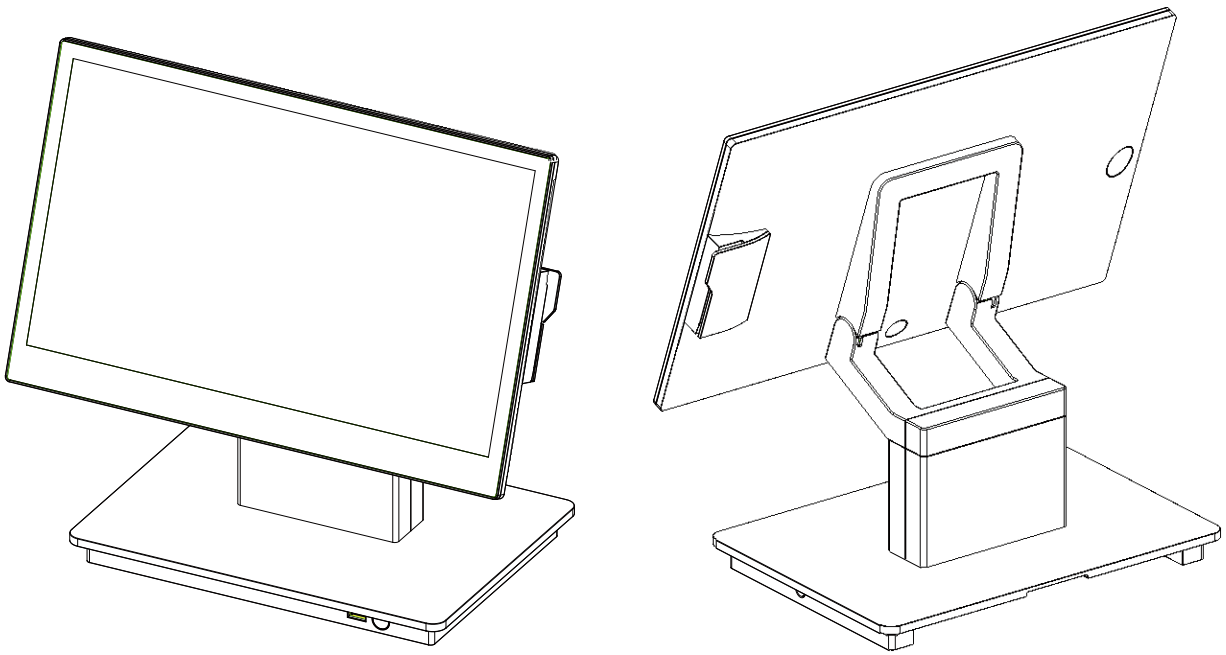
VERSION 2.0 December 2022

CA850
POS Terminal
User Manual



Manual Version 2.0

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Safety

IMPORTANT SAFETY INSTRUCTIONS

1. To disconnect the machine from the electrical power supply, turn off the power switchand 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 followingtwo conditions:
(**1**) This device may not cause harmful interference.
(**2**) This device must accept any interference received, including interference that maycause undesired operation.

CAUTION ON LITHIUM BATTERIES

There is a danger of explosion if the battery is replaced incorrectly. Replace onlywith 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 CLASSMATERIAL or shall pass the test of Clause A.2.
For MOVABLE EQUIPMENT having a total mass exceeding 18kg and for all STATIONARYEQUIPMENT, the material of a FIRE ENCLOSURE, in the thinnest significant wallthickness 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 dust bin 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 topromote 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 forenvironmentally 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:

Revision	Description	Date
1.0	• Initial release	November 2020
2.0	• F64U motherboard removed • F34 & F84U motherboard added • D84U & F14 motherboard version update	December 2022

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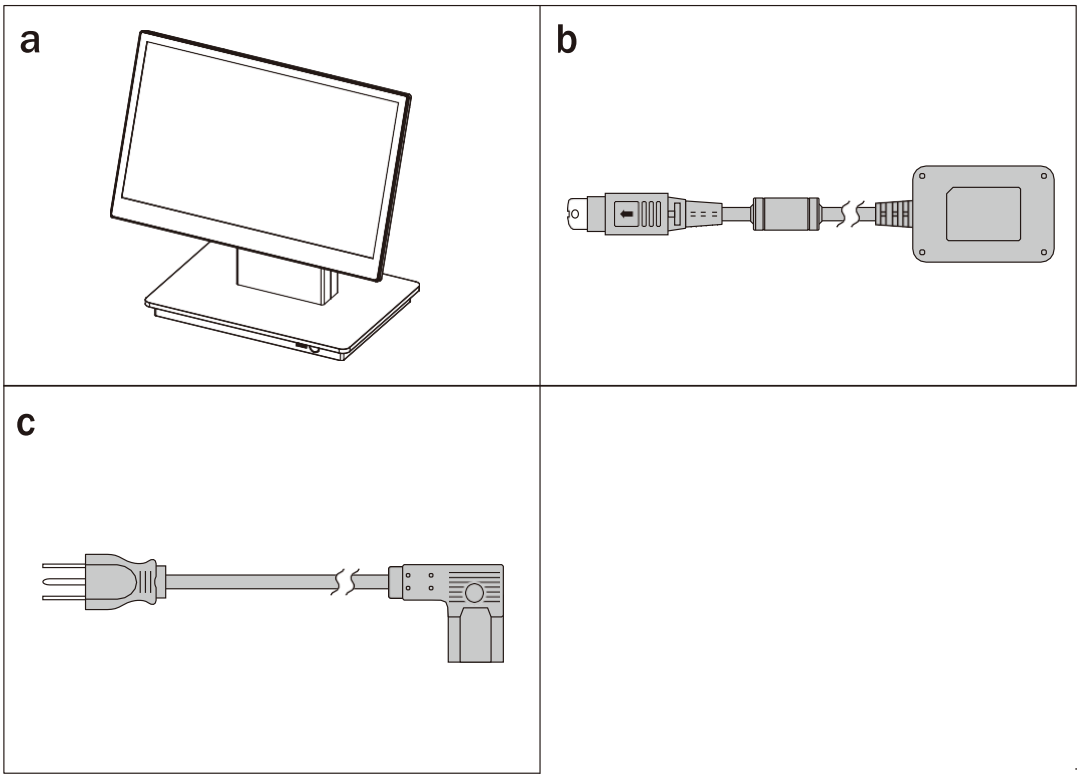
1. Packing List

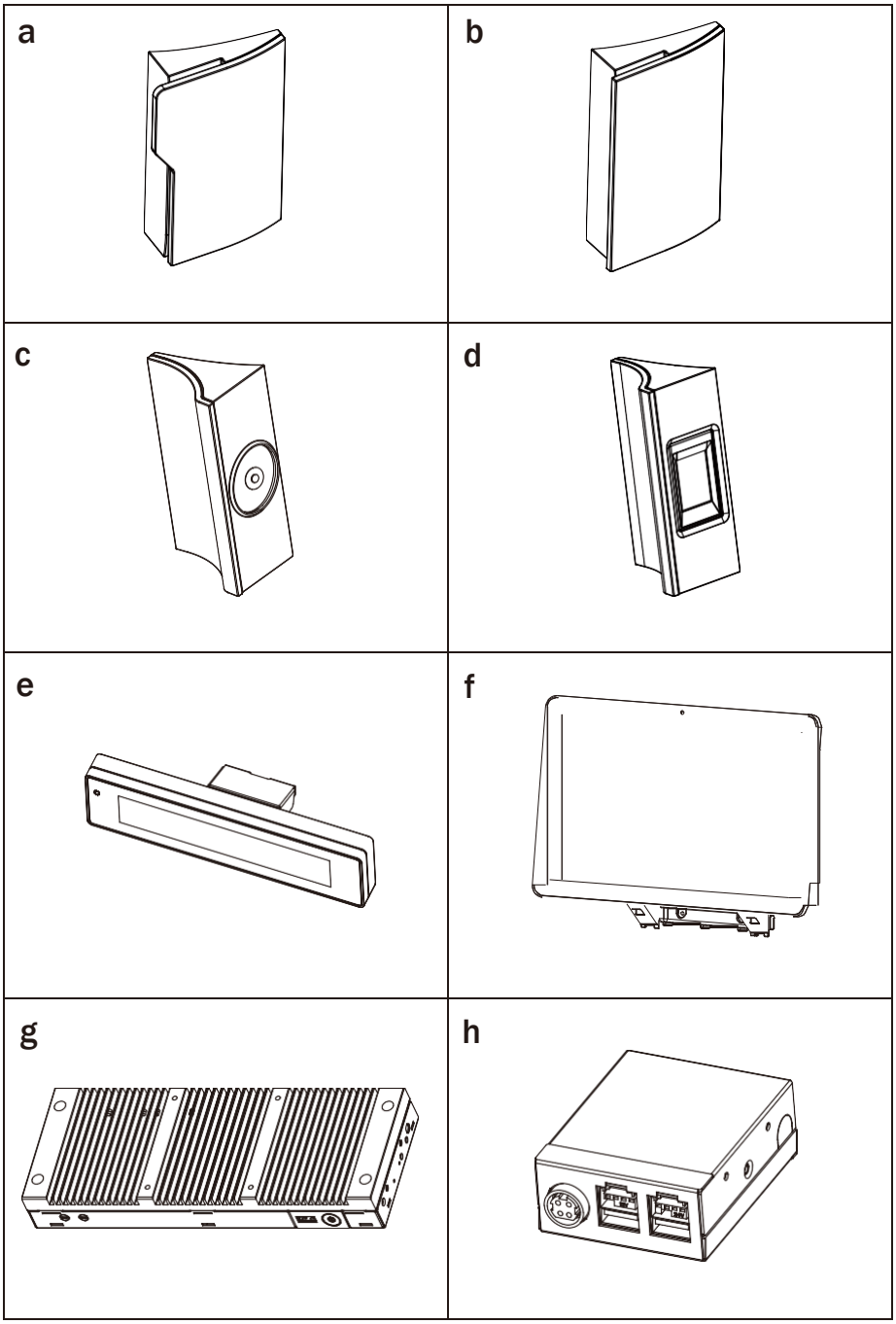
1-1. Standard Accessories



a. System
b. Power adapter (90W)
c. Power cord

Note: Power cord will be supplied differently according to various region or country.

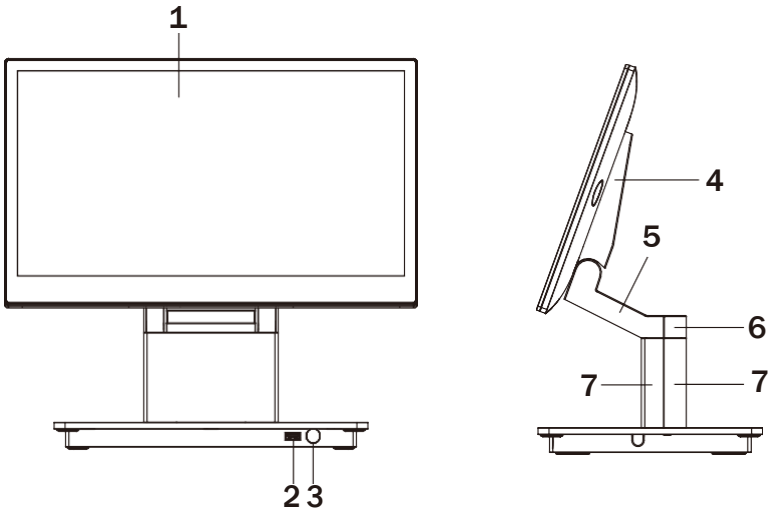
1-2. Optional Accessories



a. MSR module
b. NFC module
c. iButton module
d. Fingerprint
e. Customer display
f. 11.6" or 15.6" 2nd display
g. Motherboard box
h. Powered USB box

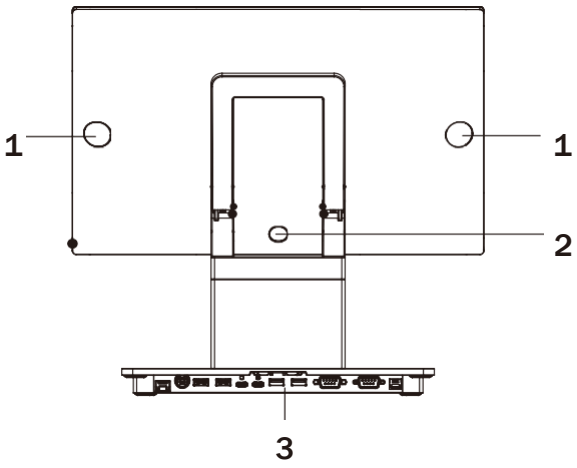
2. System View

2-1. Front & Side View



No.	Description
1	Touch screen
2	USB2.0
3	Power button
4	Hinge cover
5	Stand arm
6	Stand arm cover
7	Stand front cover

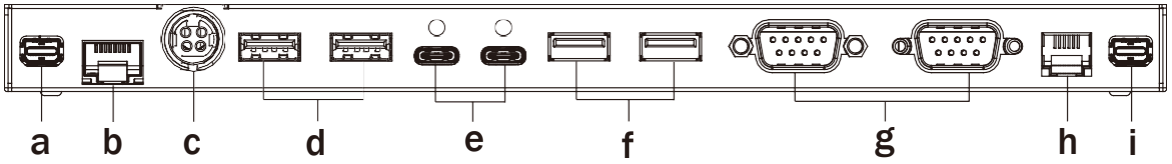
2-2. Rear View



No.	Description
1	Dummy door of MSR/iButton module
2	Power/OSD button
3	System box

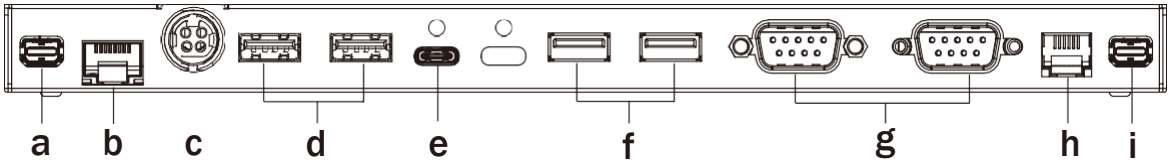
2-3. IO Ports View

D84U / F34 / F84U Motherboard



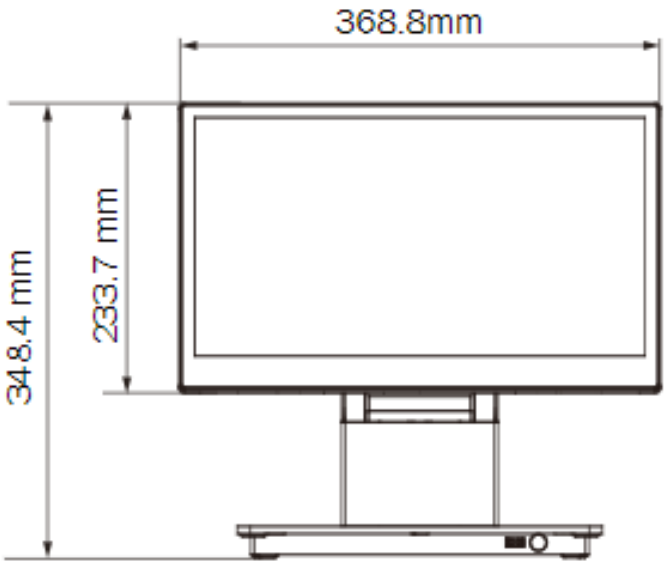
No.	Description
a	FeDP (2nd display)
b	LAN
c	DC 19V in
d	USB 2.0 x 2
e	USB Type C x 2
f	USB 3.0 x 2
g	COM x 2
h	Cash drawer
i	FeDP (Main display)

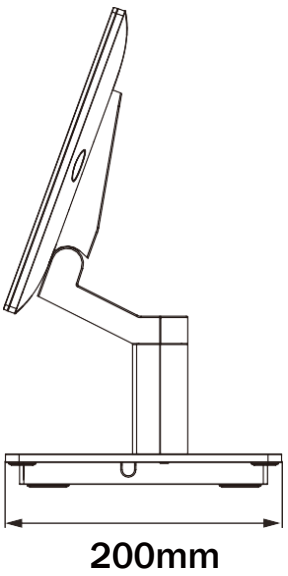
F14 Motherboard



No.	Description
a	FeDP (2nd display)
b	LAN
c	DC 19V in
d	USB 2.0 x 2
e	USB Type C
f	USB 3.0 x 2
g	COM x 2
h	Cash drawer
i	FeDP (Main display)

2-4. System Dimensions



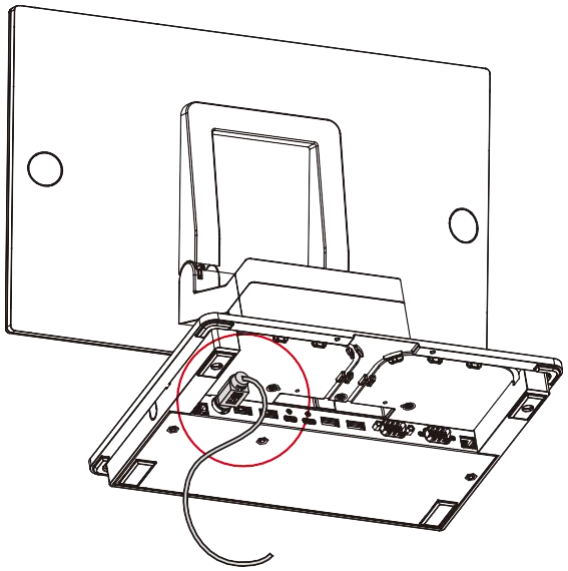


3. System Assembly & Disassembly

3-1. Install the Power Adapter

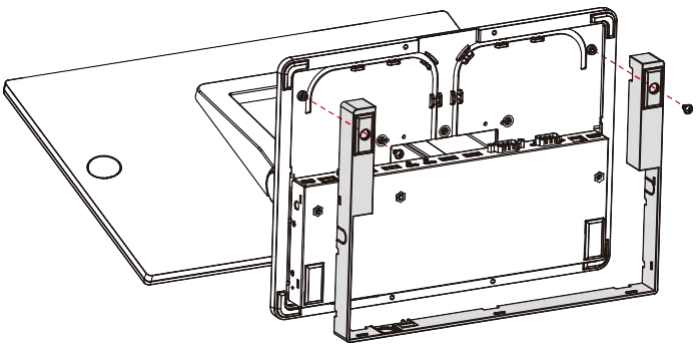
The system is equipped with a 90W power adapter. Please plug it into the system as shown below.

1. Find the DC-in connector located onthe bottom of the system. (Refer to Chapter 2-3).
2. Plug the cable directly into the connector then plug the adapterdirectly into the AC outlet.

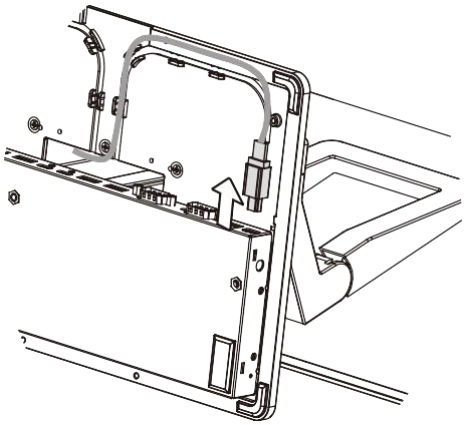


3-2. Remove the System Box

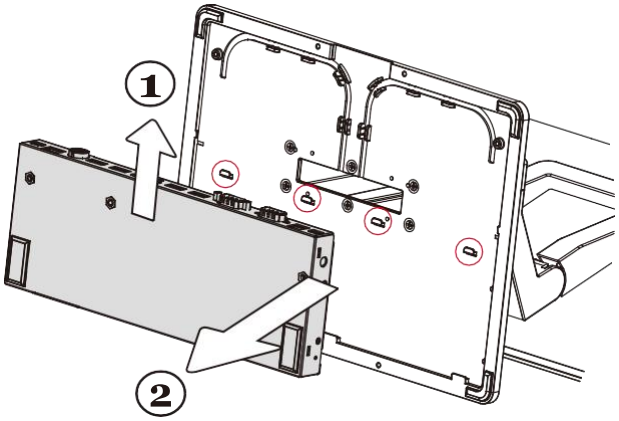
1. Lay down the system to access the bottom of the stand.
2. Remove the screws (x2) and pull the holder of the systembox outwards.



3. Disconnect the cable of the LCDpanel.

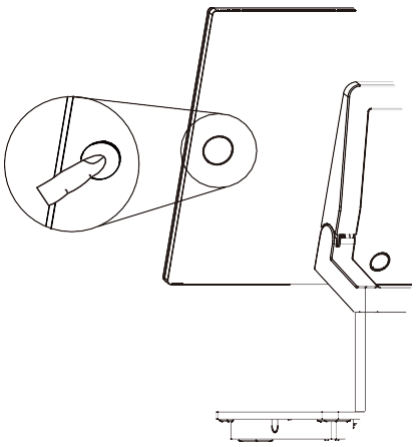


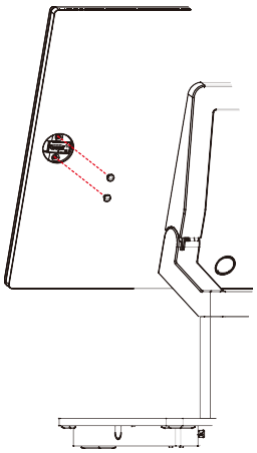
4. The system box is placed onto fourhooks. Lift the system box and then pull it outwards to release it from the bottom of the stand.



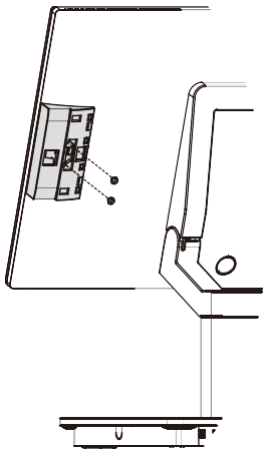
4. Peripherals Installation

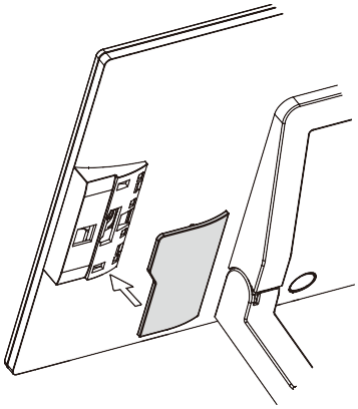
4-1. Install the MSR/ NFC/ iButton/ Fingerprint Module



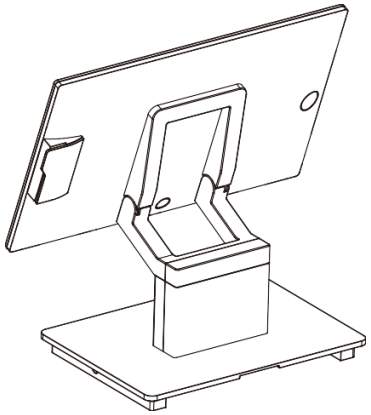


1. The variety of peripherals MSR, NFC, iButton, and Fingerprint modules can beinstalled to each side of the system depends on your preference.
2. Press to remove the dummy cover and then loosen the screws (x2).

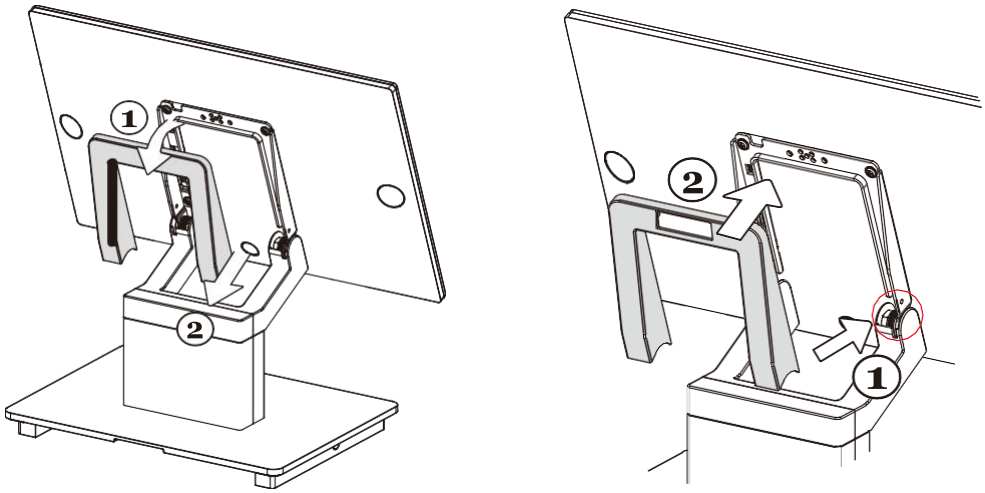




3. Position the MSR module and fasten the screws (x2) on the back to secure themodule.
4. Attach the top cover of the MSR module and make sure it locks in place.



4-2. Install the Customer Display

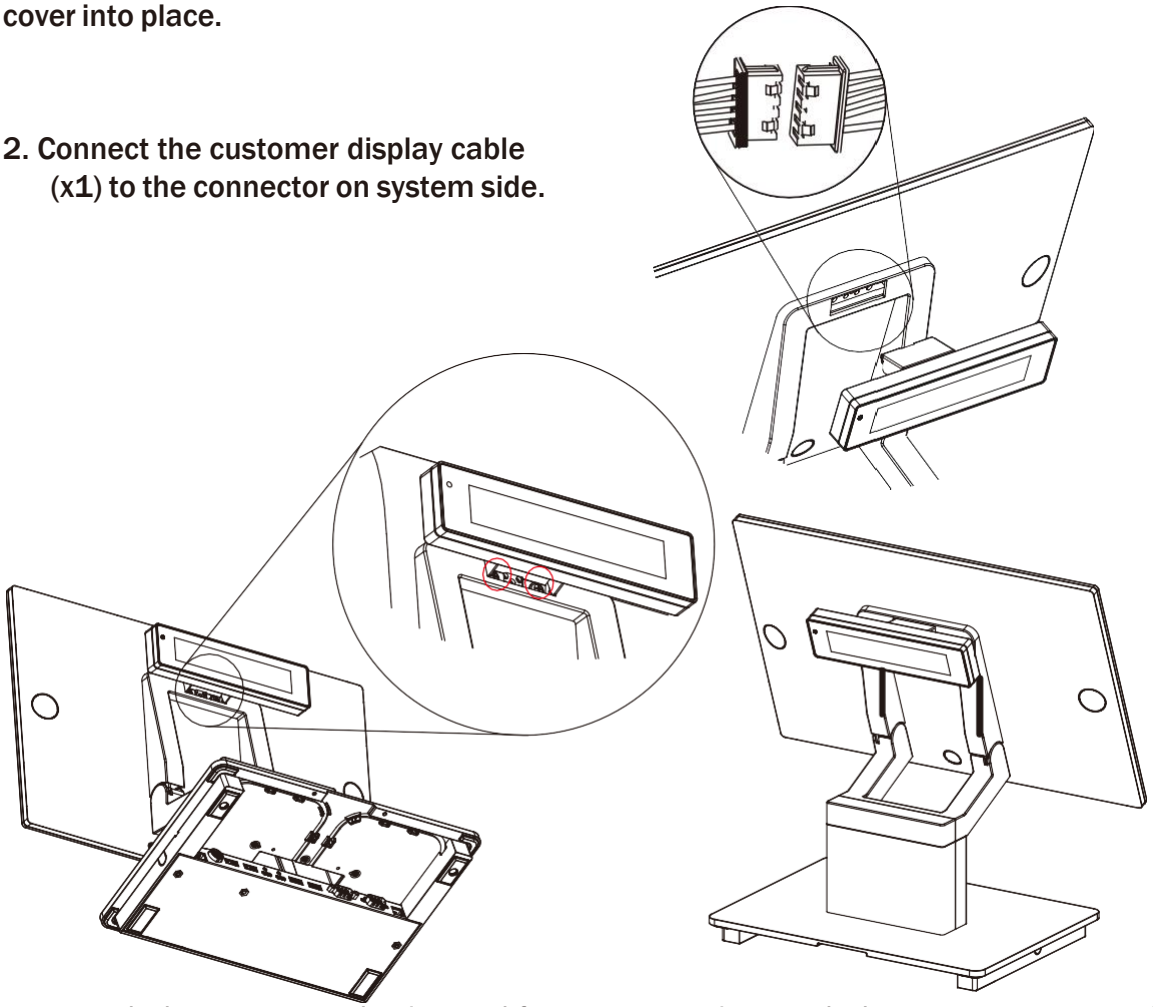


1. To install the customer display, replace the hinge cover with the one which has an opening in the top.

Removing the hinge cover: The cover attaches magnetically to the hinge. Pull the top side of the cover outwards first and then release the rest part of the cover toseparate it from the hinge.

Installing the hinge cover: To install the hinge cover, angle the hinge cover so that the bottom side is inserted first into the torque hinge. Then press the top side of the **cover into place.**

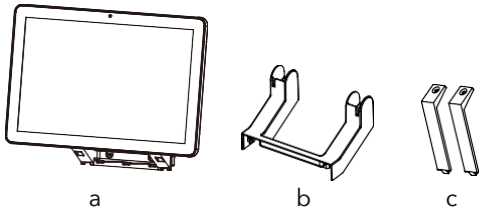
2. Connect the customer display cable (x1) to the connector on system side.



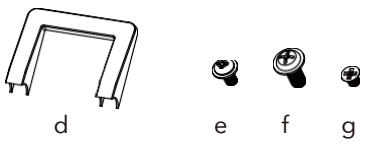
3. Attach the customer display and fasten it into place with the screws (x2) provided.

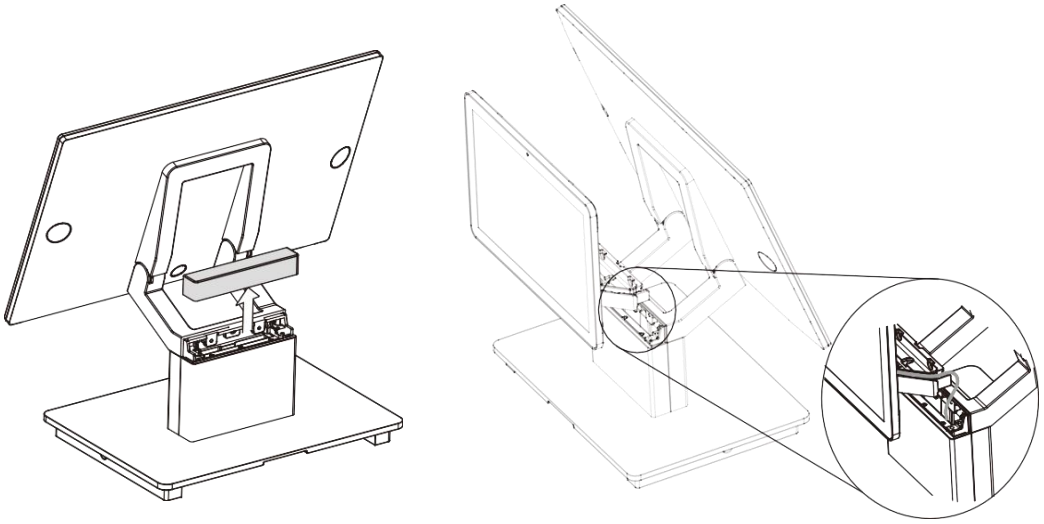
4-3. Install the Second Display

Accessories items

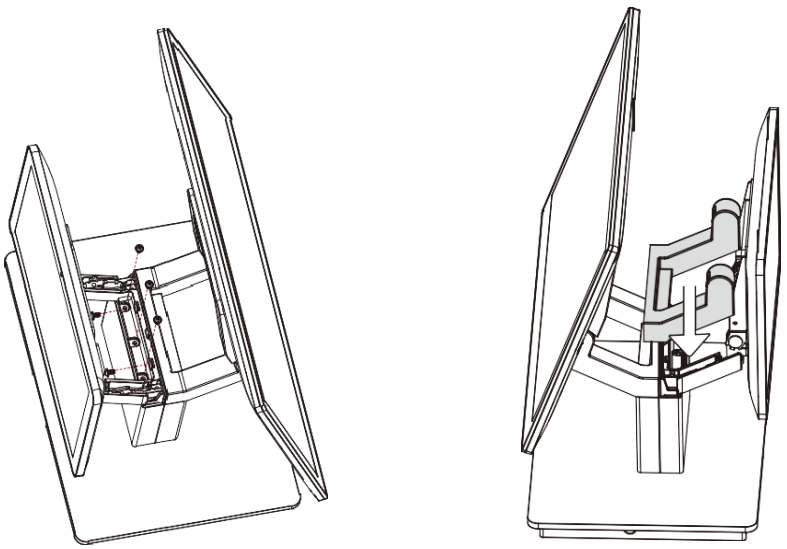


a. 11.6" or 15.6" 2nd display module
b. Top arm cover
c. Bottom arm cover
d. Hinge cover
e. Screws for 2nd display arm x 5
f. Screws for top arm cover x 4
g. Screws for bottom arm cover x 2



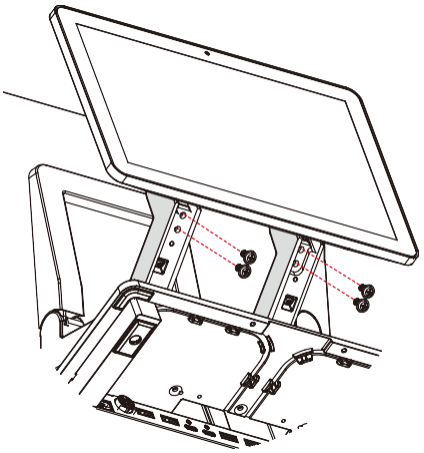


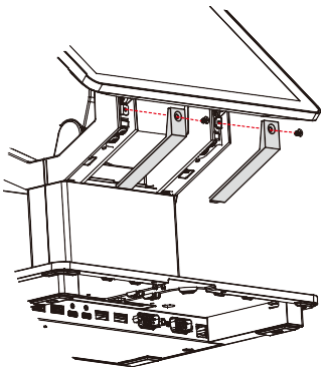
1. Remove the stand cover by pulling it upwards.
2. Attach the 11.6" or 15.6" 2nd display module to the system and route



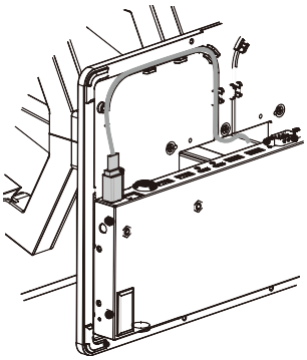
the 2nd display cable through the hole of the stand as picture shown.

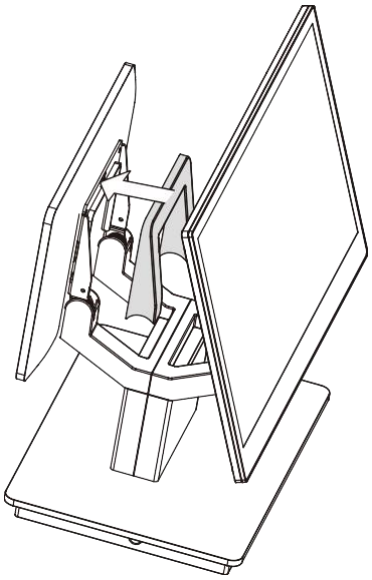
3. Fasten the 2nd display module in place with the screws (x5) provided.
4. Slide the top arm cover.



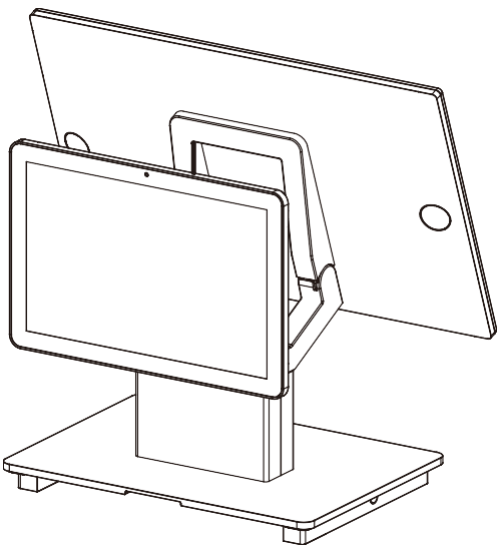


5. Secure the top arm cover by fastening the screws (x4) from underneath.
6. Attach the bottom arm covers (x2) and fasten the screws (x2).



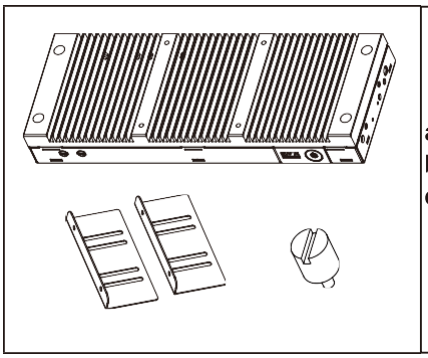


7. Follow steps 1 and 2 described in Chapter 3-2 to release the holder of the systembox. Thread the 2nd display cable through the opening and connect the host endof the cable to FeDP port. (Refer to Chapter 2-3 a).
8. Finally attach the hinge cover.



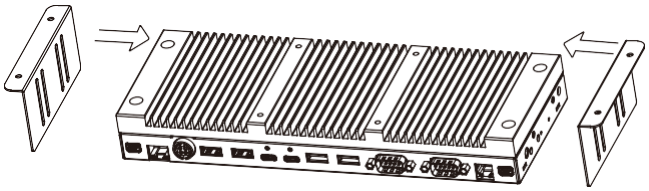
4-4. Install the Table Mount Kits

Accessories items

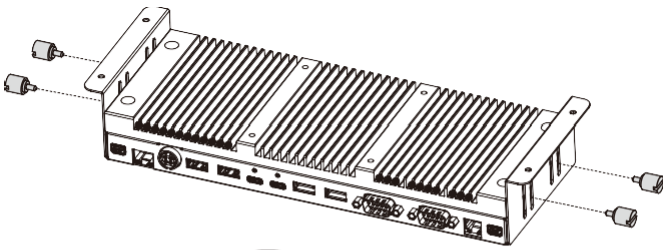


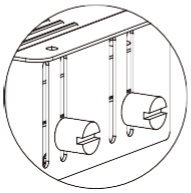
a. Motherboard box
b. Wall mount brackets x2
c. Thumb screws x2

1. Attach the wall mount brackets to the right and left sides of themotherboard box.

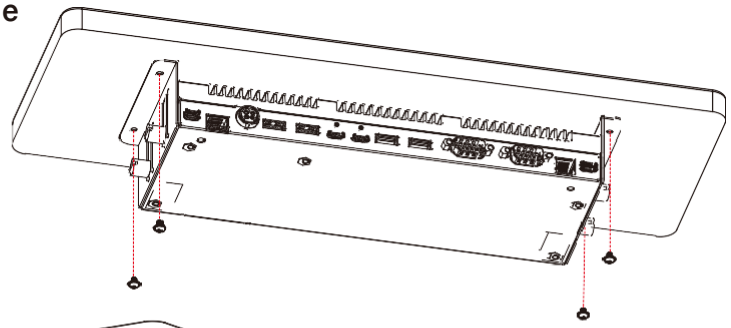


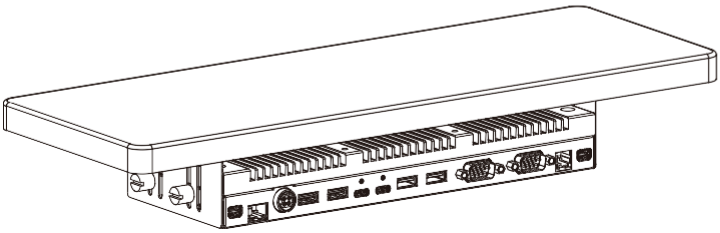
2. Insert the thumb screws (x4) through the respective slit of the bracket so as to adjust the heightof the motherboard box.





3. **Position the wall mount kits under the table and fasten with the screws (x4) to secure.**

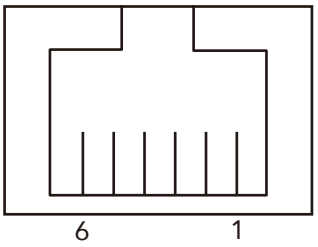




4-5. Cash Drawer Installation

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

Cash Drawer Pin Assignment



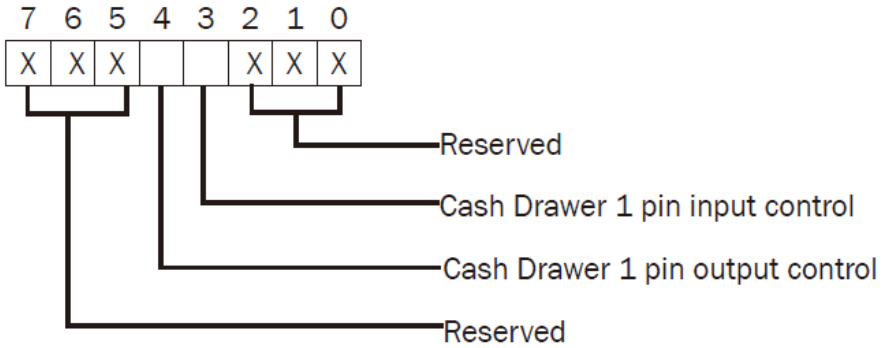
Pin	Signal
1	Cash drawer 2 In
2	Cash drawer 1 Out
3	Cash drawer 1 In
4	12V / 19V
5	Cash drawer 2 Out
6	GND

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	Reserved			CD1 Out	CD1 In	Reserved		



Bit 7: Reserved
Bit 6: Reserved
Bit 5: Reserved
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
openedBit 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

Command	Cash Drawer
O 482 10	Opening
O 482 00	Allow to close
► Set the I/O address 482h bit4 =1 for opening Cash Drawer by "DOUT bit0" pincontrol. ► 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.	

5. Specifications

Model Name	CA850
Mainboard	**D84U**
CPU support	Intel KabyLake-U CPU BGA-1356 (default) Intel SkyLake-U CPU BGA-1356 (option) (14nm) *KabyLake-U* Celeron 3965U 2.2GHz, LLC 2M (15W, EIA) i3-7100U 2.4GHz, LLC 3M (15W, EIA) i5-7300U 2.6GHz, LLC 3M (15W, EIA) *SkyLake-U* Celeron 3955U 2.0GHz, LLC 2M (15W, EIA)i3-6100U 2.3GHz, LLC 3M (15W, EIA) i5-6300U 2.4GHz, LLC 3M (15W, EIA) i7-6600U 2.6GHz, LLC 4M (25W, EIA)
System memory	DDR4 S.O. DIMM x1, 2133 Mhz (16GB Max)
Graphic memory	Intel Graphic (Gen 9) DX12, define on CPU
LCD Touch Panel	
LCD size	15.6" LED (eDP) IPS
Brightness (cd/m²)	300 nits
Maximal resolution	1920 x 1080
Touch screen type	True-Flat PCAP Touch
Tilt angle	90^0
Storage	
Flash Memory	M.2 SATA SSD or NVMe SSD
Expansion	
m.2	1x E-key 2230 for WLAN 2x M-key 2280 for storage
I/O Ports	
Defined connector	1 x miniDP for main display (2-lane eDP/USB2.0/audio(L-CH)/power button/power) 1 x miniDP for 2nd display (2-lane eDP/USB2.0/audio(R-CH)/power button/power)
USB Type A	Rear: 2x USB3.0 / 2x USB2.0 Front: 1x USB2.0
USB Type C	1 x full-functional, PDO 5V@3A / PDO 12V@1.5A / PDO 20V@1A 1 x data only, PDO 5V@3A / PDO 19V@5A (for powered USB board, E-Mark required on cable) (90W adapter cannot support 19V@5A on this port, 120W will be required)
Serial / COM	2 x DB9 (COM1 / COM2 w/5V/12V powered enabled by BIOS)
LAN (10/100/1000)	1 x RJ45
Cash drawer	1 x RJ-11 (2 in 2 out)
DC jack	1x 4 pin w/ lock
Micro USB	N/A
Power switch	1
Power	

Model Name	CA850
Mainboard	D84U
Power adapter	default 19~19.5V/65W, 120W with powered USB box
Peripherals (optional)	
MSR	1 (USB)
Fingerprint	1 (USB)
iButton	1 (USB)
NFC card reader	1 (USB)
2D scanner	1 (USB)
Second display	11,6" or 15.6" 2nd display (touch option)
Customer display	LCM
Powered USB Box	1 (USB Type-C)
Speaker	1 x 3W
Camera	1 (USB)
Wi-Fi dongle	WLAN dongle USB2.0 802.11ac/b/g/n,2.4G+5G +bt4.2(1X1)
Control/Indicator	
Power button	1 on the display (CA850 only @back cover) 1 on the stand box (@front)
Power LED	1 (Blue) on the power button at the back of the display (CA850 only) 1 (Blue) on the power button at the front of the stand box
Certificate	
EMC & Safety	FCC, Class A, CE, LVD
ESD	4 kV Contact discharge, 8 kV Air discharge
Color	Silver / Dark Gray
Environment	
Sealing	IP54 (front side)
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
Dimension (W x D x H)	Display: 375.8 x 18.0(center)/7.0(edge) x 237.2 (mm)
	PC Box: 260 x 94.1 x 19 (mm) (w/o rubber feet)
	Plate: 280 x 200 x 6 (mm) (w/o rubber feet)
OS supported	Windows 7 pro(64-bit), POSReady 7 (64-bit), Windows 8.1 (64-bit), Windows Embedded industry 8.1(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.**

Model Name	CA850
Mainboard	**F14**
CPU support	Qualcomm® Kryo™ 260 CPU, Octa-core 2.0 GHz CPU (660)
System memory	4GB LPDDR3 (660, SNM900-6408)
Graphic memory	Adreno 512; 850MHz (660)
LCD Touch Panel	
LCD size	15.6" LED (eDP) IPS
Brightness (cd/m²)	300 nits
Maximal resolution	1920 x 1080
Touch screen type	True-Flat PCAP Touch
Tilt angle	90⁰
Storage	
Flash Memory	Inside CPU 32GB eMMC (SNM758L-3308) 64GB eMMC (SNM900-6408)
Expansion	
m.2	N/A
I/O Ports	
Defined connector	1 x miniDP for main display (2-lane eDP/USB2.0/audio(L-CH)/power button/power) 1 x miniDP for 2nd display (2-lane eDP/USB2.0/audio(R-CH)/power button/power)
USB Type A	Rear: 2x USB3.0 / 2x USB2.0 Front: 1x USB2.0
USB Type C	1x data only (USB2.0 only) PDO 5V@3A /PDO 12V@1.5A /PDO 19V@5A (for powered USB board, E-Mark required on cable)
Serial / COM	2 x DB9 (COM1 / COM2 w/5V/12V powered enabled by BIOS)
LAN (10/100/1000)	1 x RJ45
Cash drawer	1 x RJ-11 (2 in 2 out)
DC jack	1x 4 pin w/ lock
Micro USB	1
Power switch	1
Power	
Power adapter	default 19~19.5V/65W, 120W with powered USB box
Peripherals (optional)	
MSR	1 (USB)
Fingerprint	1 (USB)
iButton	1 (USB)
NFC card reader	1 (USB)
2D scanner	1 (USB)
Second display	11,6" or 15.6" 2nd display (touch option)
Customer display	LCM
Powered USB Box	1 (USB Type-C)
Speaker	1 x 3W
Camera	1 (USB)
Wi-Fi dongle	WLAN dongle USB2.0 802.11ac/b/g/n,2.4G+5G +bt4.2(1X1)
Control/Indicator	

Model Name	CA850
Mainboard	**F14**
Power button	1 on the display (CA850 only @back cover)1 on the stand box (@front)
Power LED	1 (Blue) on the power button at the back of the display (CA850 only)1 (Blue) on the power button at the front of the stand box
Certificate	
EMC & Safety	FCC, Class A, CE, LVD
ESD	4 kV Contact discharge, 8 kV Air discharge
Color	Silver / Dark Gray
Environment	
Sealing	IP54 (front side)
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
Dimension (W x D x H)	Display: 375.8 x 18.0(center)/7.0(edge) x 237.2 (mm)
	PC Box: 260 x 94.1 x 19 (mm) (w/o rubber feet)
	Plate: 280 x 200 x 6 (mm) (w/o rubber feet)
OS supported	Android 10

* This specification is subject to change without prior notice.

Model Name	CA850
Mainboard	**F34**
CPU support	Intel Elkhart Lake CPU EIA GT2 CELERON (J6413) 1.8G/3200M 10nm FCBGA EIA GT2 CELERON (J6412) 1.8G/3200M 10nm FCBGA (default) EIA GT2 PENTIUM (J6426) 1.8G/3200M 10nm FCBGA
System memory	DDR4 3200 MHz (32GB Max); 1 Channel (Low profile socket, H=5.2mm)
Graphic memory	Intel Graphic (Gen 11), defined on CPU
LCD Touch Panel	
LCD size	15.6" LED (eDP) IPS
Brightness (cd/m²)	300 nits
Maximal resolution	1920 x 1080
Touch screen type	True-Flat PCAP Touch
Tilt angle	90⁰
Storage	
Flash Memory	M.2 SATA SSD or NVMe SSD
Expansion	
m.2	1x E-key 2230 for WLAN 2x M-key 2280 for storage
I/O Ports	
Defined connector	1 x miniDP for main display (2-lane eDP/USB2.0/audio(L-CH)/power button/power) 1 x miniDP for 2nd display (2-lane eDP/USB2.0/audio(R-CH)/power button/power)
USB Type A	Rear: 2x USB3.0 / 2x USB2.0 Front: 1x USB2.0
USB Type C	Powered USB 12V/0.5A,24V/0.5V, each USB2.0:5V/0.5A
Serial / COM	2 x DB9 (COM1 / COM2 w/5V/12V powered enabled by BIOS)
LAN (10/100/1000)	1 x RJ45
Cash drawer	1 x RJ-11 (2 in 2 out)
DC jack	1x 4 pin w/ lock
Micro USB	N/A
Power switch	1
Power	
Power adapter	default 19~19.5V/65W, 120W with powered USB box
Peripherals (optional)	
MSR	1 (USB)
Fingerprint	1 (USB)
iButton	1 (USB)
NFC card reader	1 (USB)
2D scanner	1 (USB)
Second display	11,6" or 15.6" 2nd display (touch option)
Customer display	LCM
Powered USB Box	1 (USB Type-C)
Speaker	1 x 3W
Camera	1 (USB)
Wi-Fi dongle	WLAN dongle USB2.0 802.11ac/b/g/n,2.4G+5G +bt4.2(1X1)
Control/Indicator	
Power button	1 on the display (CA850 only @back cover)1 on the stand box (@front)

Model Name	CA850
Mainboard	F34
Power LED	1 (Blue) on the power button at the back of the display (CA850 only)1 (Blue) on the power button at the front of the stand box
Certificate	
EMC & Safety	FCC, Class A, CE, LVD
ESD	4 kV Contact discharge, 8 kV Air discharge
Color	Silver / Dark Gray
Environment	
Sealing	IP54 (front side)
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
Dimension (W x D x H)	Display: 375.8 x 18.0(center)/7.0(edge) x 237.2 (mm)
	PC Box: 260 x 94.1 x 19 (mm) (w/o rubber feet)
	Plate: 280 x 200 x 6 (mm) (w/o rubber feet)
OS supported	Windows 10 (64-bit), Windows IOT enterprise 10(64-bit), Windows 11 IoTLinux

*** This specification is subject to change without prior notice.**

Model Name	CA850
Mainboard	**F84U**
CPU support	EIA(IOTG) i7-1185G7E(12-28W) 4Core/ 2.8/1.2GHz/ 12MB i5-1145G7E(12-28W) 4Core/ 2.6/1.1GHz/ 8MB i3-1115G4E(12-28W) 2Core/ 3.0/2.2/1.7GHz/ 6MB Celeron 6305E(15W) 2Core/ 1.8GHz/ 4MB* IA(Consumer) i7-1185G7(12-28W) 4Core/ 3.0/1.2GHz/ 12MB i7-1165G7(12-28W) 4Core/ 2.8/1.2GHz/ 12MB * i5-1145G7(12-28W) 4Core/ 2.6/1.1GHz/ 8MB i5-1135G7(12-28W) 4Core/ 2.4/0.9GHz/ 8MB* i3-1125G4(12-28W) 4Core/ 2.0/0.9GHz/ 8MB i3-1115G4(12-28W) 2Core/ 3.0/1.7GHz/ 6MB * Pentium 7505(15W)
System memory	DDR4-3200 MHz (32GB Max); 1 Channel
Graphic memory	Intel® Iris® Xegraphics
LCD Touch Panel	
LCD size	15.6" LED (eDP) IPS
Brightness (cd/m²)	300 nits
Maximal resolution	1920 x 1080
Touch screen type	True-Flat PCAP Touch
Tilt angle	90^0
Storage	
Flash Memory	M.2 SATA SSD or NVMe SSD
Expansion	
m.2	1x E-key 2230 for WLAN 2x M-key 2280 for storage
I/O Ports	
Defined connector	1 x miniDP for main display (2-lane eDP/USB2.0/audio(L-CH)/power button/power) 1 x miniDP for 2nd display (2-lane eDP/USB2.0/audio(R-CH)/power button/power)
USB Type A	Rear: 2x USB3.0 / 2x USB2.0 Front: 1x USB2.0
USB Type C	Powered USB 12V/0.5A,24V/0.5V, each USB2.0:5V/0.5A
Serial / COM	2 x DB9 (COM1 / COM2 w/5V/12V powered enabled by BIOS)
LAN (10/100/1000)	1 x RJ45
Cash drawer	1 x RJ-11 (2 in 2 out)
DC jack	1x 4 pin w/ lock
Micro USB	N/A
Power switch	1
Power	
Power adapter	default 19~19.5V/65W, 120W with powered USB box
Peripherals (optional)	
MSR	1 (USB)
Fingerprint	1 (USB)
iButton	1 (USB)
NFC card reader	1 (USB)
2D scanner	1 (USB)
Second display	11,6" or 15.6" 2nd display (touch option)

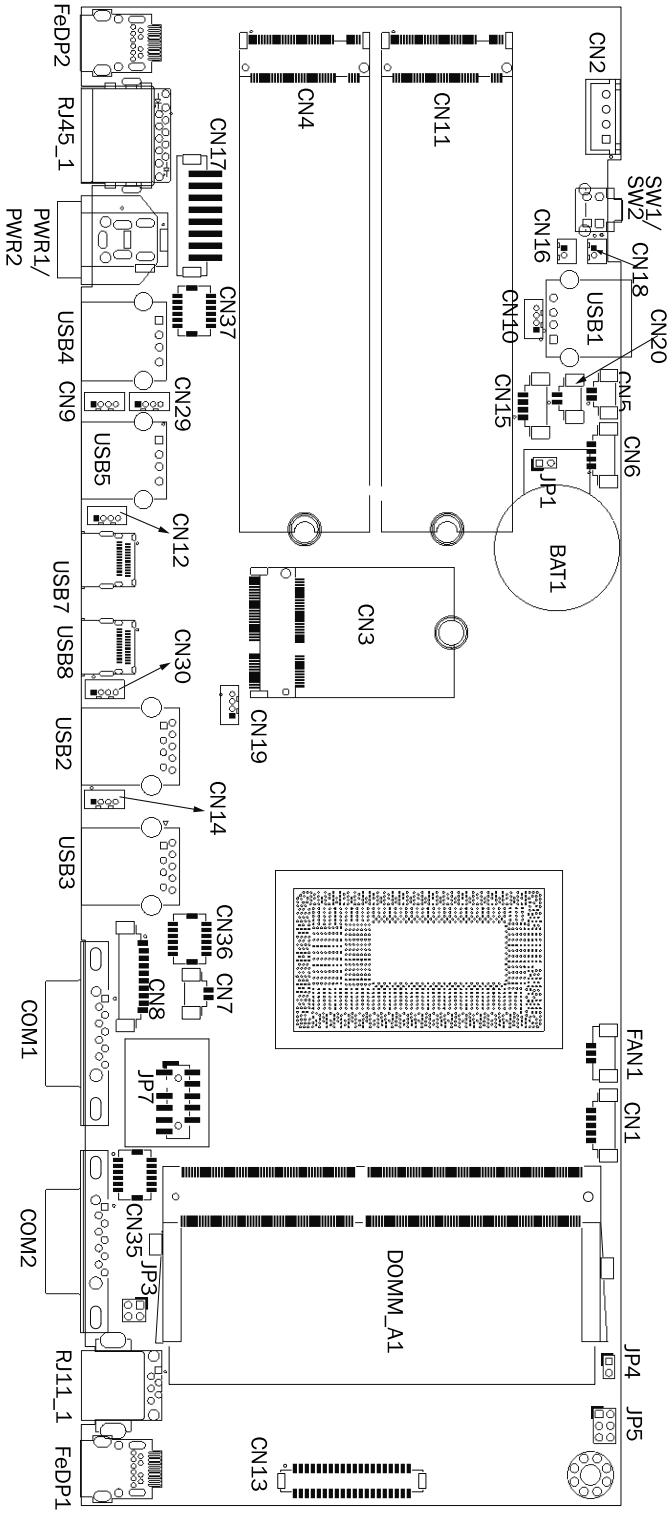
Model Name	CA850
Mainboard	**F84U**
Customer display	LCM
Powered USB Box	1 (USB Type-C)
Speaker	1 x 3W
Camera	1 (USB)
Wi-Fi dongle	WLAN dongle USB2.0 802.11ac/b/g/n,2.4G+5G +bt4.2(1X1)
Control/Indicator	
Power button	1 on the display (CA850 only @back cover)1 on the stand box (@front)
Power LED	1 (Blue) on the power button at the back of the display (CA850 only)1 (Blue) on the power button at the front of the stand box
Certificate	
EMC & Safety	FCC, Class A, CE, LVD
ESD	4 kV Contact discharge, 8 kV Air discharge
Color	Silver / Dark Gray
Environment	
Sealing	IP54 (front side)
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
Dimension (W x D x H)	Display: 375.8 x 18.0(center)/7.0(edge) x 237.2 (mm)
	PC Box: 260 x 94.1 x 19 (mm) (w/o rubber feet)
	Plate: 280 x 200 x 6 (mm) (w/o rubber feet)
OS supported	Windows 7 pro(64-bit), POSReady 7 (64-bit), Windows 8.1 (64-bit), Windows Embedded industry 8.1(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.**

6. Configuration

6-1. D84U Motherboard

6-1-1. Motherboard Layout



6-1-2. Connectors & Functions

Connector	Function
CN1	EC Debug
CN2	SATA power connector
CN3	M.2 E-KEY WIFI connector
CN4/11	M.2 M-KEY PCIE/SATA connector
CN5	Speaker R output
CN6	S0/S5 LED & power button connector
CN7	Storage LED connector
CN8	COM3 connector
CN9/CN12/CN14/CN29 /CN30	Internal USB 2.0 connector
CN13	40 pin eDP connector
CN15	Line out connector
CN16	RTC battery Connector
CN17	Wide range & power connector
CN18	Speaker L output
CN20	Mic in connector
PWR1/PWR2	DC jack (2pin/4pin)
RJ11_1	Cash drawer connector
RJ45_1	LAN connector
SW1/SW2	Power button
DIMM_A1	DDR4 SO-DIMM
FAN1	CPU FAN connector
FeDP1	FeDP main display connector
FeDP2	FeDP 2nd display connector
USB1/CN10	USB2.0 connector (front USB)
USB4/USB5	USB2.0 connector
USB2/USB3	USB3.0 connector
USB7	USB type C (DP / USB3.0)
USB8	USB type C (data only)
COM1/COM2	COM port connector
JP1	Audio Line-out setting
JP3	Cash drawer power setting
JP4	CPU power setting
JP5 (1-2) (3-4)	Speaker cable setting
JP5(5-6)	Speaker watt setting
JP7	TPM connector

6-1-3. Jumper Settings

Audio Line-out Setting

Function	JP1
▲Stereo	
Reserved (line-out)	

Cash Drawer Power Setting

Function	JP3
▲ +19V	
+12V	

Panel Setting

Function	JP4
▲Disable	
Enable	

Speaker Cable Setting

Function	JP5
▲ L=0.46m~2m(2W)	
M/B(2W)	
L=0. 46m~2.m(3W)	
M/B(3W)	

 Jumper open  Jumper short

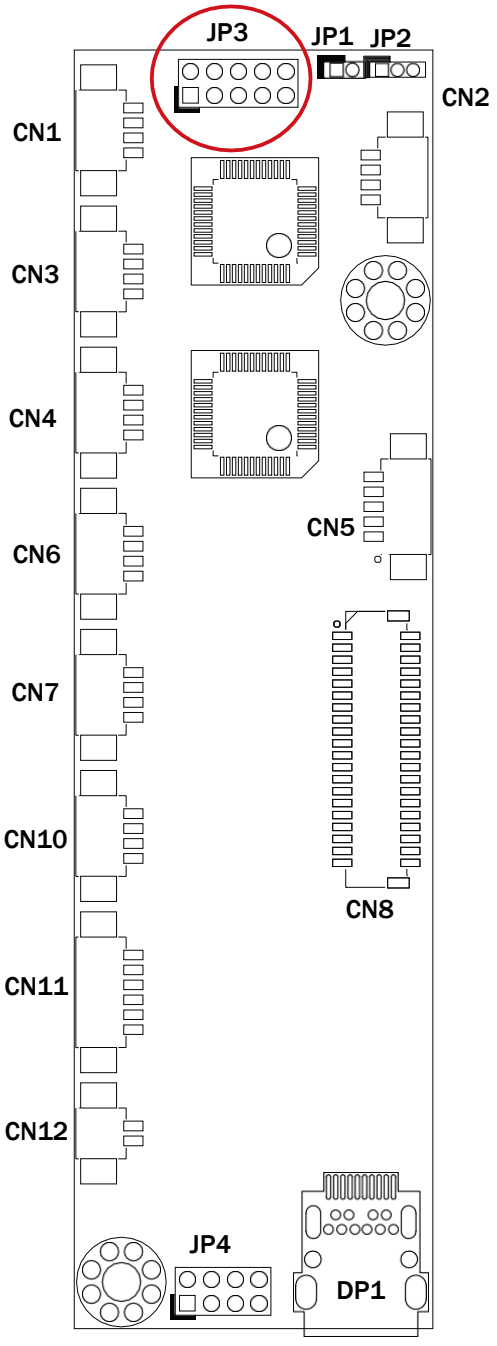
▲ = Manufacturer Default Setting

LCD ID Setting

To set the panel ID, please insert the jumper on the FeDP to LVDS board.

Panel#	Resolution	JP3
0	Reserved	
1	800 x 600	
2	800 x 600	
3	1024 x 768	
4	1024 x 768	
5	1366 x 768	
6	1366 x 768	
7	1024 x 600	
8	1280 x 1024	
9	1440 x 900	
15	1920 x 1080	

1 2 Jumper open 1 2 Jumper short

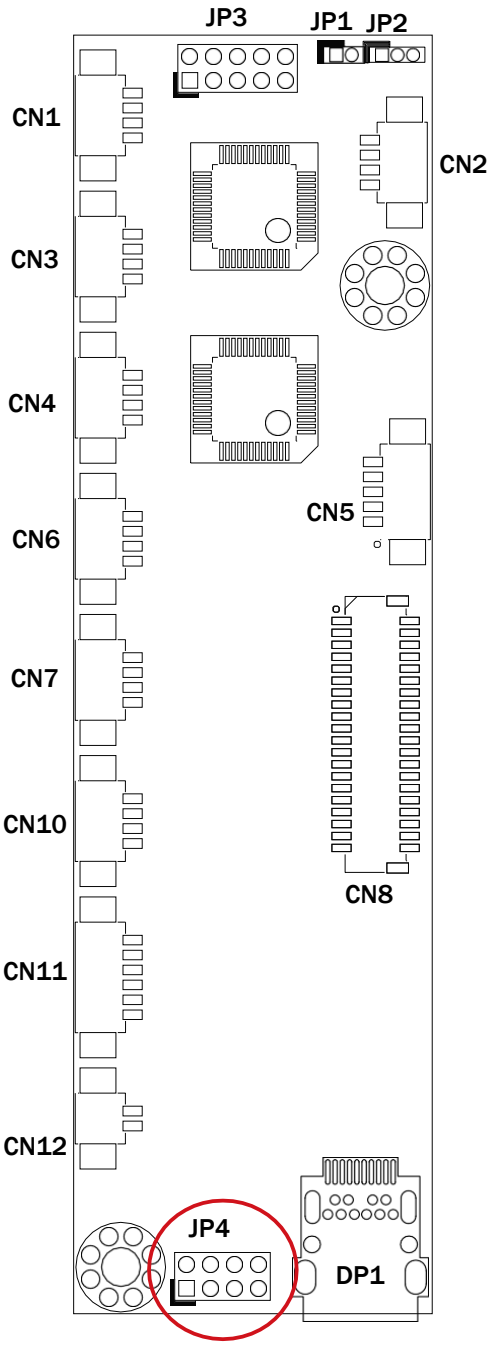


Panel Backlight Current Setting

LED current	JP4
200mA	1 5 7 2 6 8
240mA	1 3 7 2 4 8
280mA	1 3 5 2 4 6
320mA	5 7 6 8
360mA	3 7 4 8
400mA	3 5 4 6
420mA	1 7 2 8
460mA	1 5 2 6
500mA	1 3 5 7 2 4 6 8

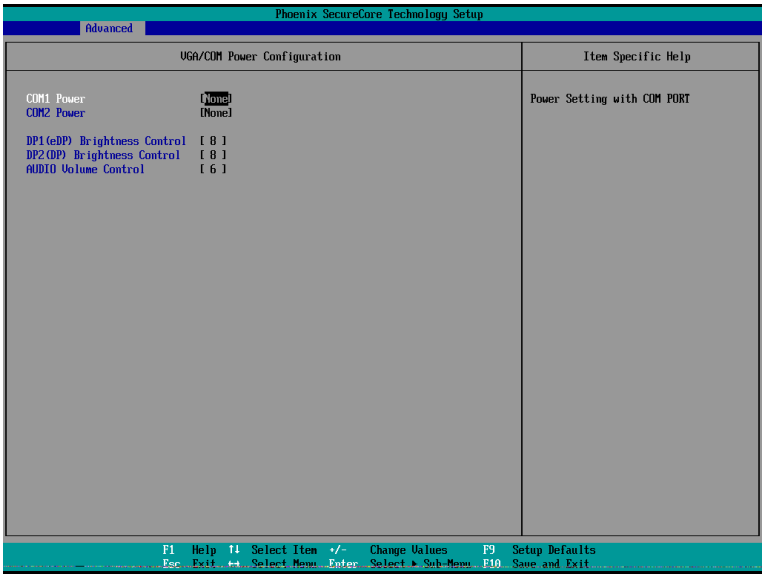
1
2 Jumper open

1
2 Jumper short



COM1/COM2 Power Setting

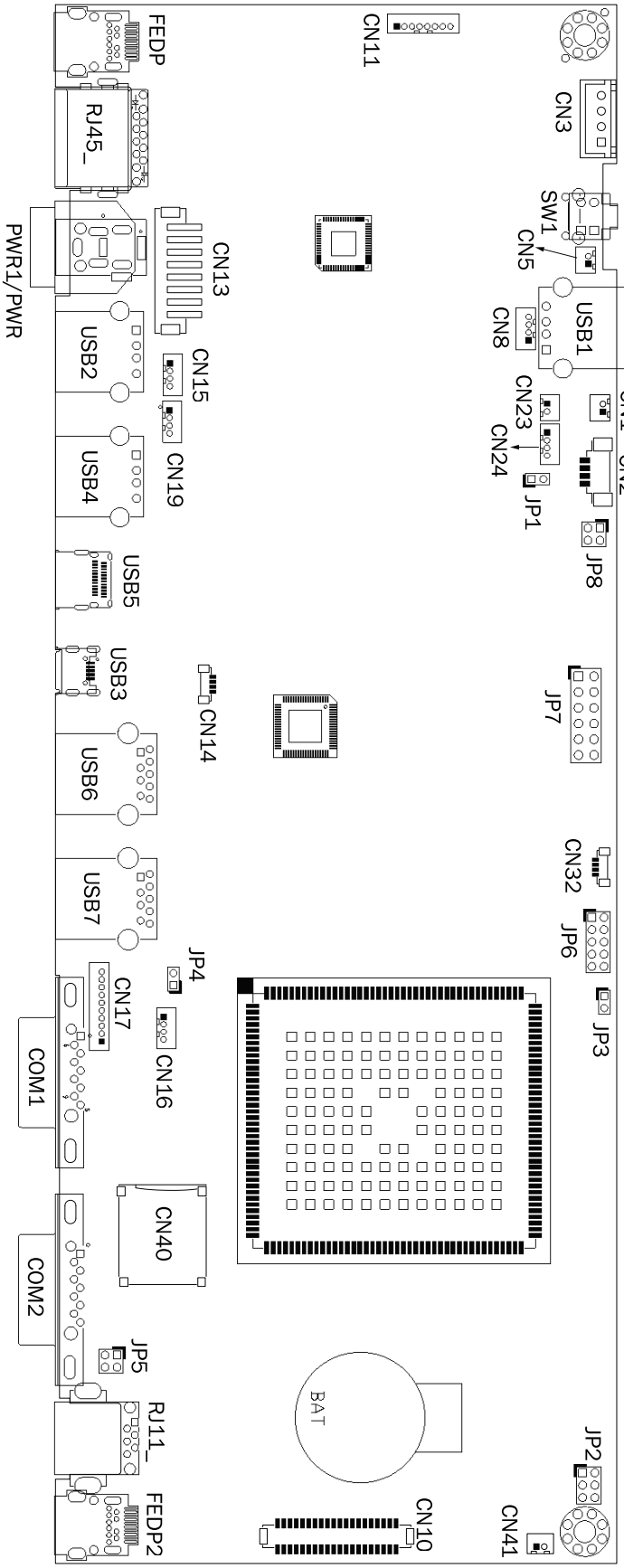
COM1, COM2 can be set to provide power to your serial device.The voltage can be set to +5V or +12V in the BIOS.



1. Power on the system and press the <DEL> key when the system is booting up to enter theBIOS 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 Power setting and press <Enter>. Select Powerand press <Enter>. Save the change by pressing F10.

6-2. F14 Motherboard

6-2-1. Motherboard Layout



6-2-2. Connectors & Functions

Connector	Function
CN1	Speaker R connector
CN2	4 pin power button w/2 LED
CN3	SATA power connector
CN5	Speaker L connector
CN10	40 pin eDP connector
CN11	MCU debug connector
CN13	Wide range connector
CN8/15/16/19	Internal USB connector
CN17	COM3 connector
CN18/21/22	RF ANT connector
CN23	Microphone connector
CN24	Line out connector
CN32	Digital mic connector
CN40	Micro SD card connector
CN41	RTC battery
PWR1	DC Jack (2 pin) connector
PWR2	DC Jack (4 pin) connector
RJ11_1	Cash drawer connector
RJ45_1	LAN connector
USB1/CN8	USB 2.0 connector (front USB, option)
USB2/USB4	USB 2.0 connector
USB3	Micro USB connector
USB5	USB type C connector (USB 2.0 only)
USB6/USB7	USB 3.0 connector
FeDP1	Main display connector
FeDP2	2nddisplay connector
SW1	Power button w/LED
COM1/COM2	RS-232 connector
JP1	Speaker R/L setting
JP2	Speaker watt setting
JP5	Cash drawer power setting
JP8	PoE watt setting

6-2-3. Jumper Settings

Speaker R/L Setting

Function	JP1
R/L separated (two speakers)	[1] 2
▲R/L mix (single speaker)	[1] [2]

Speaker Watt Setting

Function	JP2
▲with FeDP cable	1 3 5 2 4 6
without FeDP cable	[1] 3 5 [2] 4 6

Cash Drawer Power Setting

Function	JP5
+12V	[1] 3 [2] 4
▲+19V	1 [3] 2 [4]

PoE Watt Setting

Function	JP8
▲40W	1 3 2 4
51W	[1] 3 [2] 4
62W	1 [3] 2 [4]

1
2 Jumper open [1]
[2] Jumper short

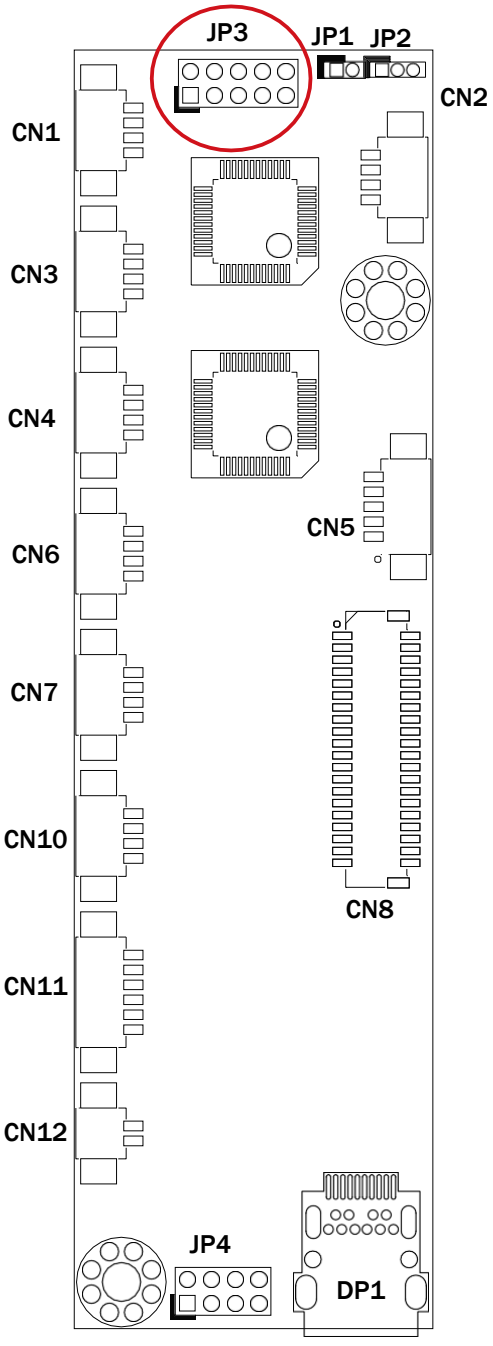
▲ = Manufacturer Default Setting

LCD ID Setting

To set the panel ID, please insert the jumper on the FeDP to LVDS board.

Panel#	Resolution	JP3
0	Reserved	
1	800 x 600	
2	800 x 600	
3	1024 x 768	
4	1024 x 768	
5	1366 x 768	
6	1366 x 768	
7	1024 x 600	
8	1280 x 1024	
9	1440 x 900	
15	1920 x 1080	

1 2 Jumper open 1 2 Jumper short

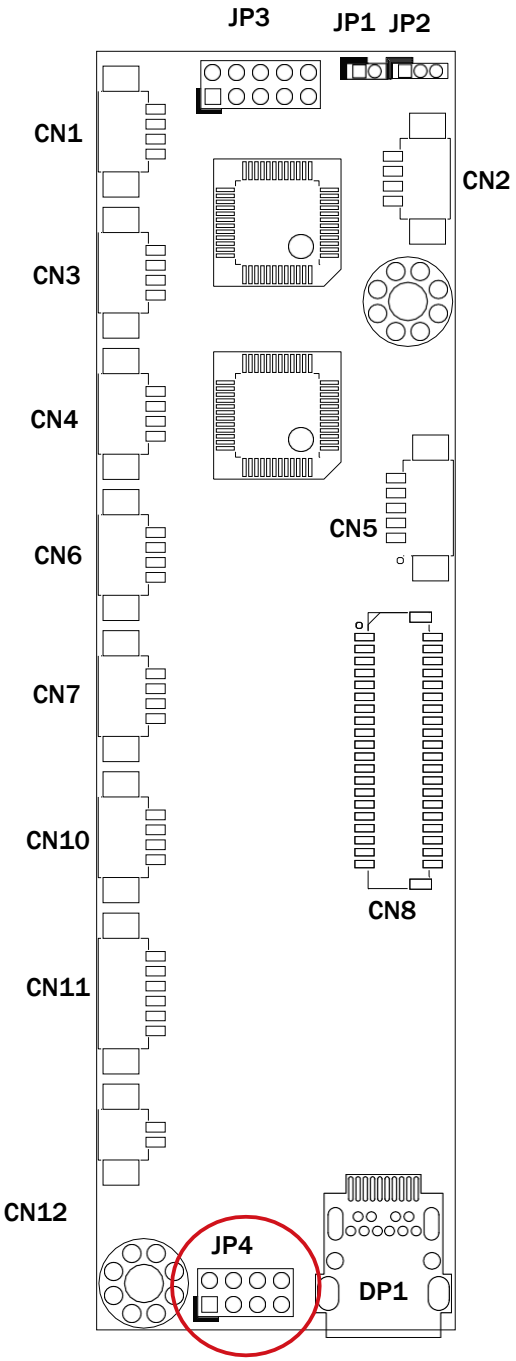


Panel Backlight Current Setting

LED current	JP4
200mA	1 5 7 2 6 8
240mA	1 3 7 2 4 8
280mA	1 3 5 2 4 6
320mA	5 7 6 8
360mA	3 7 4 8
400mA	3 5 4 6
420mA	1 7 2 8
460mA	1 5 2 6
500mA	1 3 5 7 2 4 6 8

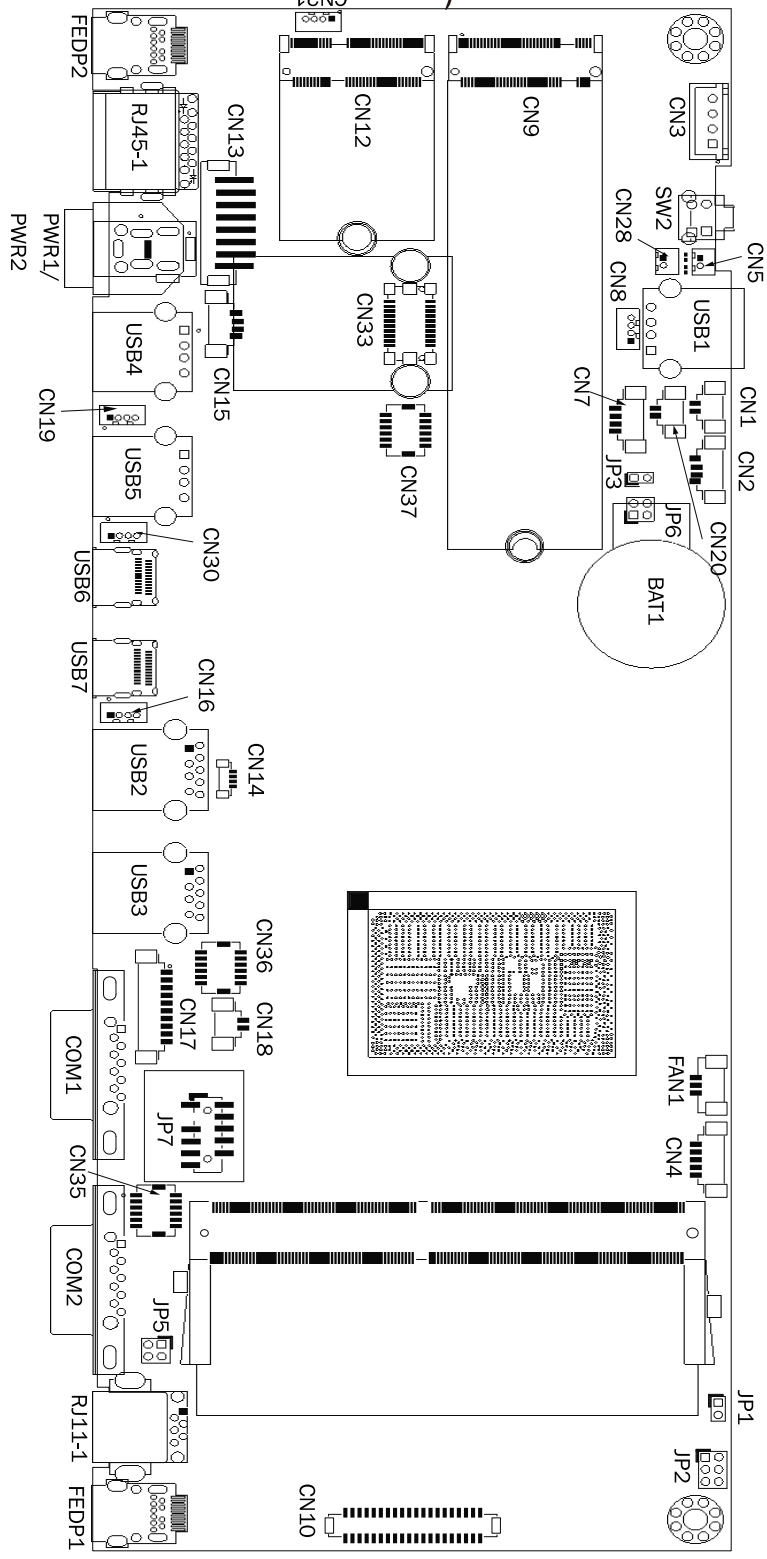
1
2 Jumper open

1
2 Jumper short



6-3. F34 Motherboard

6-3-1. Motherboard Layout



6-3-2. Connectors & Functions

Connector	Function
CN1	Speaker R connector
CN2	4 pin power button w/2 LED
CN3	SATA power connector
CN4	EC Debug
CN5	Speaker L connector
CN7	Line out connector
CN8/CN15/CN16/CN19/ CN30	Internal USB connector
CN9	M.2 Wi-Fi Key E
CN10	40 pin eDP connector
CN12	M.2 SSD Key M (PCIE GEN3)
CN13	Wide range & power connector
CN17	COM connector
CN18	Storage LED connector
CN20	Mic connector
CN21	Internal USB 2.0 to Wi-Fi USB
CN28	RTC battery
CN33	OOB BD connector
CN35	USB to COM1/2 (option)
CN36	USB to COM3(option)
CN37	USB to LAN (option)
PWR1/PWR2	DC jack (2pin/4pin)
RJ11_1	Cash drawer connector
RJ45_1	LAN connector
SW1/SW2	Power button w/LED
DIMM_A1	DDR4 SO-DIMM
FAN1	CPU FAN connector
FeDP1	Main display connector
FeDP2	2nd display connector
USB1/CN8	USB 2.0 connector (front USB, option)
USB2/USB3	USB3.0 connector
USB4/USB5	USB2.0 connector
USB6	USB-C data only connector (USB3.0/2.0)
USB7	USB-C data only connector (USB2.0)
COM1/COM2	COM port connector
JP2	Speaker watt setting
JP3	Audio Line out setting
JP5	Cash drawer power setting
JP7	TPM BD connector

6-3-3. Jumper Settings

Speaker Watt Setting

Function	JP2
▲ L=0.46m~2.0m (2W)	1 3 2 4
on M/B (2W)	[1 2] 3 4
L=0.46m~2.0m (3W)	1 [3 2 4]
on M/B (3W)	[1 3 2 4]

Audio Line-out Setting

Function	JP3
▲Stereo	[1 2]
Reserved (line-out)	1 2

Cash Drawer Power Setting

Function	JP5
▲ +19V	[1 2] 3 4
+12V	1 [3 2 4]

▲ = Manufacturer Default Setting

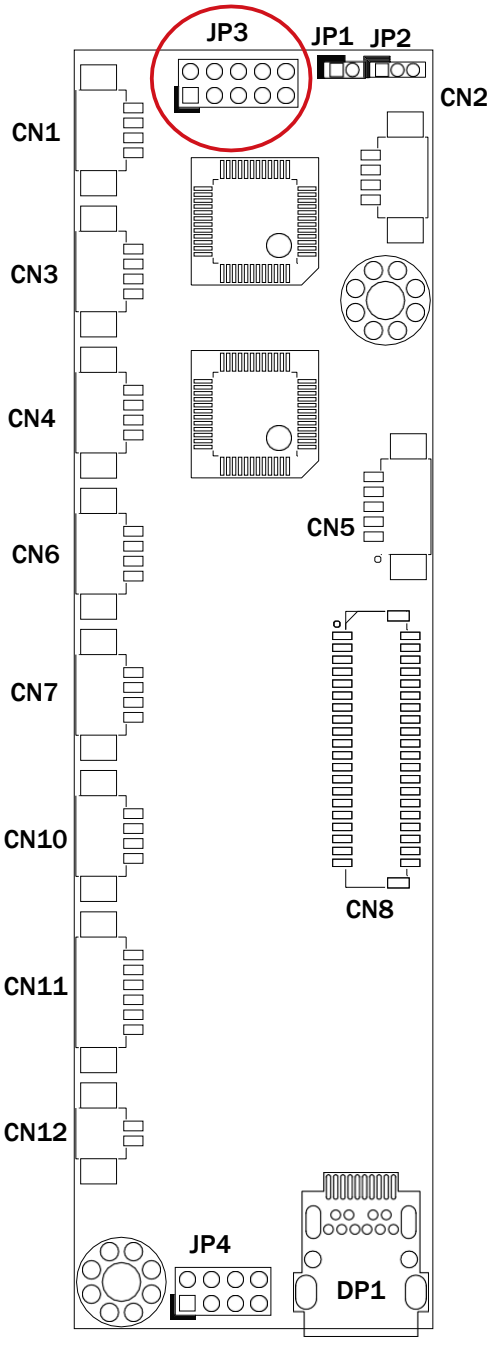
1 2 **Jumper open** [1 2] **Jumper short**

LCD ID Setting

To set the panel ID, please insert the jumper on the FeDP to LVDS board.

Panel#	Resolution	JP3
0	Reserved	
1	800 x 600	
2	800 x 600	
3	1024 x 768	
4	1024 x 768	
5	1366 x 768	
6	1366 x 768	
7	1024 x 600	
8	1280 x 1024	
9	1440 x 900	
15	1920 x 1080	

1 2 Jumper open 1 2 Jumper short

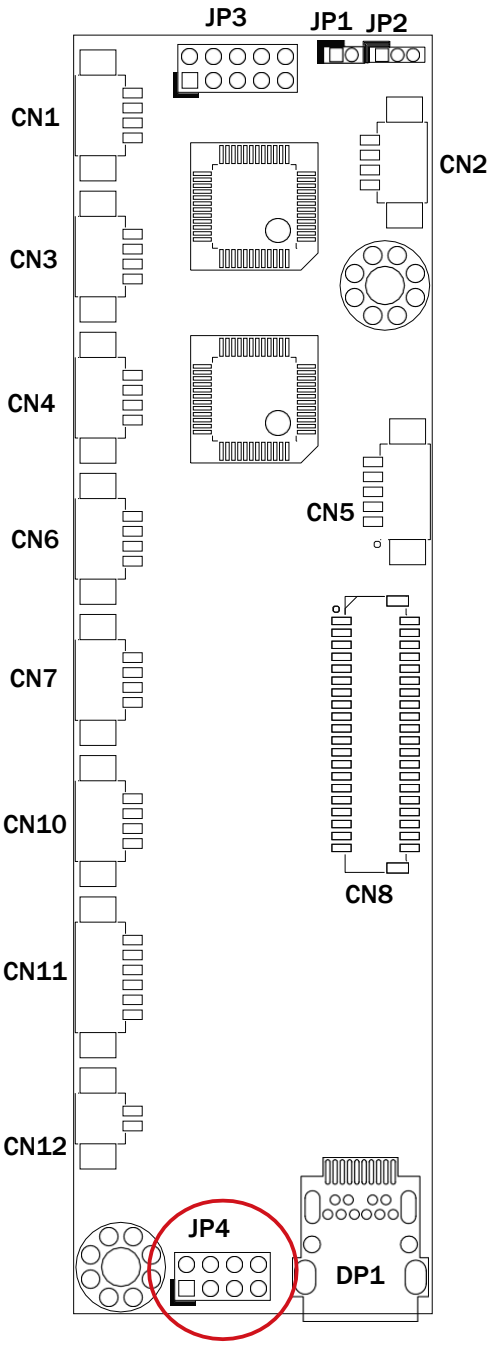


Panel Backlight Current Setting

LED current	JP4
200mA	1 5 7 2 6 8
240mA	1 3 7 2 4 8
280mA	1 3 5 2 4 6
320mA	5 7 6 8
360mA	3 7 4 8
400mA	3 5 4 6
420mA	1 7 2 8
460mA	1 5 2 6
500mA	1 3 5 7 2 4 6 8

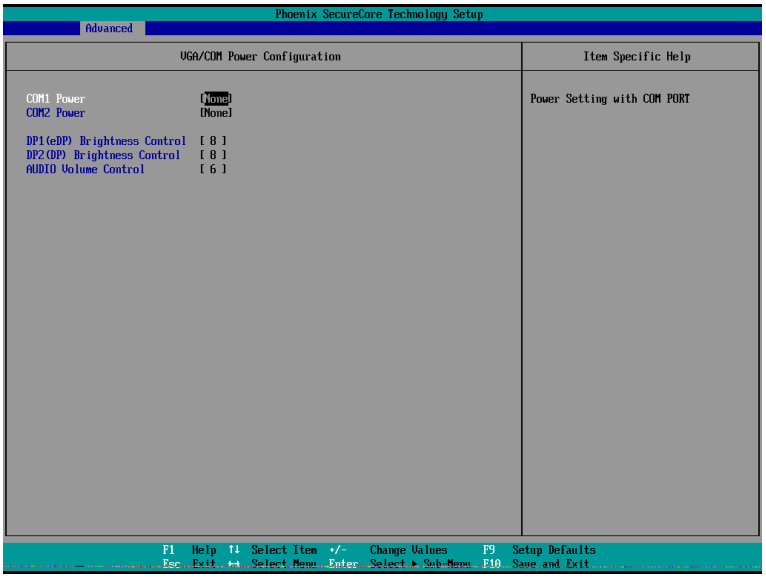
1
2 Jumper open

1
2 Jumper short



COM1/COM2 Power Setting

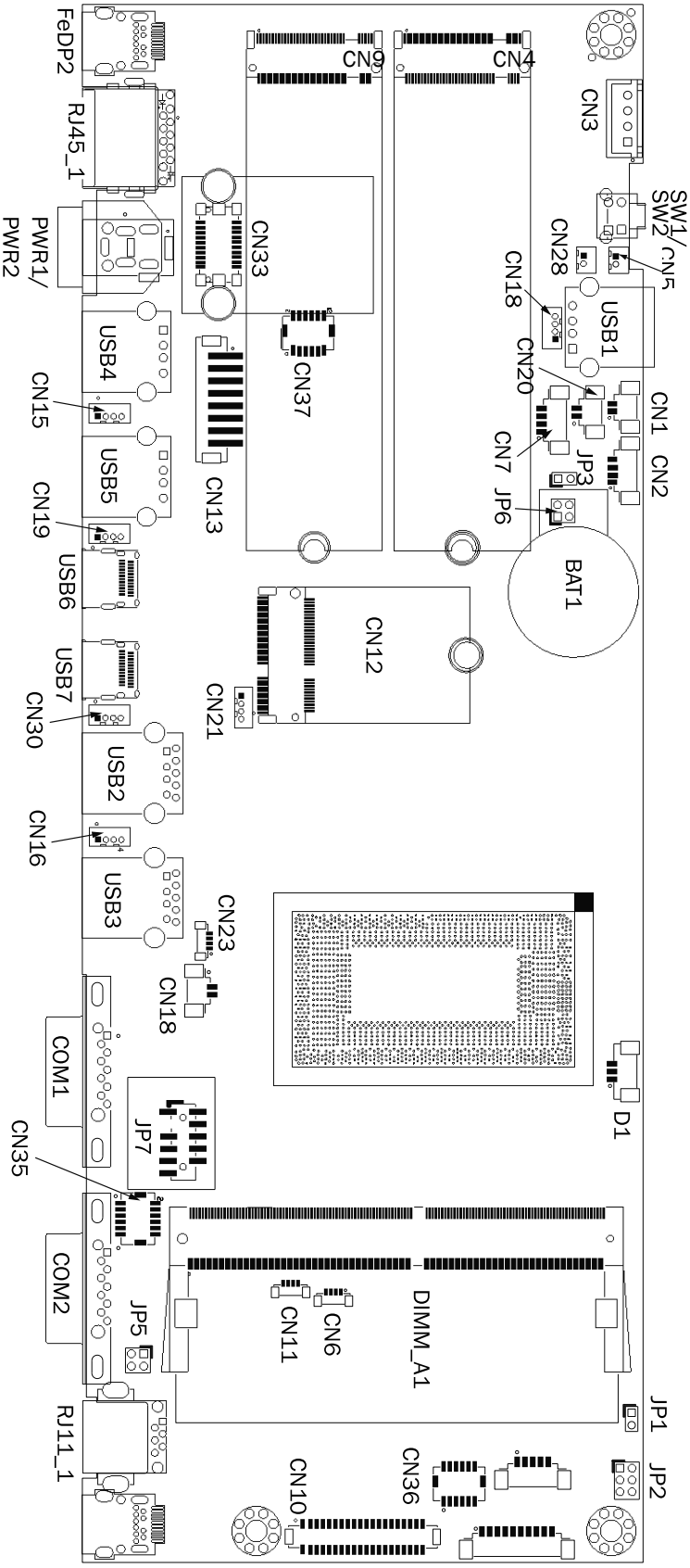
COM1, COM2 can be set to provide power to your serial device.The voltage can be set to +5V or +12V in the BIOS.



1. Power on the system and press the <DEL> key when the system is booting up toenter 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 Power setting and press <Enter>. SelectPower and press <Enter>. Save the change by pressing F10.

6-4. F84U Motherboard

6-4-1. Motherboard Layout



6-4-2. Connectors & Functions

Connector	Function
CN1	Speaker R connector
CN2	4 pin power button w/2 LED
CN3	SATA power connector
CN4	M.2 SSD key M (CPU PCIE4)
CN5	Speaker L connector
CN7	Audio line out connector
CN9	M.2 SSD key M (PCIE GEN3)
CN10	40 pin eDP connector
CN12	M.2 E-KEY WIFI connector
CN13	Powered USB connector
CN15/16/19/30	Internal USB 2.0 connector
CN17	COM3 connector
CN18	HDD LED connector
CN20	Mic-in connector
CN28	Battery 3.0 connector
CN33	OOB connector
PWR1	DC jack (2 pin) connector
PWR2	DC jack (4 pin) connector
RJ11_1	Cash drawer connector
RJ45_1	LAN connector
SW1/SW2	Power button w/LED
DIMM_A1	DDR4 SO-DIMM
FAN1	CPU FAN connector
FeDP1	FeDP main display connector
FeDP2	FeDP 2nd display connector
USB1/CN8	USB2.0 connector (front USB, option)
USB2/USB3	USB3.0 connector
USB4/USB5	USB2.0 connector
USB6	USB type C (DP / USB3.0)
USB7	USB type C
COM1/COM2	COM port connector
JP2	Speaker cable setting
JP3	Audio Line-out setting
JP5	Cash drawer power setting
JP6	Speaker selection (AD52068)
JP7	TPM connector

6-4-3. Jumper Settings

Audio Line-out Setting

Function	JP3
▲Stereo	1 2
Reserved (line-out)	1 2

Cash Drawer Power Setting

Function	JP5
▲ +19V	1 2 3 4
+12V	1 2 3 4

Speaker Selection (AD52068)

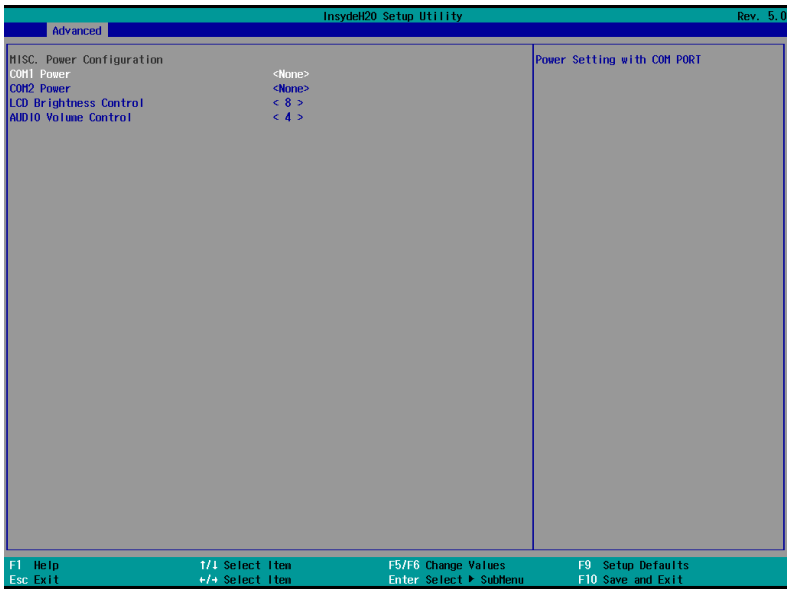
Function	JP6
▲ Internal & FeDP (3W)	1 2 3 4
Internal (2W)	1 3 2 4

1 2 **Jumper open** 1 2 **Jumper short**

▲ = Manufacturer Default Setting

COM1/COM2 Power Setting

COM1, COM2 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 <DEL> key when the system is booting up toenter the BIOS Setup utility.
2. Select the Advanced tab.
3. Select **MISC. Power Configuration** Ports and press <Enter> to go to display the available options.
4. To enable the power, select COM1, COM2 Power setting and press <Enter>.Select Power and press <Enter>. Save the change by pressing F10.