User Manual

Version 1.3   September, 2012

Metal Fanless Box PC

TRADEMARK

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Safety

IMPORTANT SAFETY INSTRUCTIONS

1. To disconnect the machine from the electrical Power Supply, turn off the power switch and remove the power cord plug from the wall socket. The wall socket must be easily accessible and in close proximity to the machine.
2. Read these instructions carefully. Save these instructions for future reference.
3. Follow all warnings and instructions marked on the product.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

CE MARK

This device complies with the requirements of the EEC directive 2004/108/EC with regard to "Electromagnetic compatibility" and 2006/95/EC "Low Voltage Directive"

FCC

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation

CAUTION ON LITHIUM BATTERIES

There is a danger of explosion if the battery is replaced incorrectly. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.

⚠ Battery Caution

Risk of explosion if battery is replaced by an incorrectly type.
Dispose of used battery according to the local disposal instructions.

⚠ Safety Caution

Note: To comply with IEC60950-1 Clause 2.5 (limited power sources, L.P.S) related legislation, peripherals shall be 4.7.3.2 "Materials for fire enclosure" compliant.

4.7.3.2 Materials for fire enclosures

For MOVABLE EQUIPMENT having a total mass not exceeding 18kg.the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of V-1 CLASS MATERIAL or shall pass the test of Clause A.2.

For MOVABLE EQUIPMENT having a total mass exceeding 18kg and for all STATIONARY EQUIPMENT, the material of a FIRE ENCLOSURE, in the thinnest significant wall thickness used, shall be of 5VB CLASS MATERIAL or shall pass the test of Clause A.1

LEGISLATION AND WEEE SYMBOL

2012/19/EU Waste Electrical and Electronic Equipment Directive on the treatment, collection, recycling and disposal of electric and electronic devices and their components.
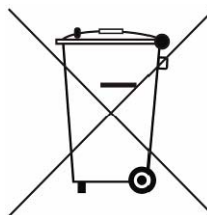
The crossed dustbin symbol on the device means that it should not be disposed of with other household wastes at the end of its working life. Instead, the device should be taken to the waste collection centers for activation of the treatment, collection, recycling and disposal procedure.
To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract.

This product should not be mixed with other commercial wastes for disposal.

Revision History

Changes to the original user manual are listed below:

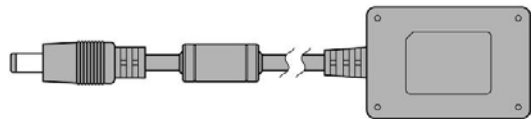| Version	Date	Description
1.0	Oct. 2009	• Initial release
1.1	Dec. 2009	• Jumper Setting updated
1.2	Aug. 2011	• C46 M/B added
1.3	Sep. 2012	• C56 M/B added

Table Contents

1   Package Checklist

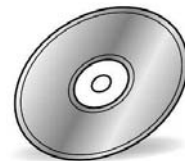## 1-1   Standard items

a.
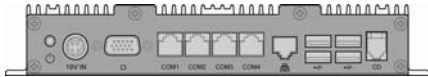
b.

c.

d.

e.

f.
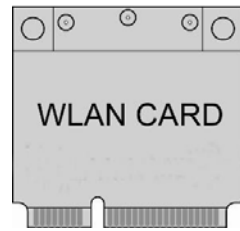

a.   Fanless box PC

b.   Power adapter

c.   Power cord
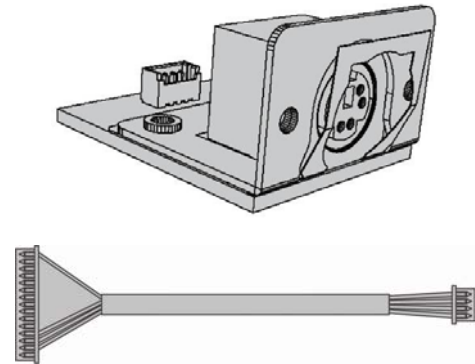
d.   RJ45 to DB9 cable (x2)

e.   User manual

f.   Driver bank
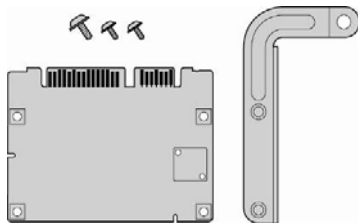
1-2   Optional items
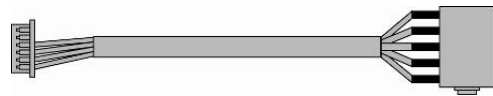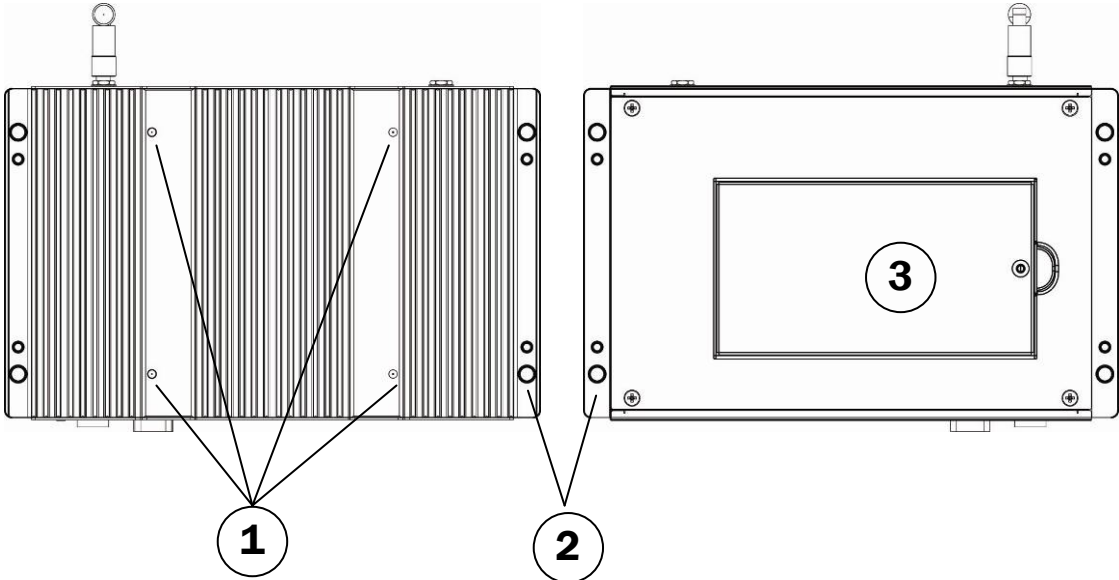
a.

b.

c.

d.

a. WLAN card (with external antenna)
b. PS/2 function kit and PS/2 cable
c. pSSD card
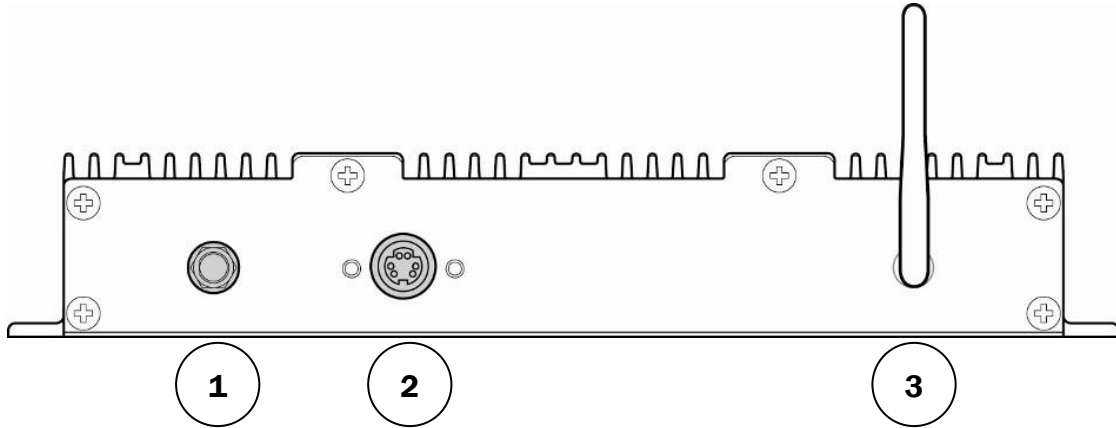d. Audio cable

2 System View

Top View   **Bottom View**

No.	Description
1	Standard VESA Holes 100x100mm
2	Wall Mounting Holes
3	HDD Door

Front I/O View

C36/C46 Motherboard

No.	Description
1	Audio-out (option)
2	PS/2 (option)
3	Antenna (option)

C56 Motherboard
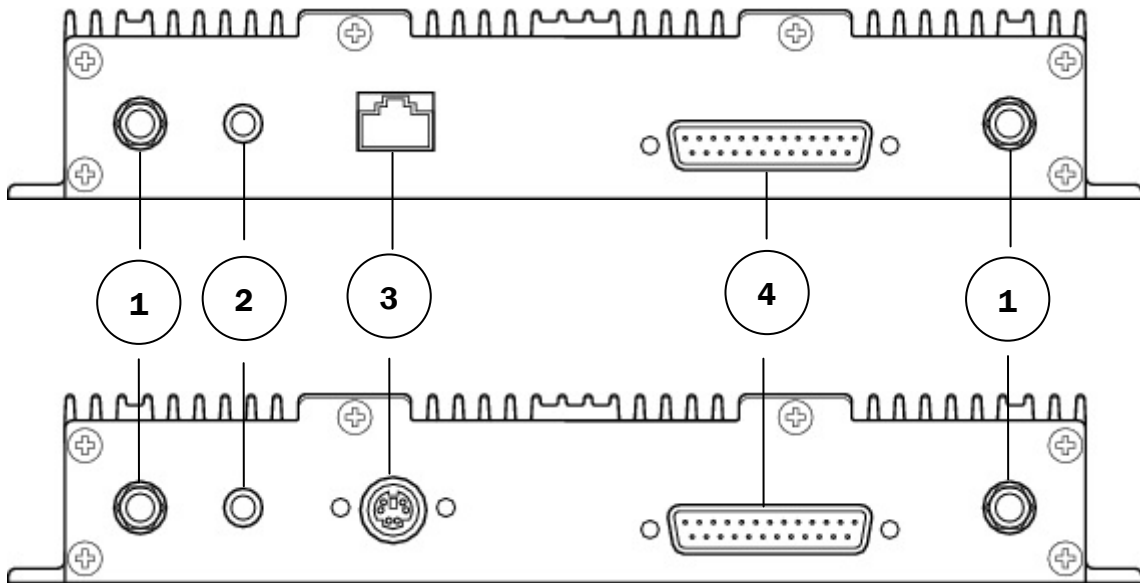
No.	Description
1	Antenna (option)
2	Audio-out (option)
3	PS2 or LAN (option)
4	Parallel (option)

Rear I/O View
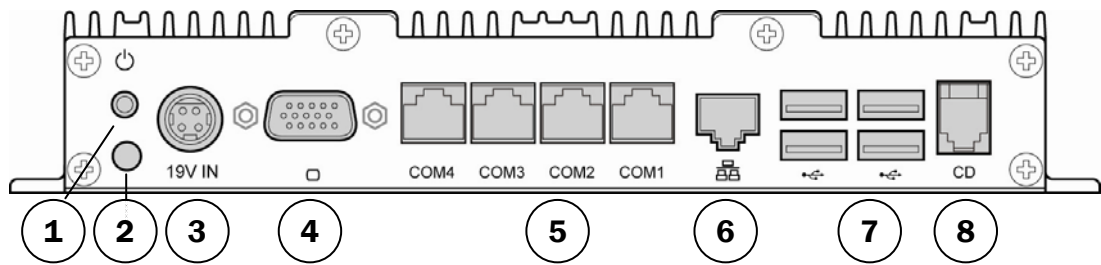
No.	Description
1	Power Button
2	Power LED Indicator
3	DC Jack
4	2nd VGA
5	COM1, COM2, COM3, COM4 (from right to left)
6	LAN (10/100/1000)
7	USB (x4)
8	Cash Drawer Port

3 System Assembly & Disassembly

3-1 Replace the HDD

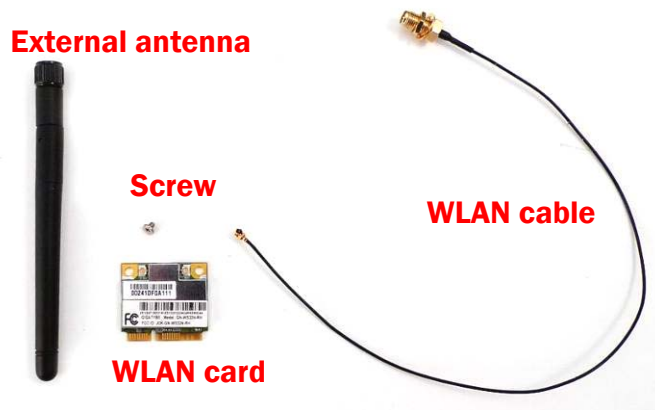1. Remove the screw (x1) that fix the HDD door to the control box.

2. Disconnect the HDD cable (x1) and take out the HDD.

3-2   Open the Box PC

1. Remove the HDD first (see chapter 3-1).
2. Remove the screws (x4) to separate the metal rear cover from the box PC.

3-3 Install a WLAN

External antenna

Screw

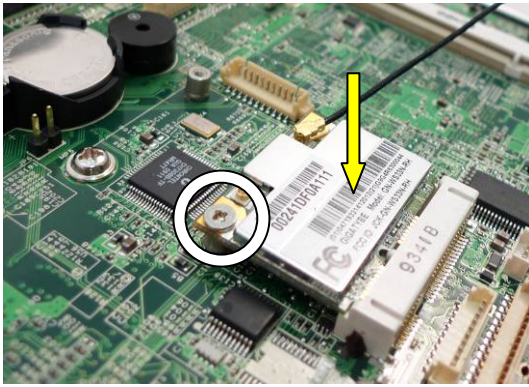**WLAN cable**

WLAN card

WLAN card module accessory:

(1). External antenna x 1

(2). WLAN card x 1

(3). Screw x 1

(4). WLAN cable x 1

1. Remove the HDD (see Chapter 3-1).
2. Open the box PC (see Chapter 3-2).
3. Connect the WLAN cable to the "Main Connector" of the WLAN card.

4. Slide the WLAN card into the WLAN card slot.

5. Press down the WLAN and fasten the screw (x1) to fix the WLAN card to the motherboard.

6. Open the blind hole on the box PC.
7. Align and thread the other end of antenna cable through the blind hole.

Antenna cable with self-tapping screw head   **Check Nut**   **Washer**

8. Assemble the antenna cable and rotate the washer to fix the antenna cable to the box PC.

9. Screw the external antenna.

3-4 Install a pSSD Card
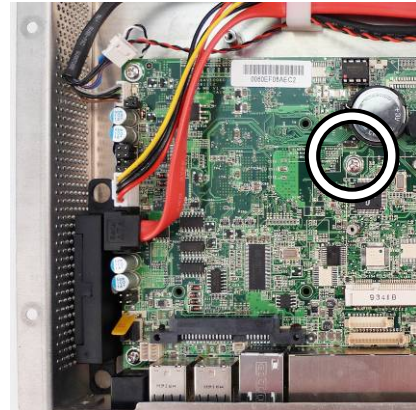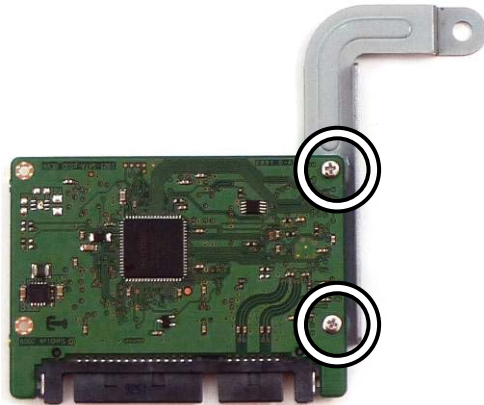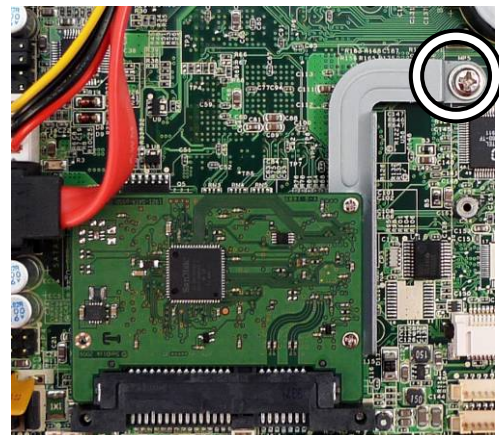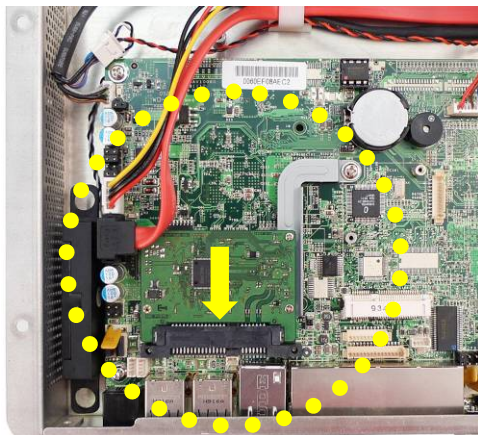

Screws x 2

pSSD card

pSSD metal bracket

pSSD card module accessory:

(1). pSSD card x 1

(2). Screws x 2

(3). Metal bracket x 1

1. Open the box PC first (Chapter 3-1).
2. Assemble the metal bracket and the pSSD card by fastening the screws (x2).
3. Remove the screw (x1) fixing on the motherboard.
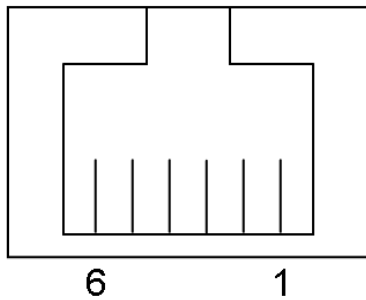

4. Slide the pSSD card module into the SSD/HDD slot as the above left picture shown.
5. Screw back the screw (x1) to fix the pSSD module to the motherboard.

3-5 Install a Cash Drawer

You can install a cash drawer through the cash drawer port. Please verify the pin assignment before installation.

Cash Drawer Pin Assignment

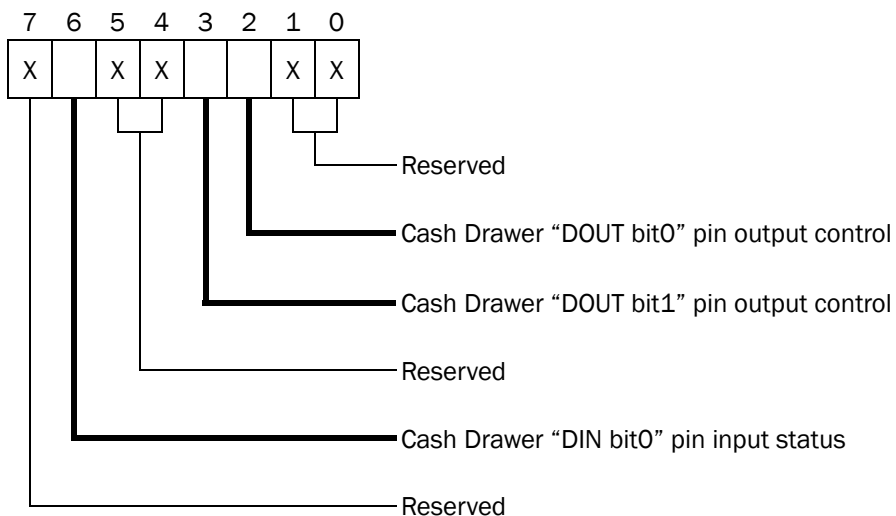| Pin	Signal
1	GND
2	DOUT bit0
3	DIN bit0
4	12V / 19V
5	DOUT bit1
6	GND

Cash Drawer Controller Register

The Cash Drawer Controller use one I/O addresses to control the Cash Drawer.

Register Location: 48Ch
Attribute: Read / Write
Size: 8bit

BIT	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
Attribute	Reserved	Read	Reserved		Write		Reserved	

```
  7   6   5   4   3   2   1   0
| X |   | X | X |   |   | X | X |
```

Reserved

Cash Drawer "DOUT bit0" pin output control

Cash Drawer "DOUT bit1" pin output control

Reserved

Cash Drawer "DIN bit0" pin input status

Reserved

Bit 7: Reserved

Bit 6: Cash Drawer "DIN bit0" pin input status.

        = 1: the Cash Drawer closed or no Cash Drawer

        = 0: the Cash Drawer opened

Bit 5: Reserved

Bit 4: Reserved

Bit 3: Cash Drawer "DOUT bit1" pin output control.

        = 1: Opening the Cash Drawer

        = 0: Allow close the Cash Drawer

Bit 2: Cash Drawer "DOUT bit0" pin output control.

        = 1: Opening the Cash Drawer

        = 0: Allow close the Cash Drawer

Bit 1: Reserved

Bit 0: Reserved

Note: Please follow the Cash Drawer control signal design to control the Cash Drawer.

Cash Drawer Control Command Example

Use Debug.EXE program under DOS or Windows98

Command	Cash Drawer
O 48C 04	Opening
O 48C 00	Allow to close
➤ Set the I/O address 48Ch bit2 =1 for opening Cash Drawer by "DOUT bit0" pin control.	
➤ Set the I/O address 48Ch bit2 = 0 for allow close Cash Drawer.	

Command	Cash Drawer
I 48C	Check status
➤ The I/O address 48Ch bit6 =1 mean the Cash Drawer is opened or not exist.	
➤ The I/O address 48Ch bit6 =0 mean the Cash Drawer is closed.	

3-6   Replace the Motherboard
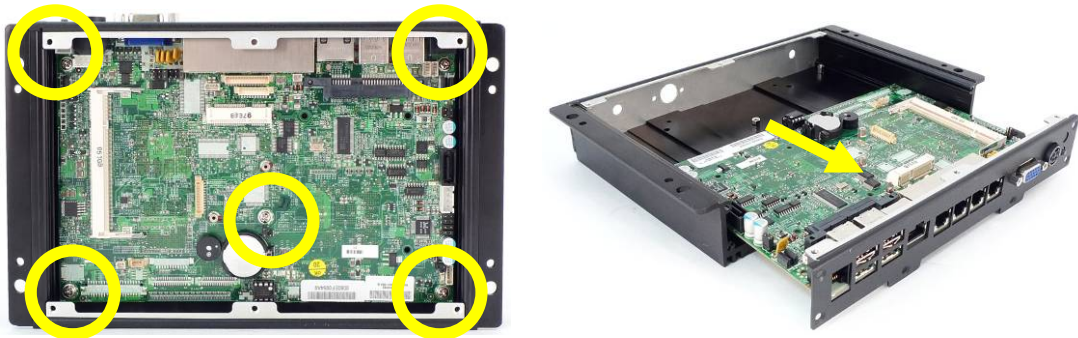
1. Disconnect the HDD cable and remove the HDD (see Chapter 3-1).
2. Open the box PC (see Chapter 3-2).
3. Disconnect all the connectors from the motherboard.
4. Remove the screws (x5) that fix the motherboard to the sheet metal bracket.
5. Slide out the motherboard with metal I/O bracket from the motherboard tray.
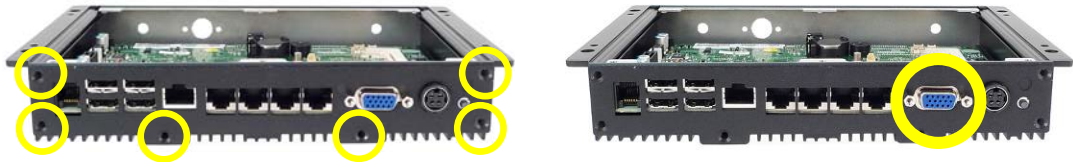
6. Remove the screws (x6) on the I/O panel.
7. Remove the hex screws (x2) on the I/O panel.

8. Separate the metal I/O panel from the motherboard.
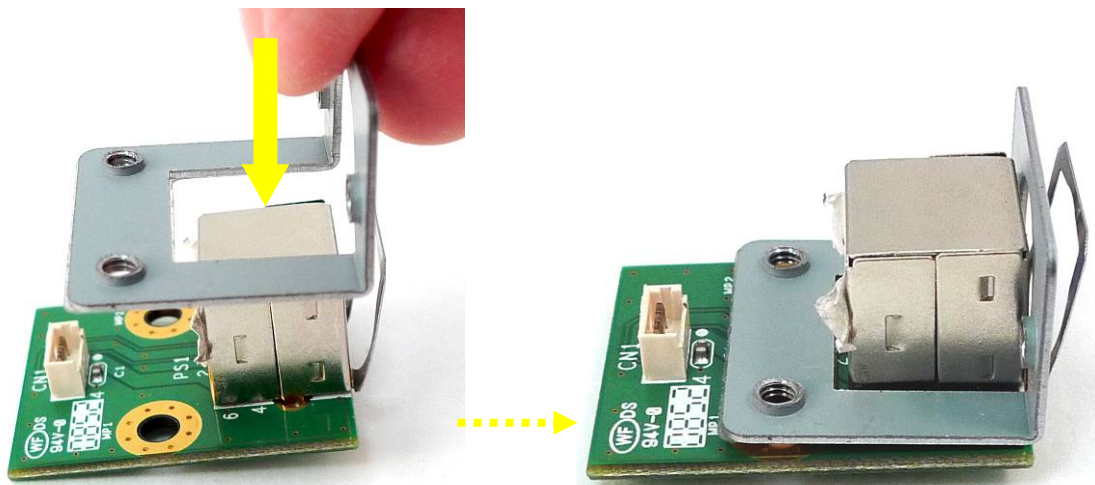
3-7   Install a PS/2 Function Kit

To install a PS/2 function kit, please follow the below given steps:

(1)   Remove the HDD (see Chapter 3-1)

(2)   Open the box PC (see Chapter 3-2)

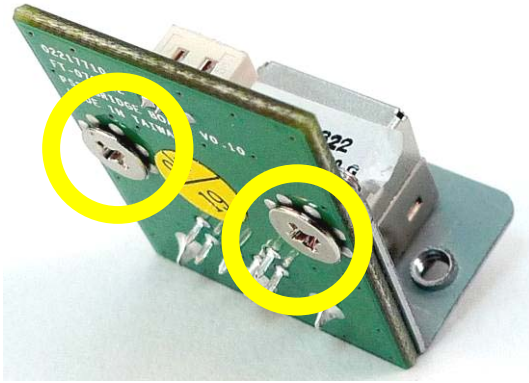(3)   Open the blind hole and assemble the PS/2 function kit to the system (see below).

PS/2 Function:

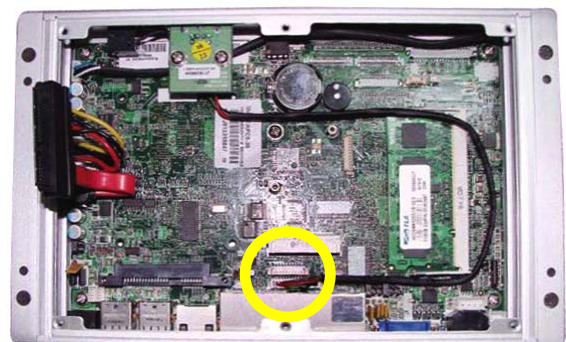1. Open the blind hole as the location as the circle shows.

2. Assemble the metal bracket into the right position of the PS/2 function board.

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3. Turn the bottom up and fasten the screws (x2) to fix the metal bracket to the PS/2 function board.

4. Place the PS/2 module as the direction as the arrow shows.

5. Fasten the screws (x2) to fix the PS/2 function kit to the system metal chassis.

6. Connect the motherboard to the PS/2 module and the motherboard (CN9).

3-8   Install an Audio Cable

To install an audio cable, you need to follow the steps:
 (1)   Remove the HDD (see Chapter 3-1)
 (2)   Open the control box (see Chapter 3-2)
 (3)   Open the blind hole and assemble the Audio cable to the system (see below)

Audio Cable

1. Open the blind hole.
2. Insert the chassis-mount connector of audio cable through the hole.

3. Fasten the washer to the connector to fix the audio cable to the system metal chassis.

4. Connect the audio cable to the motherboard (CN3).

4 Specification

| Model Name	KPC6		
Motherboard	**C36A**	**C46**	**C56**
Processor	Intel Atom N270 single-core 1.6G, L2 512K, 2.5W	Intel Pineview D525 dual-core 1.8G, L2 1M, 13W	Intel Cedarview D2550 dual-core 1.86G, L2 1M, 10W
Chipset	Intel 945GSE + ICH7M (9.3W)	CPU integrated graphic + ICH8M (2.4W)	CPU integrated graphic + NM10 (2W)
System Memory	1 x DDR2 SO-DIMM up to 2GB, 533MHz	1 x DDR3 SO-DIMM up to 4GB, 800MHz	1 x DDR3 SO-DIMM up to 4GB, 1066MHz
Graphic Memory	Intel GMA 950 share system memory up to 224MB	Intel GMA 3150 share system memory up to 256MB, DX9	Intel GMA 3650 (Gfx frequency up to 640MHz), DX9
Storage Device			
Hard Drive	one 2.5" SATA HDD		
Flash Memory	SATA SSD (option)		
Expansion			
miniPCI-E Socket	1		
Front I/O			
Line-out	1 (option)		
Antenna Jack	1		
Parallel Port	N/A		1 (DB25 female, Option)
PS/2	1(option)		1 (Option, either one solution w/ 2nd LAN)
Rear I/O			
USB 2.0	4		
Serial Port	4 x RJ45 COM ports (COM1/2 standard RS232; COM3/4 powered RS232; COM3 default 5V / COM4 default 12V by jumper setting)	4 x RJ45 COM ports (COM1/2 standard RS232; COM3/4 powered RS232; COM3 default 5V / COM4 default 12V by BIOS setting)	4 x RJ45 COM ports (COM1 standard RS232; COM2/3/4 powered RS232; COM2 default 0V; COM3 default 5V; COM4 default 12V by BIOS setting)
GigaLAN (10/100/1000)	1 (RJ45)		
VGA	1 (DB15 female)		

Cash Drawer Port	1 (RJ11)
DC Jack	1
Power	
Power Adaptor	Ext. adapter 65W/19V
Control/Indicator	
Power LED	1
Power Button	1
Certificate	
EMC & Safety	CE/FCC Class A, LVD
Environment	
Operating Temperature	0°C ~ 35°C (32°F ~ 95°F)
Storage Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
Humidity	20% ~ 85% RH non-condensing
Communication	
Wireless LAN	802.11 b/g/n wireless LAN card & antenna (Option)
Dimension (W x D x H)	222 x 138 x 36.8 mm (8.7" x 5.4" x 1.4")
Weight	1.2kg (2.6lbs)
Mounting	100mm x 100mm Standard VESA
OS Supported	Windows® XP Pro, Windows® XP Embedded, Windows® CE, Linux	Windows XP, POS Ready 2009, XP Embedded, XP professional for Embedded, Linux, Windows 7 (32bit), POSReady 7(32bit)

* This specification is subject to change without prior notice.

5 Jumper Settings

5-1 C36A Motherboard

5-1-1 Motherboard Layout
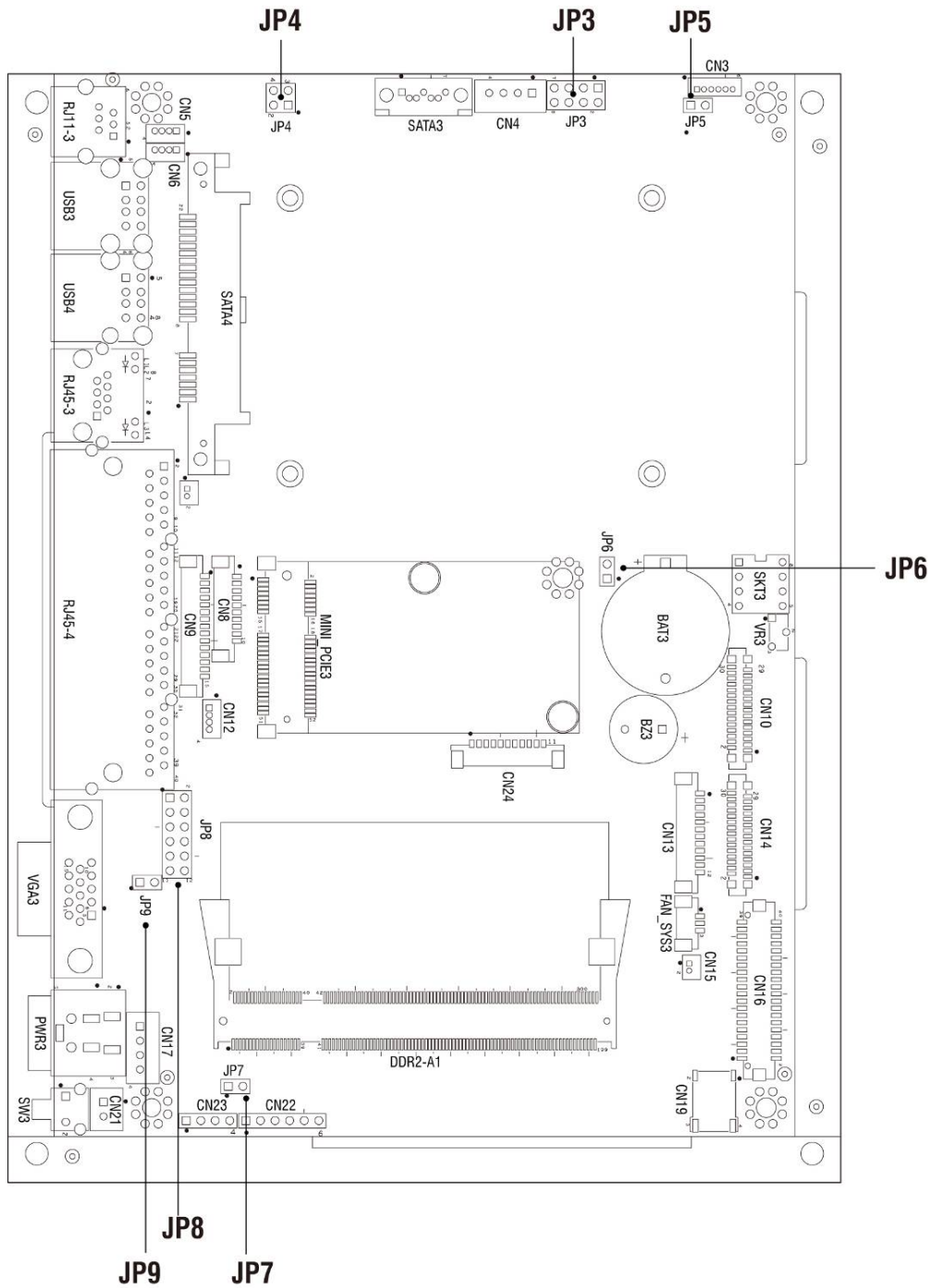
Version: C36A v1.2

5-1-2   Connectors & Functions

Connector	Function
BAT3	CMOS Battery Base (Use CR2023)
CN3	Speaker & MIC Connector
CN4	Power Connector For HDD
CN5	USB5
CN6	USB7
CN7	LAN LED
CN9	Card Reader Connector
CN12	IrDA Connector
CN13	Inverter Connector
CN15	Power LED
CN16	LCD Interface Connector
CN17	Internal DC-JACK connector
CN21	Internal Power On Switch Connector
CN22	5 Wire Touch
CN24	FT Status Interface
DDR2_A1	DDR2 SO-DIMM
PWR3	+19V Power Adaptor
RJ11_3	Cash Drawer Connector
RJ45_3	LAN (On Board)
RJ45_4	COM1, COM2, COM3, COM4
FAN_SYS3	System FAN Connector
MINI_PCIE3	Mini PCI-E Socket
SATA3	SATA Connector
SKT3	SPI ROM
SW3	Power On Button
USB3	USB1, USB2
USB4	USB3, USB4
VGA3	VGA Port
JP3	LCD ID Setting
JP4	Cash Drawer Power Setting
JP5	Power Mode Setting
JP6	CMOS Operation Mode
JP7	System Reset Setting
JP8	COM3 & COM4 Power Setting
JP9	VGA Power Setting

5-1-3 Jumper Settings

Cash Drawer Power Setting

Function	JP4 (1-2) (3-4)
+12V	1 2 | 3 4
▲+19V	1 2 | 3 4

Power Mode Setting

Function	JP5 (1-2)
▲ATX Power	1 2
AT Power	1 2

CMOS Operation Mode

Function	JP6 (1-2)
▲CMOS Normal	1 2
CMOS Reset	1 2

System Reset Setting

Function	JP7 (1-2)
▲Normal	1 2
Reset	1 2

▲ = Manufacturer Default Setting   □□ OPEN   ■ SHORT

COM3 & COM4 Power Setting

Function		JP8 (1-2) (3-4) (5-6) (7-8) (9-10) (11-12)
COM3 Pin10	RI	1 3 5 7 9 11 / 2 4 6 8 10 12 (1-2 shorted)
	▲ +5V	1 3 5 7 9 11 / 2 4 6 8 10 12 (3-4 shorted)
	+12V	1 3 5 7 9 11 / 2 4 6 8 10 12 (5-6 shorted)
COM4 Pin10	RI	1 3 5 7 9 11 / 2 4 6 8 10 12 (7-8 shorted)
	+5V	1 3 5 7 9 11 / 2 4 6 8 10 12 (9-10 shorted)
	▲ +12V	1 3 5 7 9 11 / 2 4 6 8 10 12 (11-12 shorted)

VGA Power Setting

Function	JP9 (1-2)
▲ No Power	1 / 2 (open)
+12V	1 / 2 (short)

▲ = Manufacturer Default Setting   ☐/☐ OPEN   ■ SHORT

LCD ID Setting

| Resolution | LVDS/TTL | | Output Interface | JP3 |
	Bits	Channel		(1-2) (3-4) (5-6) (7-8)
			CRT only (Pineview CRT only)	1 3 5 7 2 4 6 8

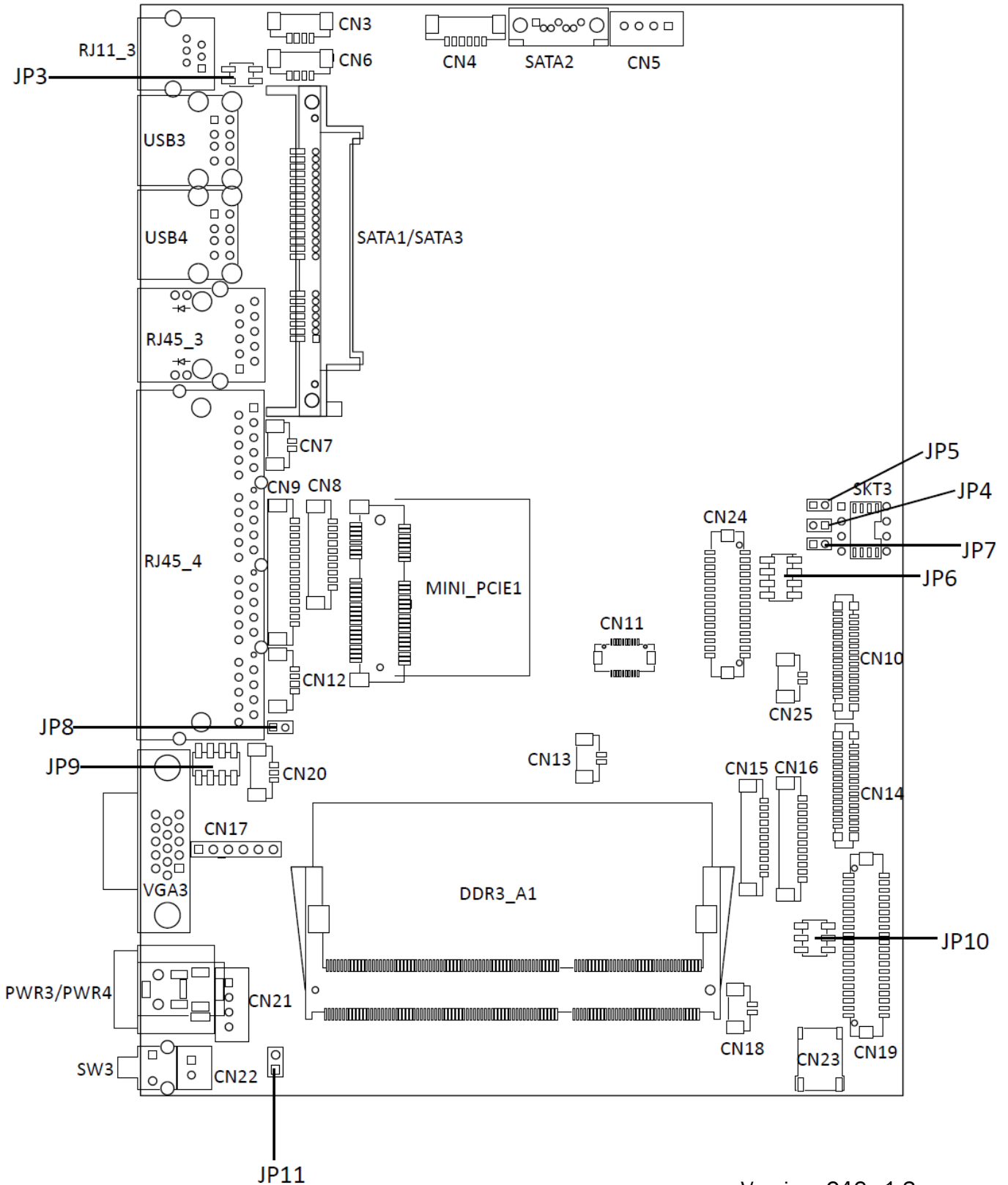▲ = Manufacturer Default Setting   ☐ OPEN   ■ SHORT

5-2   C46 Motherboard

5-2-1 Motherboard Layout


Version: C46 v1.3

5-2-2 Connectors & Functions

Connector	Function
CN3	USB
CN4	Speaker & MIC CONN
CN5	SATA Power
CN6	USB
CN8	For external Touch
CN9	Card reader
CN12	PS2 Keyboard
CN13	HDD LED CONN
CN16	Inverter
CN17	TUOCH
CN18	Power LED CONN
CN19	LVDS (24bit)
CN20	SYSTEM FAN
CN21	DC-JACK
CN22	POWER BOTTOM CONN
CN25	Battery CONN
PWR3	DDR3 SO-DIMM1
RJ11_3	SATA Connector
RJ45_3	SATA Connector
RJ45_4	Power Button
SATA2	CMOS Operation Mode
SKT3	VGA Port
USB3	COM2 RS232/485/422 Setting
USB4	LCD ID Setting
VGA3	Power Mode Setting
JP3	Cash Drawer power selection
JP4	AT/ATX
JP5	CMOS Operation Mode
JP6	LCD ID Setting
JP7	H/W RESET
JP8	CRT Power Setting
JP9	COM Power Setting
JP10	Inverter Selection

5-2-3 Jumper Settings

Cash Drawer Power Setting

Function	JP3 (1-2) (3-4)
▲+19V	1 3 2 4
+12V	1 3 2 4

Power Mode Setting

Function	JP4 (1-2)
▲ATX Power	1 2
AT Power	1 2

System Reset

Function	JP7 (1-2)
▲System Normal	1 2
System Reset	1 2

CRT Power Ctrl

Function	JP8 (1-2)
▲HW	1 2
BIOS	1 2

▲ = Manufacturer Default Setting   □/□ OPEN   ■ SHORT
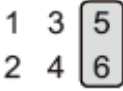
CMOS Operation Mode
CMOS Reset

To clear the CMOS,

1. Remove the power cable from the system.
2. Open the system, and set the 'CMOS Operation jumper' from 'CMOS Normal' to 'CMOS Reset'. (refer to the jumper shown below)
3. Connect the power cable to the system, and **power on the system:**
   in ATX mode: press the power button and it will fail power on
   in AT mode: turn on system power
4. Remove the power cable from the system.
5. Return the "CMOS Operation mode" jumper setting from "CMOS Reset" to "CMOS normal".
6. Connect the power cable and power on the system.

CMOS Operation Mode

Function	JP5 (1-2)
▲ CMOS Normal	1 2
CMOS Reset	1 2

Inverter Selection

Function	JP10 (1-2) (3-4) (5-6)
▲ CCFL	1 3 [5] / 2 4 [6]
LED	[1][3] 5 / [2][4] 6

▲ = Manufacturer Default Setting   OPEN   SHORT

COM3 & COM4 Power Setting

COM3 and COM4 can be set to provide power to your serial device.
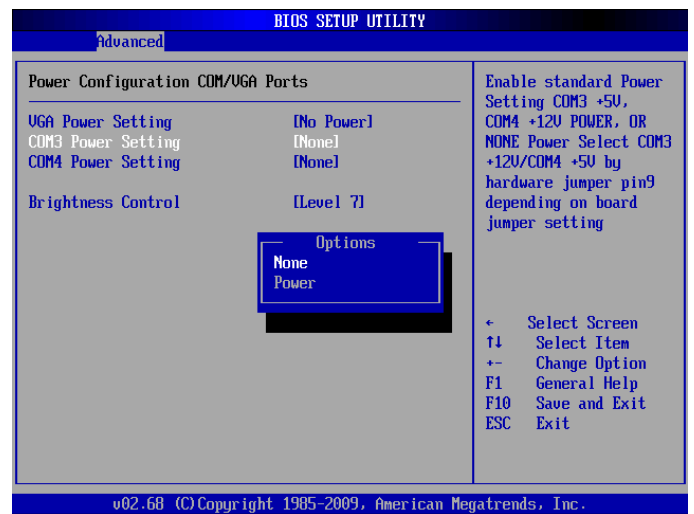The voltage can be set to +5V or +12V by setting jumper JP9 on the motherboard.
When enabled, the power is available on pin 10 of the RJ45 serial connector.
If you use the serial RJ45 to DB9 adapter cable, the power is on pin 9 of the DB9 connector.   By default, the power option is **disabled i**n the BIOS.

1. Power on the system, and press the <DEL> key when the system is booting up to enter the BIOS Setup utility.
2. Select the Advanced tab
3. Select **Power Configuration COM/VGA** Ports and press <Enter> to go to display the available options.

4. To enable the power, select COM3 Power Setting or COM4 Power setting and press <Enter>. Select Power and press <Enter>.
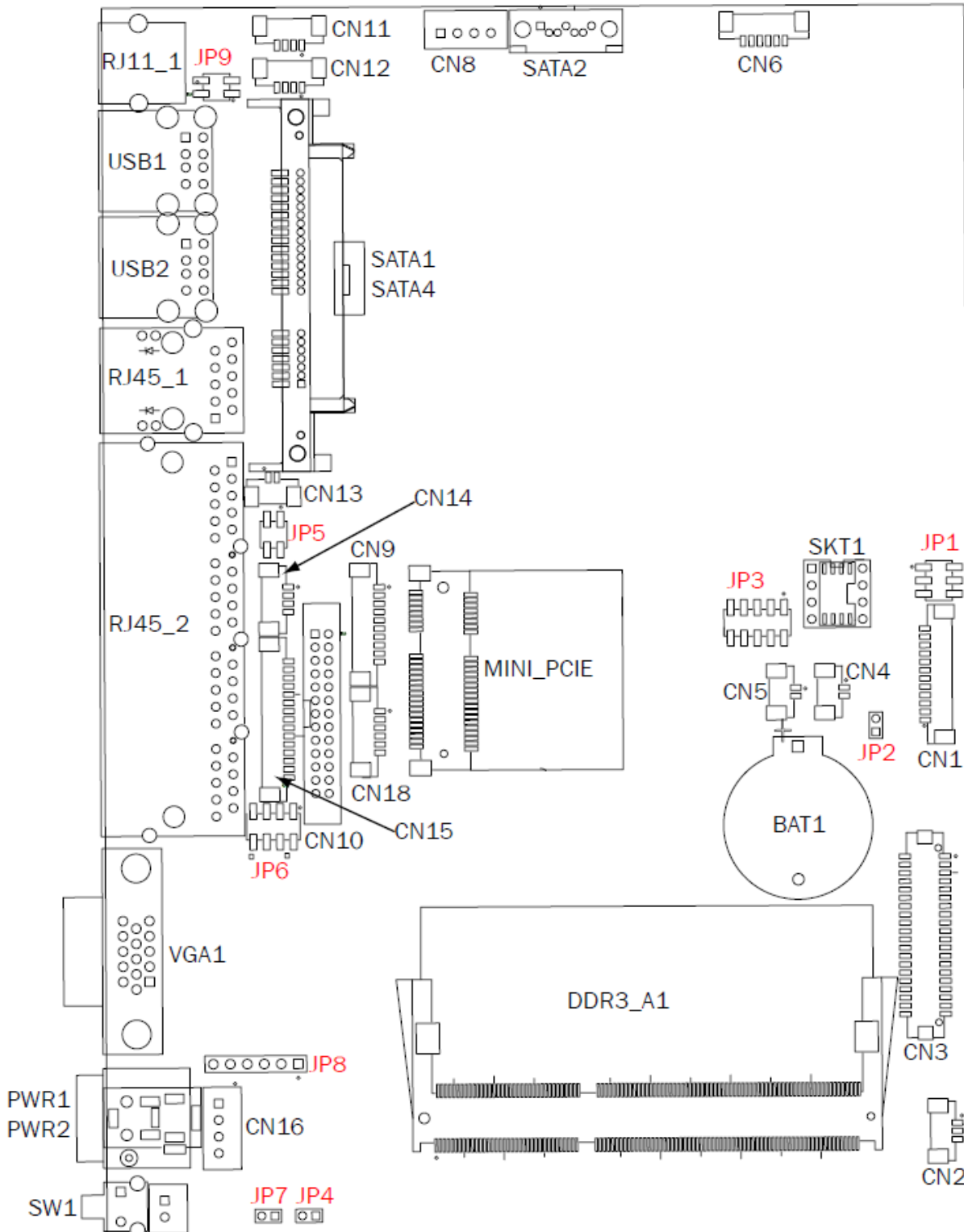Save the change by pressing F10.

COM 3 & COM4 Power Setting

Function	JP9 (1-2) (3-4) (5-6) (7-8)
▲COM3 +5V	1 3 5 7 2 4 6 8
COM3 +12V	1 3 5 7 2 4 6 8
COM4 +5V	1 3 5 7 2 4 6 8
▲COM4 +12V	1 3 5 7 2 4 6 8

LCD ID Setting

| Resolution | LVDS/TTL | | Output Interface | JP6 |
	Bits	Channel		(1-2) (3-4) (5-6) (7-8)
			CRT only (Pineview CRT only)	1 3 5 7 2 4 6 8

5-3 C56 Motherboard

5-3-1 Motherboard Layout

5-3-2 Connectors & Functions

Connector	Function
CN1	LVDS Inverter Connector
CN2	System FAN Connector
CN3	LVDS Connector
CN4	Power LED Connector
CN5	SATA LED Connector
CN6	Speaker & MIC Connector
CN8	SATA Power Connector
CN9	COM5(Touch) Connector
CN10	Printer Port Connector
CN11/12	USB Port(Internal)
CN13	LAN LED Connector
CN14	PS2 Keyboard Connector
CN15	Card Reader Connector(COM6)
CN16	+19V DC IN Connector
CN17	Power button(Internal)
CN18	Front I/O Connector(USB/power LED/ Power button)
PWR2/3	+19V DC JACK
RJ11_1	Cash Drawer Connector
RJ45_1	LAN Connector
RJ45_2	COM1/ COM2/ COM3/ COM4
DDR2_A1	DDR3 SO-DIMM
SATA1/2/4	SATA Connector
SKT1	BIOS Connector
USB1	USB6 USB7
USB2	USB4 USB5
VGA1	VGA Connector
SW1	Power button
JP1	Inverter Select
JP2	CMOS Operation Mode
JP3	LCD ID Setting
JP4	H/W Reset
JP5	COM2 Power Setting
JP6	COM3/COM4 Power Setting
JP7	Auto Button Setting
JP8	Touch Connector
JP9	CASH DRAWER Power Setting

5-3-3 Jumper Settings

Cash Drawer Power Setting

Function	JP9 (1-2) (3-4)
▲+19V	1 [3 2 4]
+12V	[1] 3 [2] 4

Inverter Selection

Function	JP1 (1-2) (3-4) (5-6)
LED	1 [3] 5 2 [4] 6
▲CCFL	1 3 [5] 2 4 [6]

COM2 Power Setting

Function	JP5 (1-2) (3-4)
▲ No Power	1 3 2 4
COM2 +5V	[1] 3 [2] 4
COM2 +12V	1 [3] 2 [4]

▲ = Manufacturer Default Setting   □ OPEN   ■ SHORT

COM 3 & COM4 Power Setting
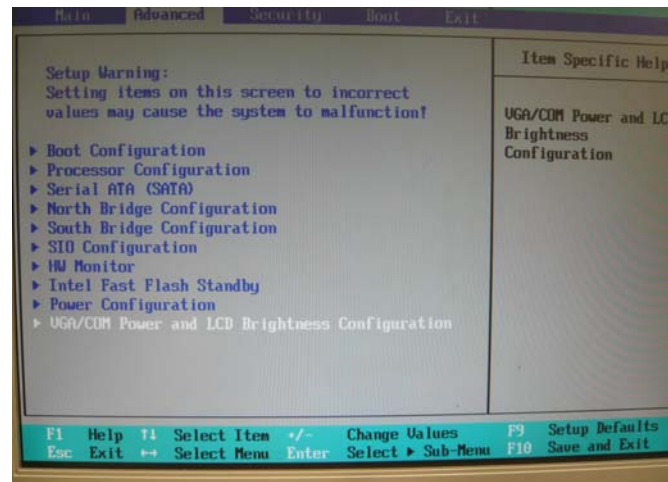
Function	JP6 (1-2) (3-4) (5-6) (7-8)
| ▲ COM3 +5V | ```
1  3  5  7
2  4  6  8
``` (1-2 jumpered) |
| COM3 +12V | ```
1  3  5  7
2  4  6  8
``` (3-4 jumpered) |
| COM4+ 5V | ```
1  3  5  7
2  4  6  8
``` (5-6 jumpered) |
| ▲ COM4 +12V | ```
1  3  5  7
2  4  6  8
``` (7-8 jumpered) |
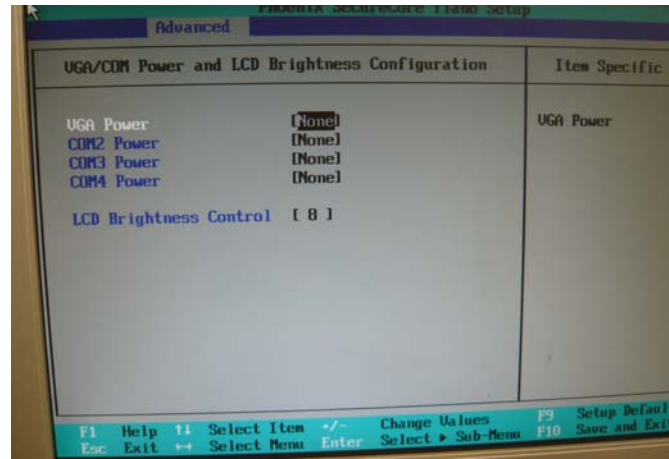
COM2/COM3/COM4 Power Setting

COM2, COM3 and COM4 can be set to provide power to your serial device.
The voltage can be set to +5V or $+12V$ by setting jumper JP9 on the motherboard.
When enabled, the power is available on pin 10 of the RJ45 serial connector.
If you use the serial RJ45 to DB9 adapter cable, the power is on pin 9 of the DB9
connector.   By default, the power option is **disabled** in the BIOS.

1. Power on the system, and press the <DEL> key when the system is booting up to enter the BIOS Setup utility.
2. Select the Advanced tab.
3. Select **VGA/COM Power and LCD Brightness Configuration** Ports and press <Enter> to go to display the available options.

4. To enable the power, select COM2 , COM3 or COM4 Power setting and press <Enter>.   Select Power and press <Enter>.   Save the change by pressing F10.

LCD ID Setting

Panel Number	Resolution	LVDS		Output Interface	JP3 (1-2) (3-4) (5-6) (7-8) (9-10)
		Bits	Channel		
				CRT	1 3 5 7 [9] / 2 4 6 8 [10]

Appendix

Drivers Installation:

The shipping package includes a Driver CD. You can find every individual driver and utility that enables you to install the drivers in the Driver CD.
Please insert the Driver CD into the drive and double click on the "index.htm" to pick up the models. You can refer to the drivers installation guide for each driver in the "Driver/Manual List".