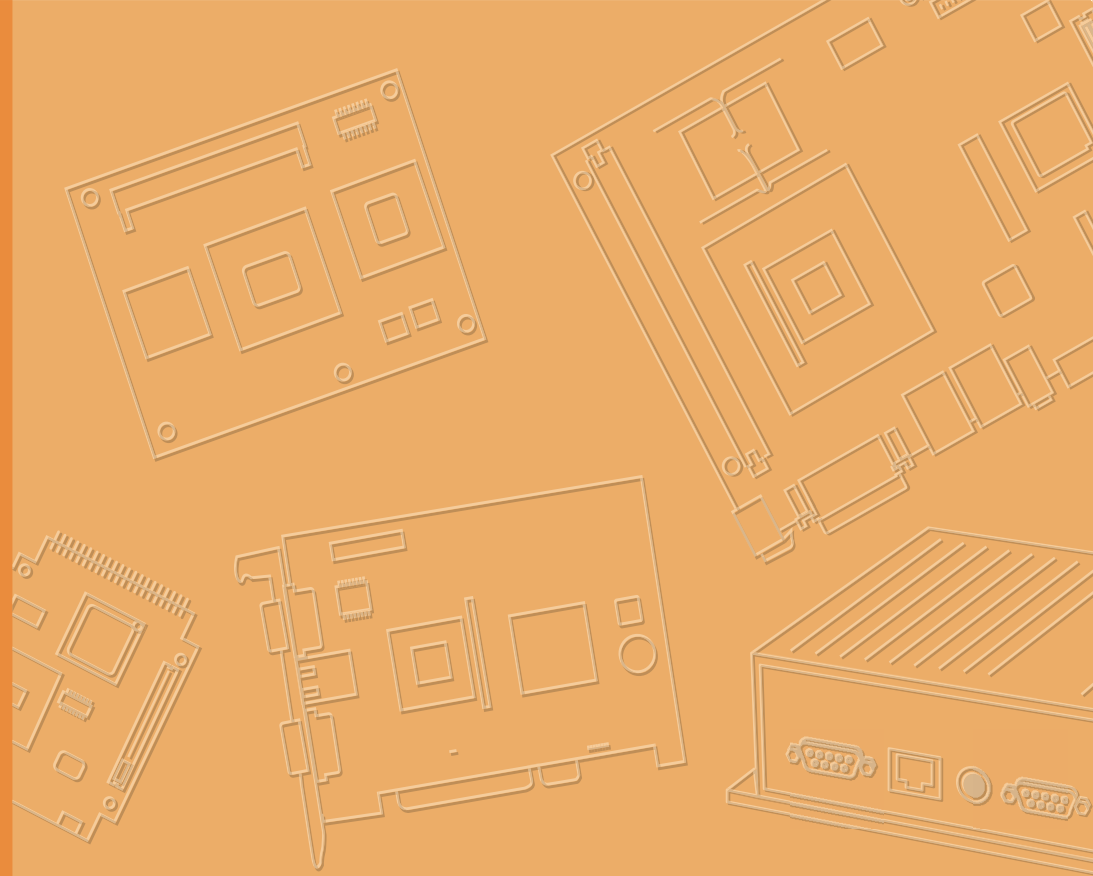


User Manual



UPOS-3150

**Intel® Baytrail J1900 Processor-
based Ubiquitous POS with 15"
TFT LCD**

ADVANTECH

Enabling an Intelligent Planet

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For technical support and service, please visit our support website at:

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This manual is for the UPOS-3150.

Product Warranty (2 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Declaration of Conformity

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This kind of cable is available from Advantech. Please contact your local supplier for ordering information.

CE

This product has passed the CE test for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class B

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, 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 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.

Warning! *Any changes or modifications made to the equipment which are not expressly approved by the relevant standards authority could void your authority to operate the equipment.*



Packing List

Before you begin installing UPOS-3150, please make sure that the following materials have been shipped:

- UPOS-3150 series
- Accessories for UPOS-3150
 - Warranty card

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

Technical Support and Assistance

1. Visit the Advantech web site at <http://support.advantech.com> where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
 - Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening in the device. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
 15. The power cord or plug is damaged.
 16. Liquid has penetrated into the equipment.
 17. The equipment has been exposed to moisture.
 18. The equipment does not work well, or you cannot get it to work according to the user's manual.
 19. The equipment has been dropped and damaged.
 20. The equipment has obvious signs of breakage.
21. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
22. **CAUTION: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER, DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.**
23. The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

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Chapter 1

General Information

This chapter gives background information on the UPOS-3150.

Sections include:

- Introduction
- General Specifications
- LCD Specifications
- Dimensions

1.1 Introduction

UPOS-3150 is a fanless POS system, which provides the smallest footprint to save counter space and enhance store layout flexibility. It provides easy access to key components and cash check module to expedite cash payment process. SUSI-Access is built in to support Real-time Hardware / Software monitoring, remote maintenance and system security. It is designed with the unique T-structure for mini market stores, convenience stores, specialty stores etc. UPOS systems are the best solutions to deliver a quicker and smarter retail experience, bringing mutual business benefit.

1.2 General Specifications

1.2.1 General

- **Dimension: (W x H x D):** 394 x361 x 356 mm
- **Weight:** 7.8 kg (17.2 lbs)
- **Power input:**
 - 60 W (100-240 Vac,50-60 Hz,1.5 A) power adapter
 - 84 W (100-240 Vac,50-60 Hz,1.3 A) power adapter (optional)
- **Storage:** 500G HDD factory installed, support 1 x 2.5" SATA HDD/SSD socket
- **Front panel:** IP65 sealed front panel with touch screen
- **CPU:** Intel® BayTrail Platform J1900 2.0 GHz
- **BIOS:** AMI 8 MB SPI Serial Flash BIOS
- **System chipset:** Intel® Bay Trail J1900 2.0 GHz
- **System memory:** 2 G factory installed, support 1 x 204 pin DDR3L 1333 Mhz SO-DIMM, up to 8 GB
- **COM port:** External: 3 x COM; COM1 / COM2 support 5 V, 12 V by order; internal: 2 x COM
- **USB port:** External: 3 x USB, 1 x Power USB (maximum rating is 12 V/3 A, typical device is 12 V/500 mA. (If the USB device power consumption is greater than 12 V/500 mA, contact Advantech's technical support to review whether to enlarge the power adapter or not); Internal: 2 x USB
- **Cash drawer:** 1 x RJ-11
- **Expansion slot:** 1 x Mini PCIe, 1 x mSATA
- **OS support:** Windows Embedded POS Ready 7, Windows 7 Pro Embedded, Windows 8.1 Pro Embedded, Linux Kernel 3.13 or above, Android 4.4 or above
- **LPT port:** 1 LPT port (optional)

1.2.2 VGA Function

- **Chipset:** Intel® BayTrail J1900 2.0 GHz
- **Interface:** 1 x VGA on I/O board, for display monitor

1.2.3 Audio Function

- **Chipset:** Realtek ALC892
- **Interface:** 1 x Mic in and 1 x Line out on I/O board
- 2 x speakers - box header inside

1.2.4 LAN Function

- **Chipset:** Realtek, RTL8111E-VL-CG
- **Speed:** 1000 Mbps /Interface: 1 x RJ45

- **Wake-on-LAN:** Supports Wake-on-LAN function with ATX power control

1.2.5 Cash Check Function

UV lamp cash check: Check the authenticity of cash.

Warning! Use UV radiation eye and skin protection during repairing.



1.2.6 Touch screen

Type	Analog Resistive 5-wires (Res. Flat Glass)
Light Transmission	81% +/-3%
Controller	COM Port
Durability (touches in a lifetime)	36 million

1.2.7 Environment

- **Operating temperature:** 0 ~ 40° C (32 ~ 104° F)
- **Storage temperature:** -20 ~ 60° C
- **Relative humidity:** 10 ~ 90% @ 40° C (non-condensing)
- **Certification:** EMC: CE, FCC Class B
Safety: UL 60950, CB, CCC, BSMI
- **VESA support:** 75 x 75 mm or 100 x 100 mm (type- M4 x 5 screws)

1.3 LCD Specifications

- **Display type:** 15" TFT LCD
- **Max. resolution:** 1024 x 768
- **Colors:** 262 K
- **Pixel pitch (um):** 297 (H) x 297 (W)
- **View angle:** 80° (H) / 70° (V)
- **Luminance:** 250 cd/m²

Note! *The color LCD display installed in the UPOS-3150 is high-quality and reliable. However, it may contain a few defective pixels which do not always illuminate. With current technology, it is impossible to completely eliminate defective pixels. Advantech is actively working to improve this technology.*



1.4 Dimensions

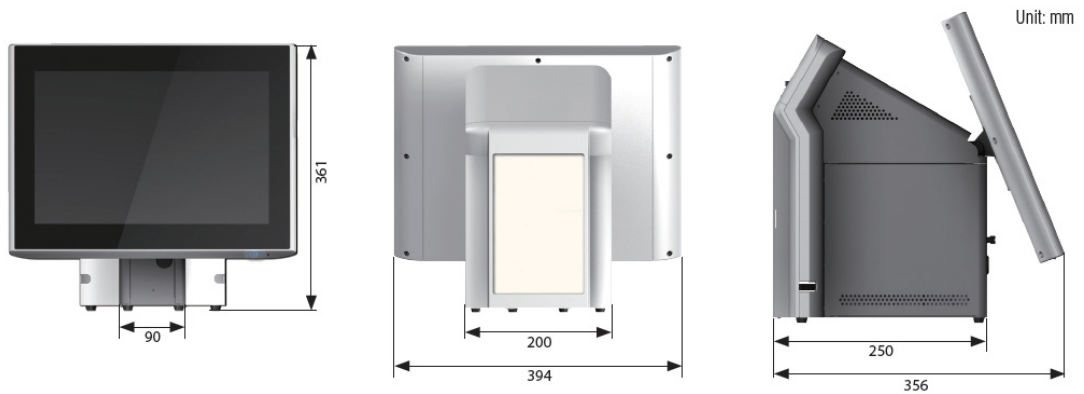


Figure 1.1 Dimensions of UPOS-3150

Chapter 2

System Setup

This chapter details system setup on the UPOS-3150.

Sections include:

- A Quick Tour of the UPOS-3150
- Installation procedures
- Running the BIOS Setup Program
- Installing System Software

2.1 A Quick Tour of the UPOS-3150

Before you start to set up the UPOS-3150, take a moment to become familiar with the locations and purposes of the controls, drives, connectors and ports, which are illustrated in the figures below.

When you place the UPOS-3150 upright on the desktop, its front panel appears as shown in Figure 2.1.



Figure 2.1 Front view of UPOS-3150

When you turn the UPOS-3150 around, you will see the rear side as shown in Figure 2.2. Open the rear cover from the two holes, you will find the I/O section as shown in Figure 2.3. The I/O section includes various I/O ports, including COM ports, USB ports, Ethernet ports, RJ-11, VGA, Line-out, Mic-in, power inlet.

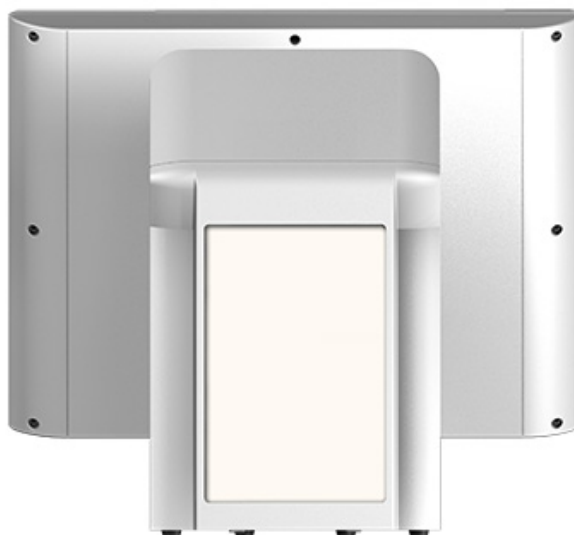


Figure 2.2 Rear view of UPOS-3150

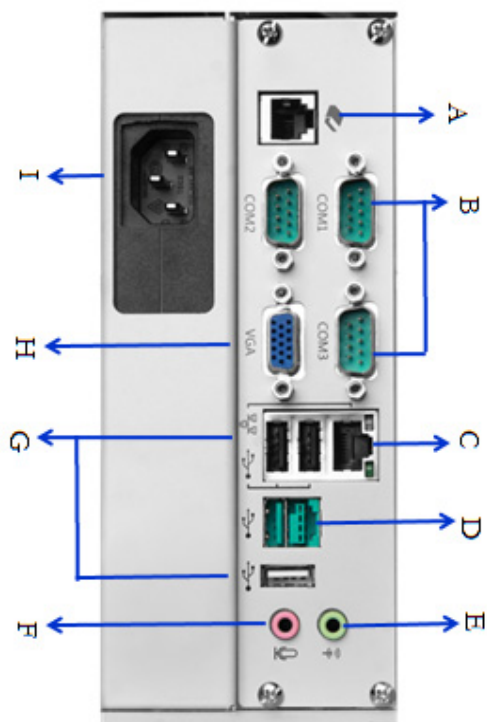


Figure 2.3 I/O interface

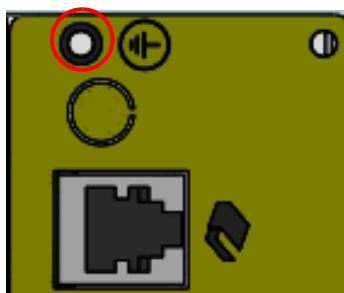


Figure 2.4 Grounding screw

- | | |
|----------------|------------------------------------------|
| A. RJ-11 | B. COM x 3 |
| C. RJ-45 | D. Power USB |
| E. LINE-OUT | F. MIC-IN |
| G. USB x 3 | H. VGA |
| I: Power inlet | J. Grounding screw (refer to Figure 2.4) |

2.2 Installation Procedures

2.2.1 Connecting the power cord

The UPOS-3150 can be powered by 3 pin power cords. Be sure to always handle the power cords by holding the plug ends only. Connect it to the power inlet on UPOS-3150.

2.2.2 Connecting the keyboard or mouse

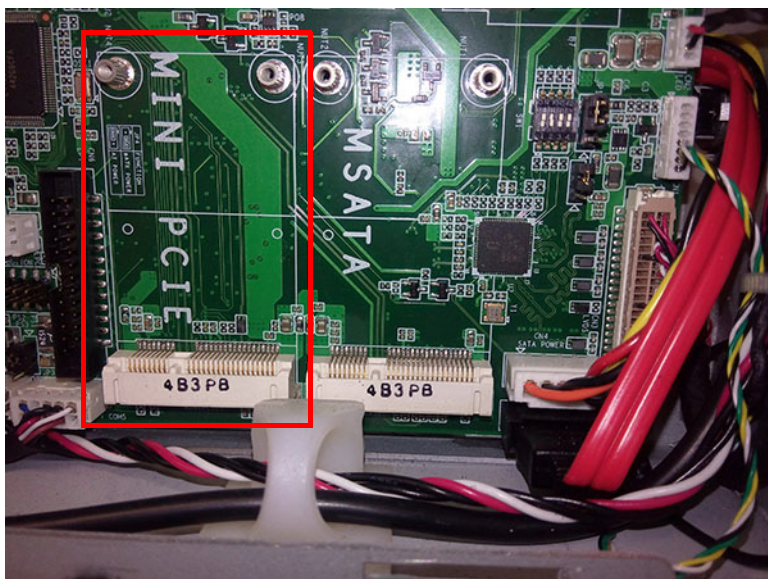
Before you start the computer, please connect Keyboard or mouse, and all the required peripherals on the I/O section of the UPOS-3150.

2.2.3 Installing the mini PCIe card

1. Undo the screws below, then remove the side door.



2. Install the mini PCIe device, and tighten the screws.



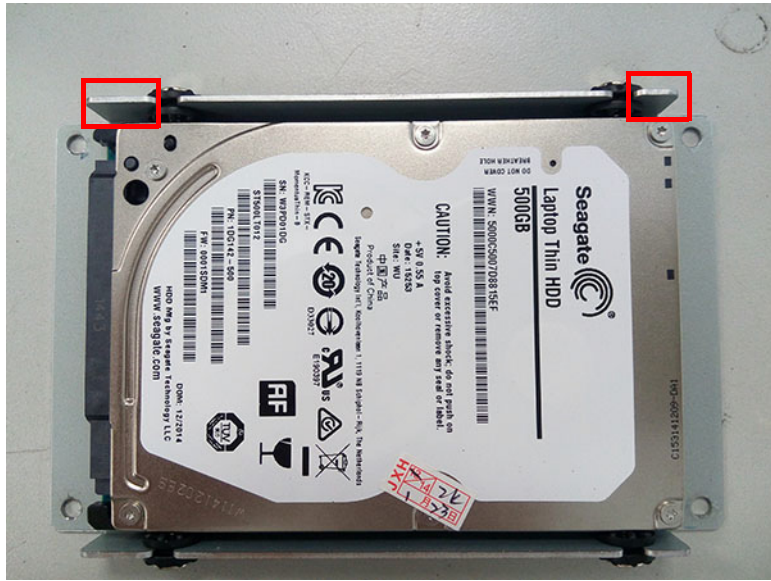
2.2.4 Installing the HDD

1. Detach and remove the side door.
2. Affix 4 rubber washers to the HDD tray, and tighten the screws (see Figure).



Note! Be sure to install the HDD in the correct direction.

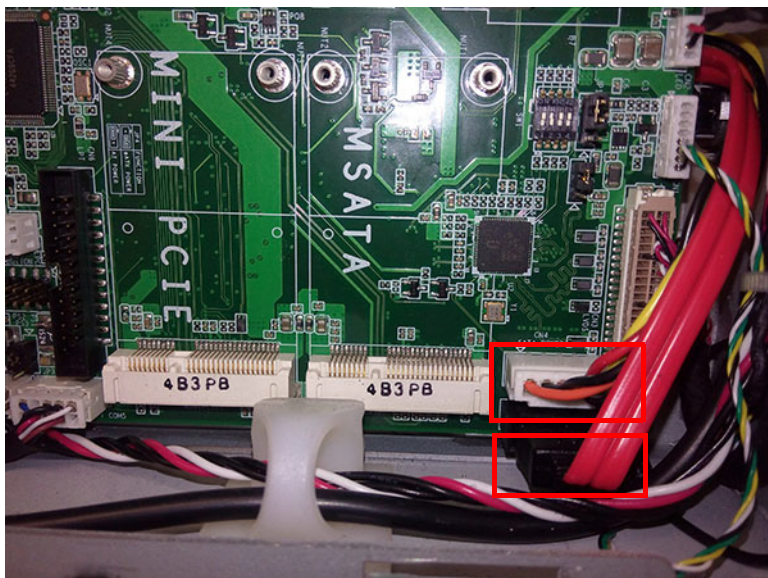




3. Install the HDD tray to the UPOS-3150, and tighten the screws, then connect the HDD cable to the HDD (see the figure below.)

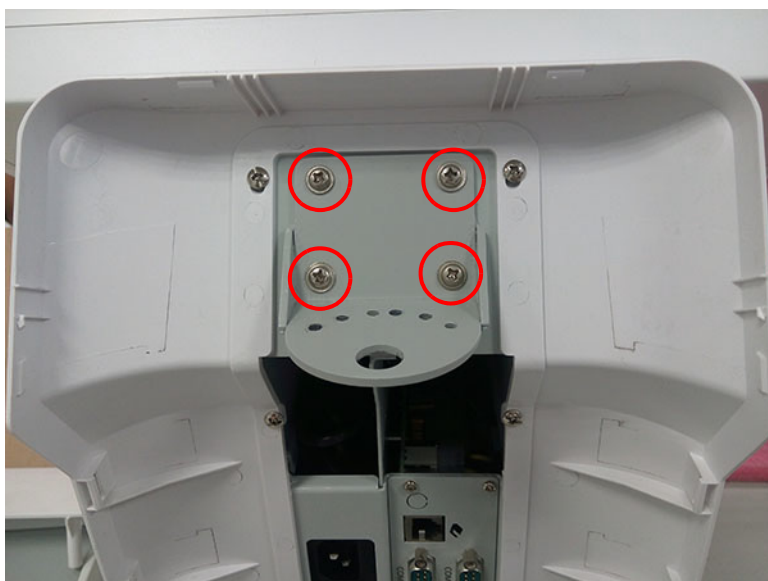


4. Connect the HDD cable to the motherboard.

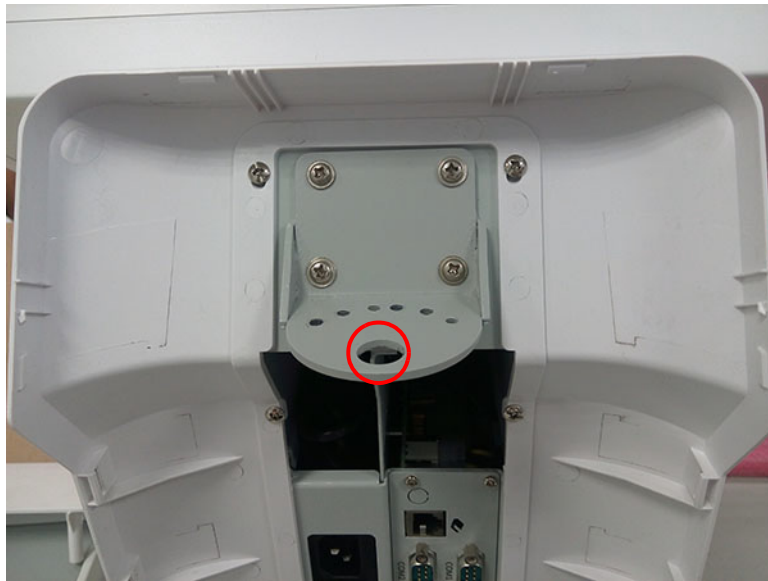


2.2.5 Installing the Customer Display

1. Remove the rear cover, and install the bracket for customer's display, then tighten the screws.



2. Position the customer's display to fit on the bracket, see figure below, then tighten the screws.



Note! Users can place the display in 3 directions left / middle / right as required.



3. Change the top rear cover to the cover with a square hole, assembly it onto the UPOS-3150.

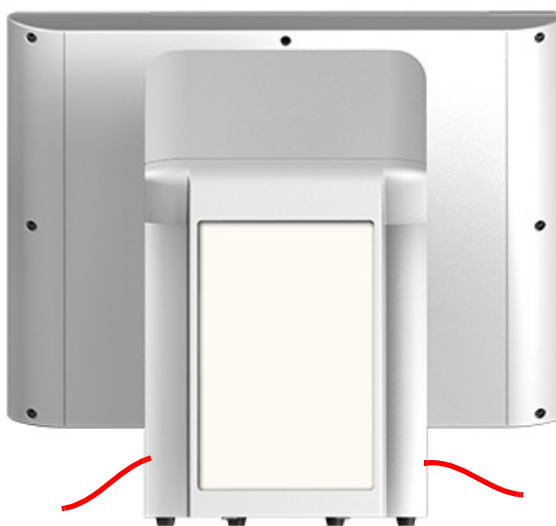


4. Connect the VGA and power cables.

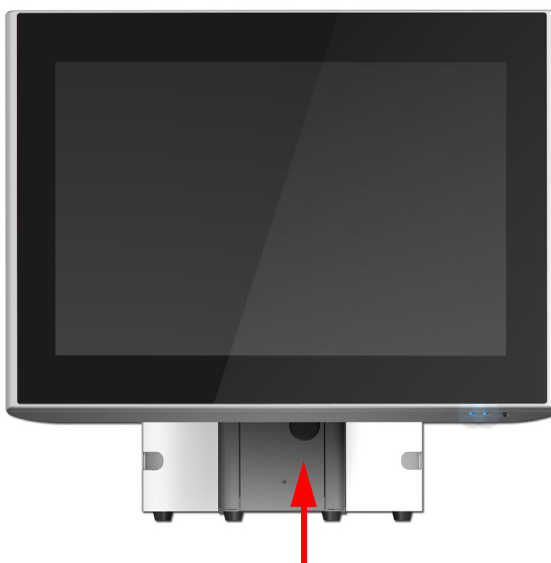
2.2.6 Connecting the Cables

After all the required devices installed, route all the cables via the holes (1 in left side, 1 in right side) on the UPOS-3150, see figure below.

Assembly the rear cover.



Connect the power cord to power supply, press power button (in the front side of the UPOS-3150) to power on the UPOS-3150.



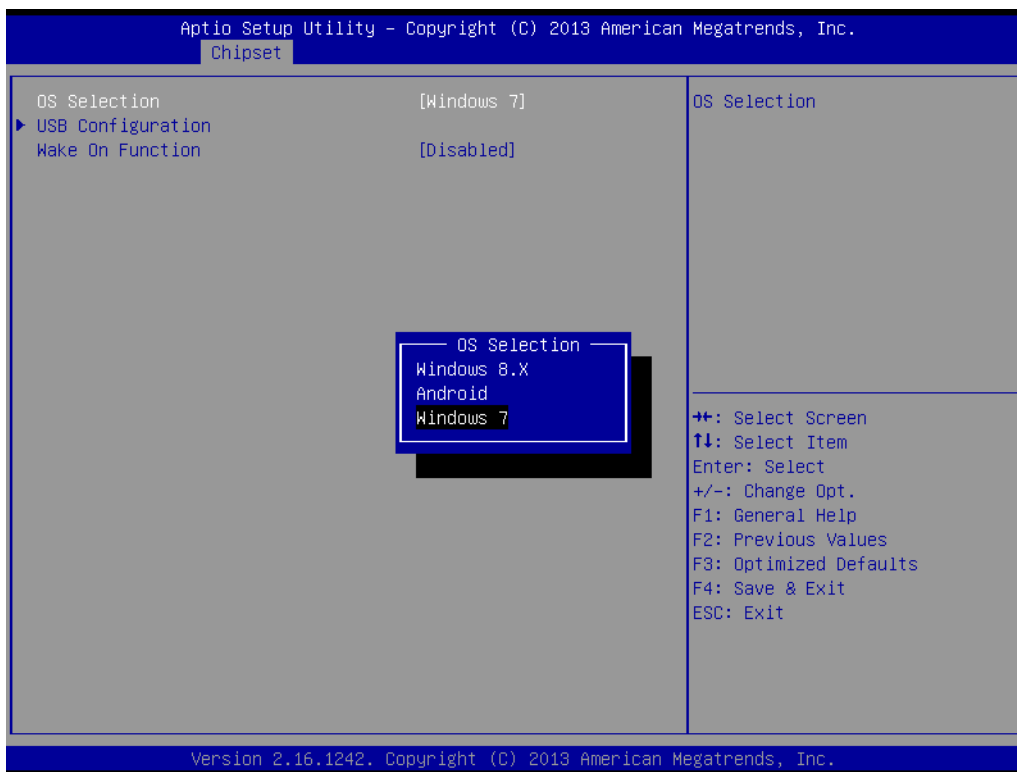
2.3 Running the BIOS Setup Program

Your UPOS-3150 is likely to have been properly set up and configured by your dealer prior to delivery. You may still find it necessary to use the UPOS-3150's BIOS (Basic Input-Output System) setup program to change system configuration information, such as the current date and time or your type of hard drive. The setup program is stored in read-only memory (ROM). It can be accessed either when you turn on or reset the UPOS-3150, by pressing the "Del" key on your keyboard immediately after powering on the computer.

The settings you specify with the setup program are recorded in a special area of memory called CMOS RAM. This memory is backed up by a battery so that it will not be erased when you turn off or reset the system. Whenever you turn on the power, the system reads the settings stored in CMOS RAM and compares them to the equipment check conducted during the power on self-test (POST). If an error occurs, an error message will be displayed on screen, and you will be prompted to run the setup program.

BIOS Setup

When installing OS, please select Chipset “South Bridge” OS selection, users can select Windows 8.x / Android / Windows 7.

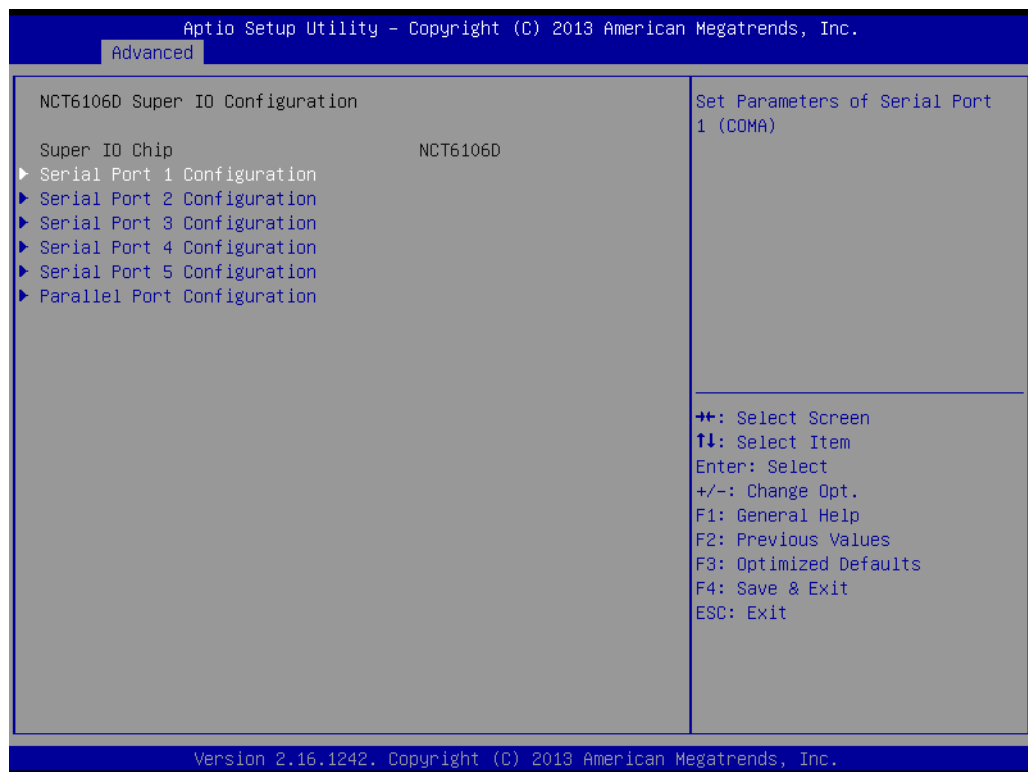


When you want to change the system time / date, please select “Main system time or system date”, and key in the new data via keyboard.



- **COM1 / COM2 / COM3 / COM4 Selection**

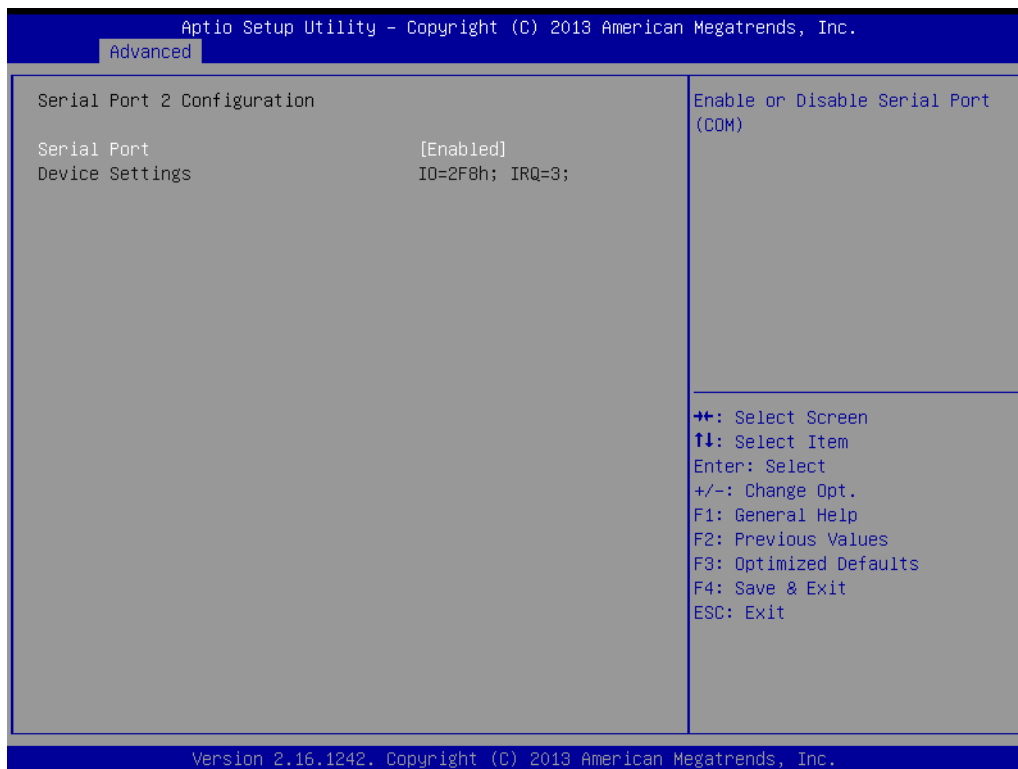
Enter into BIOS setup “Advanced” NCT6106D Super IO Configuration.



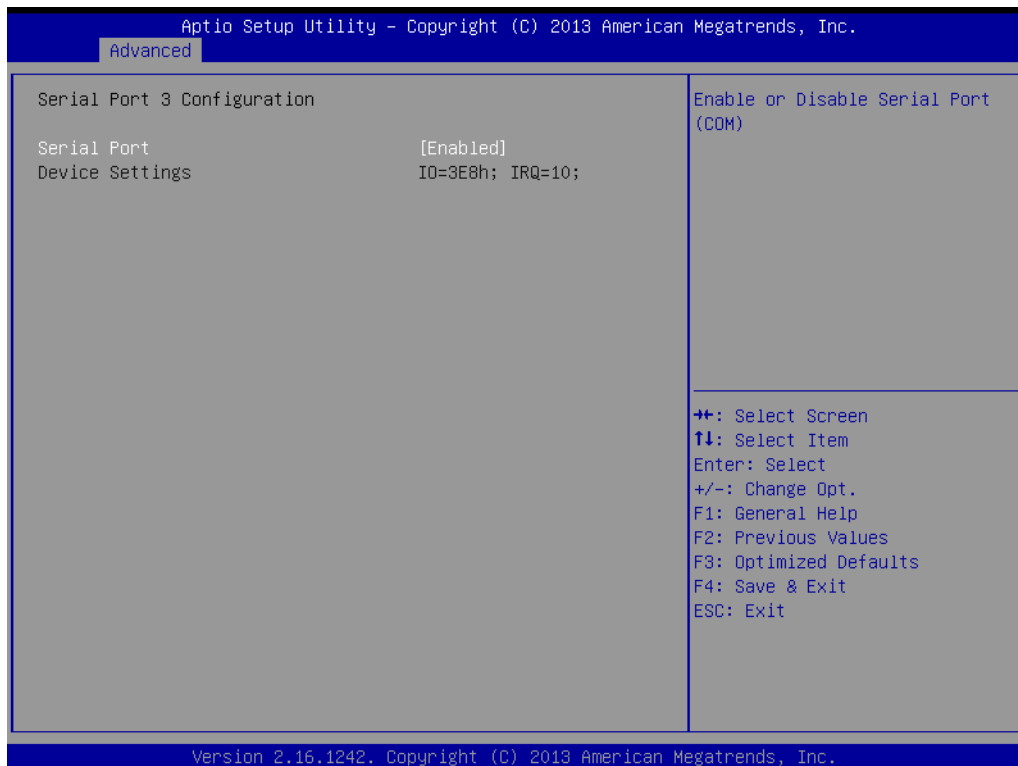
- **Select COM1 Configuration**



■ Select COM2 Configuration



■ Select COM3 Configuration

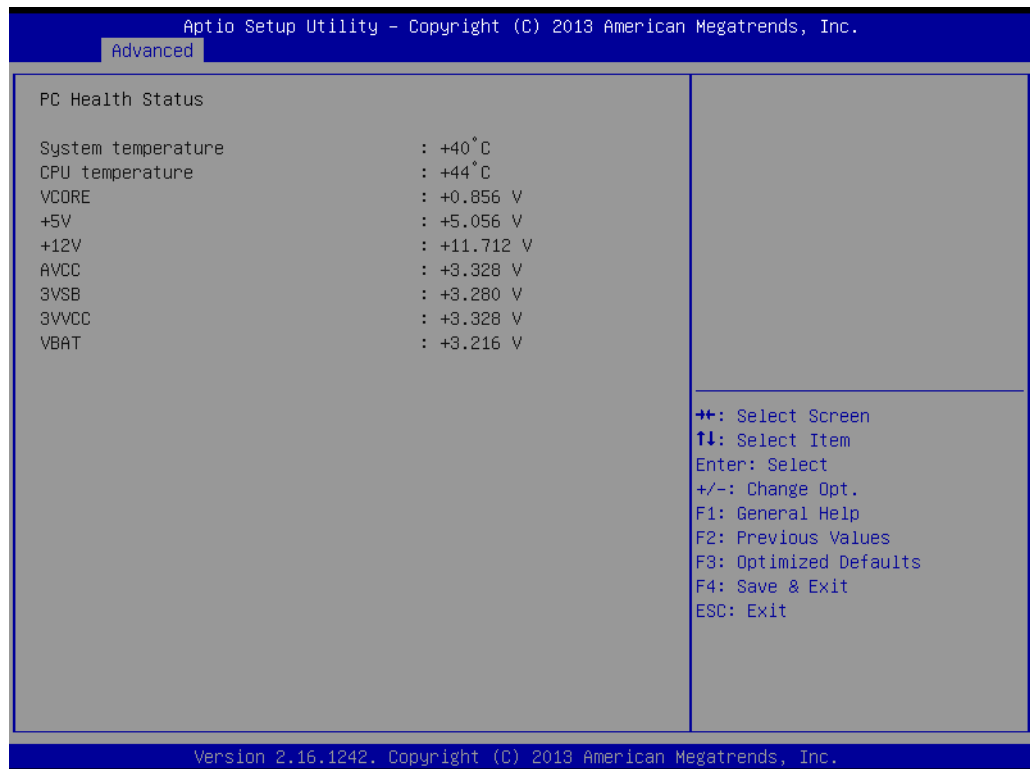


■ **Select COM4 Configuration**



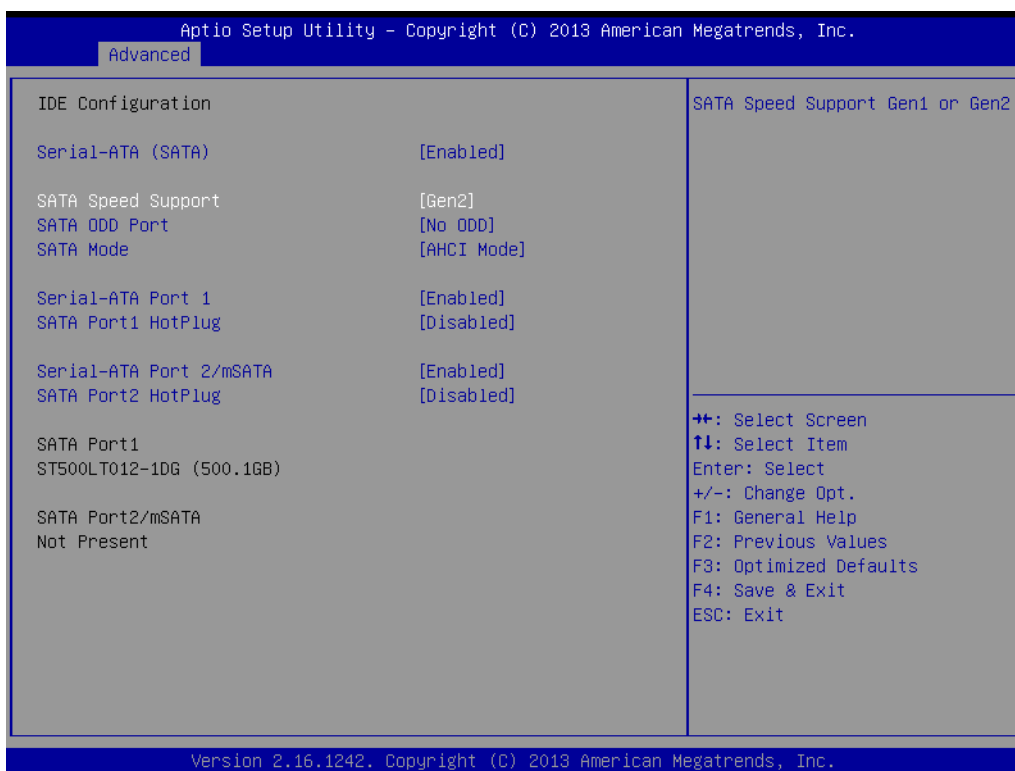
■ **NCT610D Configuration**

Check the system and CPU temperature and voltage information.
 Enter into BIOS setup → Advanced → NCT610D Configuration.



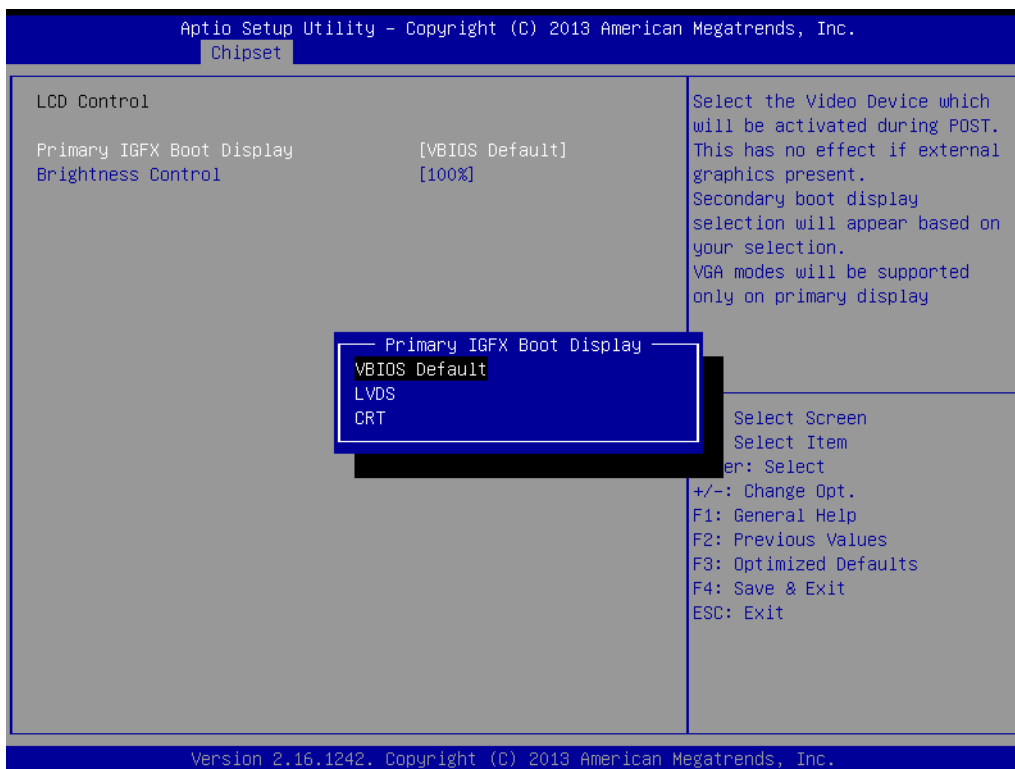
■ IDE Configuration

SATA Mode default is AHCI Mode, user can change it to IDE Mode as required.

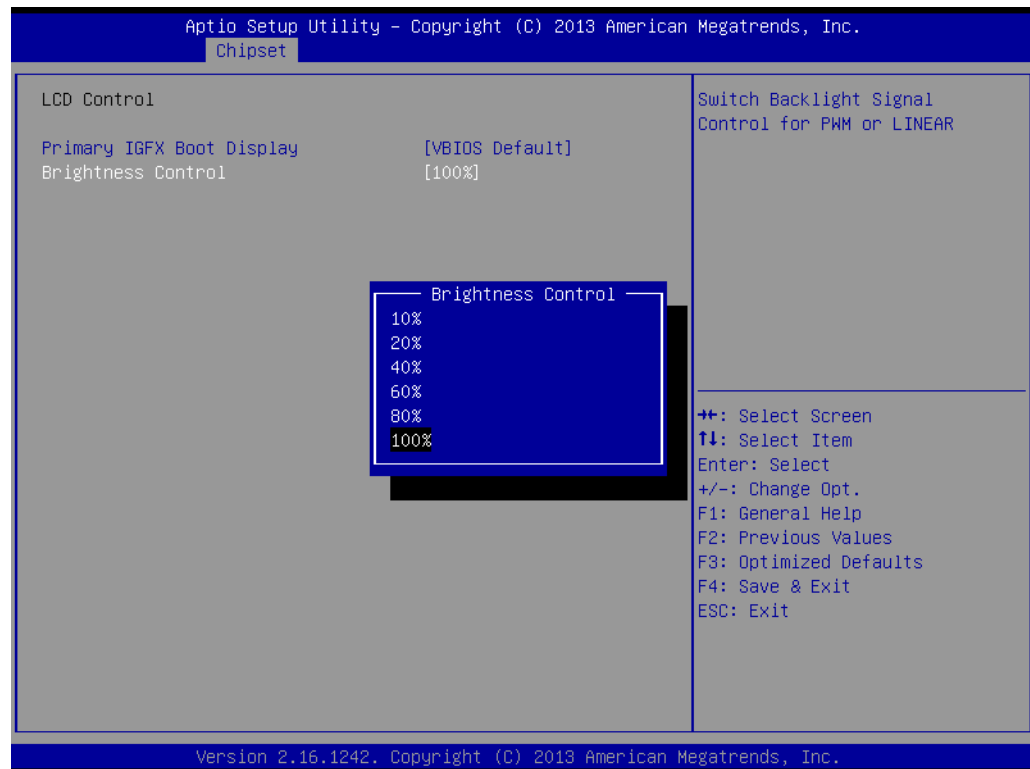


■ LCD Control

Select Chipset → North Bridge → LCD control, Primary IGFX Boot Display default is VBIOS Default, user can select LVDS or CRT as required.



Brightness Control default is 100%, user can adjust LCD brightness.



2.4 Installing System Software

Recent releases of operating systems from major vendors include setup programs which load automatically and guide you through hard disk preparation and operating system installation. The guidelines below will help you determine the steps necessary to install your operating system on the UPOS-3150 hard drive.

Note! *Some distributors and system integrators may have already pre-installed system software prior to shipment of your UPOS-3150.*



Installing software requires an installed HDD. Software can be loaded in the UPOS-3150 using any of four methods:

2.4.1 Method 1: Ethernet

You can use the Ethernet port to download software to the HDD.

2.4.2 Method 2: External USB CD-ROM

If required, insert your operating system's installation or setup diskette into the diskette drive until the release button pops out.

The BIOS of UPOS-3150 supports system boot-up directly from the CD-ROM drive. You may also insert your system installation CD-ROM into the CD-ROM drive.

Power on your UPOS-3150 or reset the system by pressing the "Ctrl+Alt+Del" keys simultaneously. The UPOS-3150 will automatically load the operating system from the diskette or CD-ROM.

If you are presented with the opening screen of a setup or installation program, follow

the instructions on screen. The setup program will guide you through preparation of your hard drive, and installation of the operating system. If you are presented with an operating system command prompt, such as A:\>, then you must partition and format your hard drive, and manually copy the operating system files to it. Refer to your operating system user manual for instructions on partitioning and formatting a hard drive.

2.5 Installing the Drivers

After installing your system software, you will be able to set up the Ethernet, Chipset, Graphic, audio, USB3.0 and touchscreen functions. you can download the drivers from advantech website.

Note! *The drivers and utilities used for the UPOS-3150 are subject to change without notice.*



If in doubt, check Advantech's website or contact our application engineers for the latest information regarding drivers and utilities.

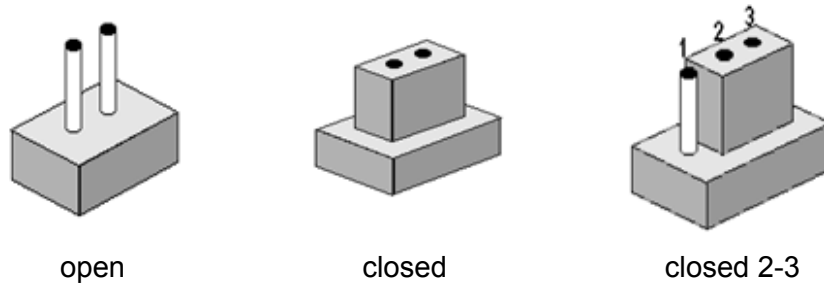
Chapter 3

Jumper Settings and
Connectors

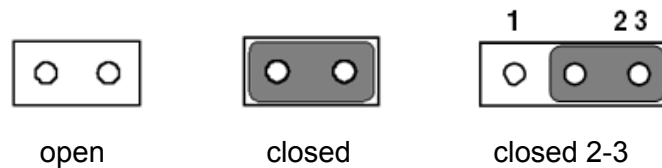
3.1 Jumpers and Connectors

3.1.1 Setting Jumpers

You can configure your UPOS-3150 to match the needs of your application by setting jumpers. A jumper is the simplest kind of electrical switch. It consists of two metal pins and a small metal clip (often protected by a plastic cover) that slides over the pins to connect them. To 'close' a jumper, you connect the pins with the clip. To 'open' a jumper you remove the clip. Sometimes a jumper will have three pins, labeled 1, 2, and 3. In this case, you would connect either pins 1 and 2 or pins 2 and 3.



The jumper settings are schematically depicted in this manual as follows:.



A pair of needle-nose pliers may be helpful when working with jumpers. If you have any doubts about the best hardware configuration for your application, contact your local distributor or sales representative before you make any changes.

3.1.2 Jumpers and Connectors

The motherboard of the UPOS-3150 has a number of jumpers and connectors that allow you to configure your system to suit your applications. The table below lists the function of each of the board's jumpers.

Table 3.1: Jumpers and Connector Functions

Label	Function
CN1	Back_Light
CN2	LED
CN3	LVDS
CN4	SATA POWER
CN5	DDR3L SODIMM
CN6	LPT
CN7	COM5
CN8	POWER BUTTON
CN10	POWER BUTTON
CN11	COM4
CN13	Internal USB
CN14	Internal USB
CN16	Speaker
CN17	4PIN POWER IN
CN18	LAN
CN19	External USB
CN20	COM3 + VGA
CN21	USB + POWER
CN22	LINE-OUT /MIC-IN
CN23	RJ11 Cash draw
MINIPCIE1	MINIPCIE
MSATA1	MSATA
COM1	COM1/COM2
SATA1	SATA
DCIIN1	12V_OUT

3.1.3 Locating Jumpers and Connectors

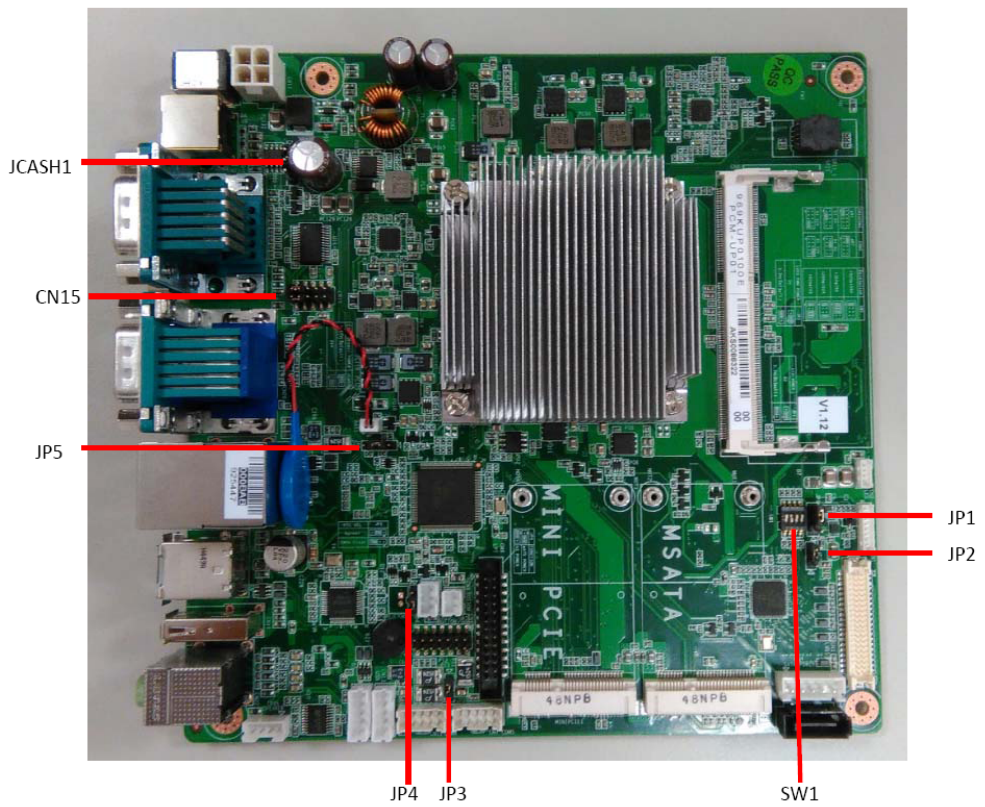


Figure 3.1 Jumper Locations

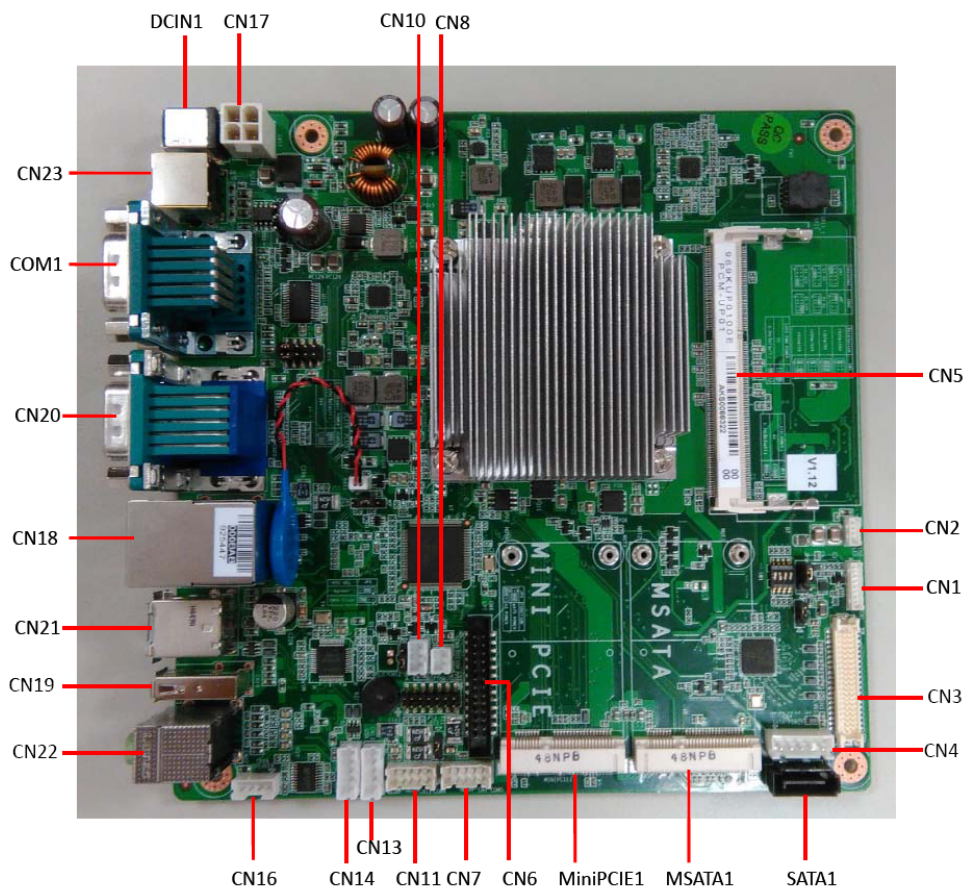


Figure 3.2 Connector Locations

3.2 Jumpers

3.2.1 Jumper List

Table 3.2: Jumper List

JP1	LCD POWER
JP2	LVDS PWM POWER
JP3	COM4 POWER SEL
SW1	PANEL RESOLUTION
JP4	AT/ATX POWER SEL
JP5	Clear CMOS
JCASH1	CASHDRAW POWER SEL
CN15	COM1/COM2 RING POWER SEL

3.2.2 Jumper Settings

Table 3.3: JP1:LCD POWER

Part Number	1653003100
Footprint	HD_3x1P_100_D
Description	PIN HEADER 3x1P 2.54mm 180D(M) DIP 205-1x3GS
Setting	Function
(1-2)	5V
(2-3)*	3.3V (default)

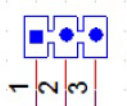


Table 3.4: JP2: LVDS PWM POWER

Part Number	1653003101
Footprint	HD_3x1P_79_D
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	Function
(1-2)	5V
(2-3)*	3.3V (default)

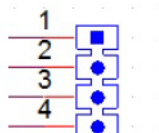
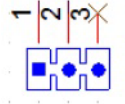
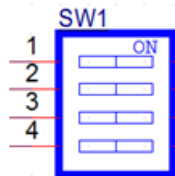


Table 3.5: JP3: COM4 POWER SEL

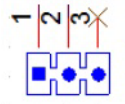
Part Number	1653003101
Footprint	HD_3x1P_79_D
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	Function
(1-2) *	5V(default)
(2-3)	12V

**Table 3.6: SW1:PANEL RESOLUTION**

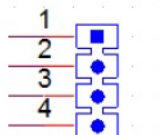
Part Number	1600000402
Footprint	SW_4x2P_50_260x315
Description	DIP SW SMD 8P SPST P=1.27mm W=5.4mm KHS42E
Setting	Function
1024*768	1-ON,2-OFF,3-ON,4-ON

**Table 3.7: JP4:AT/ATX POWER SEL**

Part Number	1653003101
Footprint	HD_3x1P_79_D
Description	PIN HEADER 3*1P 180D(M) 2.0mm DIP SQUARE W/O Pb
Setting	Function
(1-2)	AT
(2-3)*	ATX

**Table 3.8: JP5:Clear CMOS**

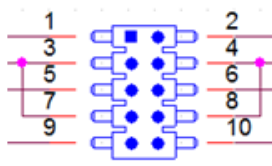
Part Number	1653004101
Footprint	HD_4x1P_79_D
Description	PIN HEADER 4x1P 2.0mm 180D(M) DIP 21N12050
Setting	Function
(2-3)*	Normal
(3-4)	Clear CMOS


Table 3.9: JCASH1:CASHDRAW POWER SEL

Part Number	1653003100
Footprint	HD_3x1P_100_D
Description	PIN HEADER 3x1P 2.54mm 180D(M) DIP 205-1x3GS
Setting	Function
(1-2)*	12V(default)
(2-3)	24V


Table 3.10: CN15:COM1/COM2 RING POWER SEL

Part Number	1653005261
Footprint	HD_5x2P_79
Description	PIN HEADER 5x2P 2.0mm 180D(M) SMD 21N22050
Setting	Function
(1-3)*	COM1 RING
(5-7)	5V
(7-9)	12
(2-4)*	COM2 RING
(6-8)	5V
(8-10)	12V



Appendix **A**

I/O Pin Assignments

A.1 PIN Assignments

Table A.1: CN1: Backlight

Part Number	1655004512-01
Footprint	WF_8P_49_BOX_D
Description	WAFER BOX 8P 1.25mm 180D(M) DIP A1251WV0-8P
Pin	Pin name
1	+12V_INVERTER
2	+12V_INVERTER
3	GND
4	GND
5	BKLT_EN
6	BRIGHT1
7	+12V_INVERTER
8	GND

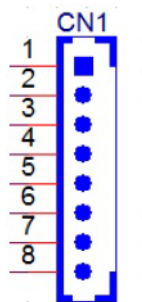


Table A.2: CN2: LED

Part Number	1655000453
Footprint	WF_4P_49_BOX_R1_D
Description	WAFER 1.25mm 4P 180D DIP A1251WVO-4P
Pin	Pin name
1	+5V
2	+5V
3	GND
4	GND

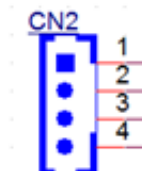


Table A.3: CN3: LVDS	
Part Number	1653920200
Footprint	SPH20X2
Description	B/B Conn. 40P 1.25mm 90D SMD DF13-40DP-1.25V(91)
Pin	Pin name
1	+3.3V or +5V
2	+3.3V or +5V -
3	GND
4	GND
5	+3.3V or +5V
6	+3.3V or +5V
7	LVDS0_D0-
8	LVDS1_D0-
9	LVDS0_D0+
10	LVDS1_D0+
11	GND
12	GND-
13	LVDS0_D1-
14	LVDS1_D1-
15	LVDS0_D1+
16	LVDS1_D1+
17	GND
18	GND
19	LVDS0_D2-
20	LVDS1_D2-
21	LVDS0_D2+
22	LVDS1_D2+-
23	GND
24	GND
25	LVDS0_CLK-
26	LVDS1_CLK-
27	LVDS0_CLK+
28	LVDS1_CLK+
29	GND
30	GND
31	LVDS0_DDC_SC
32	LVDS0_DDC_SD
33	GND
34	GND
35	LVDS0_D3-
36	LVDS1_D3-
37	LVDS0_D3+
38	LVDS1_D3+
39	+3.3V or +5V
40	+3.3V or +5V

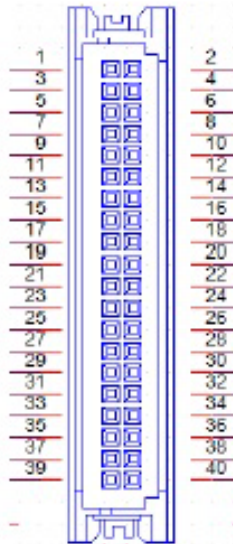


Table A.4: CN4:SATA POWER

Part Number	1659254005
Footprint	SATA_7P_WATM-07DBN4A3B8UW_D
Description	Serial ATA 7P 1.27mm 180D(M) DIP WATM-07DBN4A3B8
Pin	Pin name
1	+3.3V
2	GND
3	+5V
4	GND
5	+12V

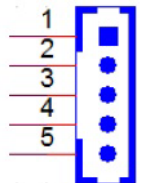
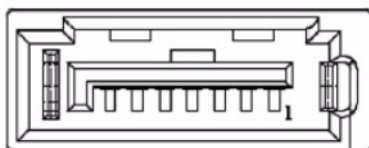


Table A.5: SATA1: SATA

Part Number	1654004659
Footprint	WF_5P_98_BOX_D
Description	WAFER BOX 5P 2.5mm 180D(M) DIP 2503-WS-5
Pin	Pin name
1	GND
2	TX+
3	TX-
4	GND
5	RX+
6	RX-
7	GND

**Table A.6: CN5:DDR3L SODIMM**

Part Number	1651002087-11
Footprint	DDR3_204P_AS0A626-N2S6-7H
Description	DDR3 SODIMM H=5.2mm STD 204P SMD AS0A626-H2S6-7H
Pin	Pin name

Table A.7: MSATA1:MSATA

Part Number	1654002538
Footprint	FOX_AS0B226-S68K7F
Description	MINI PCI E 52P 6.8mm 90D SMD AS0B226-S68Q-7H
Pin	Pin name
1	NC
2	+3.3V
3	NC
4	NC
5	NC
6	NC
7	NC
8	NC
9	GND
10	NC
11	NC
12	NC
13	NC
14	NC
15	GND
16	NC
17	NC
18	GND
19	NC
20	NC
21	GND
22	NC
23	SATA1_RX+
24	+3.3V
25	SATA1_RX-
26	GND
27	GND
28	NC
29	GND

Table A.7: MSATA1:MSATA

30	NC
31	SATA1_TX-
32	NC
33	SATA1_TX+
34	GND
35	GND
36	NC
37	GND
38	NC
39	+3.3V
40	GND
41	+3.3V
42	NC
43	NC
44	NC
45	NC
45	NC
47	NC
48	NC
49	NC
50	GND
51	+3.3V
52	+3.3V

Table A.8: MINIPCIE1:MINIPCIE

Part Number	1654002538
Footprint	FOX_AS0B226-S68K7F
Description	MINI PCI E 52P 6.8mm 90D SMD AS0B226-S68Q-7H
Pin	Pin name
1	MPCIE1_WAKE#
2	+3.3VSB
3	NC
4	GND
5	NC
6	NC
7	MPCIE_CLKREQ#
8	NC
9	GND
10	NC
11	CLK_MINI_PCIE-
12	NC
13	CLK_MINI_PCI+
14	NC
15	GND
16	NC
17	NC

Table A.8: MINIPCIE1:MINIPCIE

18	GND
19	NC
20	MPCIE1_DISABLE#
21	GND
22	PLTRST#
23	PCIE_RX-
24	+3.3VSB
25	PCIE_RX+
26	GND
27	GND
28	+1.5V
29	GND
30	SMB_CLK_MPCIE1
31	PCIE_TX-
32	SMB_DAT_MPCIE1
33	PCIE_TX+
34	GND
35	GND
36	USB_D-
37	GND
38	USB_D+
39	+3.3VSB
40	GND
41	+3.3VSB
42	NC
43	NC
44	NC
45	NC
45	NC
47	NC
48	NC
49	NC
50	GND
51	NC
52	+3.3VSB

Table A.9: CN6: LPT

Part Number	1653005953-01
Footprint	HD_13X2P_79_BOX_522-90-26GBB4
Description	BOX HEADER 13x2P 2.00mm 180D(M)SMD 522-90-26GBB4
Pin	Pin name
1	LPT_STB#
2	LPT_AFD#
3	LPT_PD0
4	LPT_ERR#
5	LPT_PD1

Table A.9: CN6: LPT

6	LPT_INT#
7	LPT_PD2
8	LPT_SLIN#
9	LPT_PD3
11	LPT_PD4
13	LPT_PD5
15	LPT_PD6
17	LPT_PD7
19	LPT_ACK#
21	LPT_BUSY
23	LPT_PE
25	LPT_SLCT
10/12/14/16/18 /20/22/24	GND
26	NC

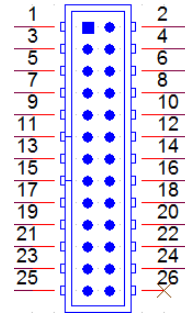


Table A.10: CN7: COM5

Part Number	1655000197
Footprint	WF_5x2P_79_BOX_D_P1R
Description	1655_WF_5x2P_79_BOX_D_P1R_0.Normal
Pin	Pin name
1	422/485 TX-
2	422/485 TX+
3	422 RX+
4	422 RX-
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#

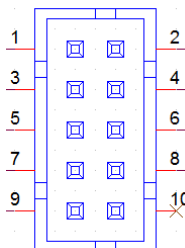
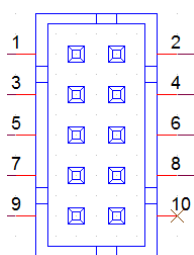


Table A.11: CN11: COM4

Part Number	1655000197
Footprint	WF_5x2P_79_BOX_D_P1R
Description	1655_WF_5x2P_79_BOX_D_P1R_0.Normal
Pin	Pin name
1	DCD
2	RXD
3	TXD
4	DTR#
5	GND
6	DSR#
7	RTS#
8	CTS#
9	RI#

**Table A.12: CN13: Internal USB**

Part Number	1655000453
Footprint	WHL5V-2M-24W1140
Description	WAFER BOX 2.0mm 5P 180D(M) DIP WO/Pb JIH VEI
Pin	Pin name
1	+5V
2	D-
3	D+
4	GND
5	GND

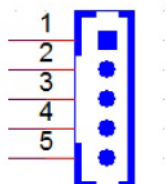
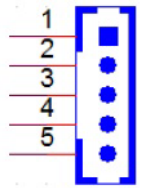


Table A.13: CN14: Internal USB

Part Number	1655000453
Footprint	WHL5V-2M-24W1140
Description	WAFER BOX 2.0mm 5P 180D(M) DIP WO/Pb JIH VEI
Pin	Pin name
1	+5V
2	D-
3	D+
4	GND
5	GND

**Table A.14: CN16:SPEAKER**

Part Number	1655304020
Footprint	WF_4P_79_BOX_R1_D
Description	WAFER BOX 2.0mm 4P 180D(M) W/LOCK A2001WV2-4P
Pin	Pin name
1	AUD_OUTA-
2	AUD_OUTA+
3	AUD_OUTB+
4	AUD_OUTB-

**Table A.15: CN22: MIC-IN/ LINE-OUT**

Part Number	1652006702-01
Footprint	WF_4P_79_BOX_R1_D
Description	WAFER BOX 2.0mm 4P 180D(M) W/LOCK A2001WV2-4P
Pin	Pin name
1	GND
2	MIC_L
3	MIC_JD
4	GND
5	MIC_R
22	LOUT_L
23	FRONT_JD
24	GND

Table A.15: CN22: MIC-IN/ LINE-OUT

25	LOUT_R
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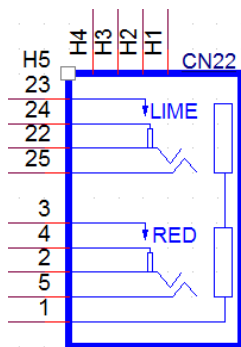


Table A.16: CN19:External USB

Part Number	1654011392-01
Footprint	USB_4P_USB5-A4F3-WTA0-70
Description	USB Conn. 4P 2.0mm 90D(F) DIP USB5-A4F1-WNA0-70
Pin	Pin name
1	+5VSB
2	D-
3	D+
4	GND

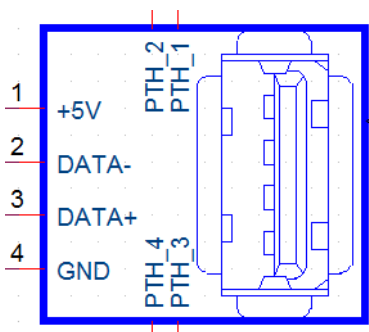


Table A.17: CN21: USB+POWER

Part Number	1654001362
Footprint	USB-UB11123
Description	USB CONN. 8P 90D(F) DIP UB11123-GHT2-4F
Pin	Pin name
1	+5VSB
2	D-
3	D+
4	GND
5	GND
6	+12V
7	+12V
8	GND

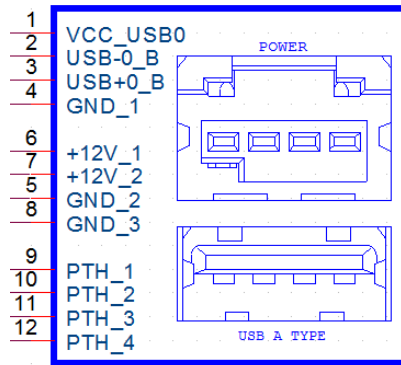


Table A.18: CN18: LAN+USB

Part Number	1652003674
Footprint	RJ45_22P_RU1-191F9WGF
Description	PhoneJack RJ45+USB 8P 90D(F) DIP RU1-191F9WGF
Pin	Pin name
19	+5VSB
20	D-
21	D+
22	GND
15	+5VSB
16	D-
17	D+
18	GND

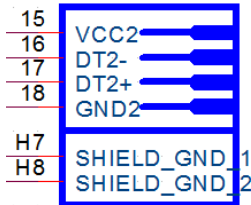
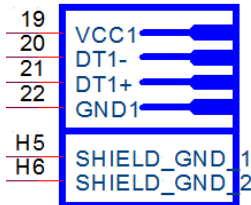


Table A.19: CN20 :COM3 + VGA

Part Number	1655302020
Footprint	WF_2P_79_BOX_R1_D
Description	WAFER BOX 2P 2.0mm 180D(M) DIP A2001WV2-2P
Pin	Pin name
A1	DCD#
A2	RX
A3	TX
A4	DTR#
A5	GND
A6	DSR#
A7	RTS#
A8	CTS#
A9	RI#
B1	VGA_R
B2	VGA_G
B3	VGA_B
B4	NC
B5	GND
B6	GND
B7	GND
B8	GND
B9	+5V
B10	GND
B11	NC
B12	VGA_DDAT
B13	VGA_HS
B14	VGA_VS
B15	VGA_DCLK

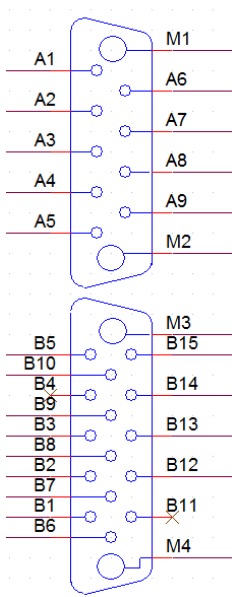


Table A.20: COM1: COM1 + COM2

Part Number	1654009494
Footprint	DB_9x2P_DM10151-H531
Description	D-SUB Conn. 18P 90D(M) DIP DM10151-H531-4F
Pin	Pin name
A1	DCD#
A2	RX
A3	TX
A4	DTR#
A5	GND
A6	DSR#
A7	RTS#
A8	CTS#
A9	RI#
B1	DCD#
B2	RX
B3	TX
B4	DTR#
B5	GND
B6	DSR#
B7	RTS#
B8	CTS#
B9	RI#

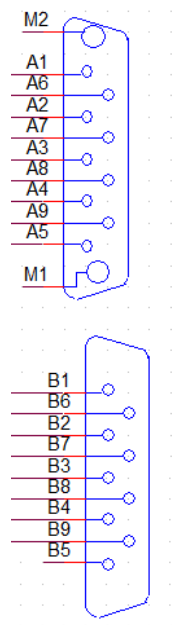


Table A.21: CN23: Cash draw

Part Number	1652005977-02
Footprint	RJ11_6P_RJ1201-66N024R0
Description	PHONE JACK RJ11 6P6C 90D(F) DIP 6u RJ1201-66N024
Pin	Pin name
1	NC_1 (GND)
2	NC_2 (GPIO)
3	TIP (Status)
4	RING (POWER)
5	NC_3 (GPIO)
6	NC_4 (GND)

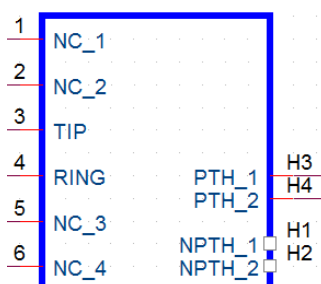


Table A.22: DCIN1 : 12V_OUT

Part Number	1652005624
Footprint	PJ_2P_2DC-G213B200
Description	DC POWER JACK 2.5mm 90D(M) DIP 2DC-G213B200
Pin	Pin name
1	+12V
2	GND

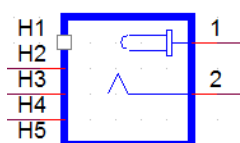


Table A.23: CN17 : 12V_IN

Part Number	1655004509-01
Footprint	WF_2x2P_165_BOX_D
Description	ATX PWR Conn. 2x2P 4.2mm 180D(M) DIP 740-81-04GW
Pin	Pin name
1	GND
2	GND
3	+12V
4	+12V

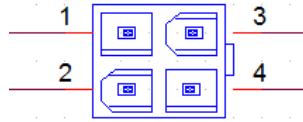


Table A.24: CN8: Power Switch

Part Number	1655302020
Footprint	WF_2P_79_BOX_R1_D
Description	WAFER BOX 2P 2.0mm 180D(M) DIP A2001WV2-2P
Pin	Pin name
1	PSIN
2	GND

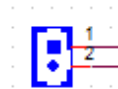


Table A.25: CN10 BUTTON: Power Button

Part Number	1655303020
Footprint	WHL3V-2M
Description	WAFER BOX 3P 2.0mm 180D(M) DIP 2001-WS-3
Pin	Pin name
1	PSIN
2	GND
3	+3.3V

