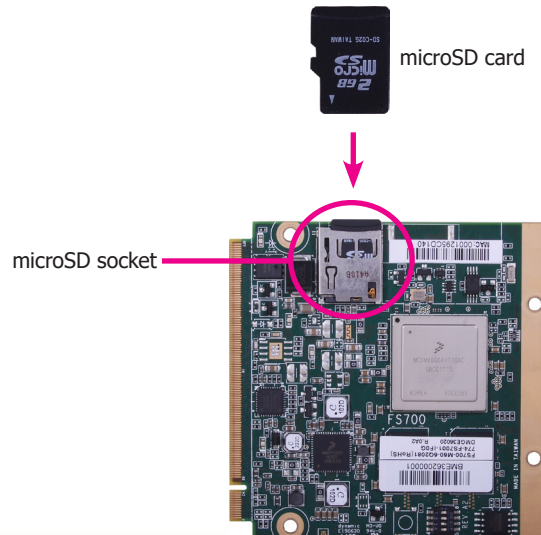
Note:

The system unit used in the following illustrations may not resemble the actual one. These illustrations are for reference only.

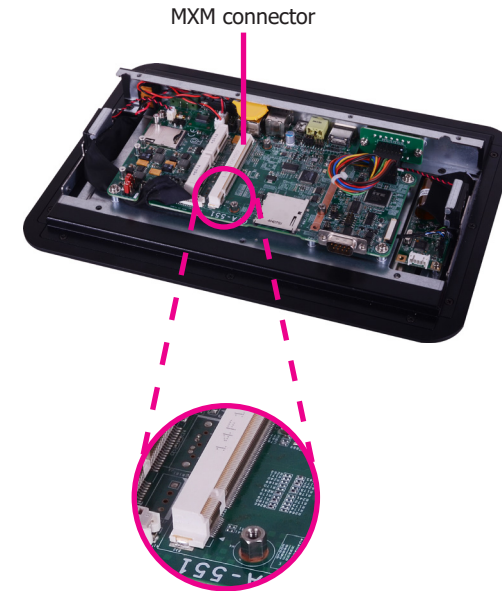
1. The microSD socket is located on the Qseven module.



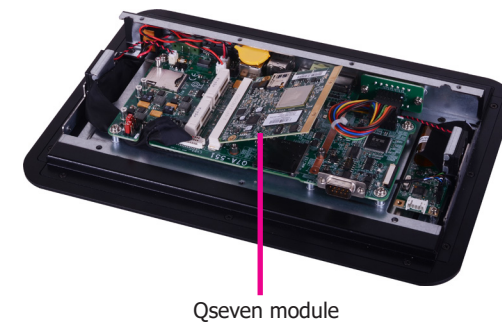
2. Insert a microSD card into the microSD socket on the Qseven module.



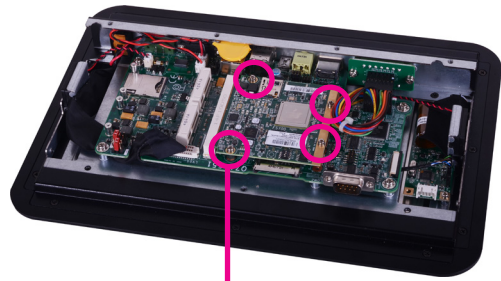
3. Note the key on the MXM connector. The key ensures that the Qseven module with a microSD card in the socket can be plugged into the connector in one direction only.



4. Grasp the Qseven module by its edges, insert it into the carrier board, and you will hear a distinctive "click" which indicates that the Qseven module is correctly locked into the position.



5. Press down the Qseven module with a microSD card in the socket and use mounting screws to fix it on place.

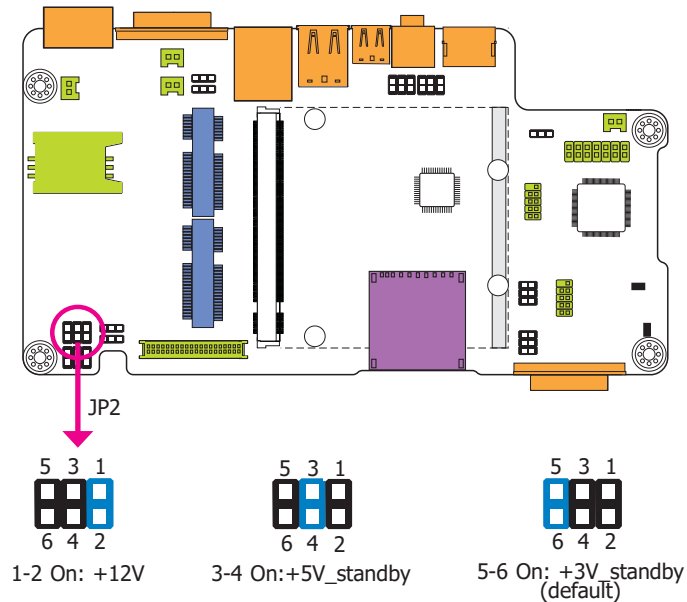


Mounting screw

Chapter 3 - Jumper Settings

Jumper Settings - System Board

Panel Power Select



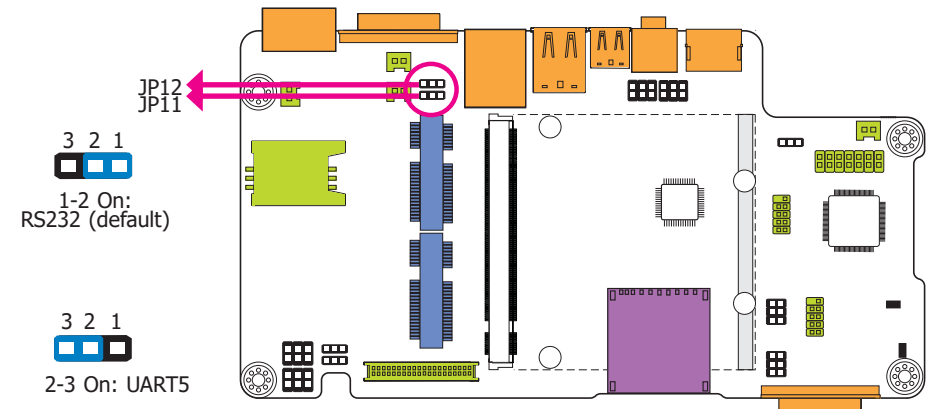
JP2 is used to select the power supplied with the LCD panel.



Important:

Before powering-on the system, make sure that the power settings of JP2 match the LCD panel's specification. Selecting the incorrect voltage will seriously damage the LCD panel.

COM RS232/UART5 Select



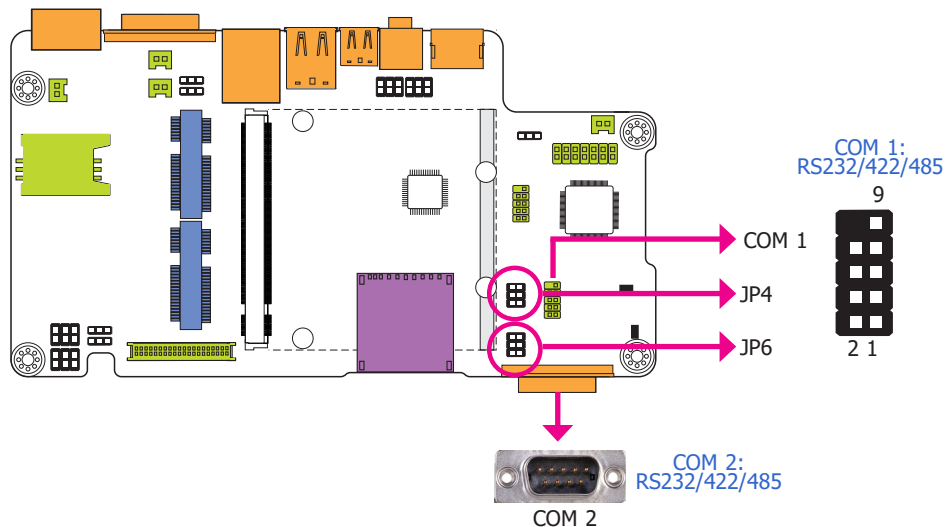
JP11 and JP12 are used to configure the COM port to RS232 (default) or UART5.



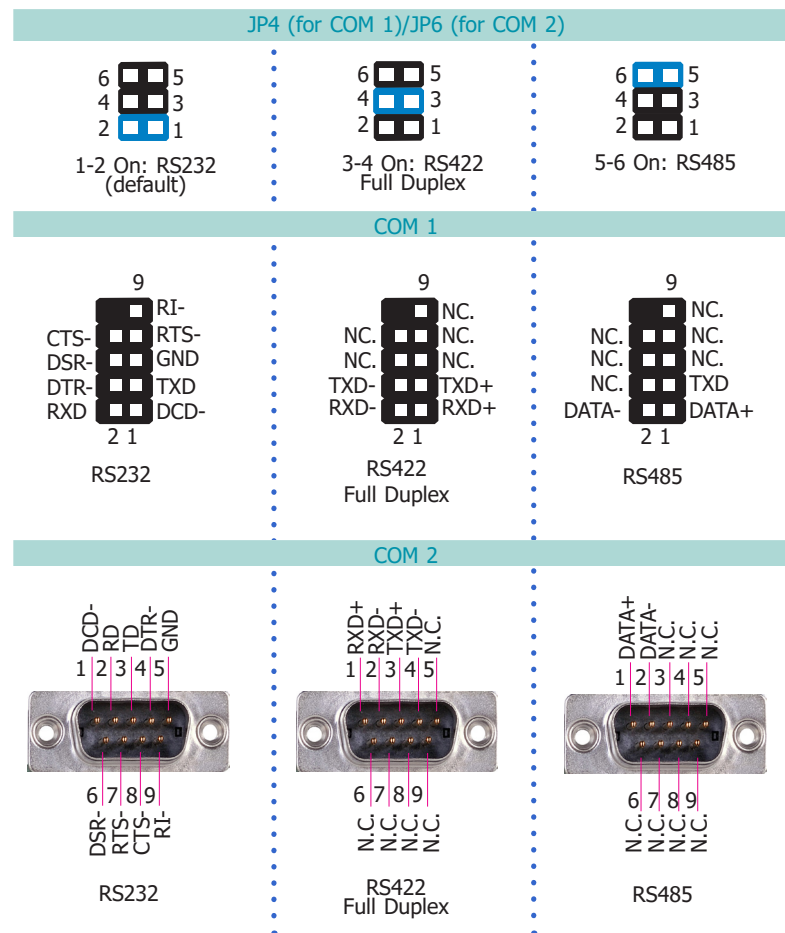
Important:

You need to set JP11 and JP12 simultaneously.

COM 1/COM 2 RS232/422/485 Select



JP4 (for COM 1) and JP6 (for COM 2) are used to configure the COM ports to RS232, RS422 (Full Duplex) or RS485. The pin functions of COM ports will vary according to jumpers' setting.

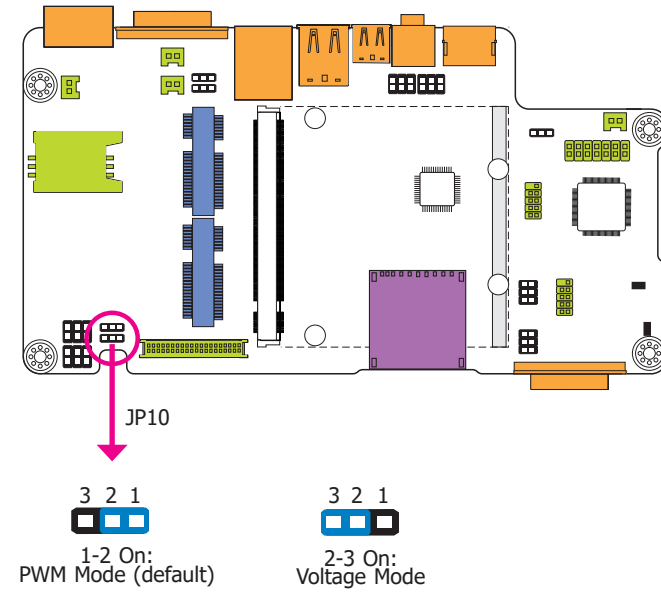


Touch Panel Power Select



JP3 controls the power level of the touch panel IC.

Dimming Mode Select



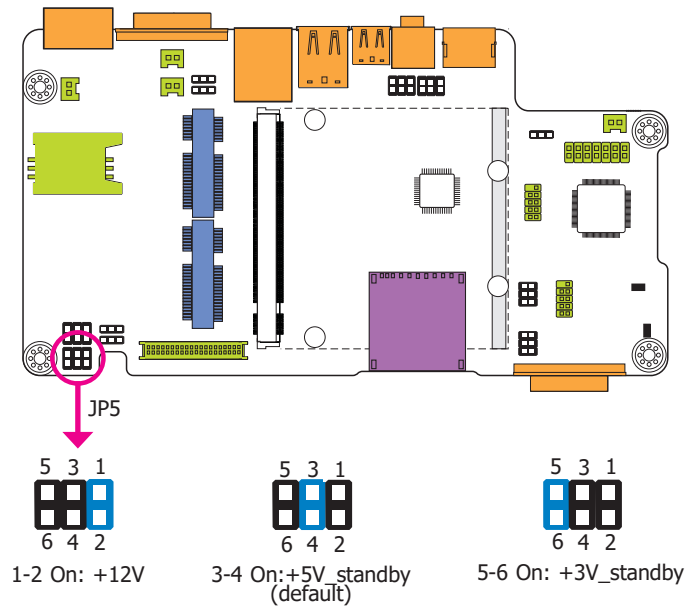
JP10 allows you to select the mode for the lightness control of the LVDS panel.



Important:

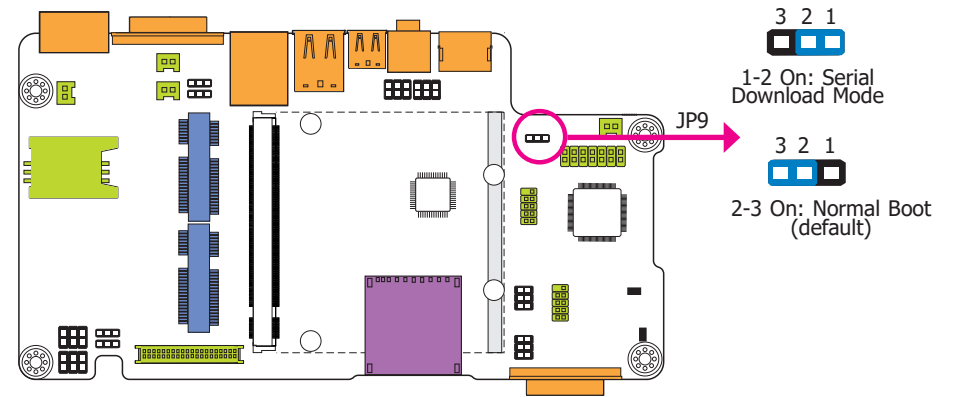
You need to refer to your panel's user guide to determine the type of mode (PWM or Voltage) most appropriate for your panel.

LCD/Inverter Power Select



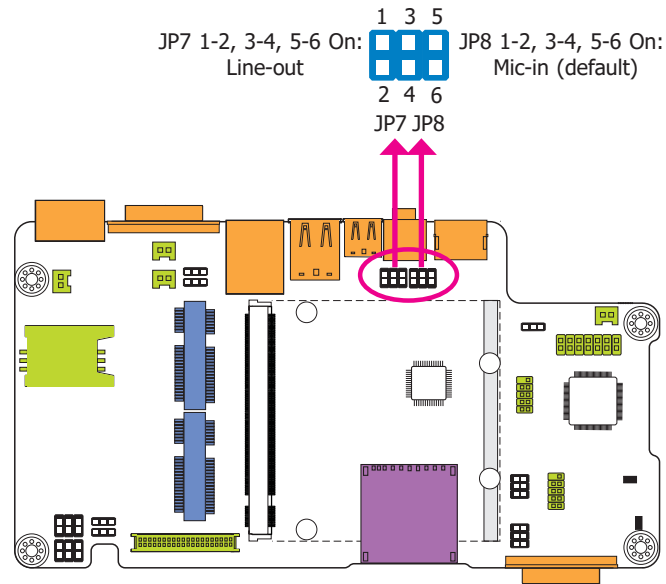
JP5 is used to select the power level of the LCD/inverter power connector.

Download Mode Select



JP9 allows you to select the download mode for the serial port to update the firmware and OS.

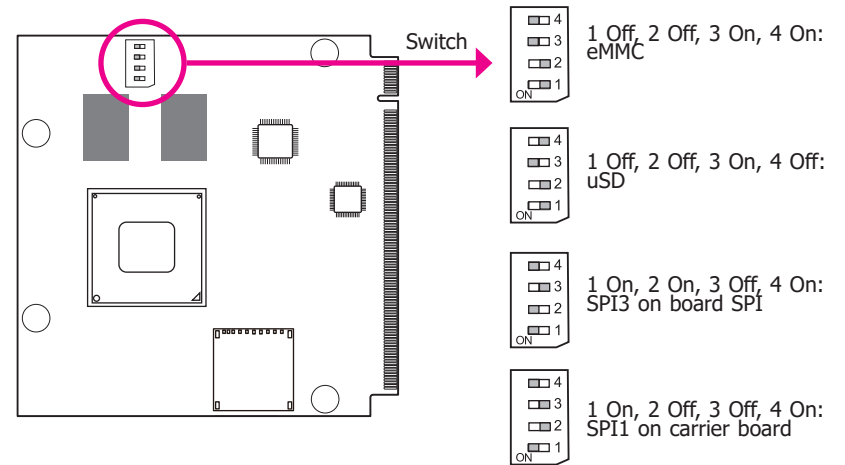
Line-out/Mic-in Select



JP7 and JP8 allow you to select the audio function. When pins 1-2, 3-4, and 5-6 are set to On, JP7 is applied for the Line-out function and JP8 is used for the Mic-in function.

Jumper Setting - Qseven Module

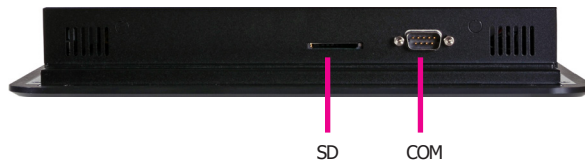
Boot Device Select



Switch is designed to select the device to boot the system.

Chapter 4 - Ports and Connectors

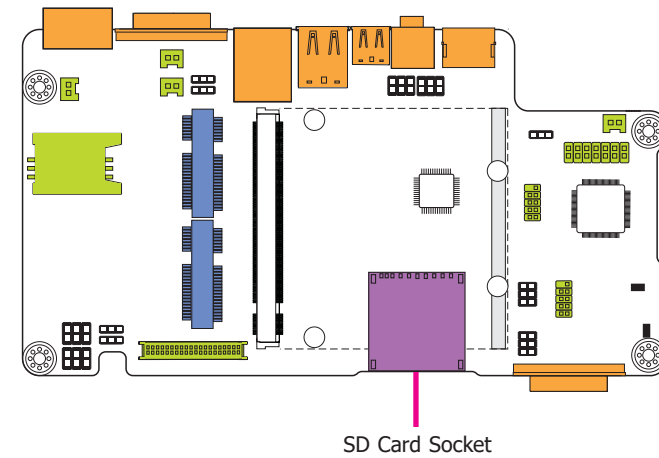
Top Panel I/O Ports



The top panel I/O ports consist of the following:

- 1 SD card socket
- 1 COM port

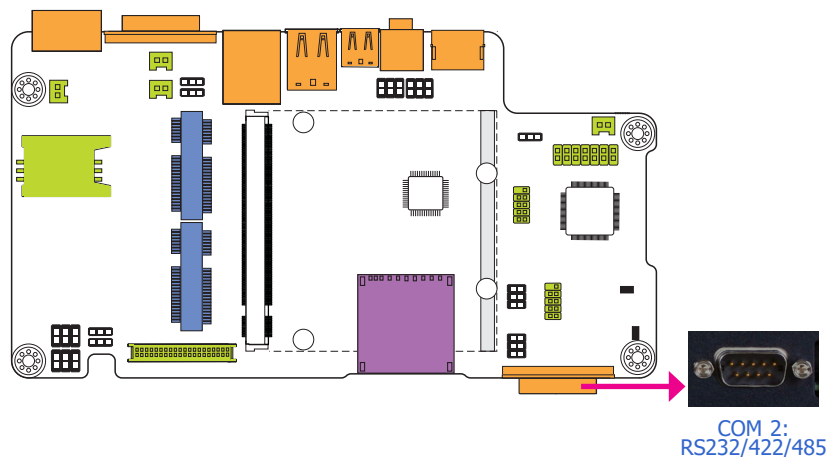
SD Card Socket



SD Card Socket

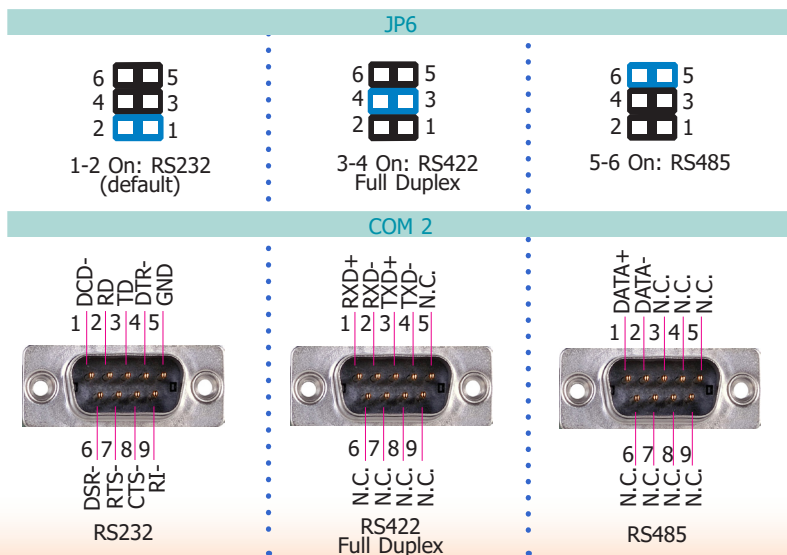
This expansion port is used to insert a Secure Digital Input/Output (SDIO) device. Aside from storing data files, an SDIO card is also capable of storing powerful software applications.

Serial (COM) Port



The serial COM port is RS232 asynchronous communication port with 16C550A-compatible UARTs that can be used with modems, serial printers, remote display terminals, and other serial devices.

The system unit is equipped with 1 onboard serial port at the top side. JP6 is used to configure the COM port 2 to RS232, RS422 (Full Duplex) or RS485. The pin functions of the COM port will vary according to the jumper's setting.



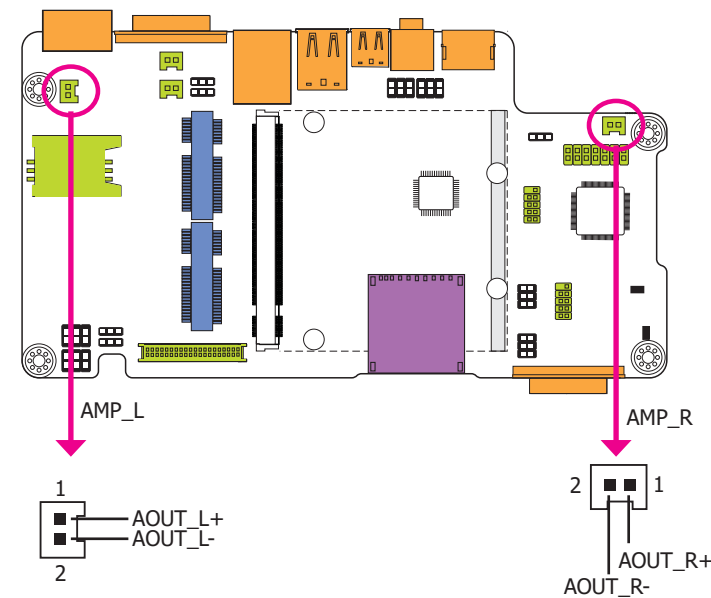
Side Panel I/O Ports



The side panel I/O ports consist of the following:

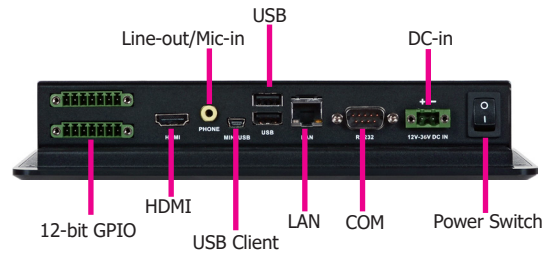
- 2 built-in 1W speakers (left and right sides)

Built-in Speakers



The amplify left and right connectors which have amplifying features are used to connect external speakers.

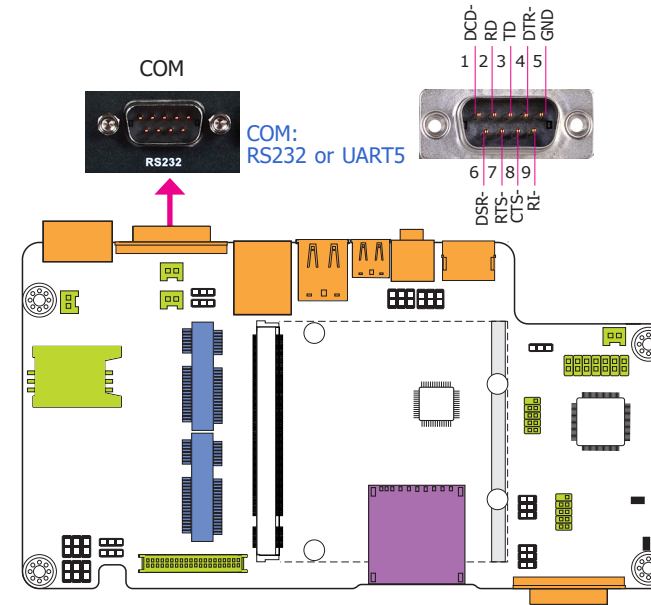
Bottom Panel I/O Ports



The bottom panel I/O ports consist of the following:

- 1 RS232 COM port
- 1 HDMI port
- 1 USB client port (Type Mini B)
- 2 USB 2.0/1.1 ports (Type A)
- 1 Line-out/Mic-in jack
- 1 DC-in terminal block
- 1 RJ45 LAN port
- 12-bit GPIO
- 1 Power switch

Serial (COM) Port



The system unit is equipped with one onboard serial COM port at the bottom side. This COM port is fixed at RS232 or UART5 via the setting of JP11 and JP12 which must be set simultaneously.

The serial COM port is RS232 asynchronous communication port with 16C550A-compatible UARTs that can be used with modems, serial printers, remote display terminals, and other serial devices.



Important:

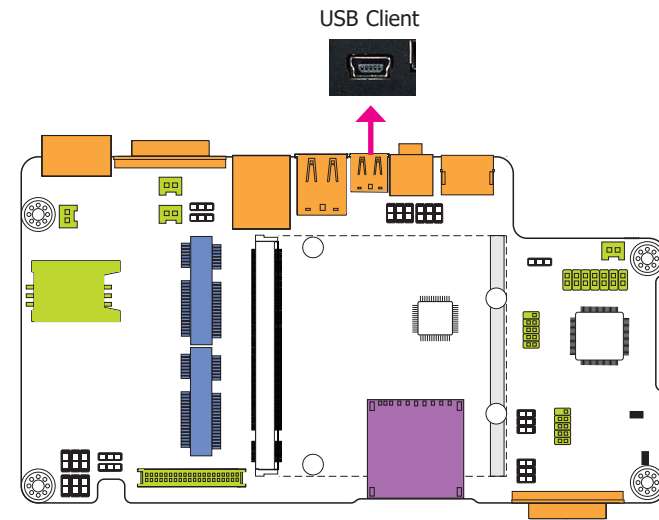
You need to set JP11 and JP12 simultaneously.

HDMI Port



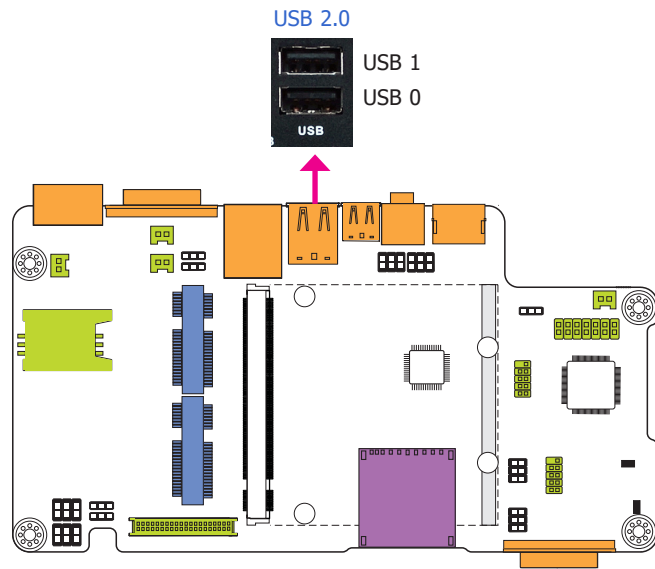
The HDMI port which carries both digital audio and video signals is used to connect a LCD monitor or digital TV that has the HDMI port.

USB Client Port



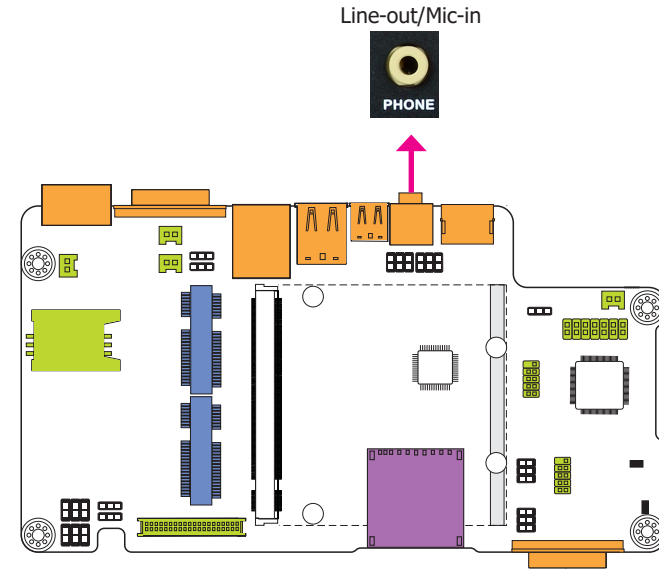
The shape of the mini USB port is smaller than the standard one and is a device operating as a client port.

USB Ports



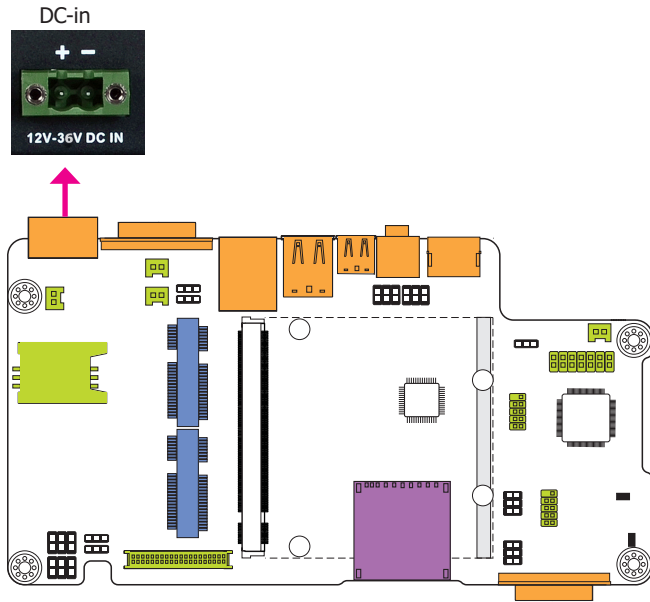
The USB device allows data exchange between your computer and a wide range of simultaneously accessible external Plug and Play peripherals. The system unit is equipped with two on-board USB 2.0 ports (USB 0-1) at the bottom side.

Audio



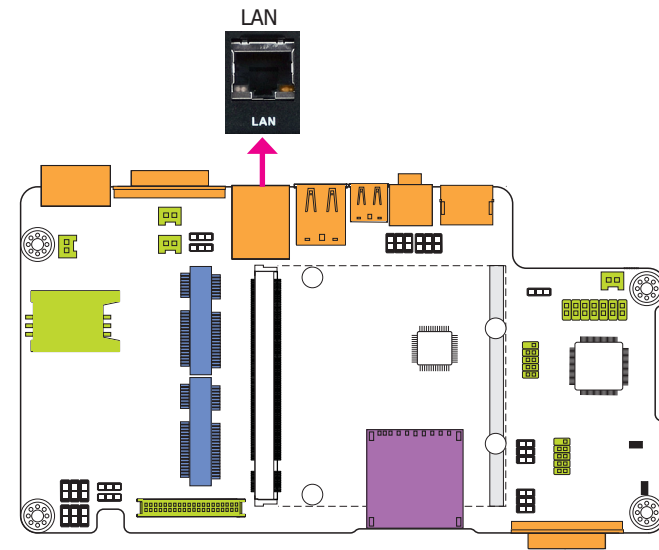
The system unit is equipped with 1 audio jack to operate as a line-out jack or a mic-in jack. A jack is a one-hole connecting interface for inserting a plug. Being a line-out jack, this jack is used to connect a headphone or external speakers. Being a mic-in jack, this jack is used to connect to the center and subwoofer speakers of the audio system.

12~36V DC-in



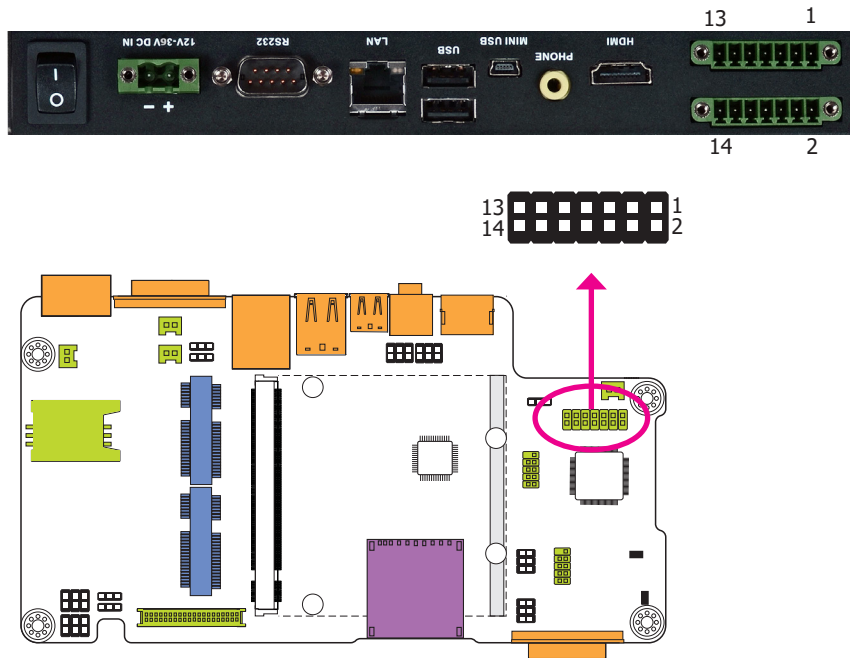
This jack is considered a low power solution. Connect a DC power cord to this jack. Use a power adapter within 12~36V DC output voltage. (We only provide 12V power adapter in the optional package contents.) Using a voltage out of the range 12~36V may fail to boot the system or cause damage to the system board.

RJ45 LAN Port



The onboard RJ45 LAN port allows the system board to connect to a local area network by means of a network hub.

12-bit GPIO

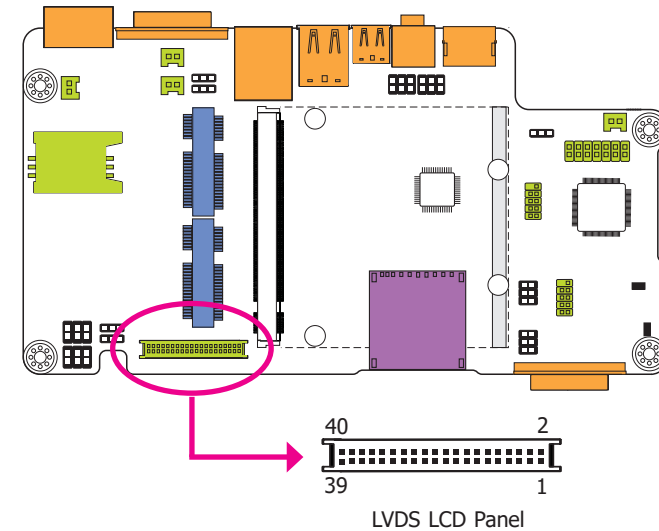


The 12-bit Digital I/O (6-bit input and 6-bit output) connector provides powering-on function to external devices that are connected to these connectors. The pin functions of the digital I/O connector are listed below:

Pins	Function	Pins	Function
1	DIO_OUT-0	2	DIO_IN-0
3	DIO_OUT-1	4	DIO_IN-1
5	DIO_OUT-2	6	DIO_IN-2
7	DIO_OUT-3	8	DIO_IN-3
9	DIO_OUT-4	10	DIO_IN-4
11	DIO_OUT-5	12	DIO_IN-5
13	+3.3V	14	GND

I/O Connectors

LVDS LCD Panel Connector



The system board allows you to connect a LCD Display Panel by means of the LVDS LCD panel connector transmitting video signals and power from the system board to the LCD Display Panel.

Refer to the next page for the pin functions of the connector.

Jumper Settings

Refer to the "Jumper Settings" section in chapter 3 for settings relevant to the LVDS LCD panel.



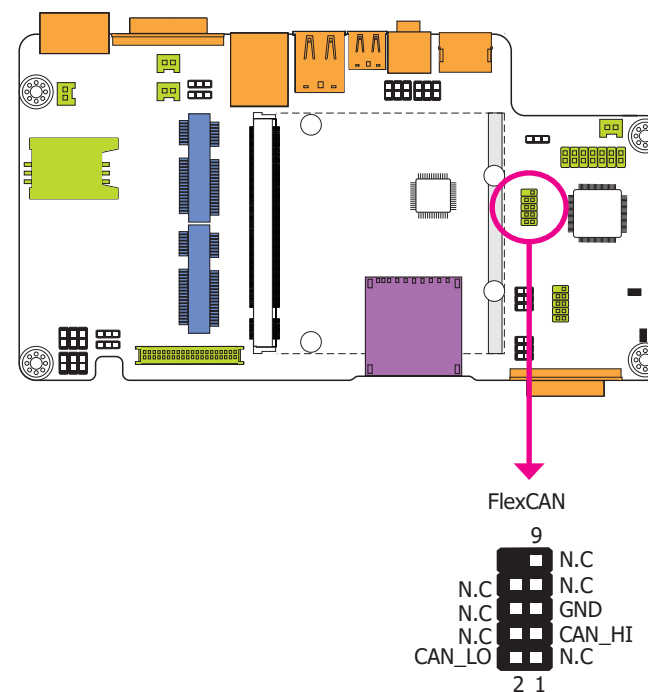
Note:

DFI board's LVDS connector: Hirose DF13-40DP-1.25V(91)/40P/1.25mm; cable side connector: Hirose DF13-40DS-1.25C.

The table below illustrates the pin functions of the LVDS LCD Panel connector:

Pins	Function	Pins	Function
1	GND	2	GND
3	LVDS1_Out3+	4	LVDS0_Out3+
5	LVDS1_Out3-	6	LVDS0_Out3-
7	GND	8	GND
9	LVDS1_Out2+	10	LVDS0_Out2+
11	LVDS1_Out2-	12	LVDS0_Out2-
13	GND	14	GND
15	LVDS1_Out1+	16	LVDS0_Out1+
17	LVDS1_Out1-	18	LVDS0_Out1-
19	GND	20	GND
21	LVDS1_Out0+	22	LVDS0_Out0+
23	LVDS1_Out0-	24	LVDS0_Out0-
25	GND	26	GND
27	LVDS1_CLK+	28	LVDS0_CLK+
29	LVDS1_CLK-	30	LVDS0_CLK-
31	GND	32	GND
33	TP_INT	34	TP_SCL
35	TP_VDD	36	TP_SDA
37	Backlight Power	38	Dimming
39	Backlight Power	40	Panel Power

FlexCAN Connector

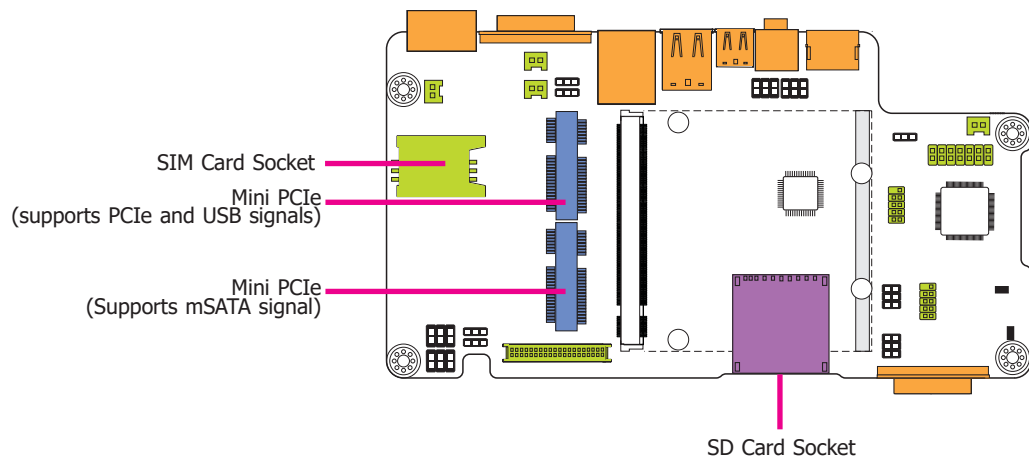


The CAN controller performs communication in accordance with the BOSCH CAN Protocol Version 2.0B Active1 (standard format and extended format). The bit rate can be programmed to a maximum of 1Mbit/s. To connect the CAN controller module to the FlexCAN connector, it is necessary to add transceiver hardware.

When communicating in a CAN network, individual message objects are configured. The message objects and the identifier masks for the receive filter for the received messages are stored in the message RAM.

Controller Area Network is a message based protocol designed specifically for automotive applications but now is also used in other areas such as industrial automation and medical equipment.

Expansion Slots



Mini PCIe Slot

The Mini PCIe socket is used to install a Mini PCIe card. Mini PCIe card is a small form factor PCI card with the same signal protocol, electrical definitions, and configuration definitions as the conventional PCI.

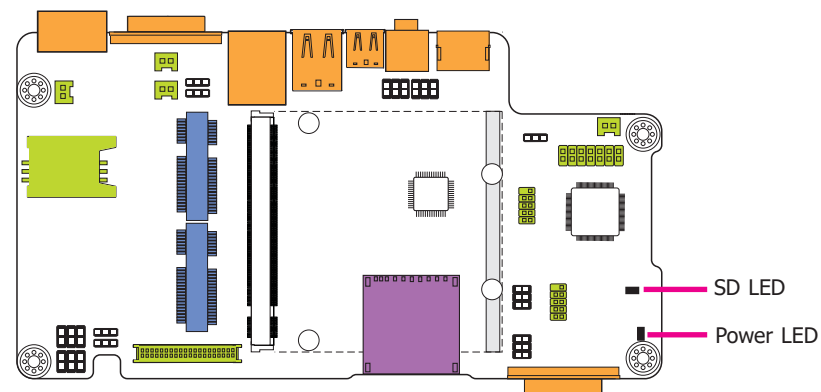
SIM Card Socket

The SIM slot on the system board is used to insert a SIM card.

SD Card Socket

This expansion port is used to insert a Secure Digital Input/Output (SDIO) device. Aside from storing data files, an SDIO card is also capable of storing powerful software applications.

LEDs



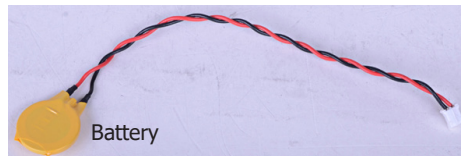
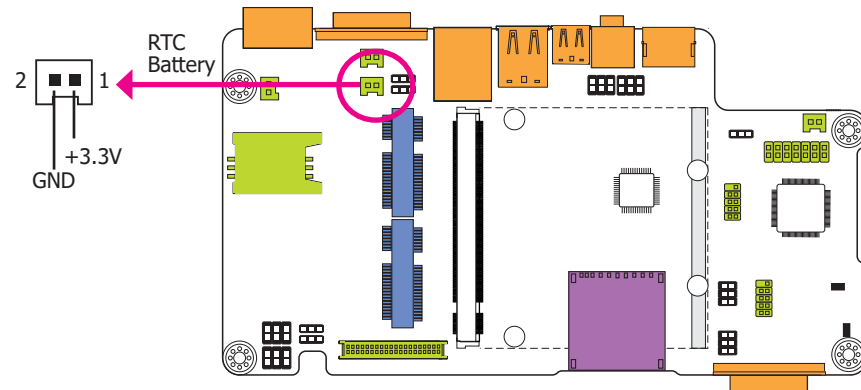
SD LED

The SD LED will light when the SDIO card is inserted into the SD card socket.

Power LED

The power LED indicates that there is power on the system board. Power-off the PC and then unplug the power cord prior to installing any devices. Failure to do so will cause severe damage to the system board and components.

RTC Battery



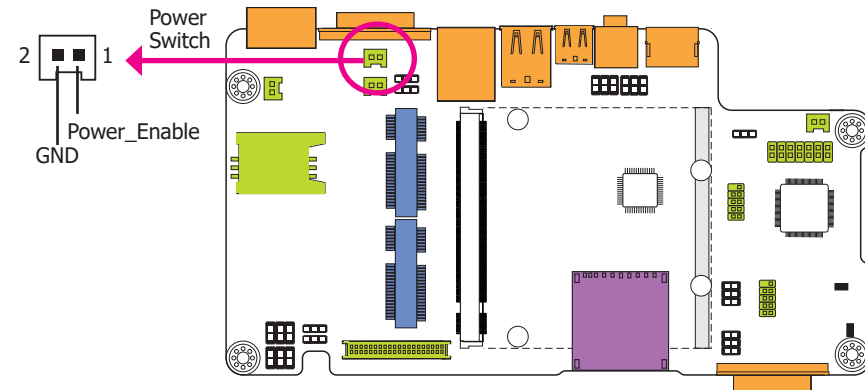
Connect to the battery connector

The RTC Battery powers the real-time clock and CMOS memory. It is an auxiliary source of power when the main power is shut off.

Safety Measures

- Danger of explosion if battery incorrectly replaced.
- Replace only with the same or equivalent type recommend by the manufacturer.
- Dispose of used batteries according to local ordinance.

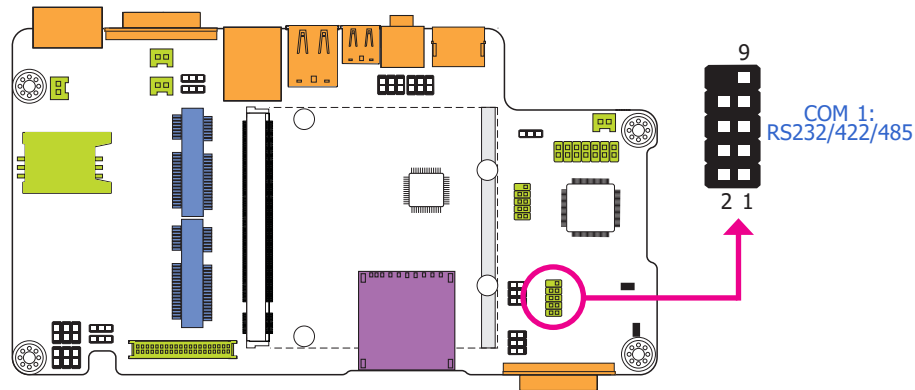
Power Switch



Power Switch

The power switch is used to power on or power off the system.

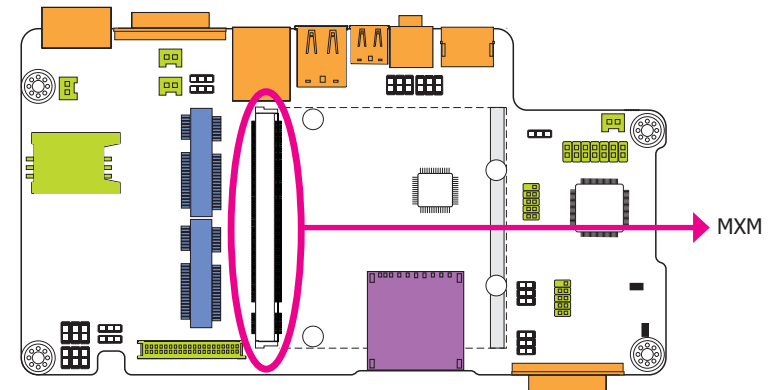
Serial (COM) Port



The system board is equipped with a 9-pin connector for connecting an external serial COM port (COM 1). COM port 1 will vary according to JP4's setting.

The serial COM port is RS232 asynchronous communication port with 16C550A-compatible UARTs that can be used with modems, serial printers, remote display terminals, and other serial devices. To connect COM 1, please refer to the following description. The serial port may be mounted on a card-edge bracket. Install the card-edge bracket to an available slot at the rear of the system chassis then insert the cable connector to the 9-pin connector. Make sure the colored stripe on the ribbon cable is aligned with pin 1 of the connector.

MXM Connector



The MXM connector is used to interface the carrier board with a Qseven board. Refer to the table in the following pages for the pin functions of the MXM connector.

JP4		
<p>6 5 4 3 2 1</p> <p>1-2 On: RS232 (default)</p>	<p>6 5 4 3 2 1</p> <p>3-4 On: RS422 Full Duplex</p>	<p>6 5 4 3 2 1</p> <p>5-6 On: RS485</p>
COM 1		
<p>9 RI- CTS- RTS- DSR- GND DTR- TXD RXD- TXD+ DCD- RXD+</p> <p>2 1</p> <p>RS232</p>	<p>9 NC. NC. NC. NC. NC. TXD- TXD+ RXD- RXD+</p> <p>2 1</p> <p>RS422 Full Duplex</p>	<p>9 NC. NC. NC. NC. NC. NC. TXD DATA- DATA+</p> <p>2 1</p> <p>RS485</p>

Pin	Signal	Pin	Signal
1	GND	2	GND
3	GBE MDI3-	4	GBE MDI2-
5	GBE MDI3+	6	GBE MDI2+
7	GBE LINK100#	8	GBE LINK1000#
9	GBE MDI1-	10	GBE MDI0-
11	GBE MDI1+	12	GBE MDI0+
13	GBE LINK#	14	GBE ACT#
15		16	SUS S5#
17	WAKE#	18	SUS S3#
19	SUS_STAT#	20	PWRBTN#
21	SLP_BTN#	22	LID_BTN#
23	GND	24	GND
25	GND	26	PWGIN
27	BATLOW#	28	RSTBTN#
29	SATA0_TX+	30	
31	SATA0_TX-	32	
33	SATA0_ACT#	34	GND
35	SATA0_RX+	36	
37	SATA0_RX-	38	
39	GND	40	GND
41	BIOS_DISABLE#/BOOT_ALT#	42	SDIO_CLK
43	SDIO_CD#	44	SDIO_LED
45	SDIO_CMD	46	SDIO_WP
47	SDIO_PWR#	48	SDIO_DAT1
49	SDIO_DAT0	50	SDIO_DAT3
51	SDIO_DAT2	52	SDIO_DAT5
53	SDIO_DAT4	54	SDIO_DAT7
55	SDIO_DAT6	56	RSVD
57	GND	58	GND
59	I2S_TXFS	60	SMB_CLK
61	I2S_CLK	62	SMB_DAT
63	I2S_TXC	64	SMB_ALERT#
65	I2S_RXD	66	I2C_CLK
67	I2S_TXD	68	I2C_DAT
69		70	WDTRIG#
71		72	WDOUT
73	GND	74	GND
75		76	
77		78	
79		80	USB 4_5_OC#
81		82	USB P4-
83		84	USB P4+
85	USB 2_3_OC#	86	USB 0_1_OC#
87	USB P3-	88	USB P2-
89	USB P3+	90	USB P2+
91	USB_CC	92	USB_ID
93	USB P1-	94	USB P0-
95	USB P1+	96	USB P0+
97	GND	98	GND
99	LVDS A0+	100	LVDS B0+

Pin	Signal	Pin	Signal
101	LVDS A0-	102	LVDS B0-
103	LVDS A1+	104	LVDS B1+
105	LVDS A1-	106	LVDS B1-
107	LVDS A2+	108	LVDS B2+
109	LVDS A2-	110	LVDS B2-
111	LVDS_PPEN	112	LVDS_BLEN
113	LVDS A3+	114	LVDS B3+
115	LVDS A3-	116	LVDS B3-
117	GND	118	GND
119	LVDS_A_CLK+	120	LVDS_B_CLK+
121	LVDS_A_CLK-	122	LVDS_B_CLK-
123	LVDS_BLT_CTRL/GP_PWM_OUT0	124	RSVD
125	LVDS_DID_DAT/GP_I2C_DAT	126	LVDS_BLC_DAT
127	LVDS_DID_CLK/GP_I2C_CLK	128	LVDS_BLC_CLK
129	CAN0_TX	130	CAN0_RX
131	TMDS_CLK+	132	
133	TMDS_CLK-	134	
135	GND	136	GND
137	TMDS_LANE1+	138	
139	TMDS_LANE1-	140	
141	GND	142	GND
143	TMDS_LANE0+	144	
145	TMDS_LANE0-	146	
147	GND	148	GND
149	TMDS_LANE2+	150	HDMI_CTRL_DAT
151	TMDS_LANE2-	152	HDMI_CTRL_CLK
153	HDMI_HPD#	154	
155	PCIE_CLK_REF+	156	PCIE_WAKE#
157	PCIE_CLK_REF-	158	PCIE_RST#
159	GND	160	GND
161		162	
163		164	
165	GND	166	GND
167		168	
169		170	
171	UART_TXD	172	UART_RTS
173		174	
175		176	
177	UART_RXD	178	UART_CTS
179	PCIE0_TX+	180	PCIE0_RX+
181	PCIE0_TX-	182	PCIE0_RX-
183	GND	184	GND
185		186	
187		188	
189		190	
191		192	
193	VCC_RTC	194	
195		196	
197	GND	198	GND
199	SPI_MOS1	200	SPI_CS0#

Pin	Signal	Pin	Signal
201	SPI MOS0	202	
203	SPI SCK	204	MFG_NC4
205	5V_SB	206	5V_SB
207	MFG_NC0	208	MFG_NC2
209	MFG_NC1	210	MFG_NC3
211	VCC (+5V)	212	VCC (+5V)
213	VCC (+5V)	214	VCC (+5V)
215	VCC (+5V)	216	VCC (+5V)
217	VCC (+5V)	218	VCC (+5V)
219	VCC (+5V)	220	VCC (+5V)
221	VCC (+5V)	222	VCC (+5V)
223	VCC (+5V)	224	VCC (+5V)
225	VCC (+5V)	226	VCC (+5V)
227	VCC (+5V)	228	VCC (+5V)
229	VCC (+5V)	230	VCC (+5V)

Chapter 5 - Mounting Options

Wall Mount

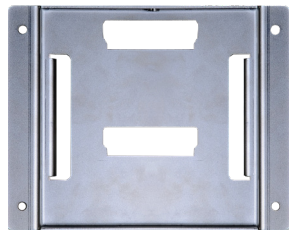


Note:

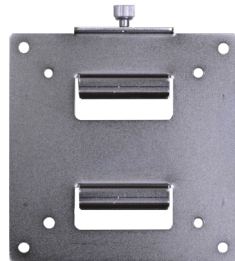
The system unit used in the following illustrations may not resemble the actual one. These illustrations are for reference only.

The wall mount kit includes the following:

- 2 Wall mount brackets
- Bracket screws

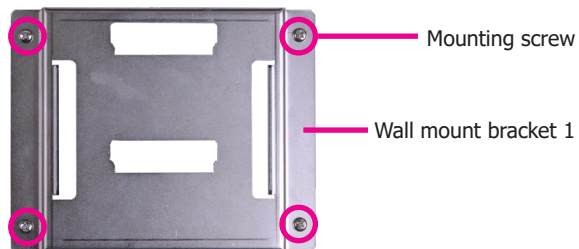


Wall mount bracket 1

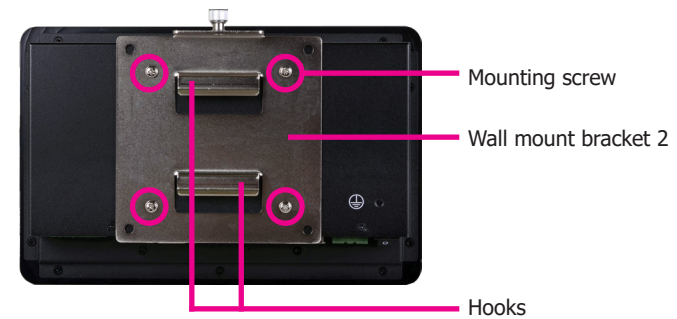


Wall mount bracket 2

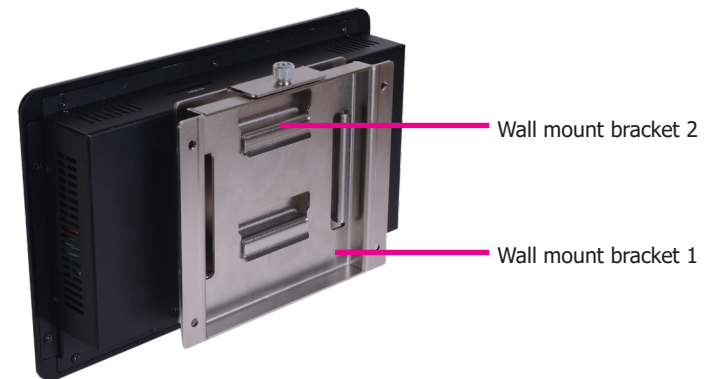
1. Select a place on the wall where you will mount the Panel PC.
2. Use the provided mounting screws to attach "wall mount bracket 1" to the wall.



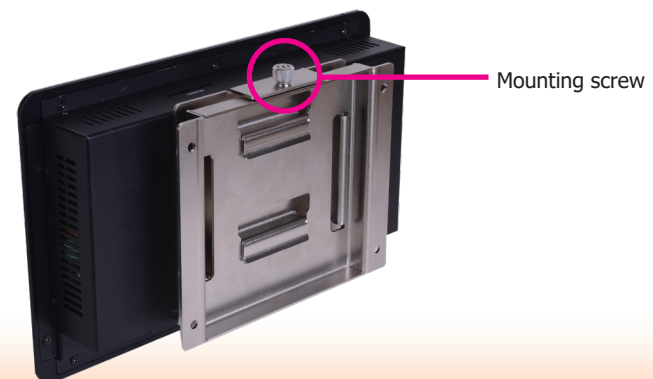
3. Attach the other bracket (wall mount bracket 2) to the rear of the Panel PC.



4. Using the hooks on "bracket 2", slide the Panel PC to "bracket 1".



5. Tighten the screw to hold the assembly in place.



Panel Mount

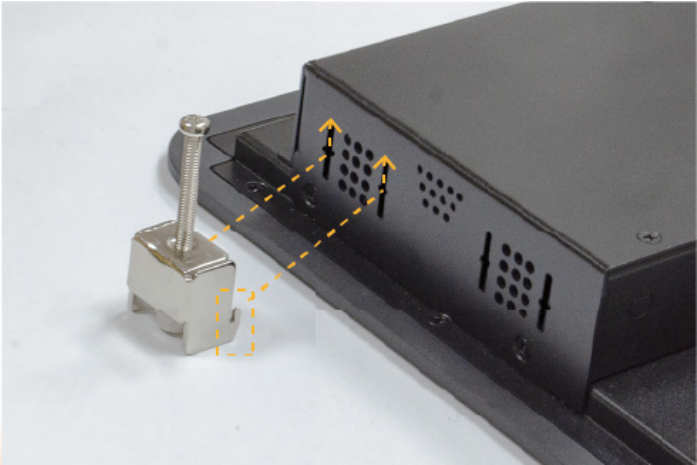
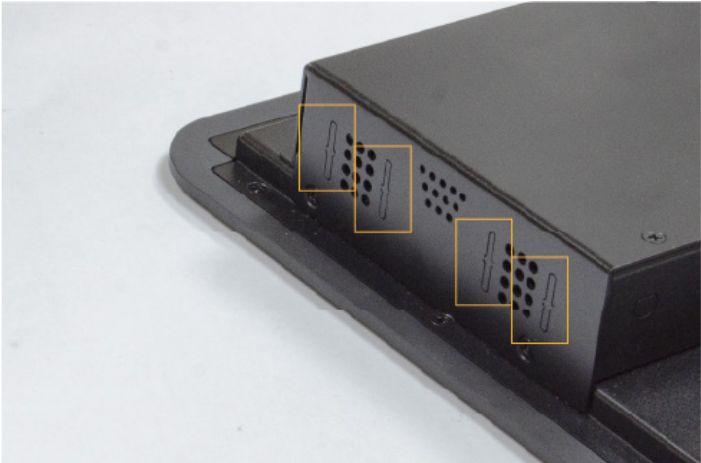
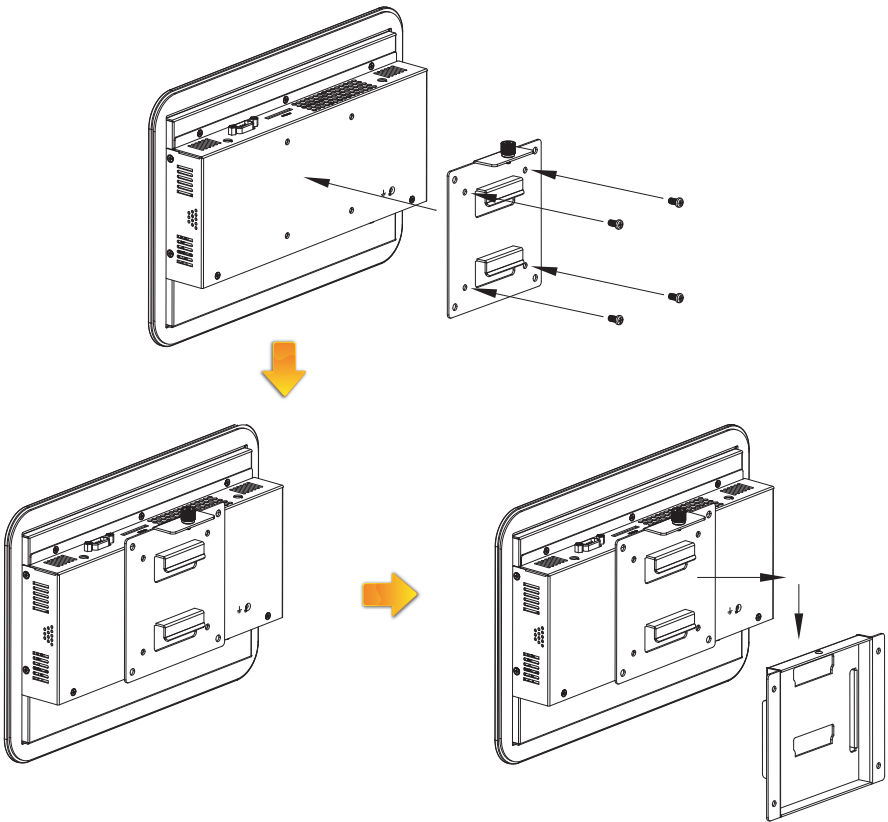
Note: The system unit used in the following illustrations may not resemble the actual one. These illustrations are for reference only.

The panel mounting kit includes the following:

- 4 mounting clamps



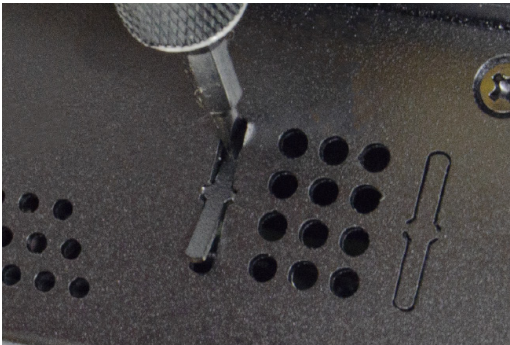
1. These mounting clamps are used to mount the case as pictures below.



2. Select a proper tool (such as a screwdriver) to stab the bracket.



3. Stab the bracket with your tool.



4. Carefully pry open the cover. Please be aware of the cover falling into the case.



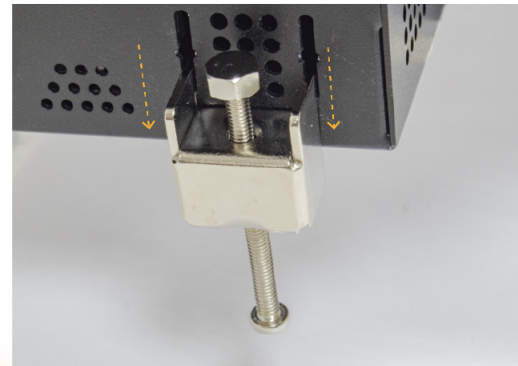
5. Use pliers to clamp the cover.



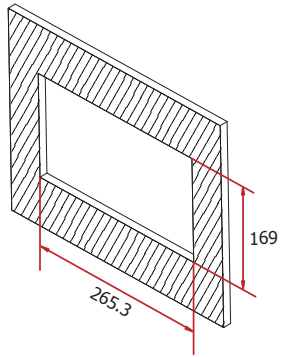
6. Pull out the cover from the bracket.



7. Hang the mounting clamp into the bracket hole.

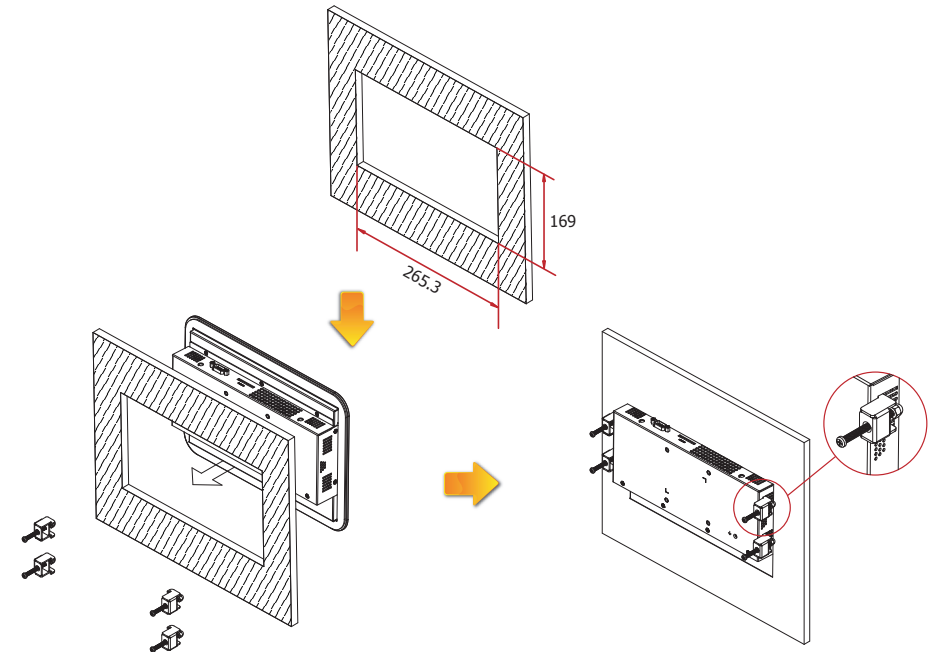


8. Cut out a shape on the panel that corresponds to the Panel PC's rear dimensions (265.3mm x 169mm).



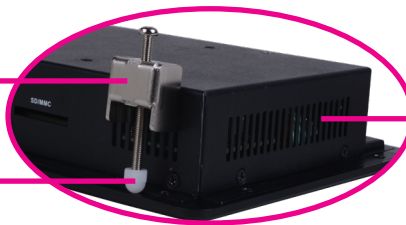
9. Slide the Panel PC through the hole until it is properly fitted against the panel.

10. Position the mounting clamps along the rear edges of the Panel PC, fitting them into the slits that are around the Panel PC.



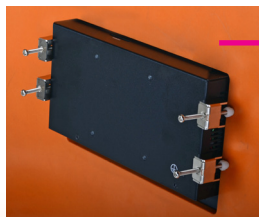
Mounting clamp

White plastic cap



Slit for mounting the clamp

11. The first and second clamps must be positioned and secured diagonally prior to mounting the rest of the clamps. Tighten the clamp's screw using an electric screwdriver until the white plastic cap touches the panel. Do not over tighten the screws to prevent damaging the Panel PC. The illustration below shows all clamps properly mounted.



Panel wall



Note:

The maximum thickness of your panel's opening should be 10 mm. Be sure to route or trim down the thick wall to 10 mm or slightly less for the clamps to recess and be compatible with your wall or enclosure.

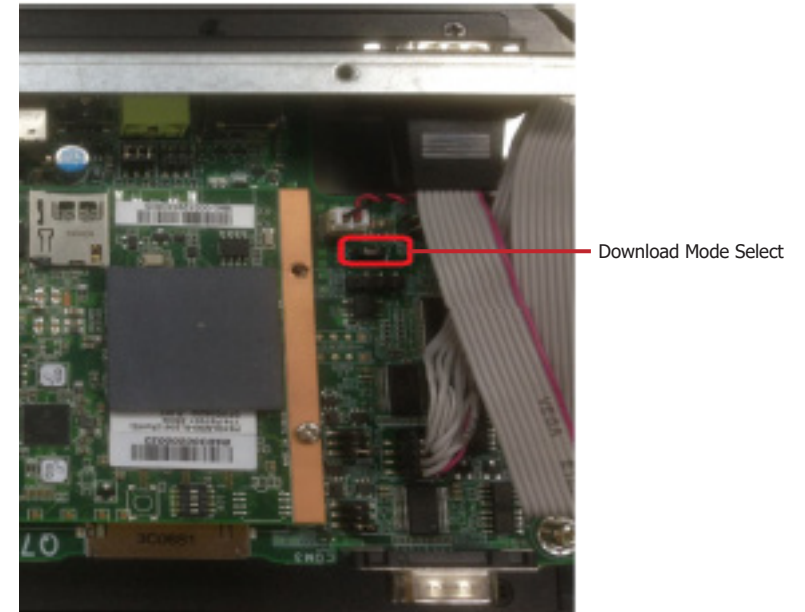
Chapter 6 - BSP Installation Guide

1. Preparing the Working Environment for the BSP Installation

- 1 Windows XP/7 32-bit/64-bit
- 1 Putty.exe.
- 1 FS700
- 1 RS232 cable
- 1 Mini USB cable
- MFG Tool
 - FS700 Android DualLite/Solo:
C:\MFGTools\Fs700_android_DualLite_Solo
 - FS700 LTIB DualLite/Solo:
C:\MFGTools\Fs700_LTIB_DualLite_Solo
 - FS700 Android Quad/ Dual:
C:\MFGTools\Fs700_android_Quad_Dual
 - FS700 LTIB Quad/ Dual:
C:\MFGTools\Fs700_LTIB_Quad_Dual

2. Installing the MFG Tool

1. Set the jumper Download Mode Select (JP19) to 1-2: On.



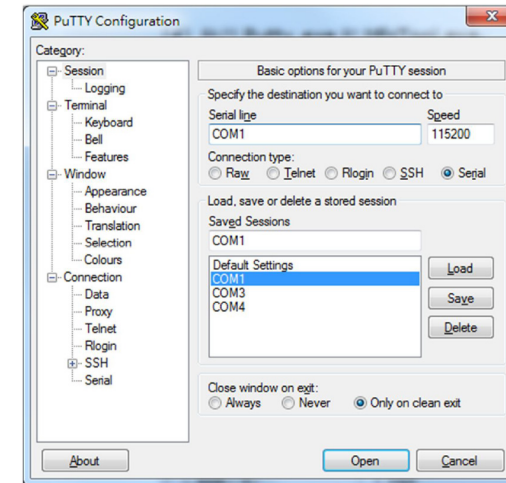
2. Connect the Mini USB cable and the RS232 cable, and then power-on the system.
3. Double check if the device is correctly installed.



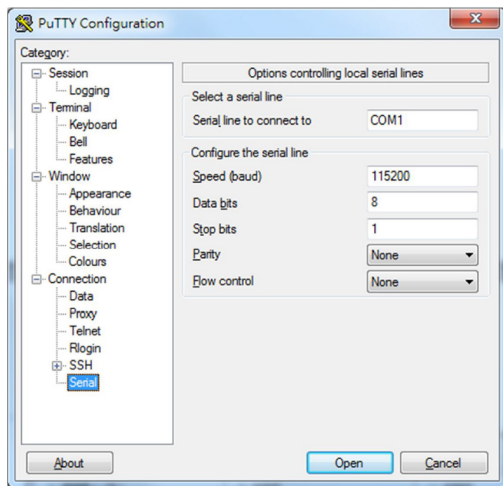
3. Burn Bin files and copy Bin files into the content of MFG Tool.

- Android: (1)u-boot.bin (2)boot.img (3)system.img (4)recovery.img
- Path: x:\FS700_android_DualLite_Solo\Profiles\MX6DL Linux Update\OS Firmware\files\android
- Path : x:\FS700_android_Quad_Dual\Profiles\MX6Q Linux Update\OS Firmware\files\android
- LTIB : (1)u-boot.bin (2)uImage (3)rootfs.tar.bz2
- Path: x:\FS700_LTIB_DualLite_Solo\Profiles\MX6DL Linux Update\OS Firmware\files
- Path : x:\FS700_LTIB_Quad_Dual\Profiles\MX6Q Linux Update\OS Firmware\files

4. Execute Putty.exe and MfgTool. exe.

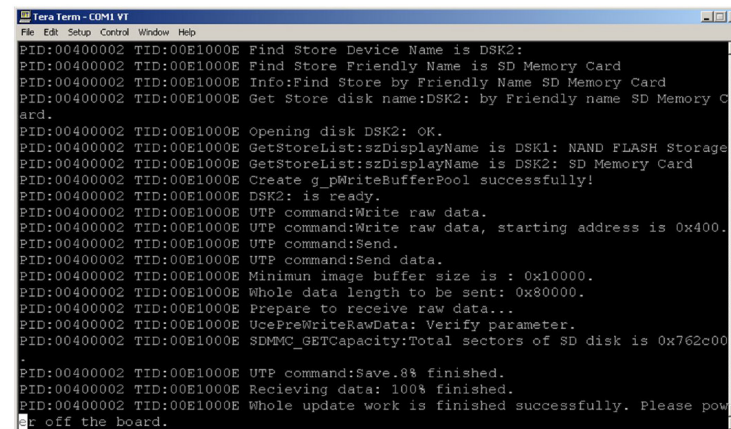
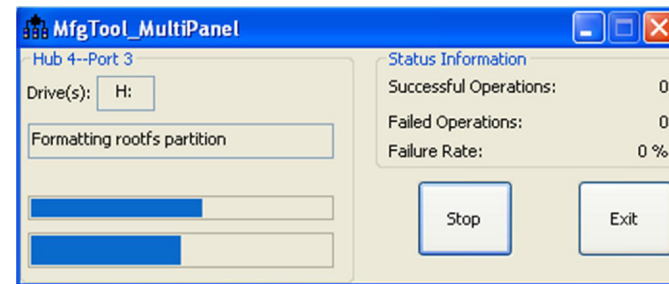
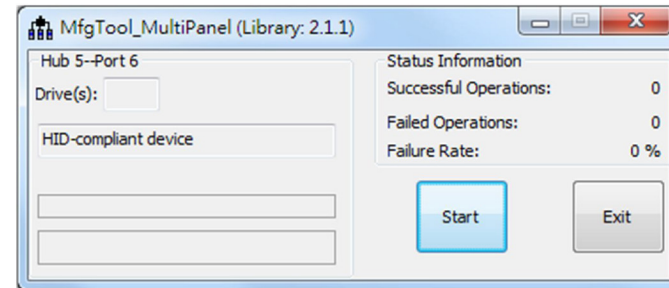


Putty.exe

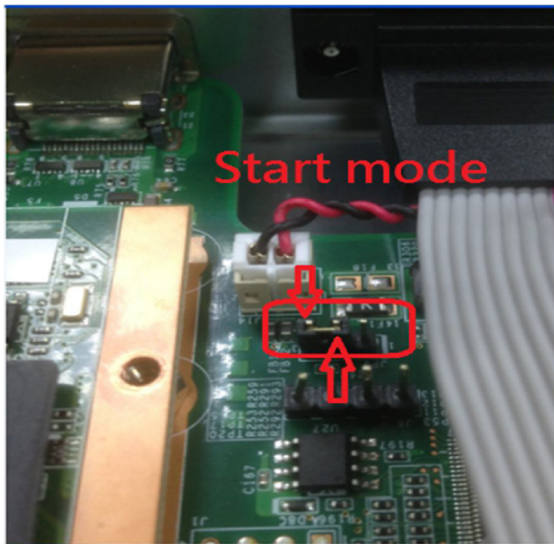
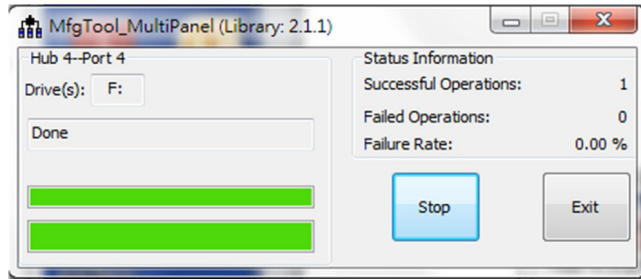


Putty.exe

5. Click "Start" to burn the file.



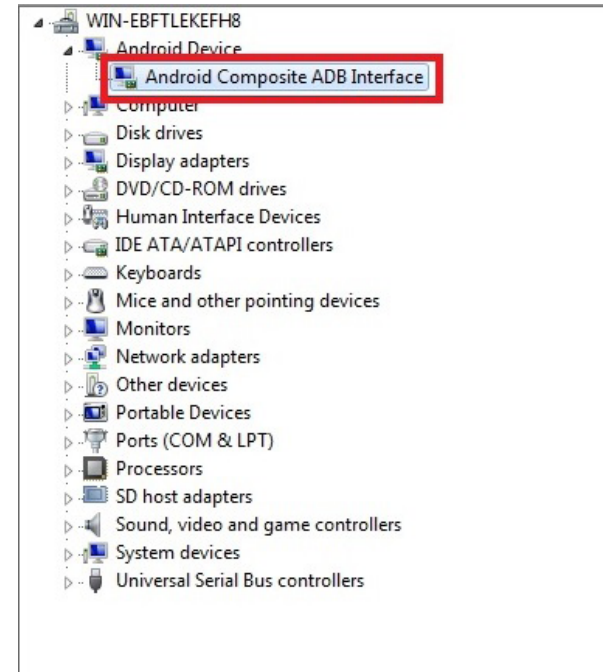
6. After the burning is done, click "Stop" and shut down FS700. Set to the "Start Mode" and then reboot the device into the OS.



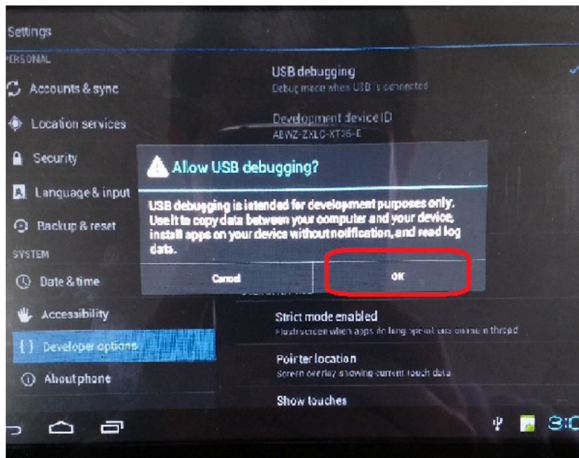
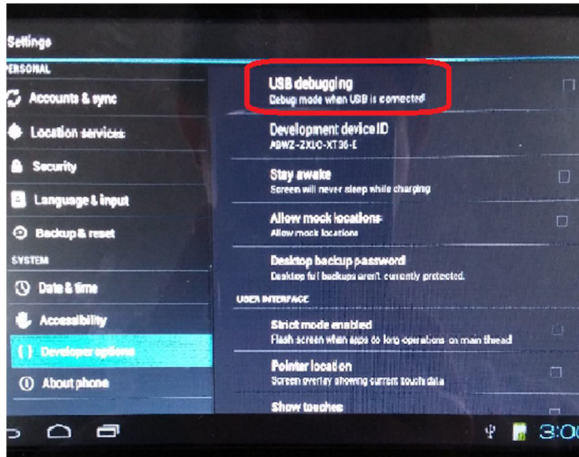
3. How to Use the ADB Tool

1. Install the driver while booting Android.

Path: C:\ADB\adb_usb_driver



2. Check if the USB debugging in Android is ticked off. If not, click on "Settings"->"Developer options"->"USB debugging".

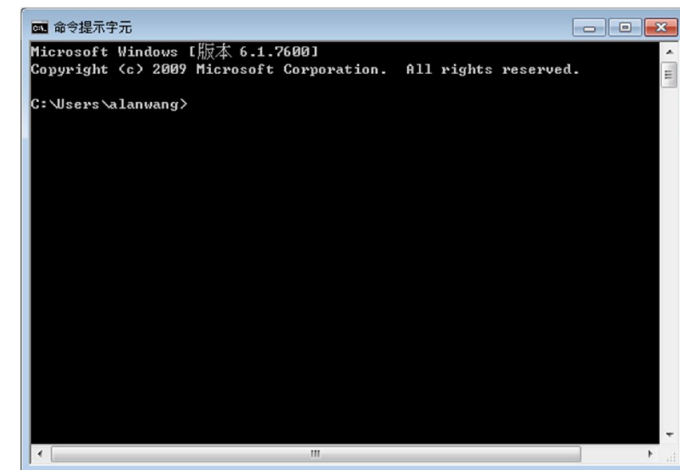


3. Prepare the ADB Tool.

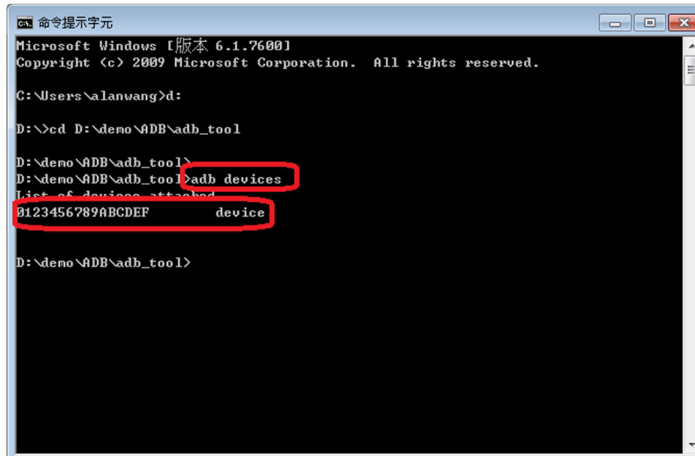
- Copy the ".android" content to windows
- Path: C:\ADB
- XP: copy the ".android" content to C:\Documents and Settings\ "Your PC logging name"
- Win7: copy the ".android" content to C:\User\ "Your PC logging name"

4. Use the ADB Tool.

Open the "Command Prompt" in Microsoft Windows.



Enter "adb devices." When "0123456789ABCDEF" appears, it means the connection is successful. The adb command can be used.



```
命令提示符
Microsoft Windows [版本 6.1.7600]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\alanwang>
D:\>cd D:\demo\ADB\adb_tool
D:\demo\ADB\adb_tool>
D:\demo\ADB\adb_tool>adb devices
List of devices attached
0123456789ABCDEF    device

D:\demo\ADB\adb_tool>
```

5. adb command

- Install APK --> "adb install D:\demo\APK\ ES1.4.8.9.apk"
- Close the adb service --> "adb kill-server"
- Start the adb service --> "adb start-server"



Note:

For more information about Freescale IMX6, please refer to the following website:
<https://community.freescale.com/welcome>