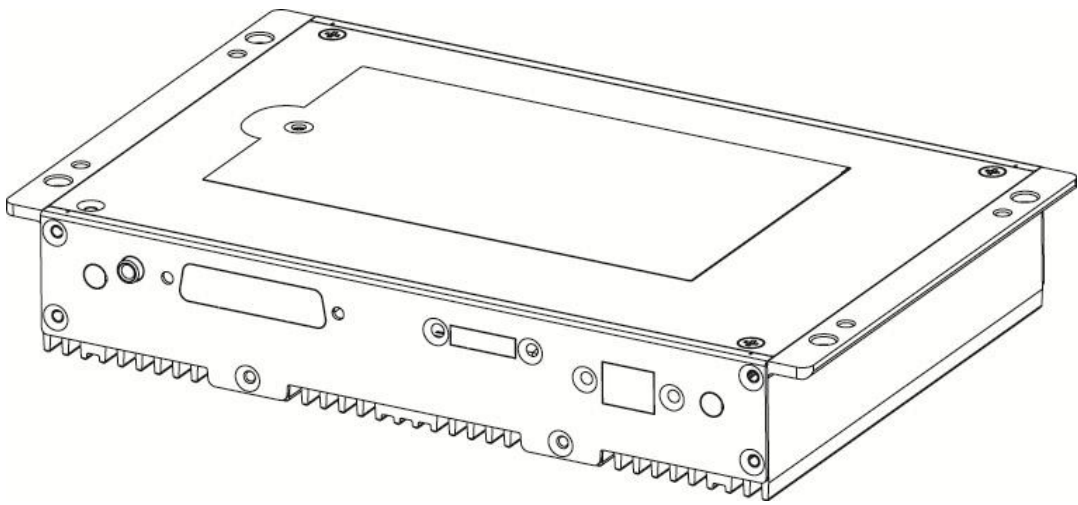


USER MANUAL

Version 3.0 May, 2019

Metal Fanless Box PC



Copyright 2019
All Rights Reserved
Manual Version 3.0

The information contained in this document is subject to change without notice.

We make no warranty of any kind with regard to this material, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. We shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this material.

This document contains proprietary information that is protected by copyright. All rights are reserved. No part of this document may be photocopied, reproduced or translated to another language without the prior written consent of the manufacturer.

TRADEMARK

Intel®, Pentium® and MMX are registered trademarks of Intel® Corporation. Microsoft® and Windows® are registered trademarks of Microsoft Corporation.

Other trademarks mentioned herein are the property of their respective owners.

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 2014/30/EU with regard to “Electromagnetic compatibility” and 2014/35/EU “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	<ul style="list-style-type: none">• Initial release
1.1	Dec. 2009	<ul style="list-style-type: none">• Jumper Setting updated
1.2	Aug. 2011	<ul style="list-style-type: none">• C46 M/B added
1.3	Sep. 2012	<ul style="list-style-type: none">• C56 M/B added
1.4	Jun. 2014	<ul style="list-style-type: none">• C36 M/B removed• D36 M/B added
2.0	Mar, 2017	<ul style="list-style-type: none">• D86U M/B added
2.1	Oct. 2018	<ul style="list-style-type: none">• C46 and C56 M/B removed• D36 V4.0 M/B added
3.0	May, 2019	<ul style="list-style-type: none">• D36 V4.0 and D86U M/B front I/O location modified

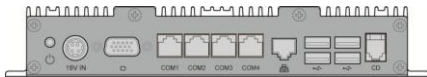
Table Contents

1 Package Checklist	1
1-1 Standard items	1
1-2 Optional items	2
2 System View.....	3
2-1 Top View & Bottom View.....	3
2-2 Front I/O View	4
2-3 Rear I/O View.....	5
2-4 Dimensions.....	6
3 System Assembly & Disassembly.....	7
3-1 Replace the HDD.....	7
3-2 Open the Box PC.....	8
3-3 Install a WLAN	9
3-4 Install a pSSD Card	11
3-5 Replace the Motherboard.....	12
3-6 Install a PS/2 Function Kit.....	13
3-7 Install an Audio Cable	15
4 Specification.....	17
5 Configuration.....	19
5-1 D36 V2.1 Motherboard.....	19
5-2 D36 V4.0 Motherboard.....	24
5-3 D86 Motherboard.....	28

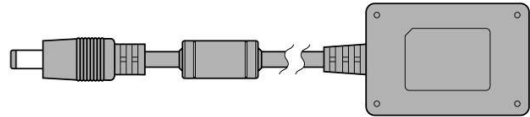
1 Package Checklist

1-1 Standard items

a.



b.



c.



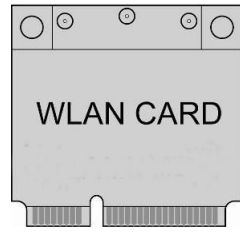
d.



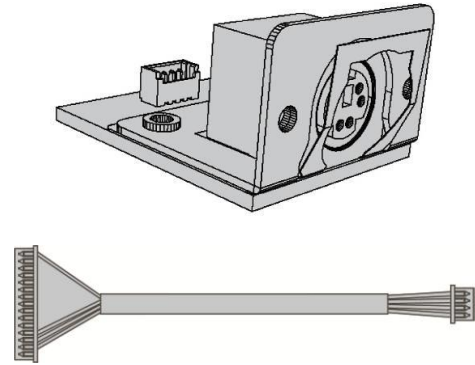
- a. Fanless box PC
- b. Power adapter
- c. Power cord
- d. RJ45 to DB9 cable (x2)

1-2 Optional items

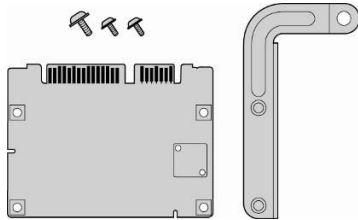
a.



b.



c.



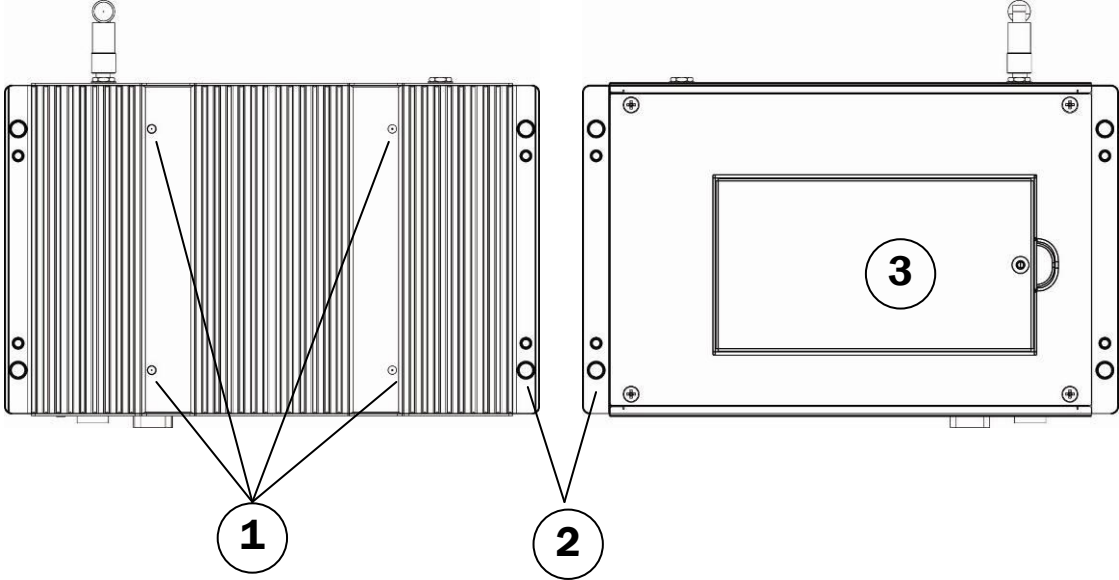
d.



- a. WLAN card (with external antenna)
- b. PS/2 function kit and PS/2 cable (only provided with D36 V2.1 M/B)
- c. pSSD card
- d. Audio cable

2 System View

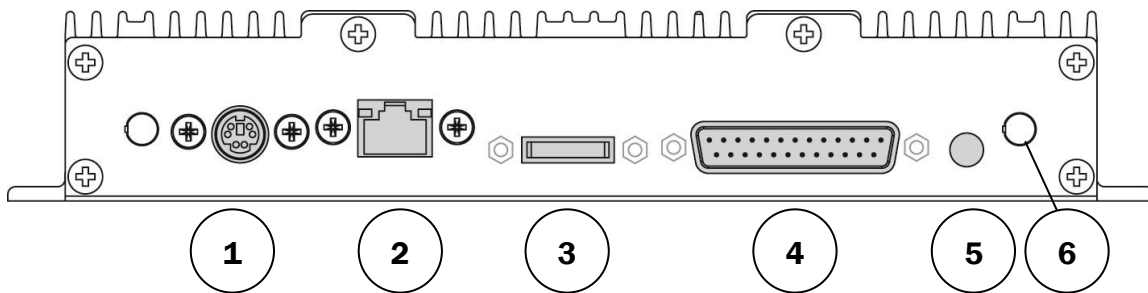
2-1 Top View & Bottom View



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

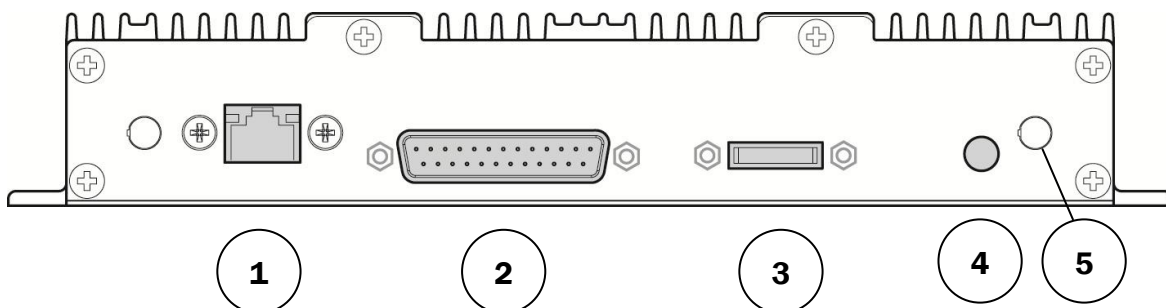
2-2 Front I/O View

D36 V2.1 Motherboard



No.	Description
1	PS2 (option)
2	2 nd LAN (option)
3	Display Port (option)
4	Parallel (option)
5	Line-out (option)
6	Antenna (option)

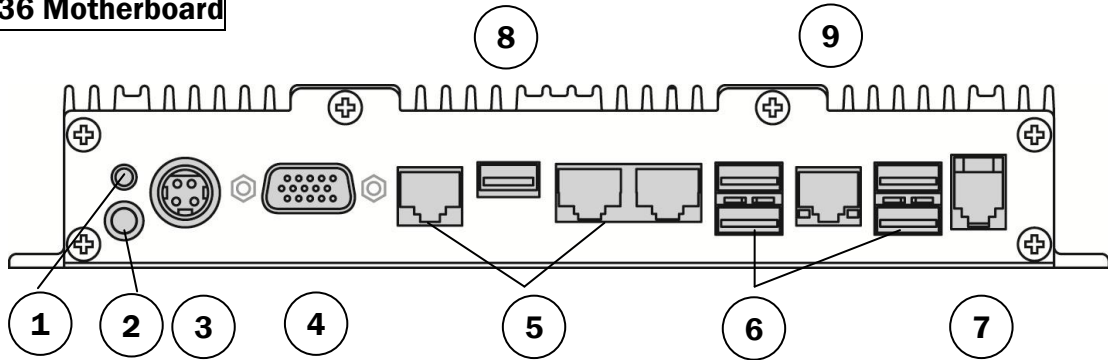
D36 V4.0 and D86U Motherboard



No.	Description
1	2 nd LAN (option)
2	Parallel (option)
3	Display Port (option)
4	Line-out (option)
5	Antenna (option)

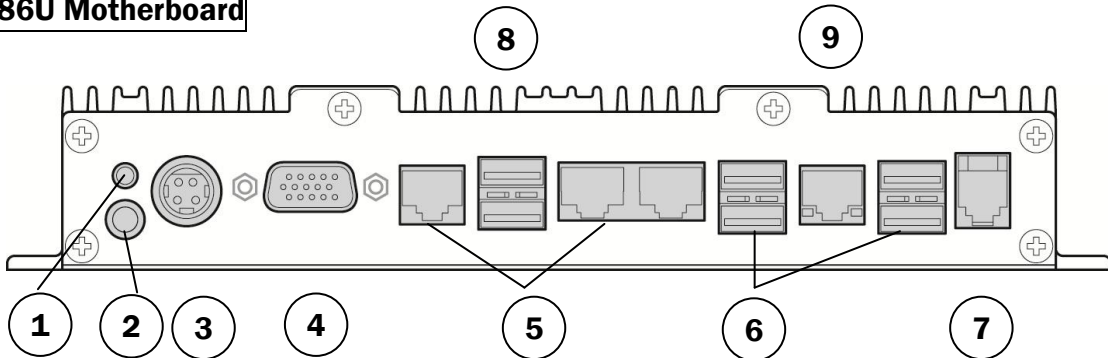
2-3 Rear I/O View

D36 Motherboard



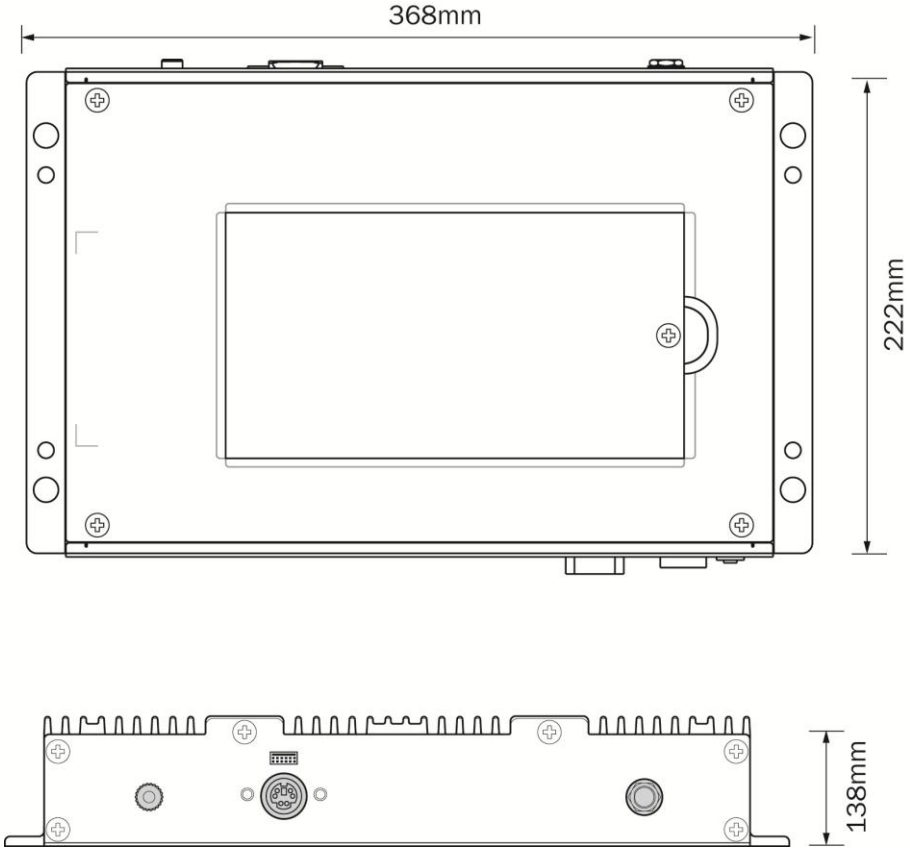
No.	Description
1	Power Button
2	Power LED Indicator
3	DC Jack
4	VGA
5	COM1, COM2, COM3 (from right to left)
6	USB2.0 (x4)
7	Cash Drawer Port
8	USB3.0 (x1)
9	LAN (10/100/1000)

D86U Motherboard



No.	Description
1	Power Button
2	Power LED Indicator
3	DC Jack
4	VGA
5	COM1, COM2, COM3 (from right to left)
6	USB2.0 (x4)
7	Cash Drawer Port
8	USB3.0 (x2)
9	LAN (10/100/1000)

2-4 Dimensions



3 System Assembly & Disassembly

3-1 Replace the HDD



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



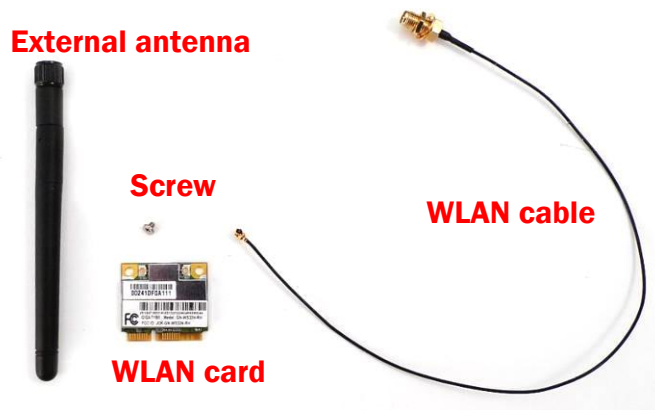
2. Disconnect the HDD cable (x1) and take out the HDD.

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

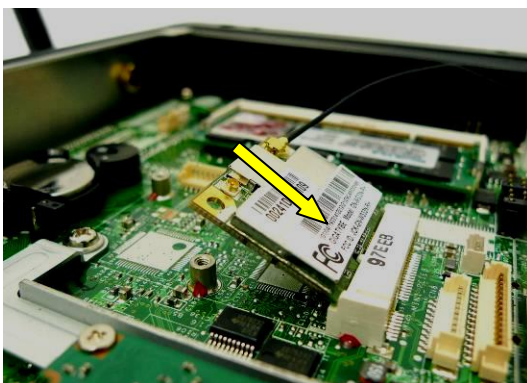


WLAN card module accessory:

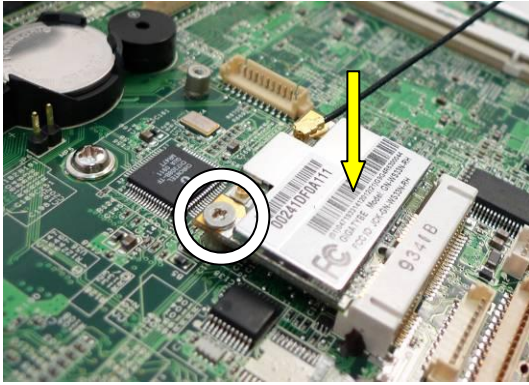
- (1). External antenna x 1
- (2). WLAN card x 1
- (3). Screw x 1
- (4). WLAN cable x 1



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.



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



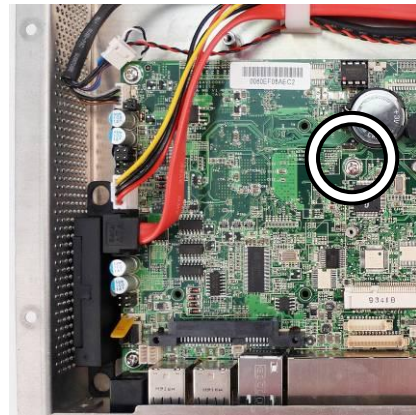
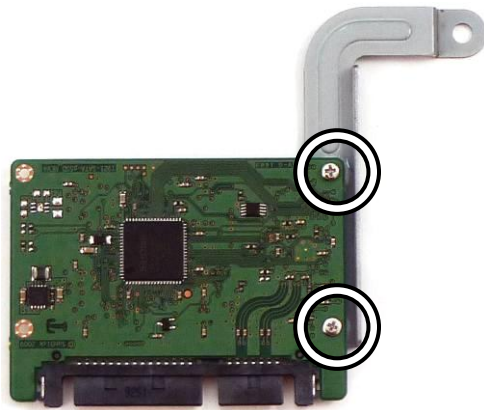
9. Screw the external antenna.

3-4 Install a pSSD Card

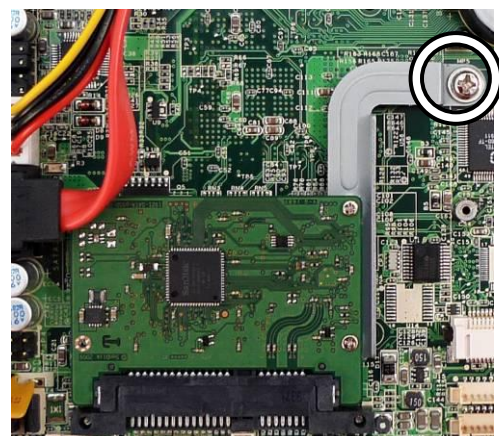
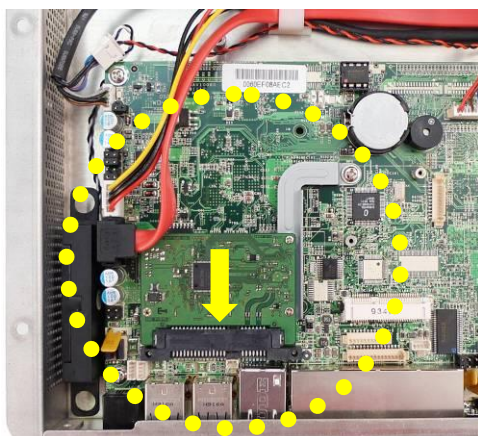


pSSD card module accessory:

- (1). pSSD card x 1
- (2). Screws x 2
- (3). Metal bracket x 1

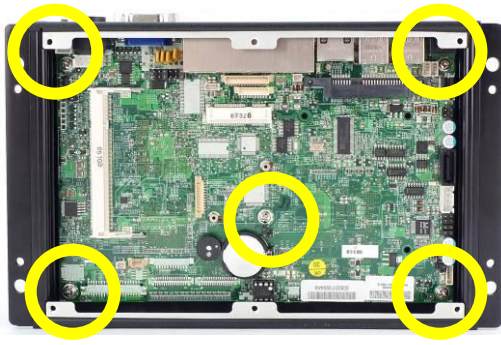


1. Open the box PC first (Chapter 3-1).
2. Assemble the metal bracket and the pSSD card by fastening the screws (x2).
3. Remove the screw (x1) fixing on the motherboard.



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.

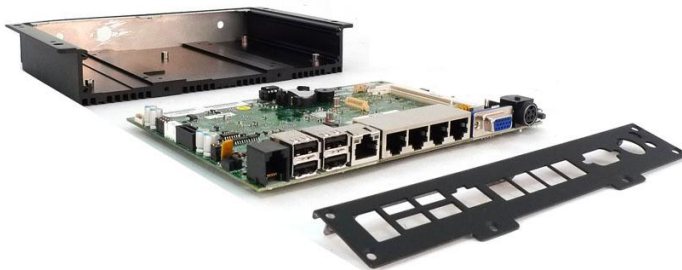
3-5 Replace the Motherboard



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.

3-6 Install a PS/2 Function Kit

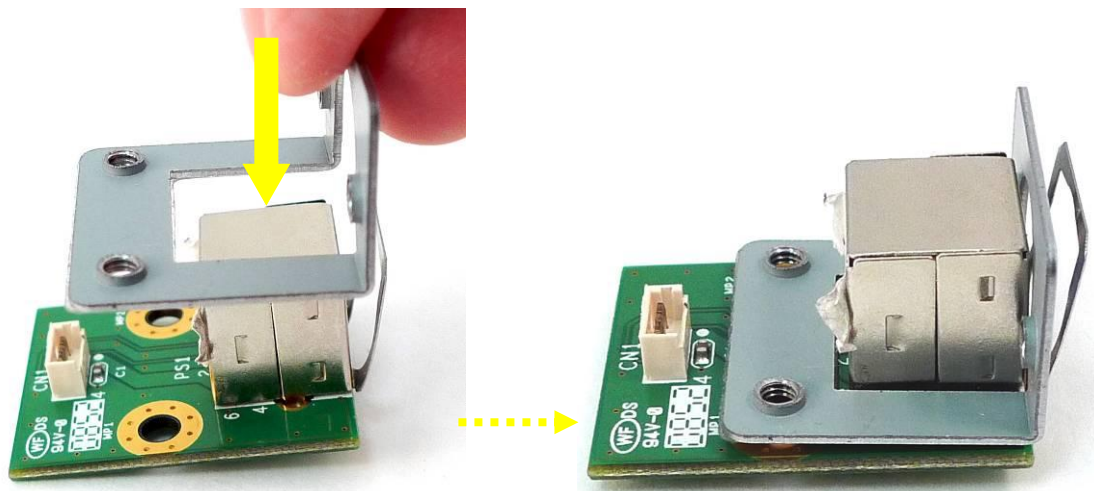
To install a PS/2 function kit, please follow the below given steps:

- (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).

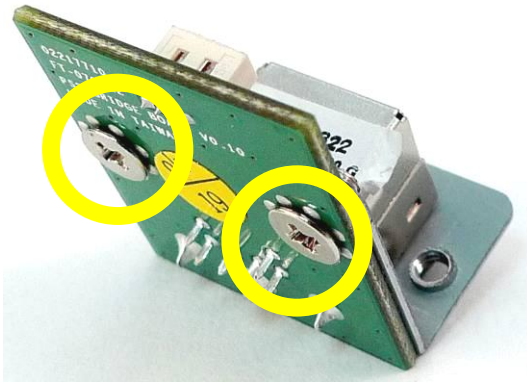
PS/2 Function:



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



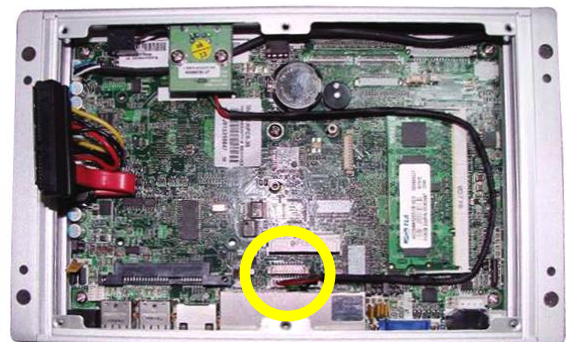
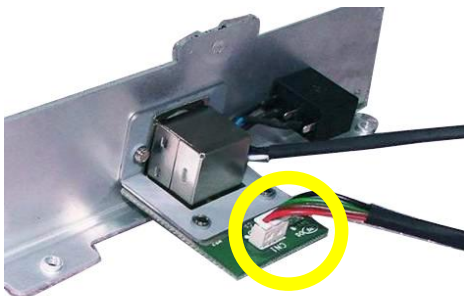
2. Assemble the metal bracket into the right position of the PS/2 function board.



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).

3-7 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

6 pin connector

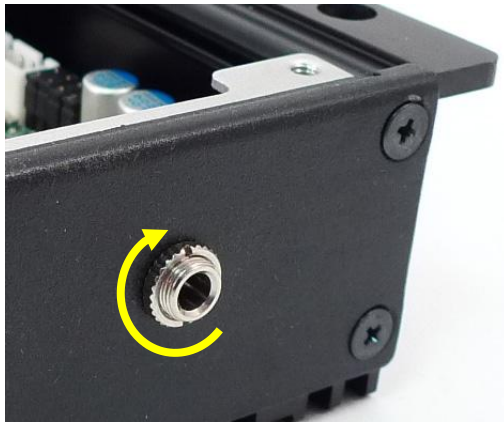


Chassis-mount connector

Washer



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).
- *Note: D36 V4.0 motherboard uses a 4 pin audio cable and connects to CN34 on the motherboard.

4 Specification

Model Name	KPC6	
Motherboard	D36	D86U
Processor	Intel Bay Trail CPU Celeron J1900 2.0GHz, L2 2MB (10W)	Intel SKYLAKE U CPU Celeron 3955U 2GHz, LLC 2M (15W,EIA) i3-6100U 2.3GHz, LLC 3M (15W, EIA) i5-6300U 2.4GHz
Chipset	NA	NA
System Memory	1 x DDR3 S0-DIMM up to 8GB, 1066/1333MHz	DDR3L1600MHz (8GB Max); 1 Channel
Graphic Memory	Intel Gen7@>300MHz	Intel Graphic (Gen 9) DX12, define on CPU
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	1 (DB25 female, Option)	
PS/2	1 (Option, either one solution w/ 2 nd LAN)	1(option)
Rear I/O		
USB	5 USB Type A (USB3.0/2.0 x 1, USB2.0 x 4)	6 USB Type A (USB3.0/2.0 x 2, USB2.0 x 4)
Serial Port	3 x RJ45 COM ports (COM1/2/3 powered RS232; COM1 default 5V; COM2default 5V; COM3 default 12V by BIOS setting)	
GigaLAN	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	

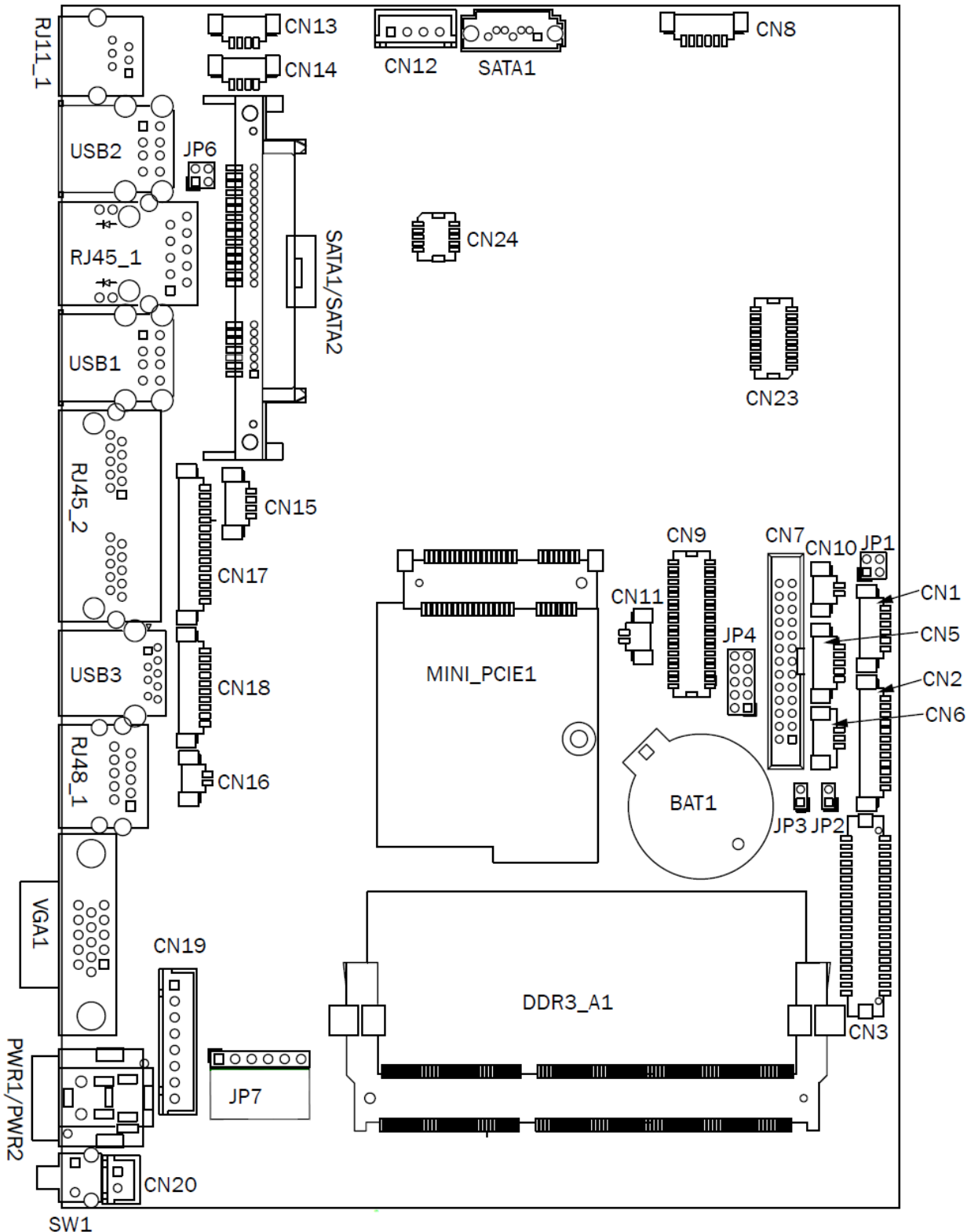
Model Name	KPC6	
Motherboard	D36	D86U
Environment		
Operating Temperature	0 °C ~ 35 °C (32 °F ~ 95 °F)	
Storage Temperature	-20 °C ~ 60 °C (-4 °F ~ 140 °F)	
Humidity	20% ~ 85% RH non-condensing	
Communication		
Wireless LAN	802.11 b/g/n wireless LAN card & antenna (Option)	
Dimension (WxDxH)	222 x 138 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 embedded 7 standard; Windows EmbeddedCompact 7; Windows 7; POSReady 7; Windows embedded8; Windows 8; RTOS (support provided by Winriver) Linux	Windows 7, Windows 7 pro(64-bit), POSReady 7, Windows 8 (64-bit), Windows Embedded industry 8 (64-bit), Windows 10 (64-bit), Windows IOT 10(64-bit) Linux : Ubuntu After 15.10, Fedora After 23, OpenSUSE 42.1 no support (Kernel 4.1)

* This specification is subject to change without prior notice.

5 Configuration

5-1 D36 V2.1 Motherboard

5-1-1 Motherboard Layout



5-1-2 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
CN16	LPT touch
CN17	MSR connector
CN18	COM5 (touch) connector
CN19	Wide Range
CN20	Power button (internal)
CN21	LCM connector
CN22	POS325 51pin connector
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

5-1-3 Jumper Setting

Inverter Selection

Function	JP1 (1-2) (3-4)				
▲ LED	<table border="1"> <tr> <td>1</td> <td>3</td> </tr> <tr> <td>2</td> <td>4</td> </tr> </table>	1	3	2	4
1	3				
2	4				
CCFL	<table border="1"> <tr> <td>1</td> <td>3</td> </tr> <tr> <td>2</td> <td>4</td> </tr> </table>	1	3	2	4
1	3				
2	4				

Cash Drawer Power Setting

Function	JP6 (1-2) (3-4)				
▲ +19V	<table border="1"> <tr> <td>1</td> <td>3</td> </tr> <tr> <td>2</td> <td>4</td> </tr> </table>	1	3	2	4
1	3				
2	4				
+12V	<table border="1"> <tr> <td>1</td> <td>3</td> </tr> <tr> <td>2</td> <td>4</td> </tr> </table>	1	3	2	4
1	3				
2	4				

LCD ID Setting

Panel Number	Resolution	LVDS		Output Interface	JP4 (1-2) (3-4) (5-6) (7-8) (9-10)					
		Bits	Channel		1	3	5	7	9	
				CRT	1	3	5	7	9	10
					2	4	6	8		

▲ = Manufacturer Default Setting



OPEN

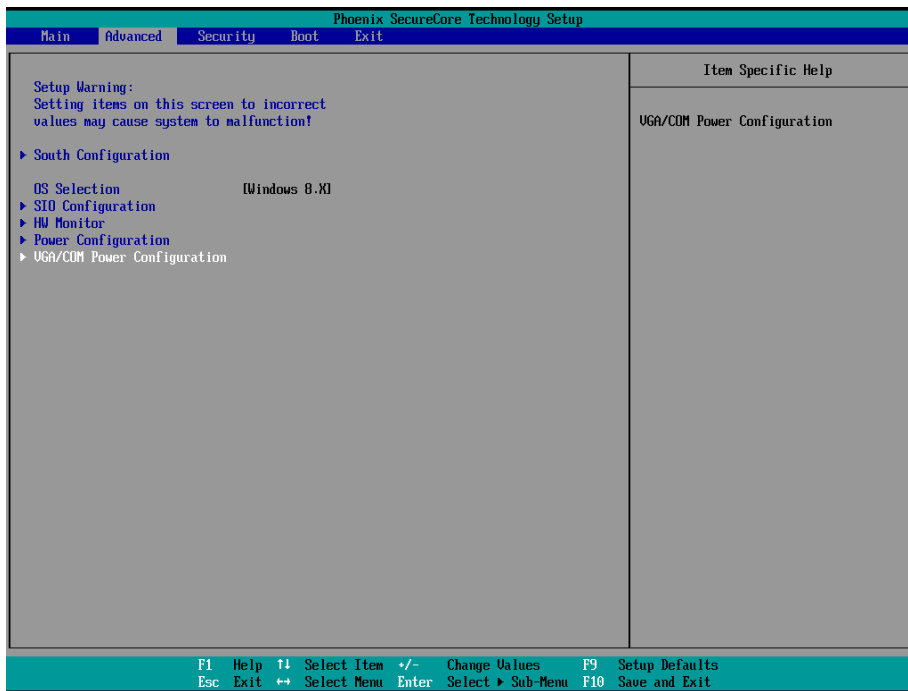


SHORT

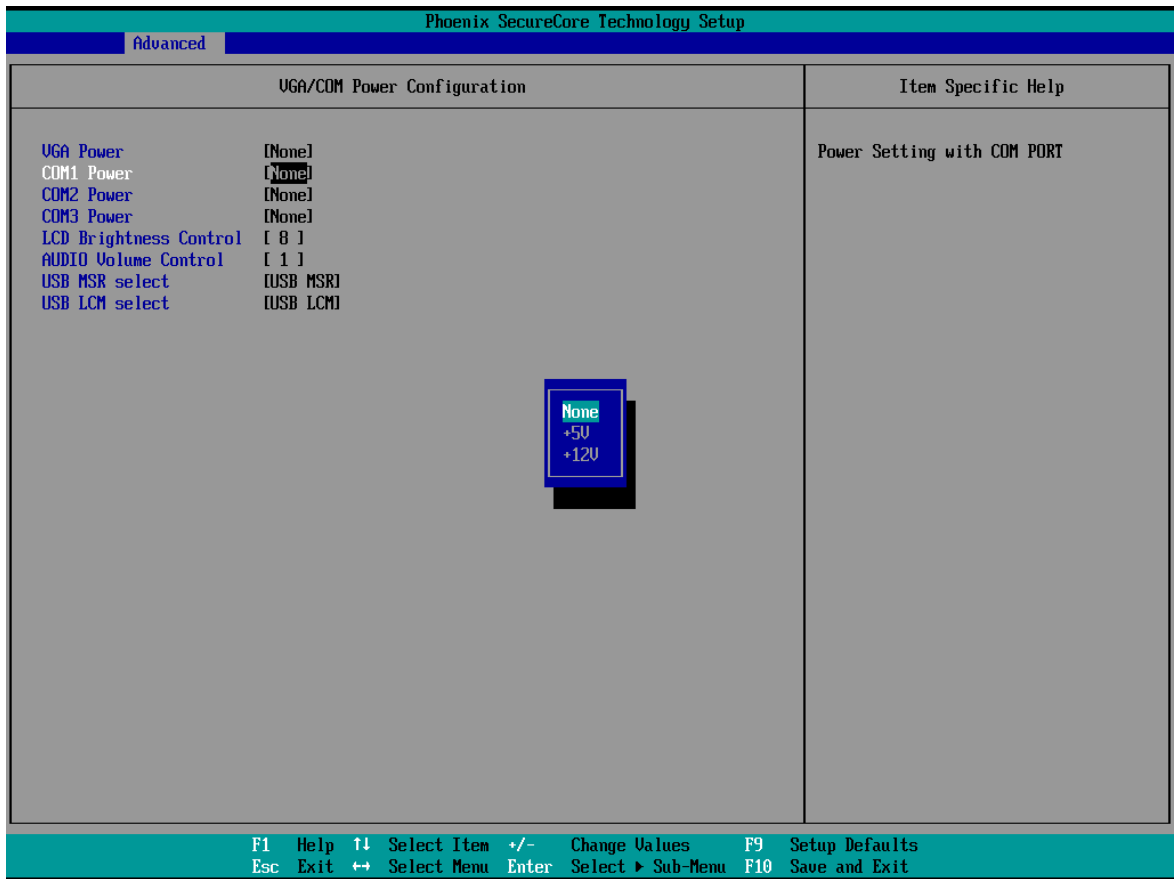
COM1/COM2/COM3 Power Setting

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.



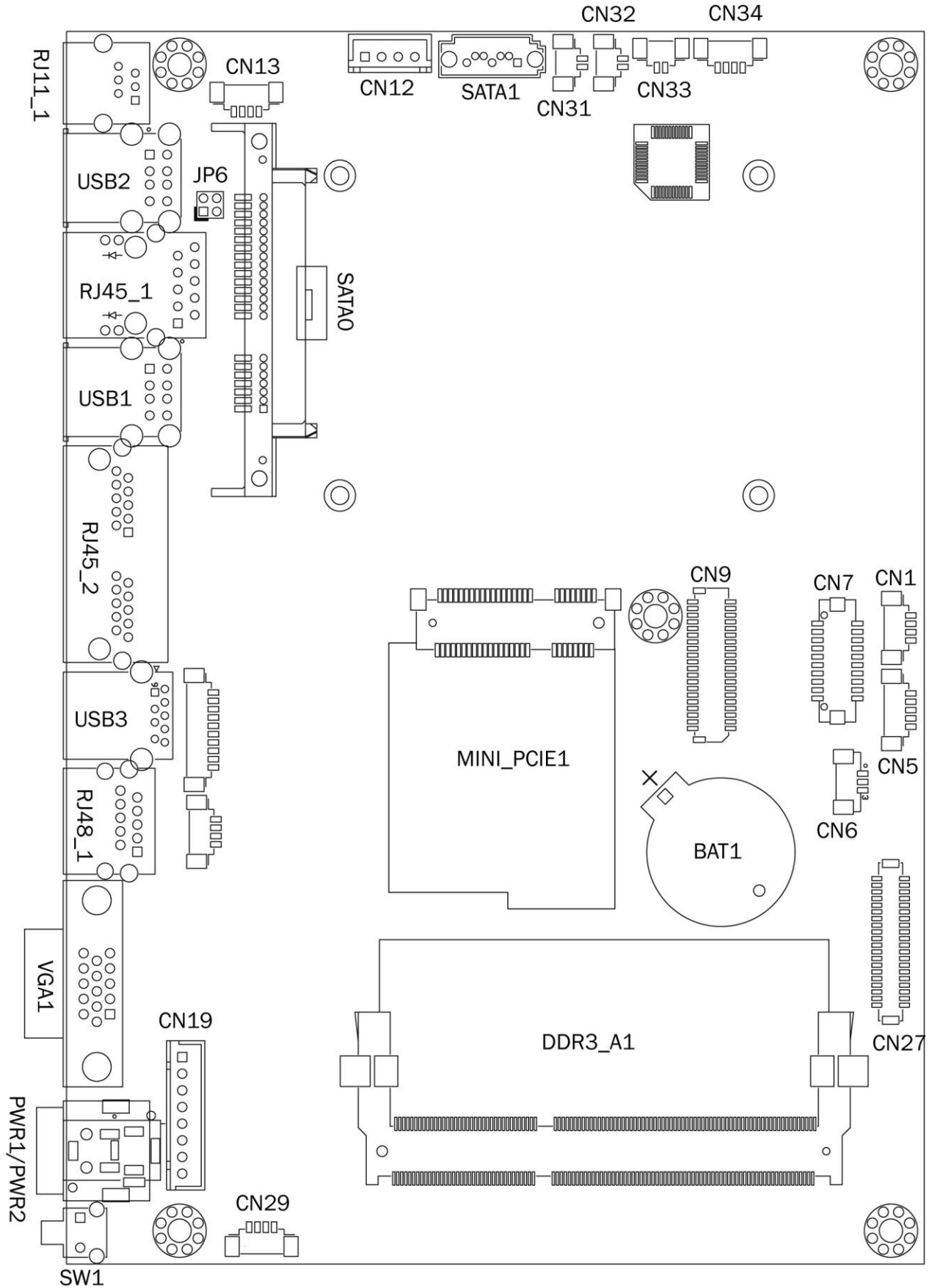
1. Power on the system, and press the key when the system is booting up to enter the BIOS Setup utility.
2. Select the Advanced tab.
3. Select **VGA/COM Power Configuration** Ports and press <Enter> to go to display the available options.



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.

5-2 D36 V4.0 Motherboard

5-2-1 Motherboard Layout




5-2-2 Connectors & Functions

Connector	Function
CN1/CN13/CN21/CN29	Internal USB connector
CN5	EC Debug
CN6	CPU FAN connector
CN7	LPT connector
CN9	40Pin connector
CN12	SATA power connector
CN18	COM5 (touch) connector
CN19	Wide range power connector
CN25	S0/S5 LED & Power button connector
CN26	51P connector
CN27	eDP connector
CN31	Speaker L output
CN32	Speaker R output
CN33	MIC output
CN34	Earphone connector
BAT1	Battery connector
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
SATA1/SATA2	SATA connector
USB1/USB2	USB2.0
USB3	USB3.0
VGA1	CRT connector
SW1	Power button
MINI_PCIE1	MINI PCIE
JP6	Cash drawer power setting

5-2-3 Jumper Setting

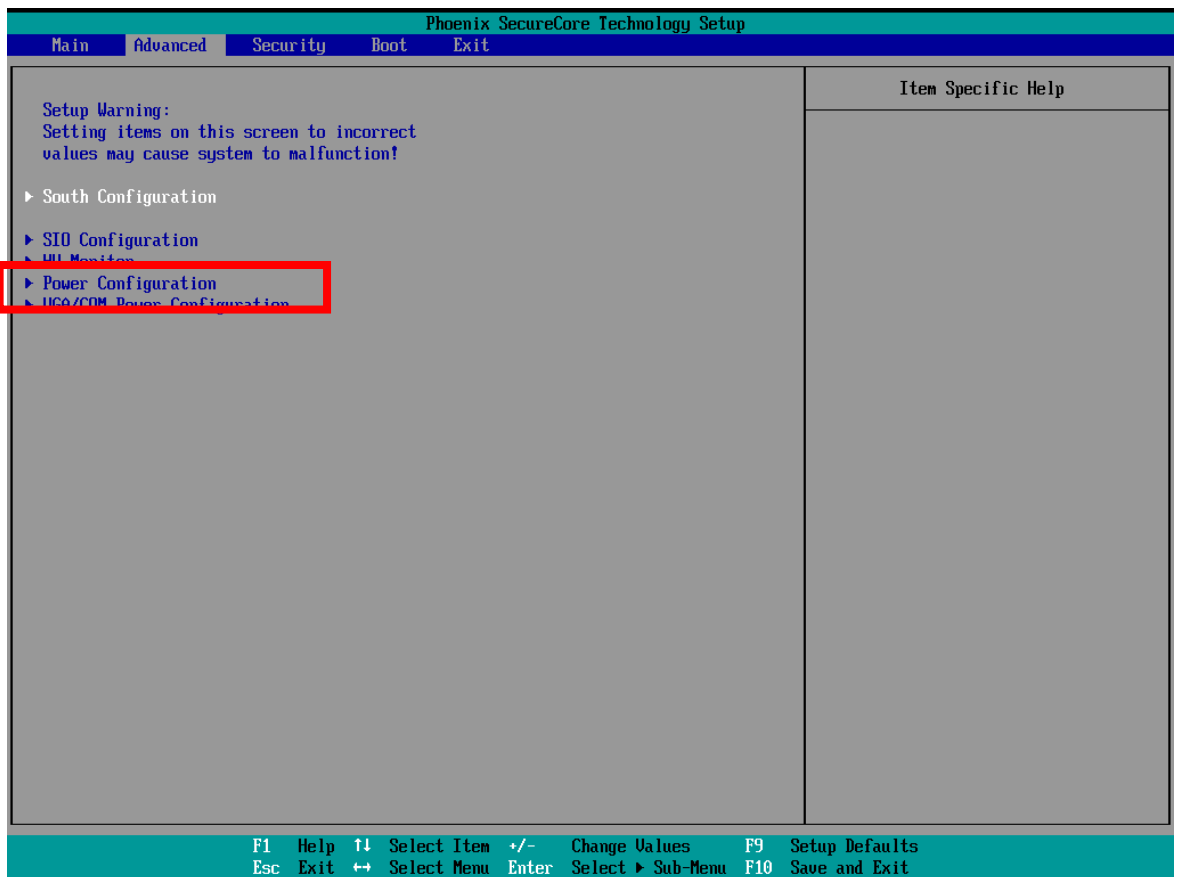
Cash Drawer Power Setting

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

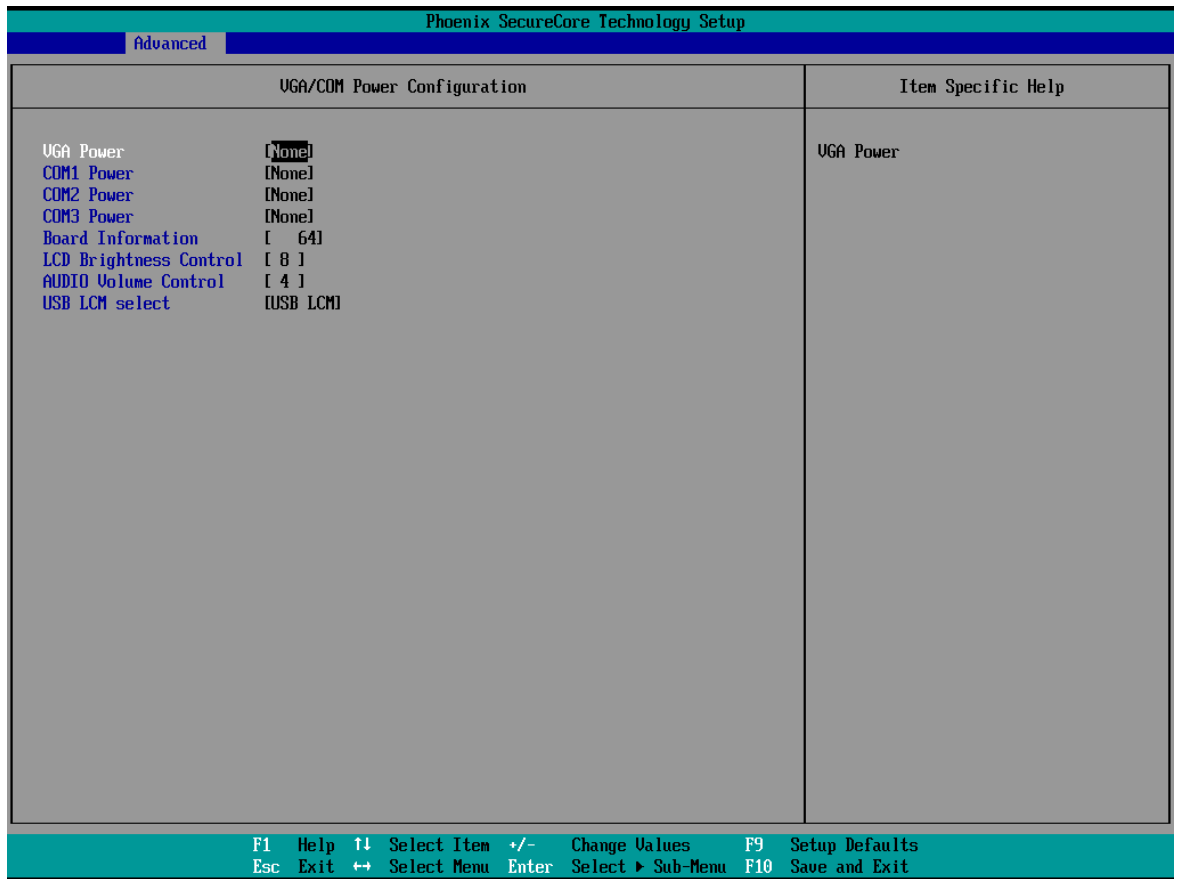
COM1/COM2/COM3 Power Setting

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.



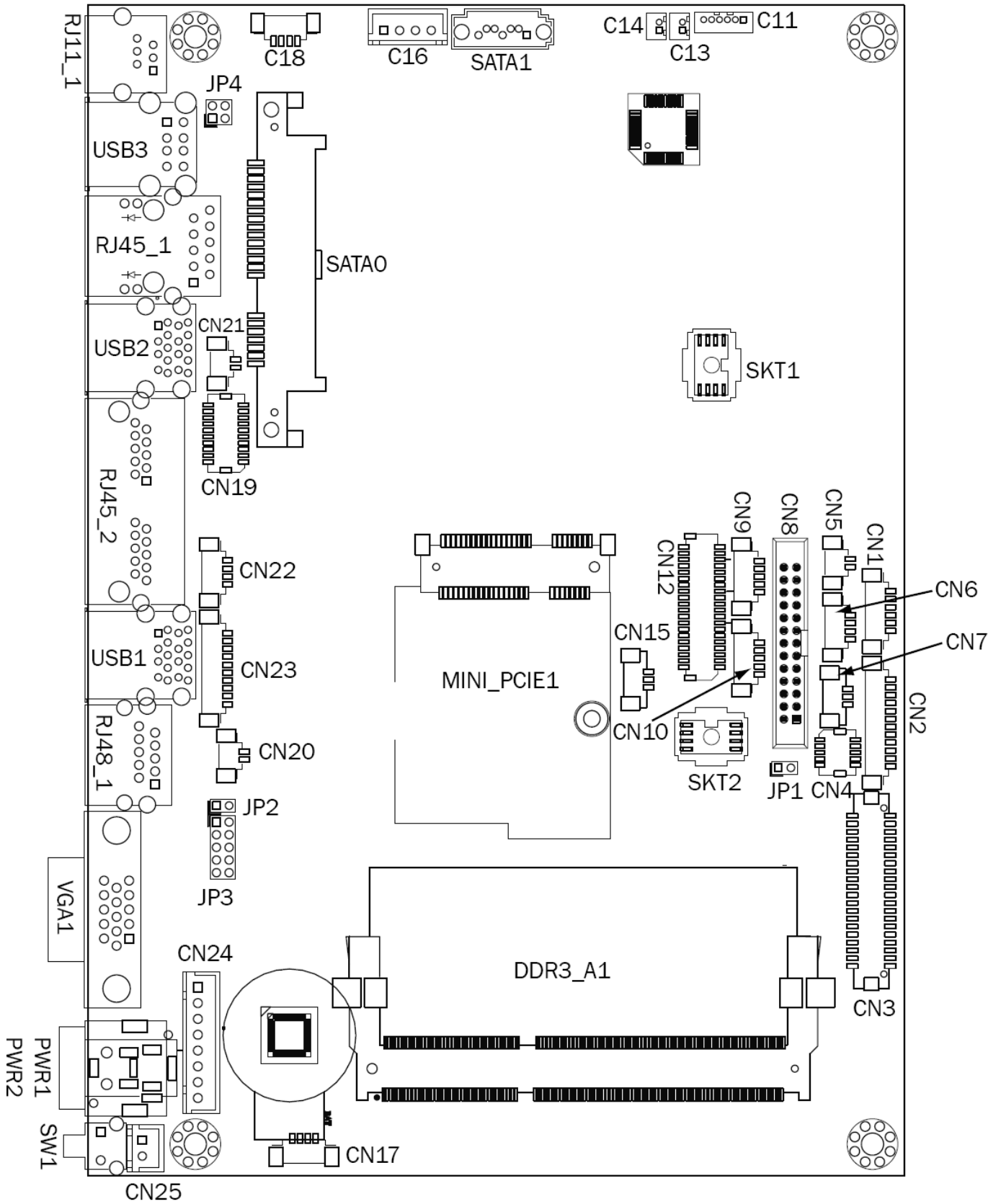
1. Power on the system, and press the key when the system is booting up to enter the BIOS Setup utility.
2. Select the Advanced tab.
3. Select **VGA/COM Power Configuration** Ports and press <Enter> to go to display the available options.



- 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.

5-3 D86 Motherboard

5-3-1 Motherboard Layout



5-3-2 Connectors & Functions

Connector	Function
CN1	Front I/O board
CN2	Inverter connector
CN3	LVDS connector
CN4	NFC
CN5	HDD LED connector
CN6	USB connector
CN7	System FAN connector
CN8	LPT port connector
CN9	Smart device connector
CN10	Debug port
CN11	Speaker & MIC connector
CN12	40 pin external connector
CN13	Audio connector(right)
CN14	Audio connector(left)
CN15	two color LED
CN16	SATA power connector
CN17/18	USB connector
CN19	SDR connector
CN20	Battery connector
CN21	Power LED connector
CN22	PS/2 connector
CN23	COM5 connector
CN24	Wide range connector
CN25	Power button connector
CN26	LCM connector
CN27	51 pin connector
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/SATA1	SATA connector
USB1/USB2	USB3.0
USB3	USB2.0
VGA1	CRT connector
SW1	Power button
MINI_PCIE1	MINI PCIE
JP1	Hardware reset
JP2	RTC reset
JP3	LCD ID setting
JP4	Cash drawer power setting

5-3-3 Jumper Settings

Cash Drawer Power Setting

Function	JP4 (1-2) (3-4)				
▲ +19V	<table border="1"> <tr> <td>1</td> <td>3</td> </tr> <tr> <td>2</td> <td>4</td> </tr> </table>	1	3	2	4
1	3				
2	4				
+12V	<table border="1"> <tr> <td>1</td> <td>3</td> </tr> <tr> <td>2</td> <td>4</td> </tr> </table>	1	3	2	4
1	3				
2	4				

LCD ID Setting

Panel Number	Resolution	LVDS		Output Interface	JP3										
		Bits	Channel		(1-2) (3-4) (5-6) (7-8) (9-10)										
				CRT	<table border="1"> <tr> <td>1</td> <td>3</td> <td>5</td> <td>7</td> <td>9</td> </tr> <tr> <td>2</td> <td>4</td> <td>6</td> <td>8</td> <td>10</td> </tr> </table>	1	3	5	7	9	2	4	6	8	10
1	3	5	7	9											
2	4	6	8	10											

▲ = Manufacturer Default Setting



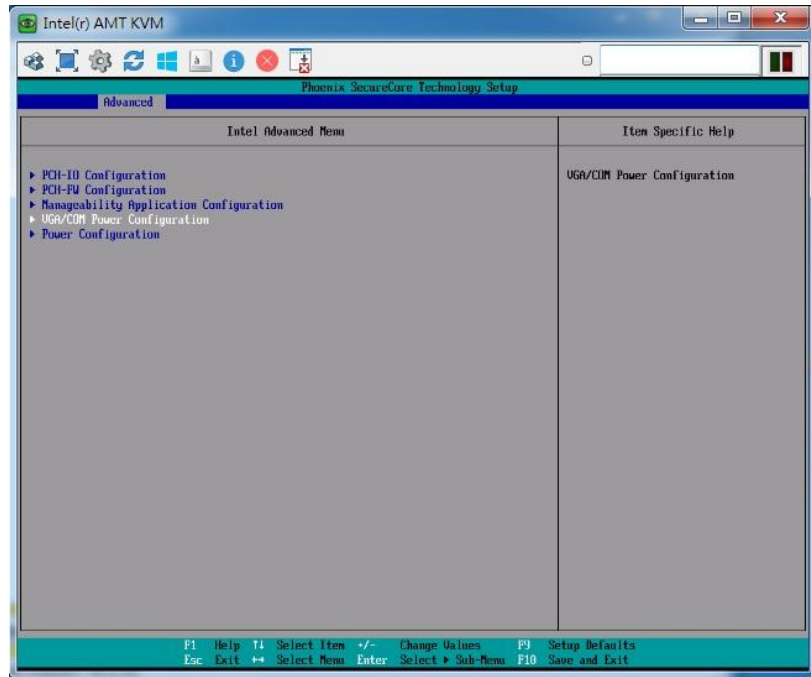
OPEN



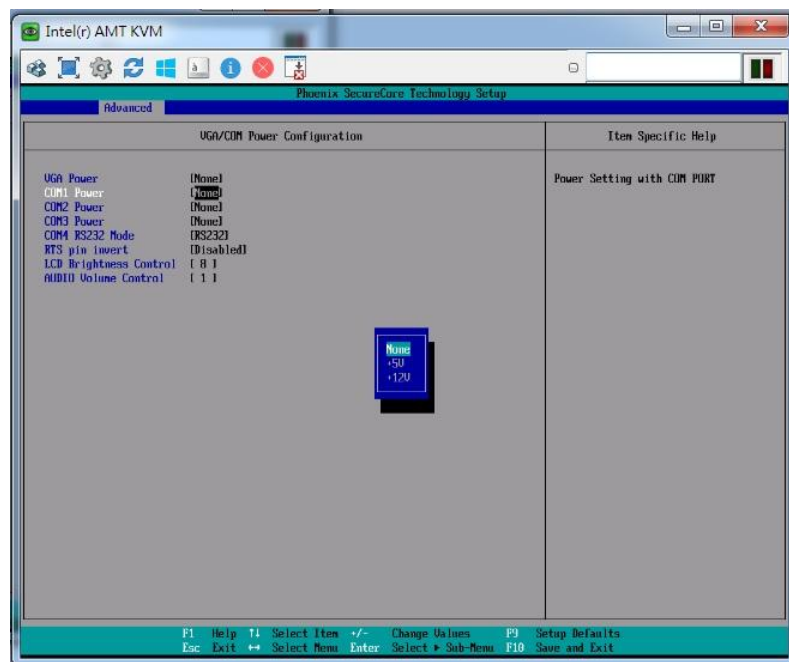
SHORT

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.



1. Power on the system, and press the key when the system is booting up to enter the BIOS Setup utility.
2. Select the Advanced tab.
3. 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.