User Manual

CYPRUS

Atom Dual Core model

Pioneerpos
— we can really do it —

For further assistance, contact us:

Tel : 909-468-9757 option 2
Web : www.pioneerpos.com
Email : support@pioneerpos.com
Drivers : http://www.pioneerposftp.com

Important Note

This manual is **ONLY** intended for Cyprus system with Part Number below:

GCxxxxxxxxxx

Disclaimer

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Target Audience

This Manual is written **for technically qualified personnel**. It is not intended for general audiences.

Warranty Exclusions

The warranty will NOT apply to damages caused by:
Unauthorized modification or abuse.
Improper or inadequate maintenance by customer.

Conventions

The following conventions are used in this manual:

[Warning]
A WARNING message indicates a potential for personal injury or death.

[Caution]
A CAUTION message indicates potential damage to hardware or loss of data

[Note]
A NOTE contains additional important information to help you in servicing the system.

Table of Contents

Introduction

PioneerPOS CYPRUS terminal is an AIO touch screen computer system that is perfect fit for space-constrained applications such as restaurant, hospitality, information service, medical, and the likes. PioneerPOS manufactures All-in-One touch screen systems with built-in PC, as well as touch monitor with different sizes.

About this guide

This manual is intended to be use as a reference for field service as well as workshop repair. It is prepared to our best to represent the current version of our production. In our effort to continuously our product, there may be changes that are not represented in this manual. Please contact us directly if further assistance is required.

Please have the Serial Number and Part Number Ready before contacting our support line so they can assist you efficiently.

System Specification

Display	15” LED-backlit LCD, 1024 x 768 (optimal resolution)
Touch Screen Option	Resistive, PCAP Multitouch
Processor	Intel Atom Processor D2700 (2.13GHz)
Memory	Up to 4GB
Storage	SATA 2.5”Hard Drive, Solid-state Disk
Operating System	POS Ready 7, Windows 7, Linux
Network/Ethernet	10/100/1000 BaseT
Wi-Fi (wireless)	RF 802.11 a/g/n (optional)
Serial Port	4
USB 2.0	5
PoweredUSB, +12 volts	1
PoweredUSB, +24 volts	1
Parallel Port	Optional
Cash Drawer Port	1 (can be connected to 2 cash drawers with adapter cable)
Speakers	2 Watts, Stereo (optional)
Mounting Options	Desktop Base (power supply adapter built-in) V-base Wall mount VESA mount
Security Lock	Bolted, or Kensington MicroSaver
Bezel Color	Standard: Silver Option: Black
Operating Temperature	0C to 40C
Operating Humidity	20% to 80%
Power Supply	External, 150W, AC 100-240V
Agency Approvals	FCC A, CE
Integrated Add-ons	Magnetic stripe or Barcode slot reader Fingerprint /Biometric reader (DigitalPersona) Rear customer display or 10" LCD Barcode scanner (omni-directional) Proximity RFID reader Privacy Filter

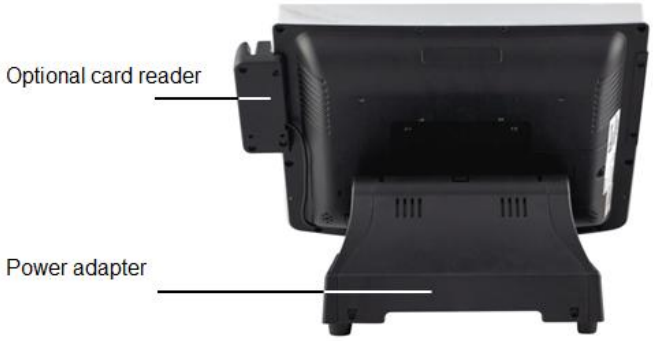
Section A: Getting started

Chapter 1: Terminal overview, communication ports, and peripherals

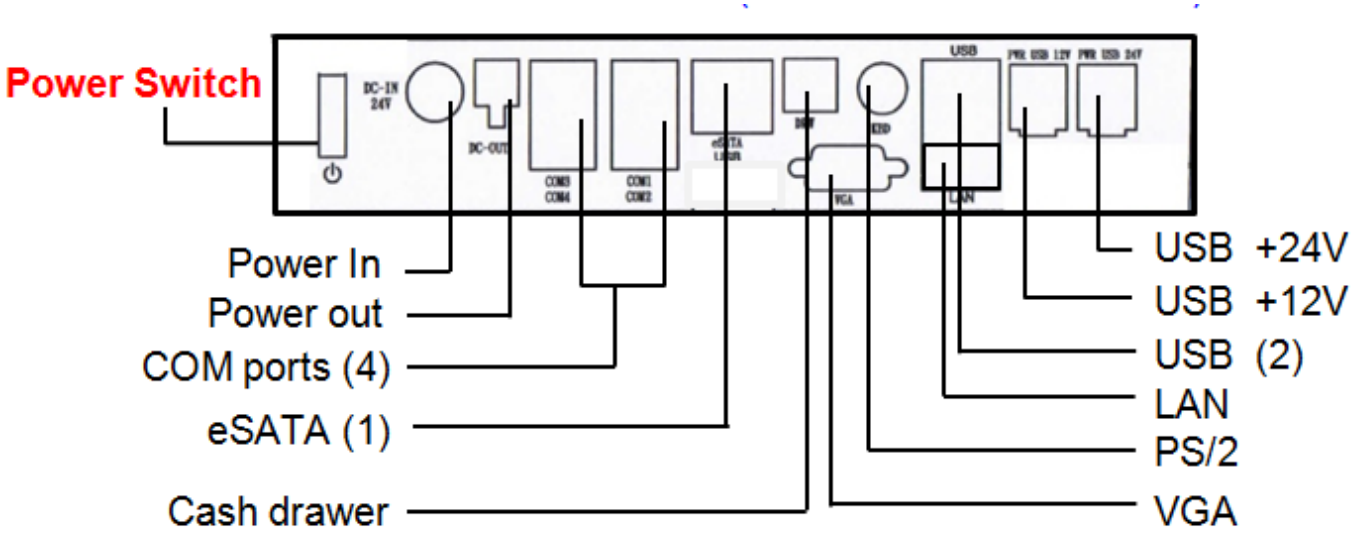
1.1 Terminal overview

Standard Base

V- Base



1.2 Communication ports



1.3 Optional peripherals

Magnetic strip reader
Part number: 4GB-D21

Biometric (fingerprint) reader
Part number: 49-FP-URU4S-U2

Second display monitor (10-inch)
Part number: 1H000002A1

2D Imager (Barcode scanner)
Part number:
4G-B1-DS457DLU1 (Driver's license parsing)
4G-B1-DS457SRU1 (Short range)

Customer Display (2x20 VFD Line display)
Part number: 46B-RCRJ-XXX
(XXX: Emulation type, call support for part number)

Wall-mounting Plate
Part number: 1GB-WALL01

Image
not available

Chapter 2: Setting up Terminal

2.1 Standard base model

1. Lift up base back cover.

2. Route cables of peripherals through opening.

3. Till monitor head backward.

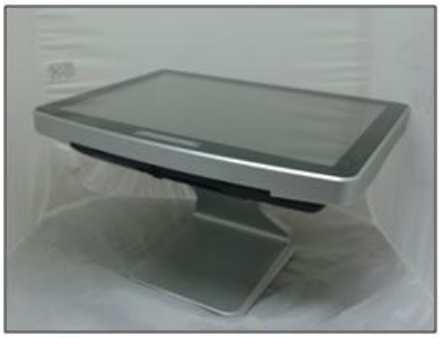
4. Push down IO cover to access IO ports.

5. Route cables to the front and connects them to respective ports. And close lid when done.

6. Toggle power switch to turn on terminal.

2.2 V-base model

1. Sit terminal on a flat surface.

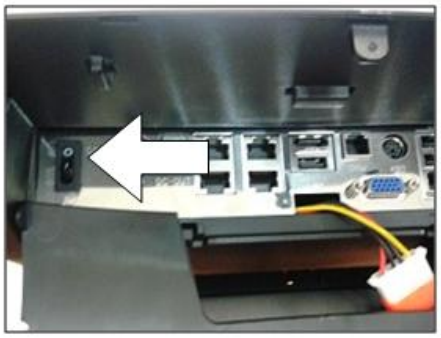


2. Tilt monitor head backward.

3. Push down IO cover to access IO ports.

4. Connect power to IO port. Connect other cables as needed.

5. Organize cables using cable tube included in the package.



6. Toggle power switch to turn on terminal.

Section B: Using Touchscreen Terminal

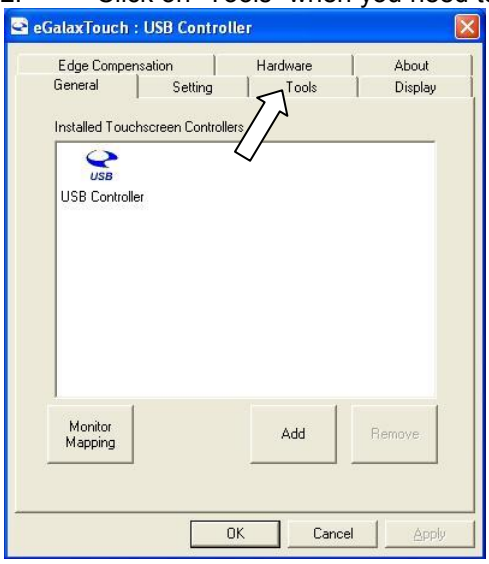
Chapter 3: Touch screen calibration (if needed)

[NOTE]
Following instructions are only applicable to RESISTIVE type touch panel. PCAT (projective capacitive) type touch panel will NOT require calibration in either Windows 7 or Windows 8.1 operating environment. Atom DualCore model does not support Windows 8.1 based operating environment.

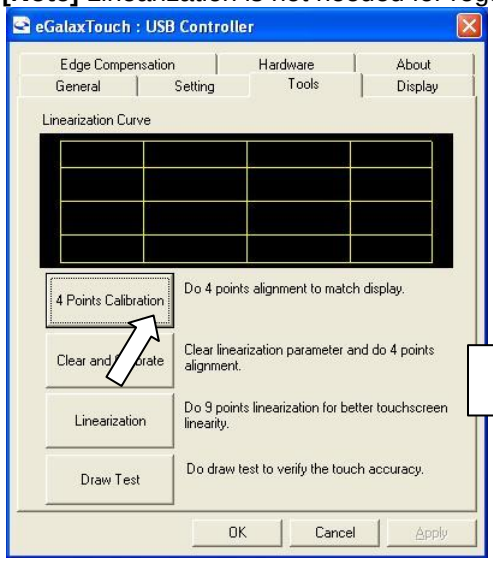
3.1 Calibration on Windows 7 or POS Ready 7

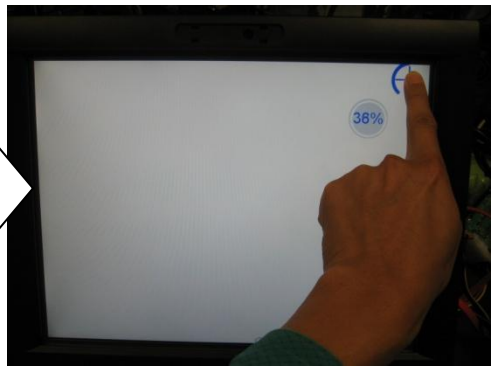
Cyprus's Touch Screen can be operated with finger or soft stylus. If you have re-installed the driver software, you need to open TouchKit to re-calibrate the touch screen:

1. Go to Start -> All Programs -> eGalaxTouch -> Configure Utility.
2. Click on "Tools" when you need to calibrate.



3. Perform 4 point calibration when you see the calibration screen. Use a touch screen stylus pen or your finger to touch each point for about 1-2 seconds until you hear a "beep" sound.
[Note] Linearization is not needed for regular use.





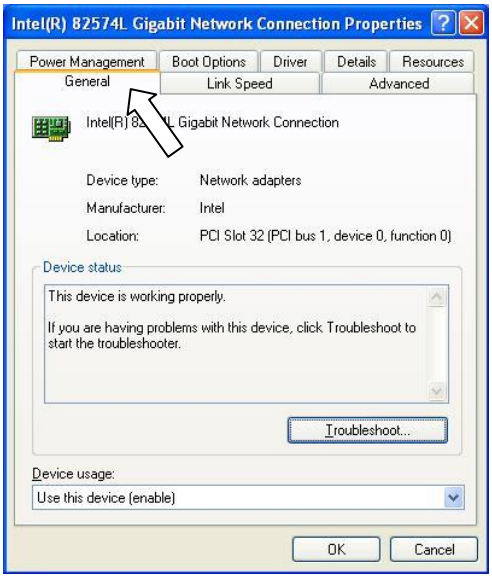
Chapter 4: Network

4.1 Wired network

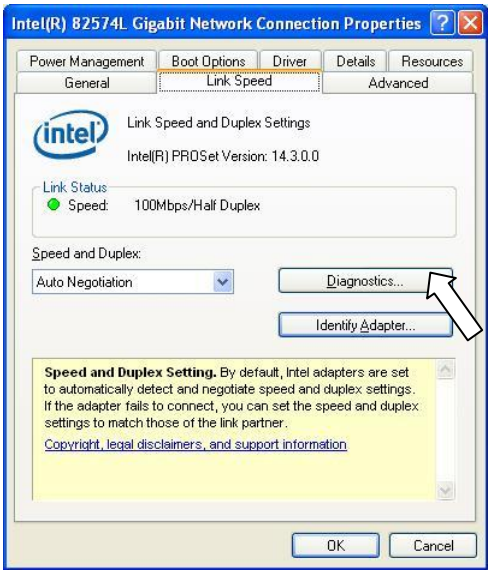
Standard Cyprus comes with on-board Intel Network controller. For regular network usage, you just need to plug in the network cable and it should work. In case you need to check your network setting, you can follow the instruction below:

1. Start -> Control Panel -> System
2. Under “Hardware Tab”, select “Device Manager”
3. Expand “Network adapters” selection.

4. In “Intel 82574L Gigabit Network Connection Properties”, you can check items such as: MAC Address, IP Address, Link Status.



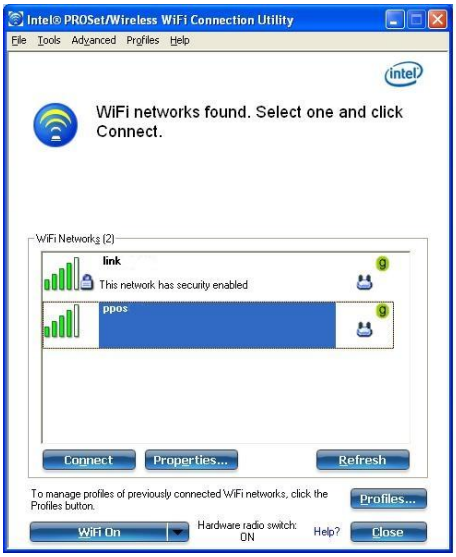
5. To perform Network Test and Diagnostic under the table “Link Speed”. Then, click on “Diagnostics”.



4.2 Wireless network

4.2.1 For system installed with Intel MiniPCI/MiniPCI-E wireless card

1. Go to Start -> Program -> Intel PROset Wireless.
2. Click on “Intel PROset Wireless” to setup wireless utility.



Chapter 5: Serial port (RS232, COM ports)

5.1 Serial port location and pin assignment

Cyprus comes with four RS232 Serial port on I/O Panel. The serial ports are using 8-Pin RJ45 connector.

Picture: Serial Port (RS232) location highlighted in RED rectangular box.

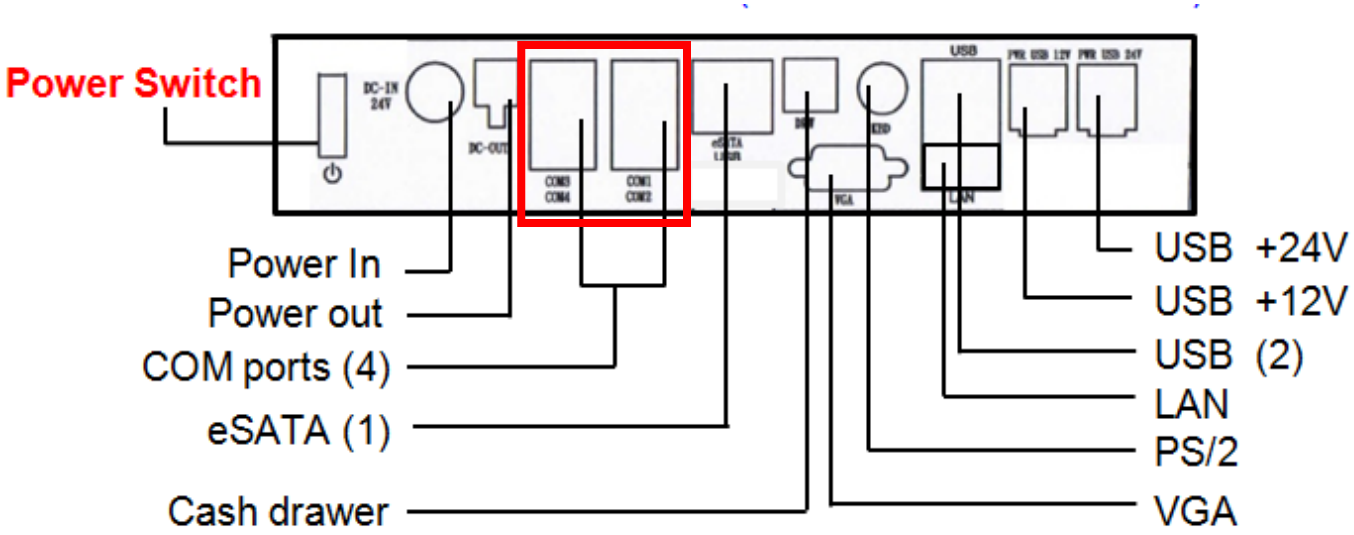
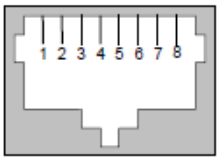


Table: Pin Assignment for RS232 Serial Port



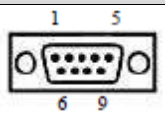
PIN	Serial Port Signal	Description
1	DCD	Data Carrier detect
2	RX	Receive data
3	TX	Transmit data
4	DTR	Data Terminal Ready
5	GND	Signal Ground
6	DSR	Data Set Ready
7	RTS	Request to send
8	CTS	Clear to send

5.2 Using RJ45 to DB9 adapter with serial port/COM port

If you are using devices with DB9 Connector, you can use RJ45 to DB9 adapter. Please see picture below:

Picture: RJ45 Male to DB9 Male adapter (P/N: 30-326F)

Table: Pin assignment for RJ45 Male to DB9 Male adapter (P/N: 30-326F)

RJ45 Male	DB 9 Male
	
Pin 1	Pin 1 (Data carrier detect)
Pin 2	Pin 2 (Receive data)
Pin 3	Pin 3 (Transmit data)
Pin 4	Pin 4 (Data Terminal Ready)
Pin 5	Pin 5 (Signal ground)
Pin 6	Pin 6 (Data set ready)
Pin 7	Pin 7 (Request to send)
Pin 8	Pin 8 (Clear to send)
Pin 9	---

5.3 Power supplied by serial port/COM port

By default, COM Port 2 does not supply power. It can be set to supply +5V or +12V power by modifying jumper setting on JP14 on the System Board. Please see table below for JP14 jumper setting. Power will be available on Pin 1.

[Warning] If you set COM Port 2 with power, remember to put a warning label on the I/O Panel so that users will not plug in other devices to that port.

JP14: COM2 Power Select

JP14	COM 2 DCD PIN	JP14	COM 2 RI PIN
1-3	+5V	2-4	+5V
3-5	+12V	4-6	+12V
7-9	DCD	8-10	RI

[Note] The setting only affects COM2 port on I/O Panel. It does not affect internal I-COM2 Port on the motherboard.

Section C: Using Accessories

Chapter 6: Using Customer Display/Rear Display

(optional, part number: 46B-RCRJ-XXX)

Unless specified, standard Rear Display/Customer Display shipped from PioneerPOS is set to **AEDEX** protocol by default.

6.1 Protocol/emulation supported

Pioneer POS rear display/customer display supports a few different protocols. The supported protocols are:

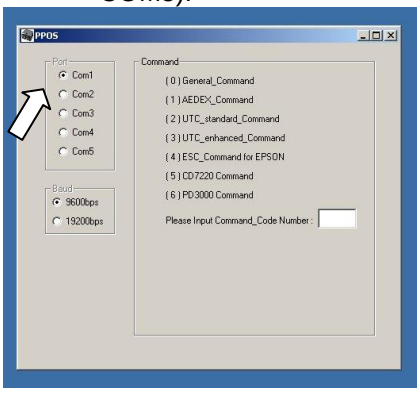
- **General**
- **AEDEX**
- **UTC standard**
- **UTC Enhanced**
- **Epson**
- **CD7220 (CD5220-II)**
- **PD3000**

6.2 Reprogram rear display protocol/emulation

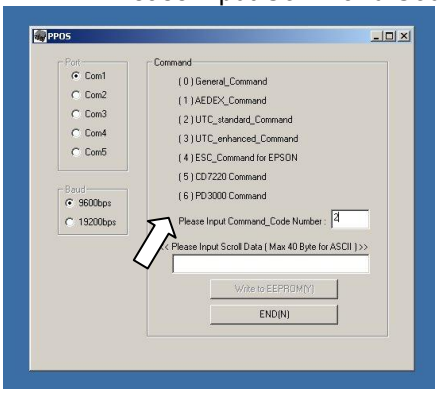
Please obtain the utility to reprogram Rear Display Protocol by contacting PioneerPOS Technical Support.

If you need to re-program the rear display firmware, you may connect the display to COM1/COM2/COM3/COM4 or COM5. After that, run the "PPOS*x*.EXE" (x stands for version number, for example: "PPOS4.exe") utility. Please follow the steps below when after PPOS program is loaded:

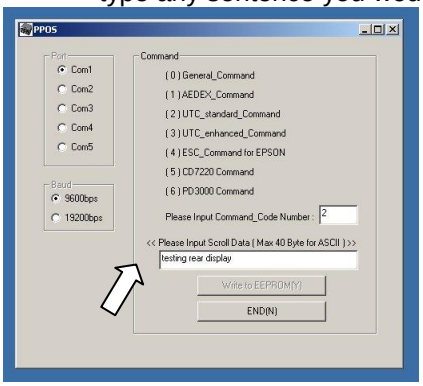
1. Enter the Com port that is connected to your rear display (You can choose COM1, COM2, COM3, COM4, or COM5).



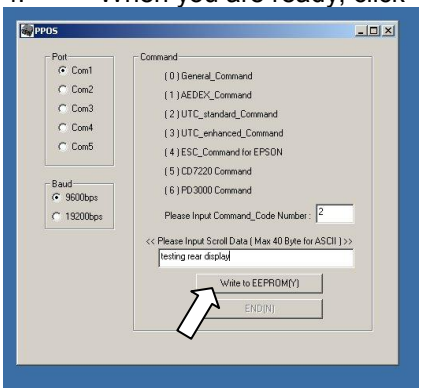
2. Please input Command code number for the protocol that you wish to change to at the text filed after the line "Please Input Command Code Number".



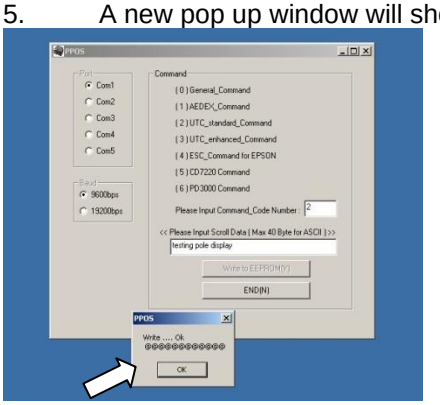
3. On the next field, “Please Input Scroll Data (Max 40 Byte for ASCII)”, you may leave the field blank or you can type any sentence you would like for the scroll data.



4. When you are ready, click “Write to EEPROM(Y)”



5. A new pop up window will show up. The new emulation is being written to the rear display.



6. You may now verify the new emulation by viewing at the Rear Display.

Section D: Solving problems

Chapter 7: Before working on your system

Before performing repairing/replacement procedure, please make sure that you read the safety information with each system or part. Below are some information that is important to your safety and your system's safety:

[Note] Only authorized technician trained by PioneerPOS should repair this system. Damage due to servicing not authorized by PioneerPOS is not covered by your warranty. Do not try to repair at the component level such as Printed Circuit Board (PCB), LCD Panel Unit, Inverter board, or Power Supply unit because it may cause safety hazard. Modification of PCB such as motherboard may void the warranty that came with the component and the system.

7.1 Record keeping

1. Keep a paper to record of serial number/part number of units and any changes you made.
2. If you see an error message, write down the exact message on a piece of paper.
3. If you have a digital camera, take a picture of the error message on the system. Some issues may be intermittent.
4. Use a digital camera to take a picture before disassembling the system or removing parts. You will be able to see how the cables are routed. Record the existing jumper setting and connector settings on your system.

7.2 Protecting your own safety

1. Unplug power from AC power source if you need to disassemble the system.
2. Protect your own safety with insulating glove.
3. **[Warning]** To prevent electric shock, DO NOT open up Power Supply Unit, CRT Monitor Unit.

7.3 Protecting your data

1. Make sure that you have backed up important data. You may also create a backup image of your system.
2. You may back up important data on a USB Memory Drive.
3. If you have important system settings such as password, make sure you keep your password in a safe place.

7.4 Removing power source

1. Remove power source before you try to remove any parts.
2. Turn off the system and unplug the power from the wall.
3. Remove any attached device with power connected to them such as LTP Printer, USB Hubs.

7.5 Electrostatic discharge (ESD)

1. **[Caution]** Electrostatic discharge (ESD) could permanently damage the electronic components in your system.
2. Always ground yourself with a wrist grounding strap.
3. Periodically touch an unpainted metal surface to avoid electrostatic discharge.

7.6 Handling cables and connectors

When you need to disconnect cables at COM Port, LAN port, LTP port, VGA port, Power Connector, or connectors on MSR, do not pull the cable itself. Please remove the connector from the socket carefully. If they have a locking tab (LAN port, COM Port), press and hold the plastic locking tab while removing the connector.

When removing the connector on motherboard, look for the location of "Pin1". Make sure that you put the connector back with the same way before removing it to avoid short circuit. You make take a picture of the original connectors with a digital camera before removing it from the System Board.

7.7 Handing components

When handling CPU, memory, or hard drive, do not touch the connection surface. Hold the component by its edge and do not hold the contact part.

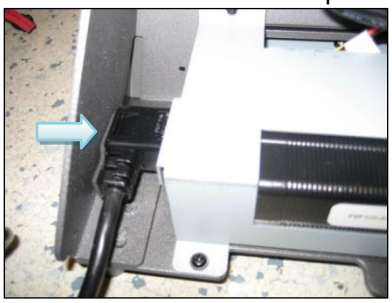
Chapter 8: Common Problems

8.1 No power

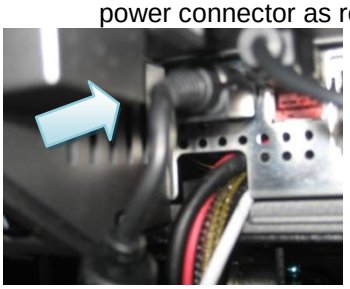
Problem description: System could not turn on (no POST screen, System Power Indicator LED is off, no sound from Fan or Hard Drive).

1. Make sure that the power cord coming out from the system is plugged in to the power source (electrical outlet). By pass power strips or power extension or UPS (Uninterrupted Power Supply) to verify that the system turns on. Verify that the electrical outlet is working by connecting it to equipment such as a radio.
2. Check if the LED light on Power Supply Unit is on. If it is not on, double check the connection of power chord to the Power Supply Unit.

3. Make sure that the power cord is plugged in to the power supply block completely.



3. Check if you have the right power adapter. Power adapter part number are *STLH-PSFSP150 or STLH-PSFSP120*.
4. Make sure that the power connector is plugged in to the power port on I/O panel. Unplug and re-connect the power connector as required.



5. A defective hard drive my cause the system to not able to boot. Please refer to “Hard Drive Issue”

8.2 “Invalid System Disk” message

Problem description: While the system is booting, you receive the following error message:
Invaid System disk
Replace the disk, and then press any key

1. Double-check the Boot Device Priority under Boot Option in BIOS setup utility.
2. Double-check if connectors on hard-drive are connected properly.
3. The system may be infected with a boot-sector virus. Run a virus check on the hard drive.
4. You may also check if hard drive is detected by pressing F11 when the system is booting up. Make sure that the main hard drive is shown in "Select Boot Device" screen. If hard drive is detected, please try reinstalling or re-imaging O/S to the hard drive.

8.3 System keeps restarting

Problem description: System keeps restarting by itself

1. If the system keeps booting to windows and keep restarting by itself, please check if you have a virus on the system. You may replace another hard drive. Then, you may check for viruses on the original hard drive.

2. If the system keep restarting before it is able to load Operating System, please check if power supply unit is working. If you have another spare power supply unit, please test the system with a spare power supply unit.

8.4 System is on but there is no display on LCD monitor

Problem description: You can hear system boots to OS successfully. You could hear “beeps” when you touch the touch screen panel. The System Power Indicator LED is on. However, the LCD has no display.

1. Please shut down the system and restart the system again.
2. If you could see POST Screen, the problem may be caused by improper setting in Display Driver. Follow the following steps to get into Window’s “safe mode” to uninstall display driver.
   a. You could switch off the system manually by pressing the on/off button.
   b. After that, turn on the system again. Start tapping the F8 key repeatedly.
      [Note: Sometimes computer may display a “keyboard error” message if you begin tapping the F8 key too early. To resolve this issue, please restart the system and try again.]
   c. You will see a screen with “Windows Advanced Option Menu” with dark background after the boot up screen.
   d. Please select “Safe Mode” option by using the up/down key
   e. Then, select “Microsoft Window XP Professional” or your installed Windows operating system if you are given a choice.
   e. Login to Administrator or any user to get on to Desktop.
   f. Click “Yes” when you see a Warning Box with message “Windows is running in safe mode…”
   g. You are now in Safe Mode.
   h. Please uninstall VGA driver in by uninstalling VGA driver from “Add/Remove Programs” or remove VGA driver from Device Manager.
   g. Restart the computer and re-install VGA driver again.
3. If you could not see POST screen, try to connect an external monitor to the VGA connector on I/O Panel. If you could see display from external monitor, the problem could be caused by defective inverter board or LCD. Please contact PioneerPOS Technical Support.

8.5 Software or POS application/program stops responding

Problem description: Certain running program/POS application stops responding. Operating system is still working.

1. Please contact your POS application or program technical support if they freeze up periodically and everything else are working.
2. You may use a keyboard and press <ctrl><alt><delete> to go to “Windows Task Manager”.
3. Click on “Applications” tab.
4. Select the program that is not responding.
5. Click “End Task”. Please understand that when a program stops responding, any work that has not been saved will may be lost when we end a program using task manager.

8.6 Operating system not responding/solid Blue Screen with error message

Problem description: Operating system not responding to touch. You may see a solid blue screen with error message sometimes.

1. If the computer stops responding with finger touch, double-check if the problem is caused by touch panel issue. Try to plug in a USB mouse or keyboard to see if you get the system to work. If you verify that it is Touch Panel issue. Refer to the section “Touch Panel: Touch Panel not responding to finger touch”.
2. Use a digital camera or pen to record any error message. Then, press and hold the power switch for at least 5 seconds. This will shut down the system. Please understand that when a program stops responding, any work that has not been saved will may be lost when we shut down the system.
3. Restart the computer again.
4. A bad sector on hard drive may cause system to freeze or “Blue Screen” if you are using Windows. Try to use Windows Check Disk to check if your system has a bad sector.

   To further diagnose the issue, you may install hard drive’s utilities depending on the brand of the hard drive in the system. For example, if you are using Western Digital hard drive, you may use “Data Lifeguard Tools” available at Western Digital Support Website.

   Note: PioneerPOS uses Western Digital brand **WD Blue series** for HDD on Cyprus series product. For problem on SSD, contact PioneerPOS Tech Support for troubleshooting process.

   Western Digital: Western Digital Data Lifeguard Tools for Windows/Dos
   Link: http://support.wd.com/product/download.asp?groupid=606&lang=en

   Please contact PioneerPOS CustomerONE team (909-468-9757 option 2 or support@pioneerpos.com) for replacement of hard drive if required.

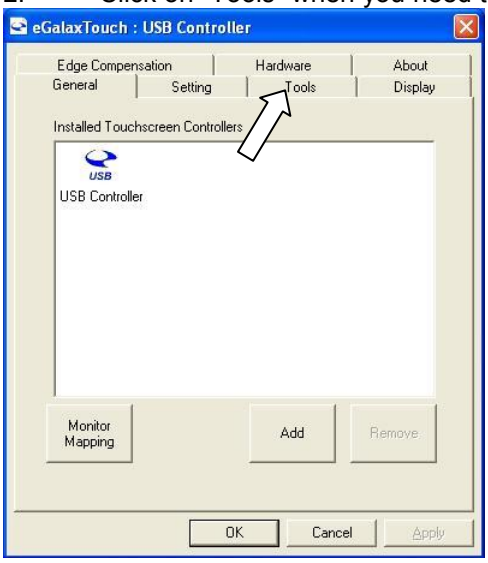
8.7 Touch panel: Touch position is not accurate

Problem description: Touch position is not accurate.

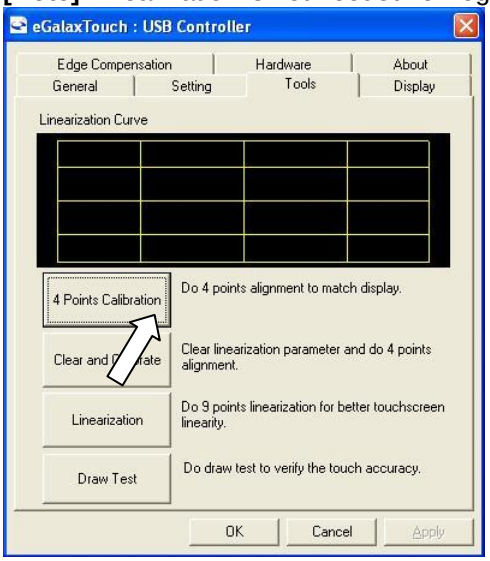
Note: Only applicable to Resistive type panel. For PCAP (capacitive), contact PioneerPOS CustomerONE team.

If touch position is not accurate, then try launch Touckit utility to re-calibrate by following the steps below:

1. Go to Start -> All Programs -> eGalaxTouch -> Configure Utility.
2. Click on “Tools” when you need to calibrate.



3. Perform 4 point calibration when you see the calibration screen. Use a touch screen stylus pen or your finger to touch each point for about 1-2 seconds until you hear a “beep” sound.
[Note] Linearization is not needed for regular use.



8.8 Touch Panel: Touch panel not responding to finger touch

Problem description: The cursor on Windows is not activated by finger touch.

Note: Only applicable to Resistive type panel. For PCAP, contact PioneerPOS tech support.

1. Try to use a keyboard/mouse to test if the system has lockup problem (system stops responding). If you are able to use keyboard/mouse to move the cursor, go to step 2. If you are not able to use mouse/keyboard to activate cursor, the system may have lockup problem. Restart the computer again.
2. Be sure that Touch adapter is detected in touch utility. If touch adapter not detected, press Add on the Touchkit utility screen to add touch adapter.
3. Re-install Touchkit utility driver. TouchKit utility driver can be downloaded from PioneerPOS.com.

8.9 Touch panel: Cursor always stay on the edge of the screen

Problem description: The touch active area on one side of the screen is pressed.

1. Check for any dirt/dust accumulation on the side of the screen; otherwise re-adjust the touch screen panel.
2. Make sure the active are around the touch panel is not pressed/touched by other objects.

8.10 Network: Network disconnects intermittently

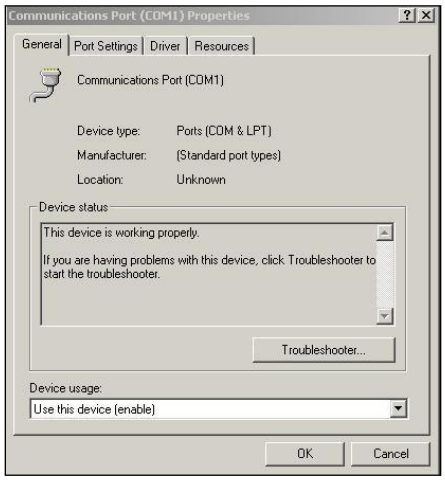
Problem description: Network intermittently disconnected. LAN is not working after system recovers from standby state

1. The network chipset is “Intel 82574L”. You may go to Intel website to search for latest driver or go to the following links to download and reinstall latest driver: http://downloadcenter.intel.com/SearchResult.aspx?lang=eng&ProductFamily=Ethernet+Components&ProductLine=Ethernet+Controllers&ProductProduct=Intel%C2%AE+82574+Gigabit+Ethernet+Controller

8.11 COM port/serial port issue

Problem description: COM port/serial port device not responding

1. Check the connection of the device. Make sure the device is connected to the appropriate port.
2. Check if the particular port is currently being used by other program/printer.
3. Test the COM port with generic printer under Windows.
4. Under Device Manager make sure there is no IRQ address conflict



8.15 LTP port issue

Problem description: LTP port device not responding

1. Check the connection of the device.
2. Make sure that the device is connected to the appropriate port.
3. Check if the particular port is being used by other program (make sure that no two printers are using the same port).

8.16 Built-in speaker issue

Problem description: No sound from built-in speaker

1. Adjust the Windows volume control by clicking the speaker icon in the lower-right corner of your screen. Be sure that the volume is turned up and that the volume control is not set to "mute".
2. Built-in speaker is optional. Check the part number on the FCC label on your system to see if your system is configured with built-in speaker.
3. Try to re-install sound driver.

Chapter 9: Troubleshooting Accessories

9.1 Magnetic Stripe Reader (MSR) issue

Problem description: Magnetic Stripe Reader (MSR) cannot read cards.

1. Verify the issue by trying to swipe MSR with a different card. Sometimes, the issue may be caused by a defective card.
2. Open notepad program and swipe the card in notepad program to test the card. If you still could not read the card, go to step 3.
3. Apply keyboard patch, visit below link to download keyboard patch.
   http://www.pioneerpos.com/download/kbdpatchxp.zip
4. Remove MSR from the terminal and reconnect.

9.2 Rear Display (Customer Display) issue

Problem description: No display on Rear Display, Rear Display does not display correct message

1. Unplug power from Rear Display and re-connect power again. Check if there is any display on the Rear Display.
2. Make sure that the RJ45 COM port/serial port connector coming out of Rear Display unit is fully inserted to the correct COM Port.
3. Make sure that the POS application/software setting is set to use the correct com port.
4. Double check to ensure no other software or utility is installed on the same com (serial) port, thus creating conflict.
4. Refer to **Chapter 8: Using Customer Display/Rear Display** if you need to change the type of emulation on the Customer Display/Rear Display unit.

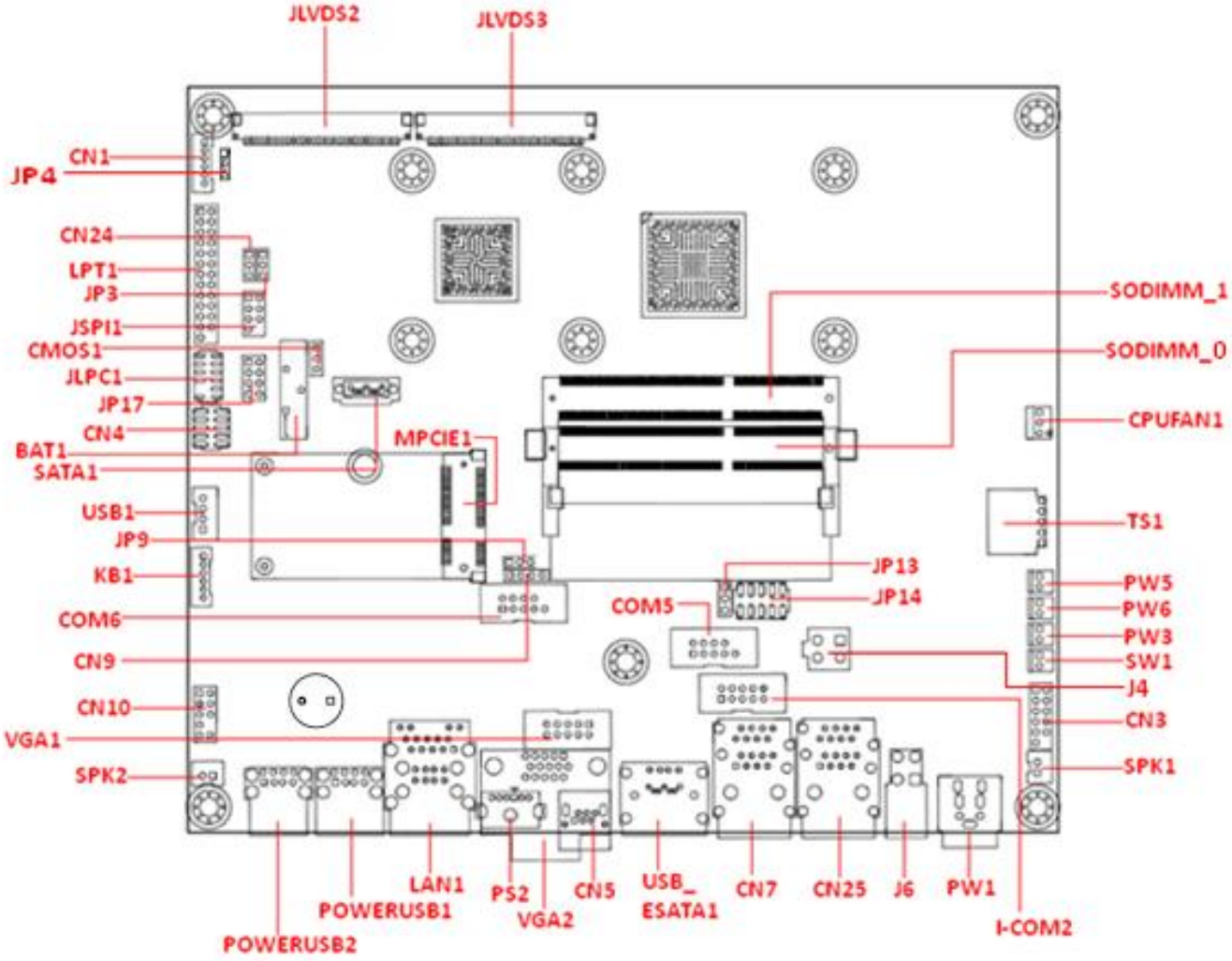
9.3 Bar Code Reader issue

Problem Description: Barcode reader not working

1. Make sure that keyboard terminator is connector to PS/2 connector located on I/O panel.

Section E: System Board description

Chapter 10: System board layout



Chapter 11: System Board jumper settings

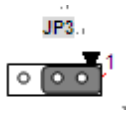
WARNING:

This section is written for TECHNICALLY QUALIFIED PERSONNEL ONLY. Modifying jumper setting to other than manufacturer default setting may result in damages of device. Damages due to customer modification will VOID factory warranty on motherboard and CYPRUS terminal. PioneerPOS will not be responsible for loss and damages on Cyprus terminal and any other devices due to user modification. Call 909-468-9757 option 2 or email support@pioneerpos.com for help.

Factory default setting is indicated with marking: *(default)*

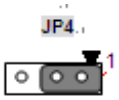
JP3: LVDS LCD Power Select

JP3	LVDS Power
1-2	3.3V (default)
2-3	5V



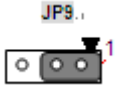
JP4: LED and CCFL Inverter Select

JP4	LVDS Power
1-2	CCFL Inverter (default)
2-3	LED Inverter



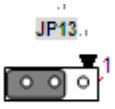
JP9: COM 6 Power Select

JP9	COM 6 Power Select
1-2	+3.3V (default)
2-3	DCD



JP13: COM 2 RI Pin Select

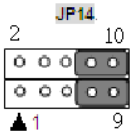
JP13	COM 2 RI Pin Select
1-2	Ring
2-3	GND(default)



JP14: COM 2 Power Select

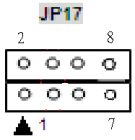
JP14	COM 2 DCD Pin (Pin 1)	JP14	COM 2 RI Pin (Pin 5)
1-3	+5V	2-4	+5V
3-5	+12V	4-6	+12V
7-9	DCD (default)	8-10	RI (default)

Note: The setting will not affect the I-COM2

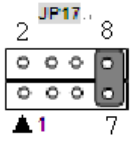


JP17: Panel Type Selection for LVDS

JP17 Boot Display Device		
1-2	3-4	Boot Display Device
Short	Short	N/A
Open	Short	LCD
Short	Open	CRT
Open	Open	LCD+CRT (default)



JP17 Panel Type Setting		
5-6	7-8	Boot Resolution Select
Short	Short	1440 x900 / 1920 x 1080 (CH7511)
Short	Open	1280 x 1024
Open	Short	1024 x 768 (default)
Open	Open	800 x 600



CN24: LVDS Source

CN24	LVDS Source
1-2	Cedar View
2-3	CHRONTEL 7511 (Default)

CMOS1: Clear CMOS

CMOS1	Clear CMOS
1-2	Normal (Default)
2-3	Clear CMOS

KB1: PS/2 for MSR

KB1	PS/2 for MSR
None	PS/2 MSR plugged
1-2 3-4	By pass PS/2 keyboard signal if MSR is not plugged. (Default)

(Note: Need short-plug on pin-1&-2 and pin-3&-4 if MSR device is not connected)

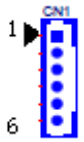
Chapter 12: System Board Connectors

The following listed the function on each connector on the mother board

Connector name	Definition
CN1	LVDS Backlight Connector
CN3	Side USB Header, Reset, Inverter Adj, and Power/HDD LED
CN4	Digital I/O (8bits)
CN5	RJ-11 Cash Drawer
CN7 and CN25	Stack up RJ45 for COM port
CN9	RS422/485
CN10	MIC and Line-out pin header
COM5	Internal COM5 (RS-232 Level)
COM6	Internal COM6 (TTL Level)
CPUFAN1	CPU FAN header (3 PIN)
I-COM2	Internal COM2 connector
J4	Power connector
J6	ATX 2x2 R/A connector
JLPC1	Debug header
JLVDS2	LVDS Data Connector Chrontel output- dual channel
JLVDS3	JLVDS3: LVDS Data Connector Cedar View – single channel
JSPI1	SPI Header
KB1	Internal PS/2 interface
LAN1	RJ45 for Ethernet
LPT1	Parallel Port Header
MPCIE1	Mini PCI-E Connector
POWERUSB1	+12 V USB port
POWERUSB2	+24 V USB port
PS2	PS/2 Connector
PW1	DC-in Connector(24V,4pin)
PW3	12V Power Connector
PW5	5V Power Connector
PW6	5V Power Connector
SATA1	SATA Connector
SPK1	Speaker Output Header-L
SPK2	Speaker Output Header-R
SW1	Power Switch Header
TS1	Touch Screen Connector
USB1	USB Interface MSR connector
USB_ESATA1	USB and eSATA connector
VGA1	VGA port (Internal connector)
VGA2	VGA port

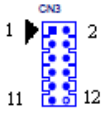
CN1: LVDS Backlight connector

Pin	Name	Signal
1	+12V	+V12S
2	+12V	+V12S
3	GND	GND
4	Adjust	INV_BL_CTRL
5	GND	GND
6	ON/OFF	LCD_ON/OFF



CN3: Side USB Header, Reset, Inverter Adj, and Power/HDD LED

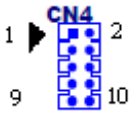
Pin	Name	Signal		Pin	Name	Signal
1	High	+V5S (1K)		2	USB VCC	+V5DUAL
3	Adjust	LVDS_BL_CTRL		4	DATA-	USB_P6-
5	Low	GND (1K)		6	DATA+	USB_P6+



7	PWR LED-	GND		8	GND	GND
9	LED+(VCC)	+V3.3S (330R)		10	Reset	RESET#
11	HDD LED-	HDLED#		12	(KEY)	-

CN4: Digital IO (8 bits)

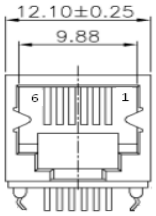
Pin	Signal Name	Pin	Signal Name
1	GND	2	+5V
3	GPIO_I0	4	GPIO_O_0
5	GPIO_I1	6	GPIO_O_1
7	GPIO_I2	8	GPIO_O_2
9	GPIO_I3	10	GPIO_O_3



Note: Do not use Digital IO on GPIO_I0, GPIO_O_0 and GPIO_O_1when Cash Drawer port is being used

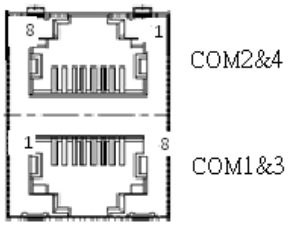
CN5: RJ11 Cash Drawer

Pin	Name	Signal
1	GND	GND
2	Cash Drawer 2 (Digital Output)	DOOR_O_1
3	+24V	+24V_CS
4	Drawer Open/Close Signal (Digital Input)	DIO_I0
5	Cash Drawer 1(Digital Output)	DOOR_O_0
6	GND	GND



CN7 and CN25: Stack up RJ45 for COM port

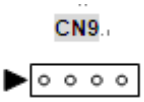
Lower (COM1 & COM3)				Upper(COM2 Note1 & COM4)		
Pin	Name	Signal		Pin	Name	Signal
1	DCD	NDCDA		1	DCD	NDCDB_S Note2
2	RX	NSINA		2	RX	NSINB
3	TX	NSOUTA		3	TX	NSOUTB
4	DTR	NDTRA		4	DTR	NDTRB
5	GND	GND		5	RI	NRIB_P Note3
6	DSR	NDSRA		6	DSR	NDSRB
7	RTS	NRTSA		7	RTS	NRTSB
8	CTS	NCTSA		8	CTS	NCTSB



Note 1:COM2 is located on the upper side of CN7
Note 2: (Applies to COM2 only) JP14 to select +5V, +12V or NDCDB
Note 3: (Applies to COM2 only) JP13 and JP14 to select +5V, +12V, NRIB or GND

CN9: RS422/485 for COM3

Pin	RS-422	RS-485
1	RX-	Data-
2	TX-	
3	RX+	Data+
4	TX+	



CN10: MIC and Line-out pin header

Pin	Name	Signal	Pin	Name	Signal
1	MIC-L	MIC2_L_L	2	GND	GND
3	MIC-R	MIC2_L_R	4	PRESENCE#	NC
5	LINE-R	LINE2_L_R	6	MIC-JD-RETURN	MIC2-JD
7	JD-SEND	GND	8	(KEY)	-
9	LINE-L	LINE2_L_L	10	LINE-JD-RETURN	LINE2-JD

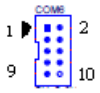
COM5 : Internal COM 5 (RS-232 Level)

Pin	Name	Signal	Pin	Name	Signal
1	DCD	NDCDE	2	DSR	NDSRE

3	RX	NSINE	4	RTS	NRTSE
5	TX	NSOUTE	6	CTS	NCTSE
7	DTR	NDTRE	8	RI	NRIE
9	GND	GND	10	(KEY)	NC

COM6 : Internal COM 6 (TTL Level)

Pin	Name	Signal	Pin	Name	Signal
1	DCD	COM6_DCD-	2	DSR	COM6_DSR-
3	RX	COM6_SIN	4	RTS	COM6_RTS-
5	TX	COM6_SOUT	6	CTS	COM6_CTS-
7	DTR	COM6_DTR-	8	RI	COM6_RI-
9	GND	GND	10	(KEY)	NC



CPUFAN1: CPU FAN Header (3pin)

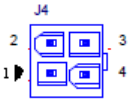
Pin	Signal Name	Description
1	GND	Ground
2	+12 V	PWM controlled pulses
3	Tach	FAN Tachometer

I-COM2: Internal COM2 connector*

Pin	Name	Signal	Pin	Name	Signal
1	DCD	NDCDE	2	DSR	NDSRE
3	RX	NSINE	4	RTS	NRTSE
5	TX	NSOUTE	6	CTS	NCTSE
7	DTR	NDTRE	8	RI	NRIE
9	GND	GND	10	(KEY)	NC

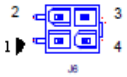
J4: Power connector

Pin	Name	Signal
1	GND	GND
2	GND	GND
3	+5V	+V5S
4	+12V	+V12S



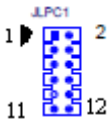
J6: ATX 2X2 R/A connector

Pin	Name	Signal
1	GND	GND
2	GND	GND
3	+5V	+V5S
4	+12V	+V12S



JLPC1: Debug Header

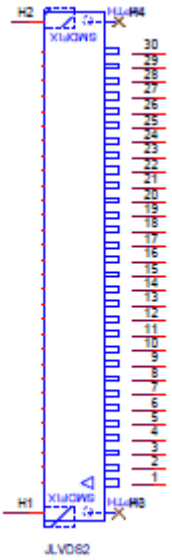
Pin	Name	Signal	Pin	Name	Signal
1	NC	NC	2	VCC	+V3.3S
3	AD3	LPC_AD3	4	RESET#	PLTRST#
5	AD1	LPC_AD1	6	AD2	LPC_AD2
7	FRAME#	LPC_FRAME#	8	AD0	LPC_AD0



9	KEY(Empty)	KEY	10	GND	GND
11	CLK	CLK33M	12	GND	GND

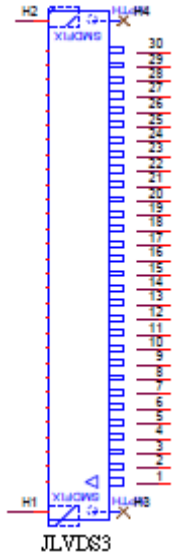
JLVDS2: LVDS Data Connector Chrontel output- dual channel

Pin	Name	Signal		Pin	Name	Signal
1	GND	GND		16	B_DATA3-	LVDS_U3_N_R
2	GND	GND		17	B_CLK+	LVDS_CLKU_P_R
3	A_DATA3+	LVDS_L3_P_R		18	B_CLK-	LVDS_CLKU_N_R
4	A_DATA3-	LVDS_L3_N_R		19	B_DATA2+	LVDS_U2_P_R
5	A_CLK+	LVDS_CLKL_P_R		20	B_DATA2-	LVDS_U2_N_R
6	A_CLK-	LVDS_CLKL_N_R		21	B_DATA1+	LVDS_U1_P_R
7	A_DATA2+	LVDS_L2_P_R		22	B_DATA1-	LVDS_U1_N_R
8	A_DATA2-	LVDS_L2_N_R		23	B_DATA0+	LVDS_U0_P_R
9	A_DATA1+	LVDS_L1_P_R		24	B_DATA0-	LVDS_U0_N_R
10	A_DATA1-	LVDS_L1_N_R		25	GND	GND
11	A_DATA0+	LVDS_L0_P_R		26	GND	GND
12	A_DATA0-	LVDS_L0_N_R		27	VDD	VCC_LVDS
13	GND	GND		28	VDD	VCC_LVDS
14	GND	GND		29	VDD	VCC_LVDS
15	B_DATA3+	LVDS_U3_P_R		30	GND	GND Note



JLVDS3: LVDS Data Connector Cedar View – single channel

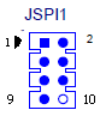
Pin	Name	Signal		Pin	Name	Signal
1	GND	GND		16	B_DATA3-	N/A
2	GND	GND		17	B_CLK+	N/A
3	A_DATA3+	LVDS_TX3_DP		18	B-CLK-	N/A
4	A_DATA3-	LVDS_TX3_DN		19	B_DATA2+	N/A
5	A_CLK+	LVDS_CLK_DP		20	B_DATA2-	N/A
6	A_CLK-	LVDS_CLK_DN		21	B_DATA1+	N/A
7	A_DATA2+	LVDS_TX2_DP		22	B_DATA1-	N/A
8	A_DATA2-	LVDS_TX2_DN		23	B_DATA0+	N/A
9	A_DATA1+	LVDS_TX1_DP		24	B_DATA0-	N/A
10	A_DATA1-	LVDS_TX1_DN		25	GND	GND
11	A_DATA0+	LVDS_TX0_DP		26	GND	GND
12	A_DATA0-	LVDS_TX0_DN		27	VDD	VCC_LVDS
13	GND	GND		28	VDD	VCC_LVDS
14	GND	GND		29	VDD	VCC_LVDS
15	B_DATA3+	N/A		30	GND	GND Note



Note: Must check this pin is GND or VDD before plug and older version LVDS cable.

JSP1: SPI Header

Pin	Signal Name	Pin	Signal Name
1	VCC3	2	GND
3	SPI_CS#	4	SPI_CLK
5	SPI_MISO	6	SPI_MOSI
7	HOLD#	8	Key



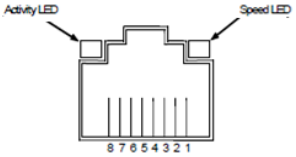
KB1: Internal PS/2 interface

Pin	Name	Signal
1	CLOCK IN	KCLK_IN Note
2	CLOCK OUT	KCLK_OUT Note
3	DATA IN	KDAT_IN Note
4	DATA OUT	KDAT_OUT Note
5	GND	GND
6	VCC	+V5DUAL

(Note: Need short-plug on pin-1&-2 and pin-3&-4 if MSR device is not connected)

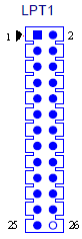
LAN1: RJ45 for Ethernet

Pin	Name	Signal
Speed LED	100M	LAN1_LED100-
	1G	LAN1_LED1000-
Activity LED	LED+	LAN1_LINK_ACT
	ACTIVE LED-	LAN1_ACTLED-
1	TD4-	LAN1_MDI3N
2	TD4+	LAN1_MDI3P
3	TD3-	LAN1_MDI2N
4	TD3+	LAN1_MDI2P
5	TD2-	LAN1_MDI1N
6	TD2+	LAN1_MDI1P
7	TD1-	LAN1_MDI0N
8	TD1+	LAN1_MDI0P



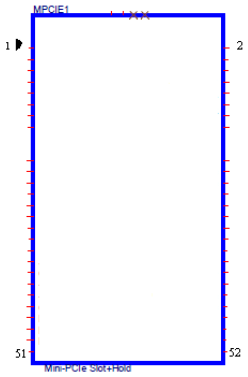
LPT1: Parallel Port Header

Pin	Name	Signal		Pin	Name	Signal
1	STB#	LPT_STB#		2	PD0	LPT_PD0
3	PD1	LPT_PD1		4	PD2	LPT_PD2
5	PD3	LPT_PD3		6	PD4	LPT_PD4
7	PD5	LPT_PD5		8	PD6	LPT_PD6
9	PD7	LPT_PD7		10	ACK#	LPT_ACK#
11	BUSY	LPT_BUSY		12	PE	LPT_PE
13	SLCT	LPT_SLCT		14	AFD#	LPT_AFD#
15	ERR#	LPT_ERR#		16	INIT#	LPT_INIT#
17	SLIN#	LPT_SLIN#		18	GND	GND
19	GND	GND		20	GND	GND
21	GND	GND		22	GND	GND
23	GND	GND		24	GND	GND
25	GND	GND		26	(Key)	



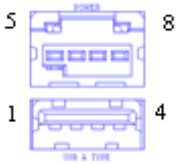
MPCIE1: Mini PCI-E connector

Pin	Signal Name	Pin	Signal Name
1	WAKE#	2	3.3Vaux
3	NC	4	GND
5	NC	6	1.5V
7	CLKREQ#	8	NC
9	GND	10	NC
11	CLK_MINICARD#	12	NC
13	CLK_MINICARD	14	NC
15	GND	16	NC
Mechanical Key			
17	NC	18	GND
19	NC	20	W_DISABLE#
21	GND	22	PERST#
23	PERn0	24	3.3Vaux
25	PERp0	26	GND
27	GND	28	1.5V
29	GND	30	SMB_CLK
31	PETn0	32	SMB_DATA
33	PETp0	34	GND
35	GND	36	NC
37	GND	38	NC
39	3.3VAUX	40	GND
41	3.3VAUX	42	NC
43	GND	44	NC
45	Reserved	46	NC
47	Reserved	48	1.5V
49	Reserved	50	GND
51	Reserved	52	3.3VAUX



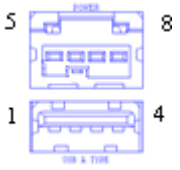
POWERUSB1: +12 V USB port

Pin	Name	Signal		Pin	Name	Signal
1	VCC USB	+V5 DUAL		5	12V GND	GND
2	DATA-	USB_P2-		6	12V_1	+V12S
3	DATA+	USB_P2+		7	12V_2	+V12S
4	GND	GND		8	12V GND	GND



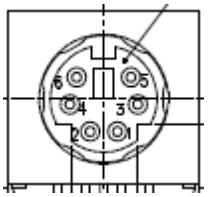
POWERUSB2: +24 V USB port

Pin	Name	Signal		Pin	Name	Signal
1	VCC USB	+V5 DUAL		5	24V GND	GND
2	DATA-	USB_P1-		6	24V_1	+V24S
3	DATA+	USB_P1+		7	24V_2	+V24S
4	GND	GND		8	24V GND	GND



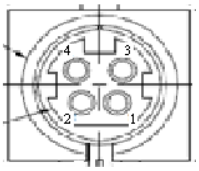
PS2: PS/2 connector

Pin	Name	Signal
1	DATA	KBDATA
2	NC	MSDATA
3	GND	GND
4	VCC	+V5DUAL
5	CLK	KBCLK
6	NC	MSCLK



PW1: DC-in Connector (4 pin)

Pin	Name	Signal
1	+24V	+V24IN
2	+24V	+V24IN
3	GND	GND
4	GND	GND



PW3: 12V Power Connector

Pin	Name	Signal
1	GND	GND
2	+12V	+V12S

PW5: 5V Power Connector

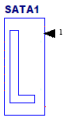
Pin	Name	Signal
1	GND	GND
2	+5V	+V5S

PW6: 5V Power Connector

Pin	Name	Signal
1	GND	GND
2	+5V	+V5S

SATA1: SATA Connector

Pin	Signal Name	Description
1	GND	Ground
2	TXP	Transmit diff data - positive
3	TXN	Transmit diff data - negative
4	GND	Ground
5	RXN	Receive diff data - negative
6	RXP	Receive diff data - positive
7	GND	Ground



SPK1: Speaker Output header-L

Pin	Signal Name
1	SPK_L+
2	SPK_L-

SPK2: Speaker Output header-R

Pin	Signal Name
1	SPK_R+
2	SPK_R-

SW1: Power switch header

Pin	Name	Signal
1	Button Pin1	GND
2	Button Pin2	PM_PWRBTN#

TS1: Touch Screen connector

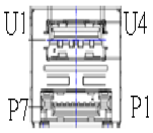
Pin	Signal Name
1	LL
2	LT
3	PROBE
4	RL
5	RT

USB1: USB interface MSR connector

Pin	Name	Signal
1	VCC	USBV5
2	DATA-	USB7-
3	DATA+	USB7+
4	GND	GND

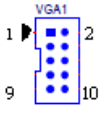
USB_ESATA1: USB+ eSATA connector

eSATA				USB		
Pin	Name	Signal		Pin	Name	Signal
P1	GND	+V1.9_LAN		U1	VCC	+V5DUAL
P2	TX+	MDI0P		U2	DATA-	USB_P3-
P3	TX-	MDI0N		U3	DATA+	USB_P3+
P4	GND	MDI1P		U4	GND	GND
P5	RX+	MDI1N				
P6	TD3+	MDI2P				
P7	TD3-	MDI2N				



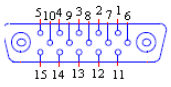
VGA1: Internal connector

Pin	Name	Signal		Pin	Name	Signal
1	Red	VGA_RED		2	GND	GND
3	Green	VGA_GREEN		4	GND	GND
5	Blue	VGA_BLUE		6	DETECT	T_VGA1
7	HSYNC	VGA_HSYNC		8	GND	GND
9	VSYNC	VGA_VSYNC		10	GND	GND



VGA2: VGA Port

Pin	Name	Signal		Pin	Name	Signal
1	Red	VGA_RED		2	Green	VGA_GREEN
3	Blue	VGA_BLUE		4	NC	NC
5	GND	GND		6	GND	GND
7	GND	GND		8	GND	GND
9	POWER	+5V_VGA		10	GND	GND
11	NC	NC		11	Data	VGA_DDAT
13	HSYNC	VGA_HSYNC		13	VSYNC	VGA_VSYNC
15	CLK	VGA_DCLK				



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