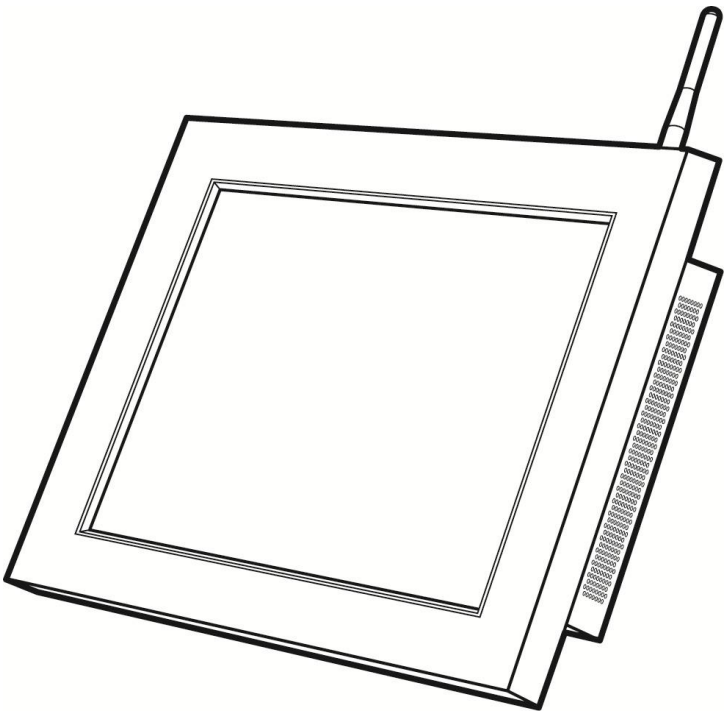
User Manual

Version 2.2 July 2016

Metal Panel PC



Manual Version 2.2

TRADEMARK

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

CE MARK

This device complies with the requirements of the EEC directive 2014/30/EU with regard to “Electromagnetic compatibility” and 2014/35/EC “Low Voltage Directive”

FC

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.

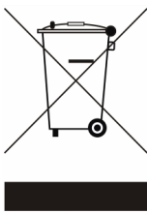
4.7.3.2 Materials for fire enclosures

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

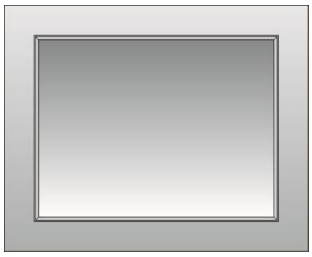
Version	Date	Description
1.0	March 2009	• Initial release
1.1	September. 2009	• MB updated from C36A v0.9 to v1.1 • Jumper Setting updated
1.2	October 2009	• Remove wall mount kit • WLAN spec changes 802.11 b/g → 802.11 b/g/n
1.3	December 2010	• Add New Stand (Generation 2) • Add Fingerprint, iButton, RFID
2.0	June 2011	• C46 MB added
2.1	July 2013	• C56 MB added
2.2	July 2016	• C36/C46 MB removed • D36 MB removed

Table of Contents

1 Package Checklist

1-1 Standard items

a.



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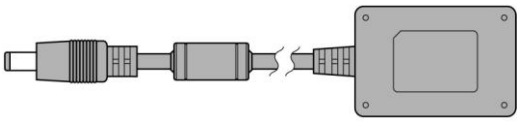
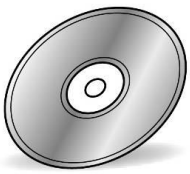


c.

d.

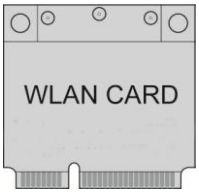
e.



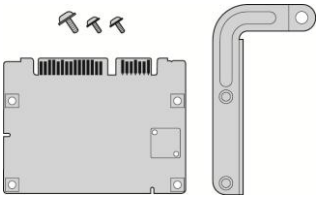
a. System
b. Power adapter
c. Power cord
d. RJ45 to DB9 cable (x2)
e. Driver bank

1-2 Optional items

a.



b.



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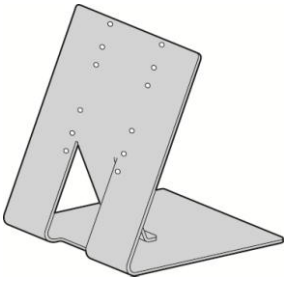

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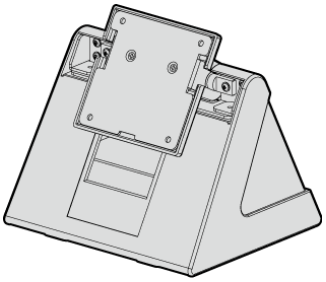
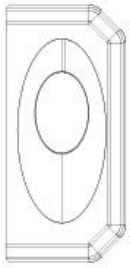
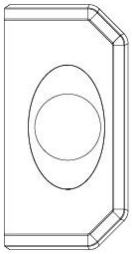


e.



f.

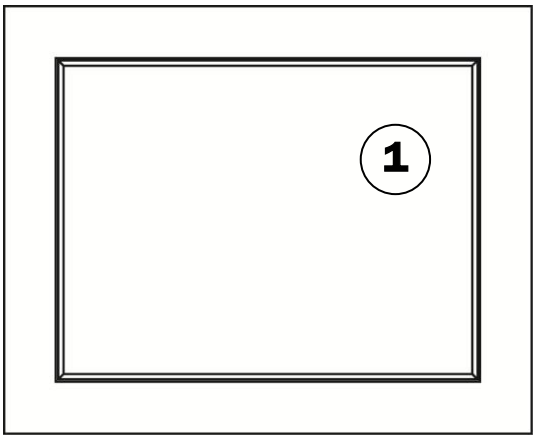


g.

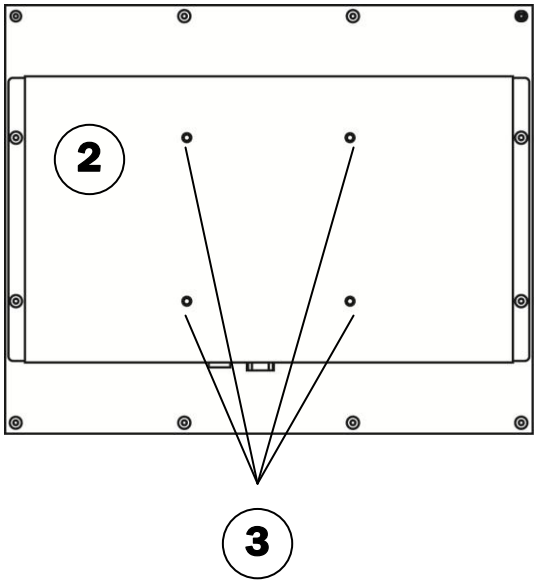
a. WLAN card
b. pSSD card
c. Metal stand
d. Stand – 2nd Generation (hereinafter called “2nd Gen. Stand”)
e. Fingerprint
f. iButton
g. RFID

2 System View

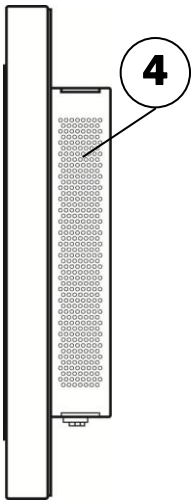
Front View



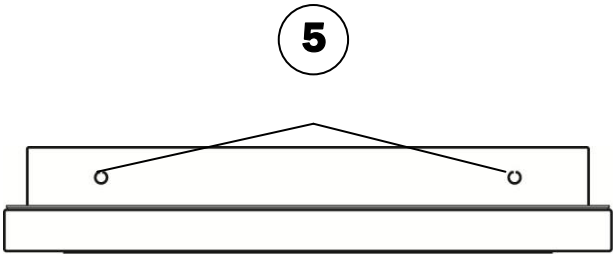
Rear View



Side View



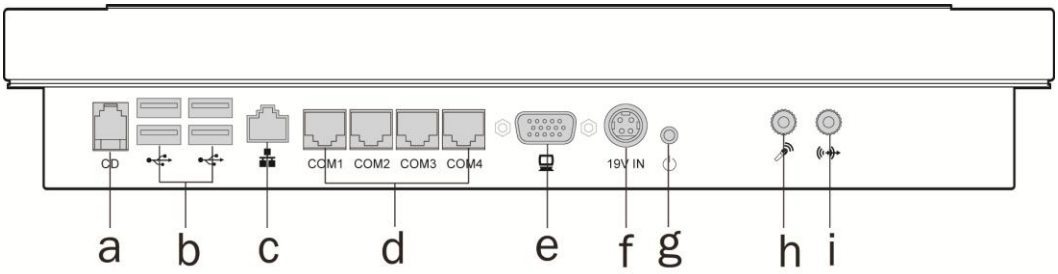
Top View



No.	Description
1	Touch screen
2	System box
3	VESA mount holes
4	Ventilation
5	External antenna holes

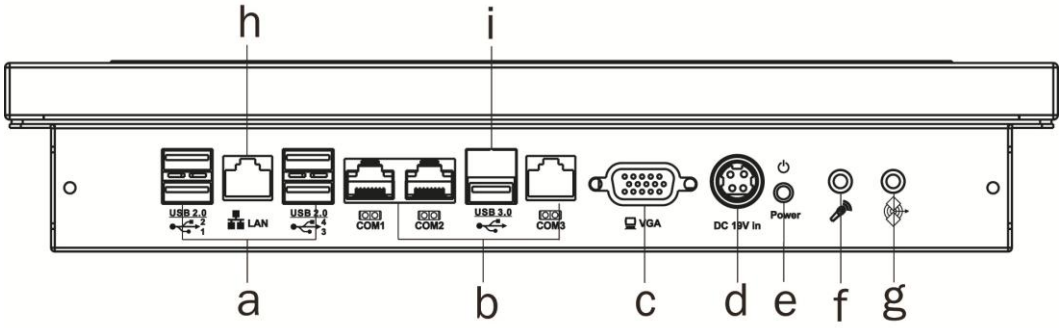
Rear I/O View

C56 Motherboard



No.	Description
a	Cash drawer port
b	USB (x4)
c	LAN (10 / 100/1000)
d	COM Port 1,2,3,4 (From left to right)
e	2nd VGA
f	DC jack
g	Power button
h	MIC-in (only for 10.4” and 12.1”)
i	Line-out (only for 10.4” and 12.1”)

D36 Motherboard

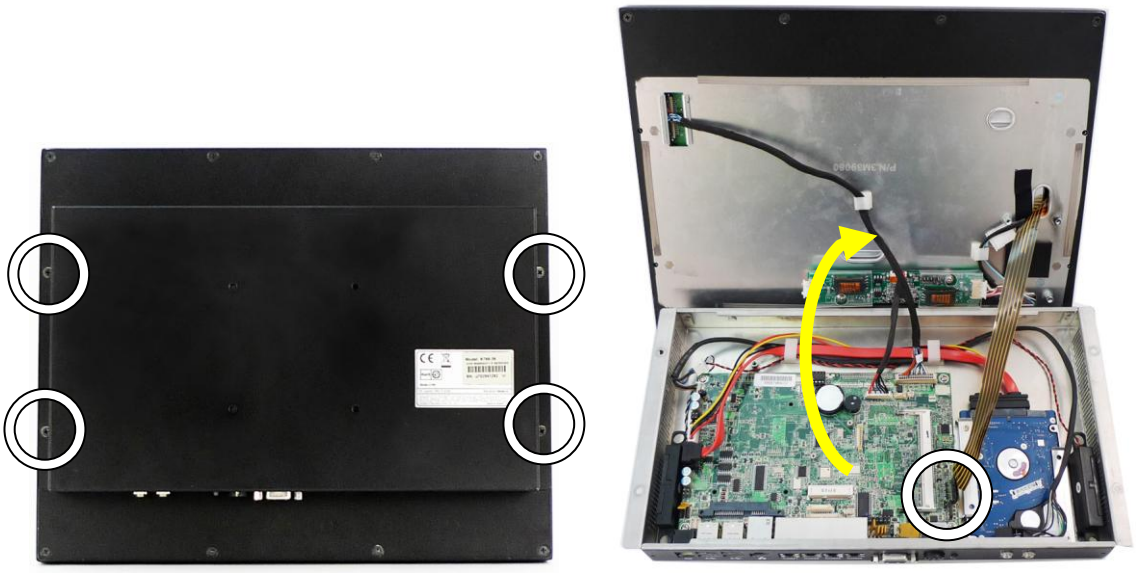


No.	Description
a	USB 2.0 (x4)
b	COM Port 1,2,3 (From left to right)
c	VGA
d	DC jack
e	Power button
f	MIC-in (only for 10.4” and 12.1”)
g	Line-out (only for 10.4” and 12.1”)
h	LAN (10 / 100/1000)
i	USB 3.0 x 1

3 System Assembly & Disassembly

3-1 Open the System Box

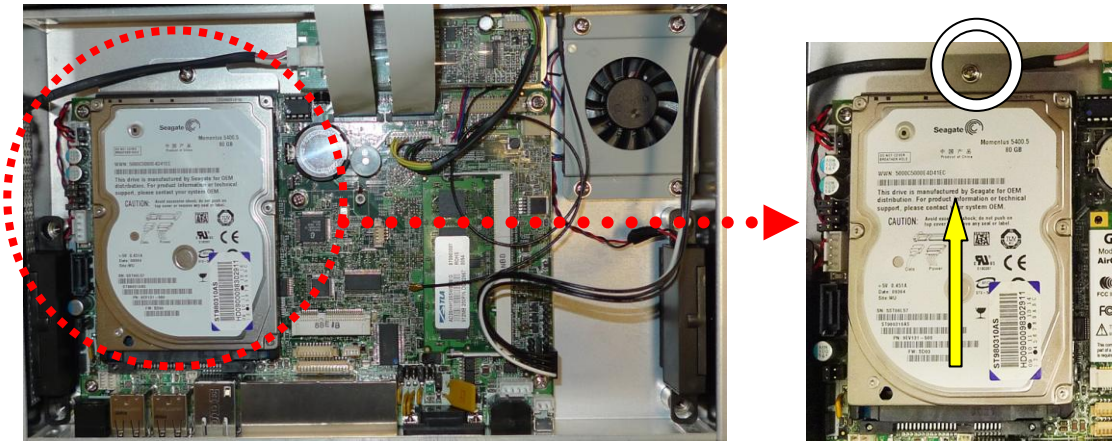
To access the Motherboard, HDD or install the WLAN and pSSD card, you need to open the system box first which is located in the rear cover of the LCD panel. The procedure of opening the system box as below:



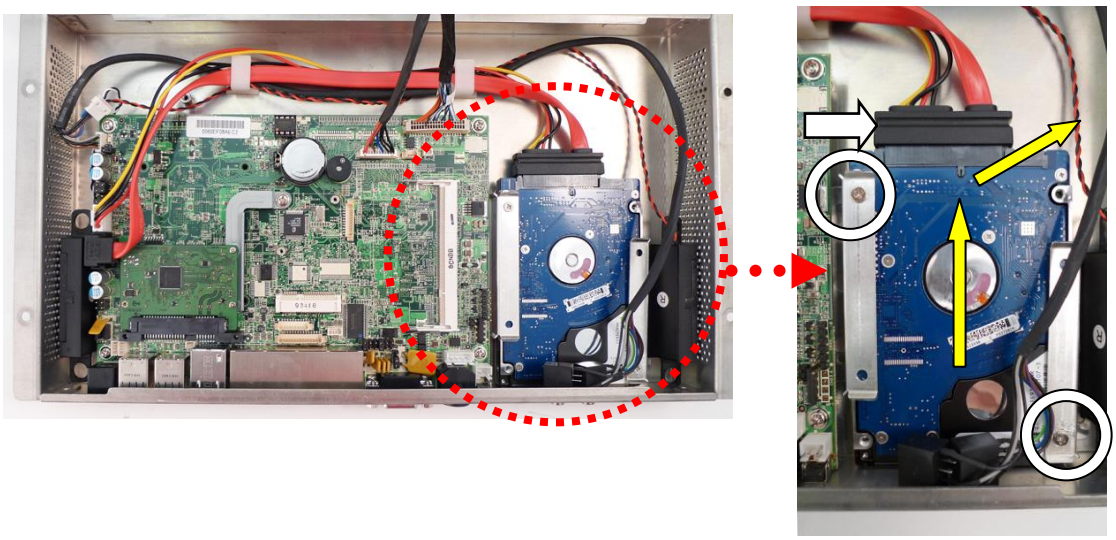
1. Unfasten the screws (x4)
2. Gently flip up the LCD panel with touch module due to various connectors connecting to the motherboard.

3-2 Replace the HDD

For 8.4”/10.4” System



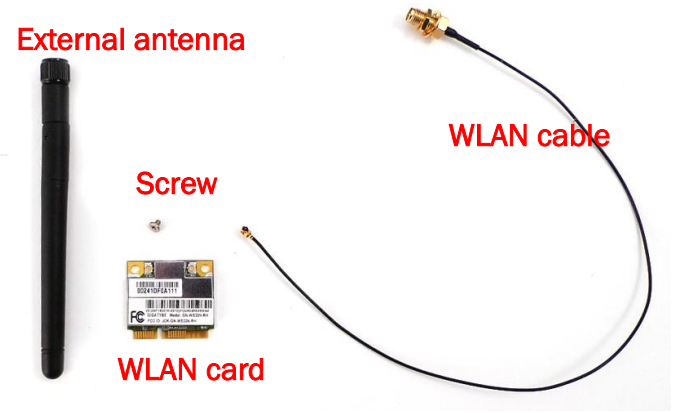
For 12.1” System



1. Open the system box (Chapter 3-1).
2. 8.4”, 10.4”**:** Remove the thumb screw (x1) on the rear side of the stand and slide the HDD outward.
   12.1”: Disconnect the SATA cable and remove the screws (x2) and slide the HDD right front.

4 Peripherals Installation

4-1 Install a WLAN



WLAN Card Module Accessory:

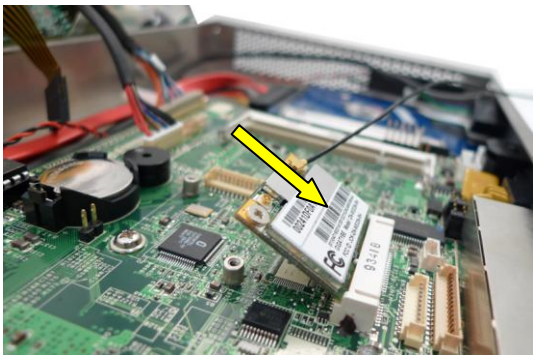
(1). External antenna x 1

(2). WLAN card x 1

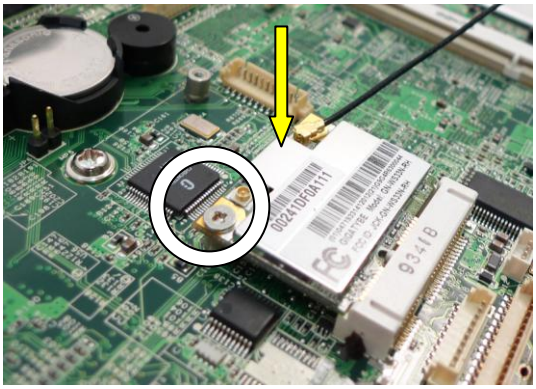
(3). Screw x 1

(4). WLAN cable x 1

1. Open the system box first (Chapter 3-1).
2. Connect the WLAN cable to the “Main Connector“ on the WLAN card.

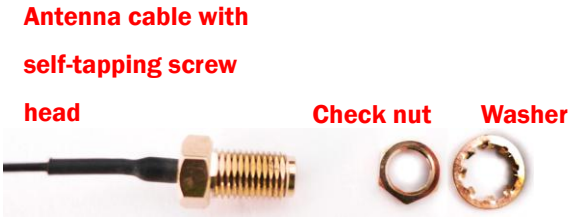


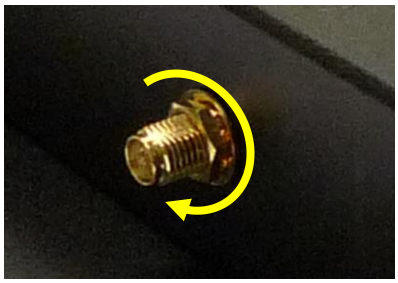
3. Slide the WLAN card into the WLAN card slot.



4. Press down the WLAN and fasten the screw (x1) to fix the WLAN card to the Motherboard.

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





7. Assembly the antenna cable and rotate the washer to fix the antenna cable to the system box.

8. Screw the antenna into the screw.

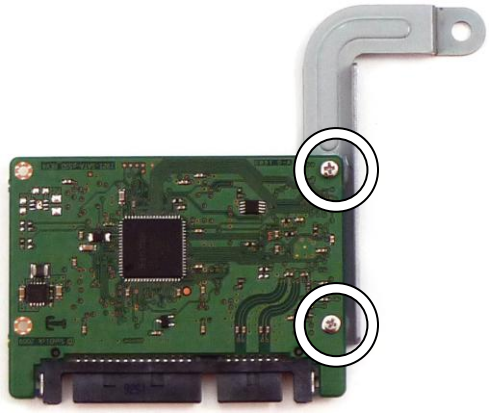
4-2 Install a pSSD Card

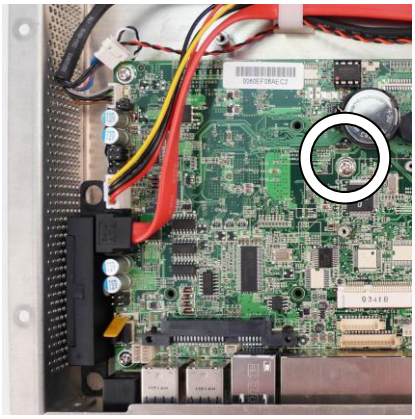
pSSD Card Module Accessory:

(1). pSSD card x 1

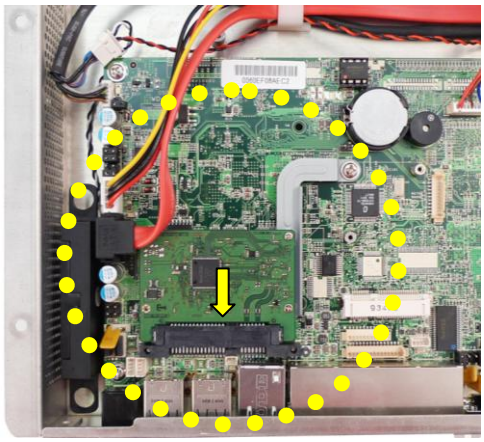
(2). Screws x 2

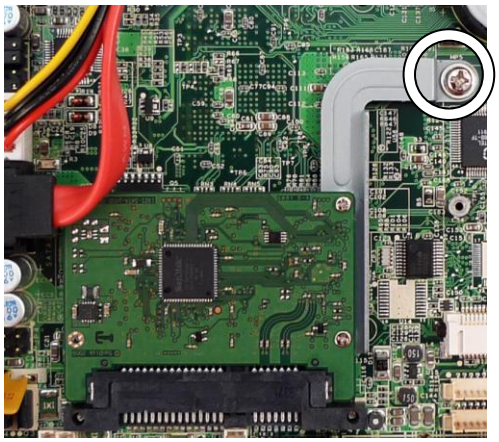
(3). Metal bracket x 1





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





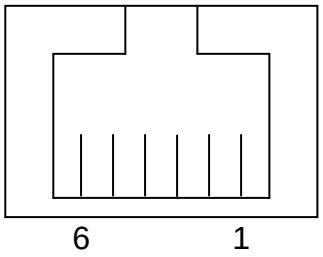
4. Slide the pSSD card module into the pSSD/HDD slot as the position and location as above left picture shows.
5. Screw back the screw (x1) to fix the pSSD module to the motherboard.

4-3 Install a Cash Drawer

4-3-1 For C56 Motherboard

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

Cash Drawer Pin Assignment



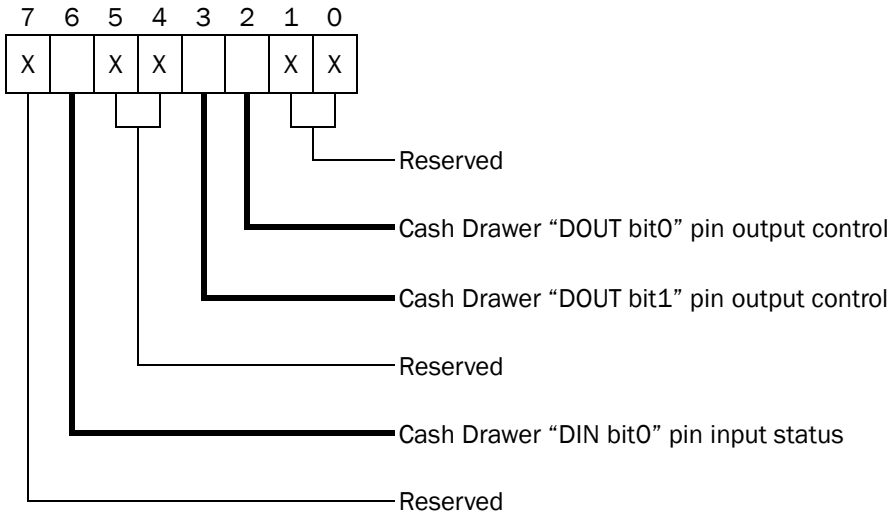
Pin	Signal
1	GND
2	DOUT bit0
3	DIN bit0
4	12V / 19V
5	DOUT bit1
6	GND

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	



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

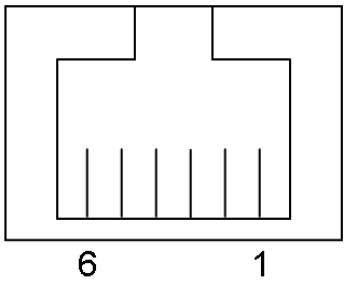
Command	**Cash Drawer**
O 48C 04	Opening
O 48C 00	Allow to close
➢ Set the I/O address 48Ch bit2 =1 for opening Cash Drawer by “DOUT bit0” pin control. ➢ Set the I/O address 48Ch bit2 = 0 for allow close Cash Drawer.	

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.	

4-3-2 For D36 motherboard

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

Cash Drawer Pin Assignment



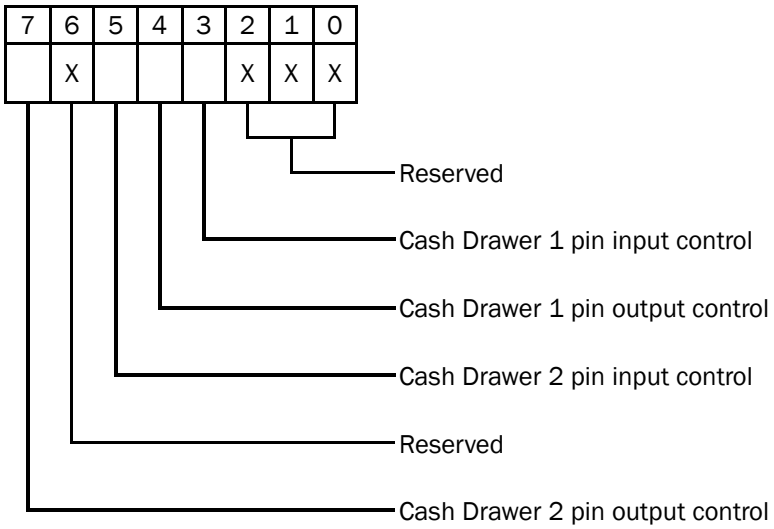
Pin	Signal
1	Cash drawer 2 In
2	Cash drawer 1 Out
3	Cash drawer 1 In
4	12V / 19V (OR 24v)
5	Cash drawer 2 Out
6	GND

Cash Drawer Controller Register

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

Register Location: 0x482h
Attribute: Read / Write
Size: 8bit

BIT	BIT7	BIT6	BIT5	BIT4	BIT3	BIT2	BIT1	BIT0
Attribute	CD2 Out	Reserved	CD2 In	CD1 Out	CD1 In	Reserved		



Bit 7: Cash Drawer 2 pin output control
Bit 6: Reserved
Bit 5: Cash Drawer 2 pin input control
Bit 4: Cash Drawer 1 pin output control.
= 1: Opening the Cash Drawer
= 0: Allow close the Cash Drawer
Bit 3: Cash Drawer 1 pin input control.
= 1: the Cash Drawer closed or no Cash Drawer
= 0: the Cash Drawer opened
Bit 2: Reserved
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

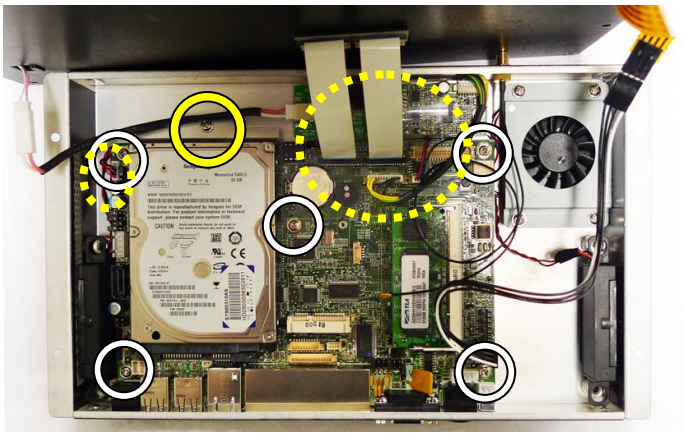
Command	**Cash Drawer**
O 482 04	Opening
O 482 00	Allow to close
➢ Set the I/O address 482h bit4 =1 for opening Cash Drawer by "DOUT bit0" pin control. ➢ Set the I/O address 482h bit4 = 0 for allow close Cash Drawer.	

Command	**Cash Drawer**
I 482	Check status
➢ The I/O address 482h bit3 =1 mean the Cash Drawer is opened or not exist. ➢ The I/O address 482h bit3 =0 mean the Cash Drawer is closed.	

4-4 Replace the Motherboard

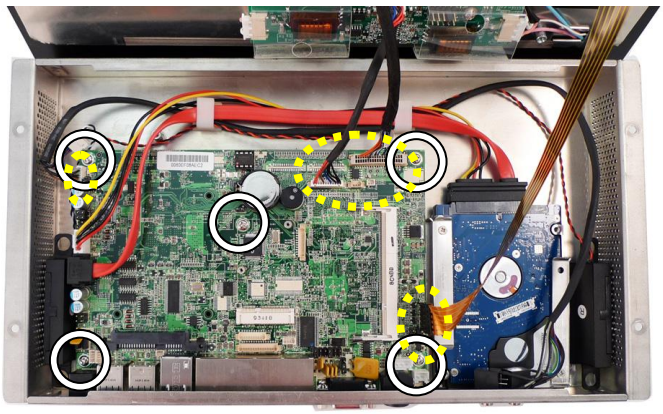
To access the motherboard, you need to open the system box which is attached to the rear of the LCD Panel.

For 8.4” / 10.4” system



1. Open the system box (Chapter 3-1).
2. Disconnect all the connectors connecting on the motherboard (as dotted-line circle shows).
3. Remove the screws (x5) that fix the motherboard to the sheet metal bracket.
4. Remove the HDD screw (x1) to separate the HDD from the motherboard.
5. Remove the hex screws (x2) on the I/O panel.

For 12.1” system



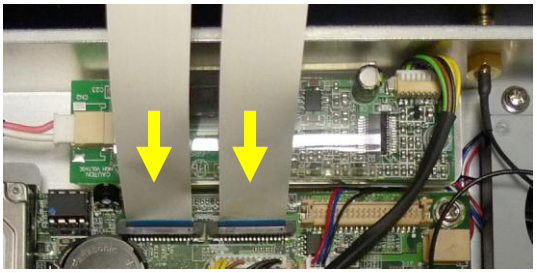
1. Open the system box (Chapter 3-1).
2. Disconnect all the connectors connecting on the motherboard (as dotted-line circle shows).
3. Unfasten the screws (x5) that fix the Motherboard to the sheet metal bracket.
4. Unfasten the hex screws (x2) on the I/O panel.

4-5 Replace the Inverter Board

Inverter board may locate according to different system size. Please follow bellow steps to replace the inverter board. Before replace the invert board, you need to open the system box first (see Chapter 3-1).

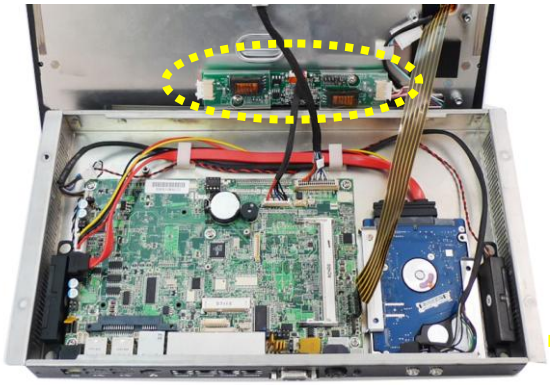
For 10.4" system

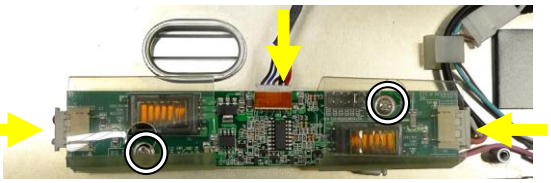
1. Inverter location



2. Disconnect the LCD cable to uncover the inverter board.
3. Disconnect the cables (x2) and remove the screws (x2) on the inverter board.

For 12.1" system

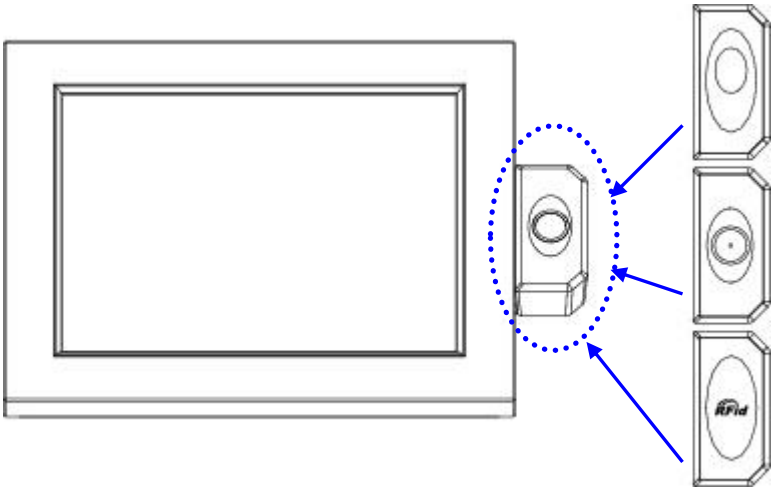




1. Inverter location
2. Disconnect the cables (x3) on the inverter board. remove the screws (x2) on the inverter board

4-6 Install Fingerprint, iButton, RFID

Fingerprint, iButton, RFID are supposed to be assembled at the same place of the system.



1. The modules can be fixed to the system by fastening screws (x2) on the back.

5 Specification

Model	K784	K785	K786	K784	K785	K786
Motherboard	**C56**			**D36**		
CPU Supports	Intel CedarView D2550 processor 1.86GHz 1MB Cache			Intel Bay Trail J1900, Quad core 2G/2.41G		
Chipset	Intel NM10			CPU integrated		
System Memory	1 x DDR3 SO-DIMM socket up to 4G, FSB 1067MHz			1 x SO-DIMM		
Graphic Memory	Intel GMA 3650 (Gfx frequency up to 640MHz), DX9			Intel HD Graphic		
LCD Panel						
LCD Size	8.4"	10.4”	12.1”	8.4"	10.4”	12.1”
Maximal Resolution	800 x 600	800 x 600	800 x 600 1024 X 768	800 x 600	800 x 600	800 x 600 1024 X 768
Touch Screen Type	Resistive					
Storage						
HDD	1 x slim HDD bay (SATA)					
Flash Memory	SATA SSD Flash memory card 32G/64G (option)					
Expansion						
Mini-PCI e Socket	1					
Rear I / O						
USB	4 (USB 2.0)			5 (4 x USB 2.0 / 1 x USB 3.0)		
Serial/COM	4 x RJ45 (COM1 standard RS232; COM2/3/4 powered RS232; COM2 default 0V; COM3 default 5V; COM4 default 12V by BIOS setting)			3 x RJ45 (COM1/COM2 powered COM with power enable /disable by BIOS setting; default COM1 is 0V; COM2 is 0V; COM3 is 0V)		
LAN (10 / 100/1000)	1					
VGA	1 (DB-15 Female)					
Cash Drawer	1 (12V/24V cash drawer)					
Mic-in	K784: NA / K785: 1 / K786: 1					
Line-out	K784: NA / K785: 1 / K786: 1					
DC Jack	1					

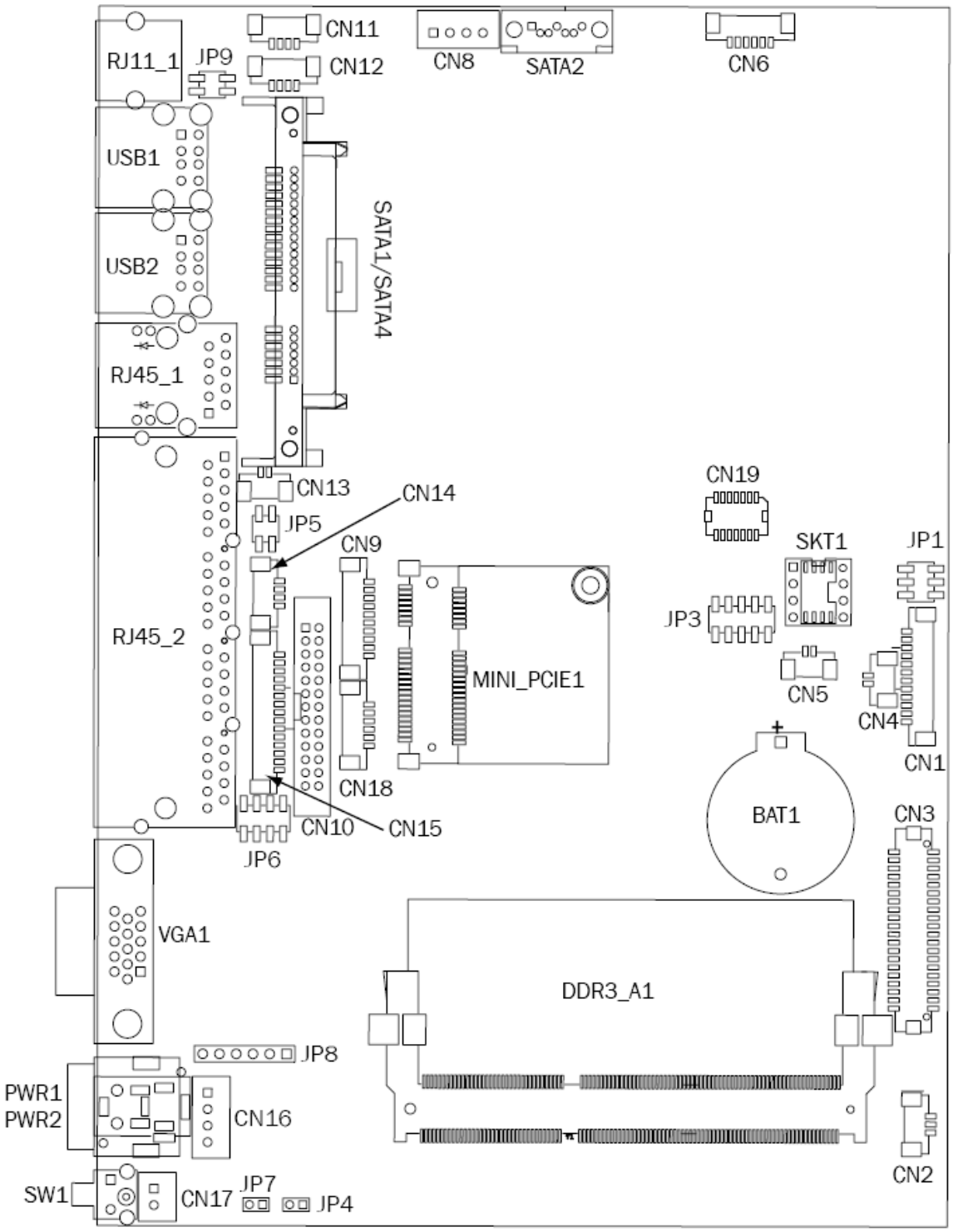
Model	K784	K785	K786	K784	K785	K786
Motherboard	**C56**			**D36**		
Power button	1					
Audio						
Speaker	2 x 2W speaker					
Peripheral						
MSR	Standard integrated 3 Track MSR (USB)					
Finger Print	Optical Finger Printer Reader (USB, option)					
RFID	RFID reader (USB, option)					
iButton	Dollars Key iButton Reader (COM, option)					
Power						
Power Supply	External 65W DC adapter 19V 3.4A					
Environment						
EMC & Safety	FCC /CE Class A, LVD					
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	mini PCI e wireless LAN card 802.11 b/g/n					
Dimension (WxDxH)	K784: 230 x 50 x 188mm K785: 279 x 50 x 227mm K786: 323 x 55 x 262mm					
Weight (N.W./G.W.)	K784: 1.34kgs / 1.7kgs K785: 1.7kgs / 2.1kgs K786: 2.5kgs / 2.9kgs					
Mounting	75mm x75mm VESA Standard holes					
OS Support	Windows® XP Professional, Windows Embedded, POSReady 2009, Windows XP Embedded, Windows XP Professional for Embedded, WinCE, Windows 7, Linux			Windows embedded 7 standard; Windows Embedded Compact 7; Windows 7 ; Windows 8.1；Windows 10；Linux		

*The specification is subject to change without prior notice

6 Jumper Settings

6-1 C56 Motherboard

6-1-1 Motherboard Layout



6-1-2 Connectors & Functions

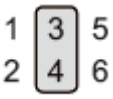
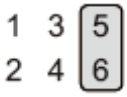
Connectors	Functions
CN1	LVDS Inverter Connector
CN2	System FAN Connector
CN3	LVDS Connector
CN4	Power LED Connector
CN5	SATA LED Connector
CN6	Speaker & MIC Connector
CN8	SATA Power Connector
CN9	COM5(Touch) Connector
CN10	Printer Port Connector
CN11/12	USB Port(Internal)
CN13	LAN LED Connector
CN14	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
DDR3_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

6-1-3 Jumper Settings

Cash Drawer Power Setting

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

Inverter Selection

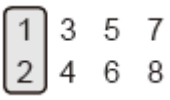
Function	**JP1** (1-2) (3-4) (5-6)
▲LED	
CCFL	

COM2 Power Setting

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

▲ = Manufacturer Default Setting  OPEN  SHORT

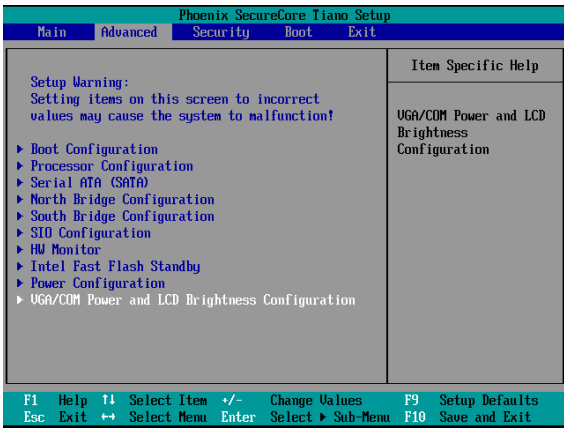
COM 3 & COM4 Power Setting

Function	**JP6** (1-2) (3-4) (5-6) (7-8)
▲COM3 +5V	
COM3 +12V	
COM4+ 5V	
▲COM4 +12V	

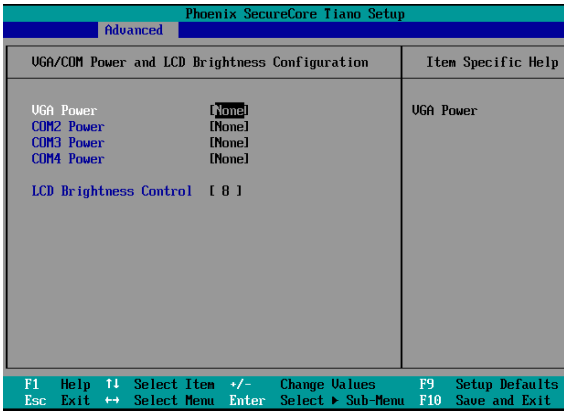
COM2/COM3/COM4 Power Setting

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 JP5 and JP6 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.

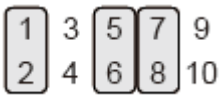
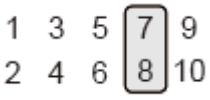
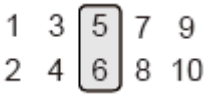
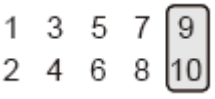
1. Power on the system, and press the <DEL> key when the system is booting up to enter the BIOS Setup utility.
2. Select the Advanced tab.
3. Select **VGA/COM Power and LCD Brightness Configuration** Ports and press <Enter> to go to display the available options.



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.



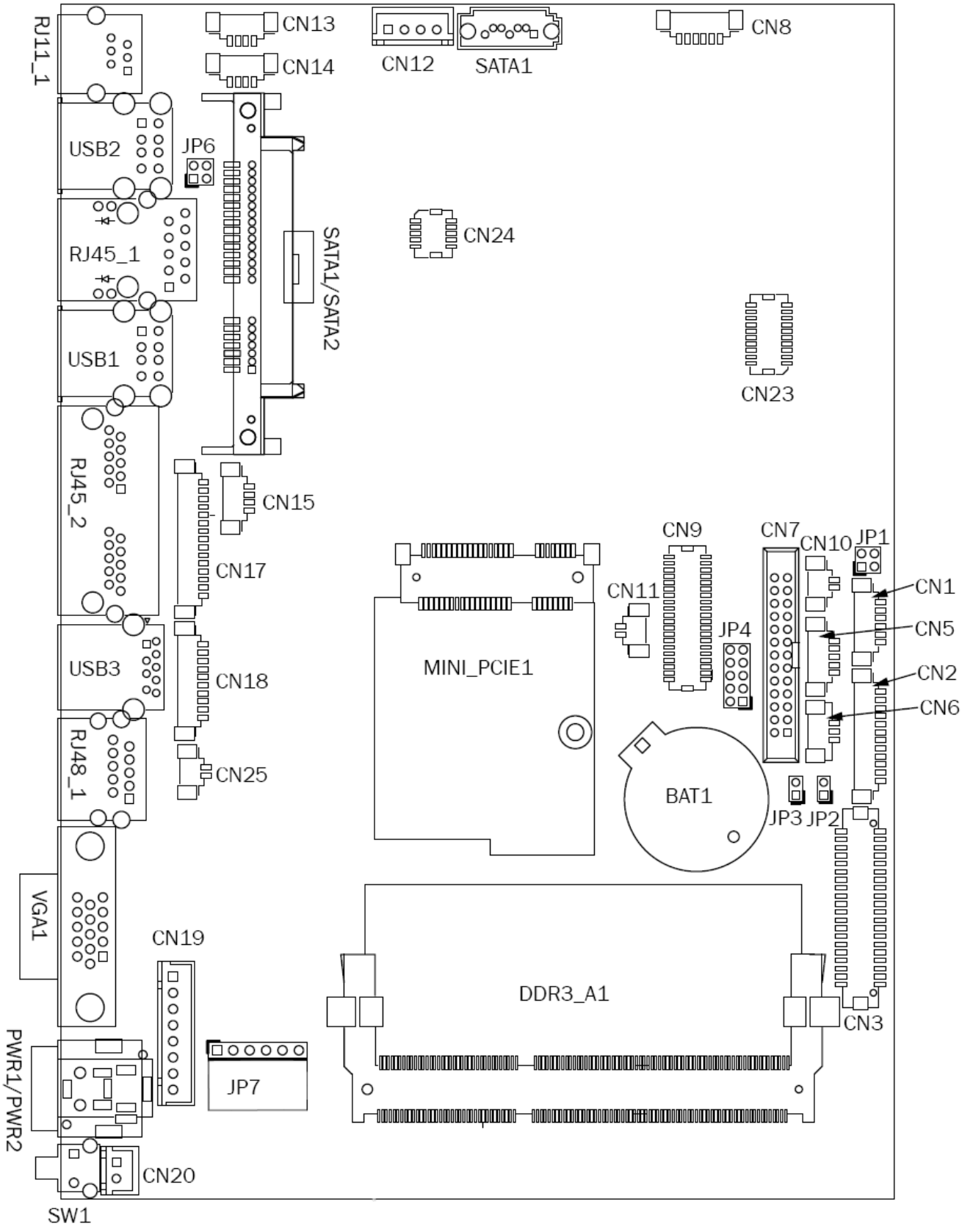
LCD ID Setting

Panel Number	Resolution	LVDS		Output Interface	JP3 (1-2) (3-4) (5-6) (7-8) (9-10)
		Bits	Channel		
1	800 x 600	18	Single	LVDS Panel	
2	800 x 600	18	Single	LVDS Panel	
3	800 x 600	24	Single	LVDS Panel	
4	1024 x 600	18	Single	LVDS Panel	
5	1024 x 768	18	Single	LVDS Panel	
6	800 x 600	24	Single	LVDS Panel	
7	1024 x 768	24	Single	LVDS Panel	
10	1366 x 768	18	Single	LVDS Panel	
11	1366 x 768	24	Single	LVDS Panel	
				CRT	

*Panel No.6 for 8.4” (HSD0841SN1-A01)HANNSTAR and 10.4” (A1048N03 V.1) AUO

6-2 D36 Motherboard

6-2-1 Motherboard Layout



6-2-2 Connectors & Functions

Connector	Function
CN1	Front I/O board
CN2	Inverter connector
CN3	LVDS connector
CN6	System FAN connector
CN7	LPT port connector
CN8	Speaker & MIC connector
CN9	40pin external connector
CN10	HDD LED connector
CN11	Power LED connector
CN12	SATA power connector
CN13/14	USB port (internal)
CN15	PS2 keyboard connector
CN17	MSR connector
CN18	COM5 (touch) connector
CN19	Wide Range
CN20	Power button (internal)
CN21	LCM connector
CN22	POS325 51pin connector
CN25	S5/S0 Status LED
PWR1/PWR2	DC Jack
RJ11_1	Cash drawer connector
RJ45_1	LAN connector
RJ45_2	COM1/ COM2
RJ48_1	COM3
DDR3_A1	DDR3 SO-DIMM
SATA0/SATA2	SATA
USB1/USB2	USB2.0
USB3	USB3.0
VGA1	CRT connector
SW1	Power button
MINI_PCIE1	MINI PCIE
JP1	Inverter select
JP4	LCD ID setting
JP6	Cash drawer power setting
JP7	Touch connector

6-2-3 Jumper Setting

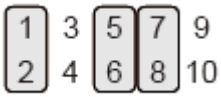
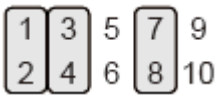
Inverter Selection

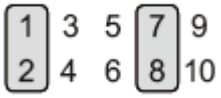
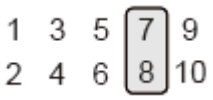
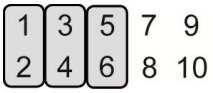
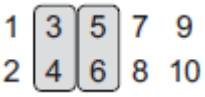
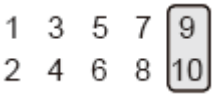
Function	**JP1** (1-2) (3-4)
▲LED	
CCFL	

Cash Drawer Power Setting

Function	**JP6** (1-2) (3-4)
▲+19V	
+12V	

LCD ID Setting

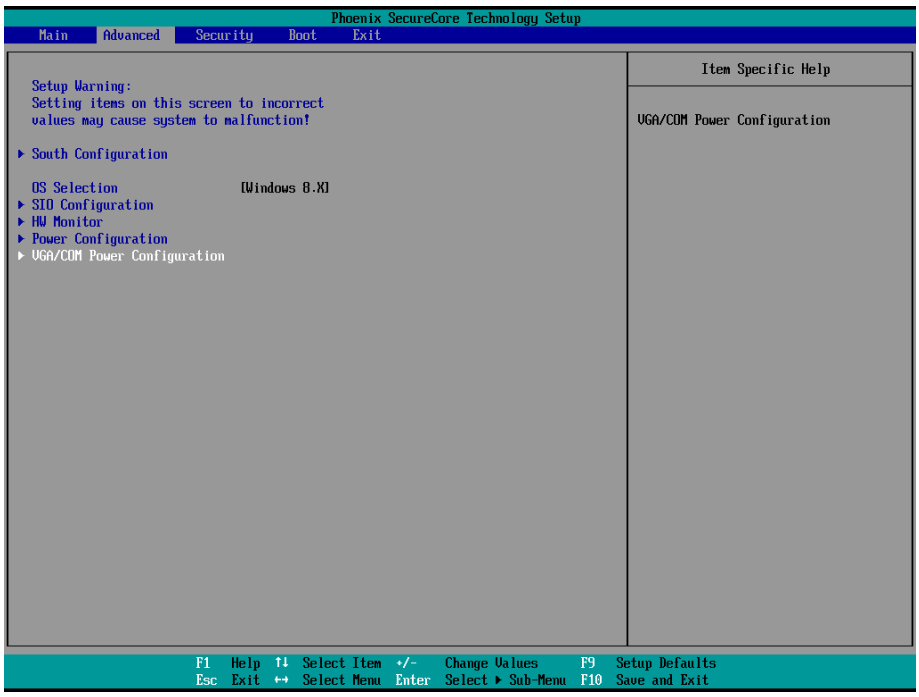
Panel Number	Resolution	LVDS		Output Interface	JP4 (1-2) (3-4) (5-6) (7-8) (9-10)
		Bits	Channel		
1	800 x 600	18	Single	LVDS Panel	
2	800 x 600	24	Single	LVDS Panel	
3	1024 x 768	18	Single	LVDS Panel	
4	1024 x 768	24	Single	LVDS Panel	
5	1366 x 768	18	Single	LVDS Panel	

6	1366 x 768	24	Single	LVDS Panel	
7	1024 x 600	18	Single	LVDS Panel	
8	1280 x 1024	24	Dual	LVDS Panel	
9	1440 x 900	24	Dual	LVDS Panel	
15	1920 x 1080	24	Dual	LVDS Panel	
				CRT	

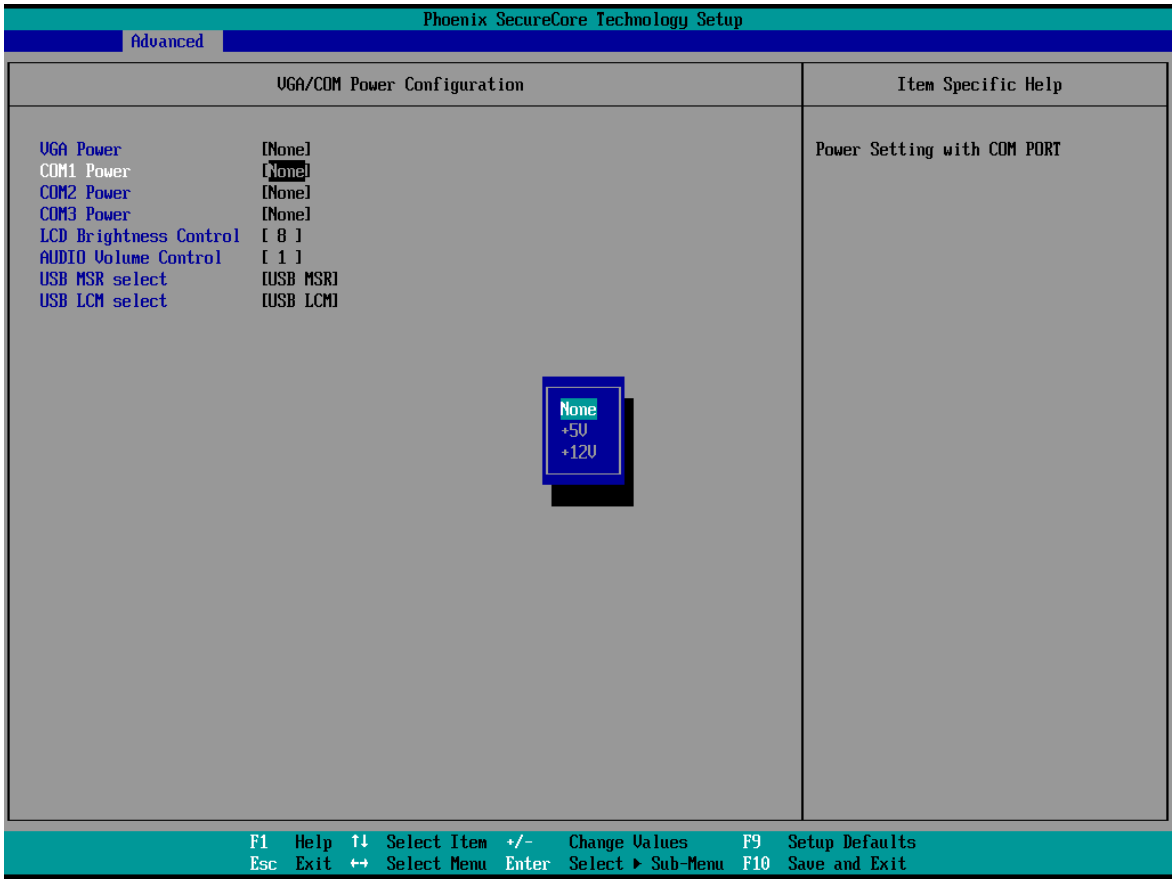
COM1/COM2/COM3 Power Setting

COM1, COM2 and COM3 can be set to provide power to your serial device.

The voltage can be set to +5V or +12V in the BIOS.



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



4. To enable the power, select COM1 , COM2 or COM3 Power setting and press <Enter>. Select Power and press <Enter>. Save the change by pressing F10.

7 Appendix: Driver 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 the models. You can refer to the drivers installation guide for each driver in the “Driver/Manual List”.