User Manual

Point-of-Sale Hardware System

TRADEMARK

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Safety
IMPORTANT SAFETY INSTRUCTIONS

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

C E 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"

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.
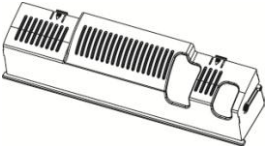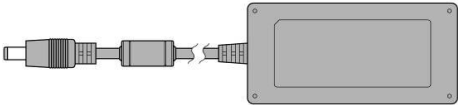
Revision History
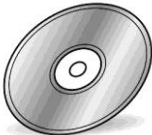
Revision	Date	Description
V1.0	August, 2016	● Release

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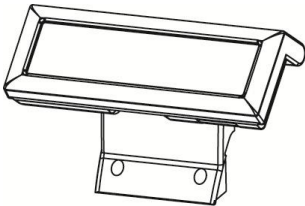
1 Item Checklist

1-1 Standard Items

a. System	b. Cable cover
c. Power adapter (120W)	d. Power cable
e. COM-RJ45 cable (x2)	f. Driver CD

1-2 Optional Items

a. MSR module	b. 2-in-1 MSR+ Fingerprint module
c. VFD	

2 System View

2-1 Front View & Side View
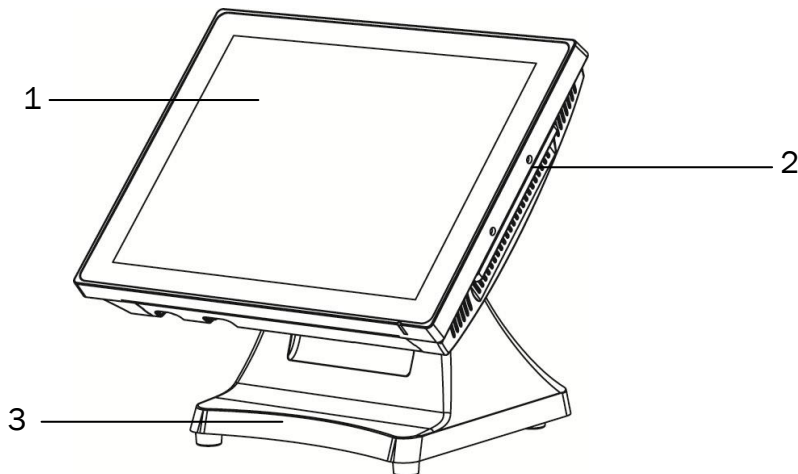
No	Description
1	Touch screen
2	Ventilation
3	Stand base

2-2 Rear View
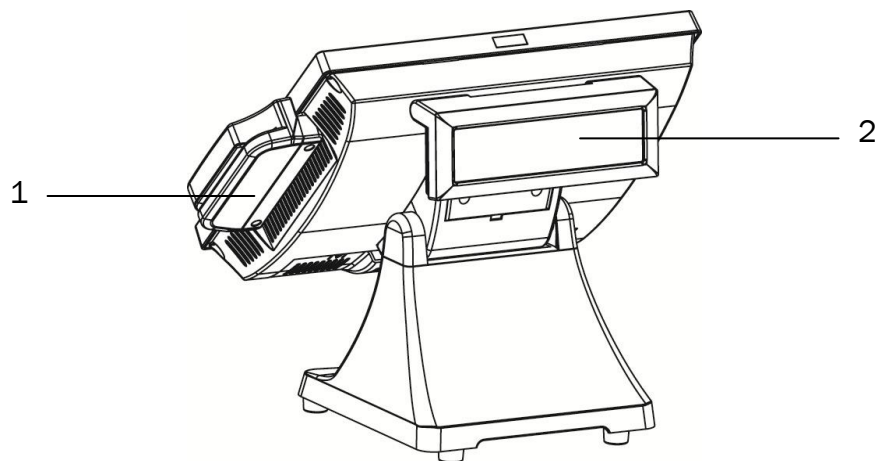
No	Description
1	MSR (optional)
2	VFD (optional)

2-3 I/O View
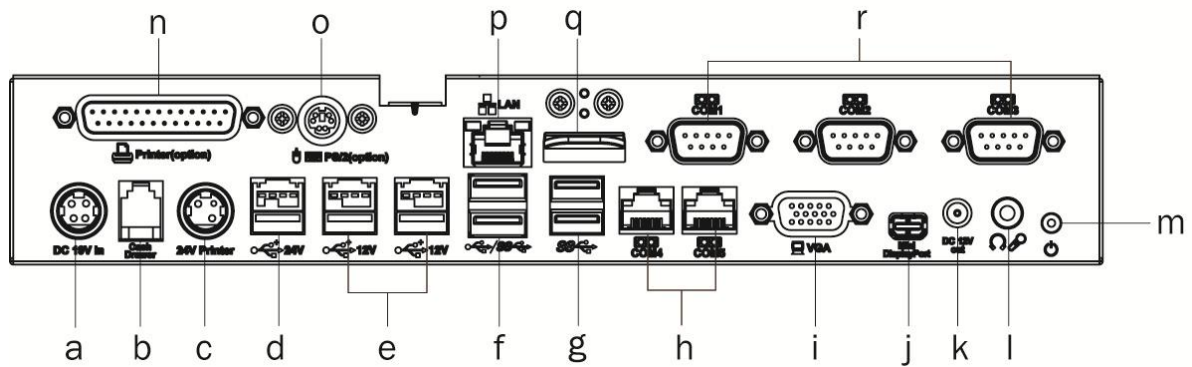
umber	Description
a	DC 19V in
b	Cash drawer
c	24V receipt print
d	USB 24V
e	USB 12V x 2
f	USB3.0/2.0 x 2
g	USB 2.0 x 2
h	COM4 / COM5
i	VGA
j	Mini display port
k	DC 12V out
l	Line out / Mic in
m	Power button
n	Parallel
o	PS/2
p	LAN
q	Metal sheet
r	COM1 / COM2 / COM3

3 System Assembly & Disassembly

3-1 Replace the HDD

Two 2.5 inch SATA hard drives (HDD) or solid state drives (SSD) are supported. These drives can be configured as standard hard drives or as a RAID array. The SATA interface can support data transfer rates up to 6.0 Gb/s and supports AHCI and Hot Swapping of hard drives.
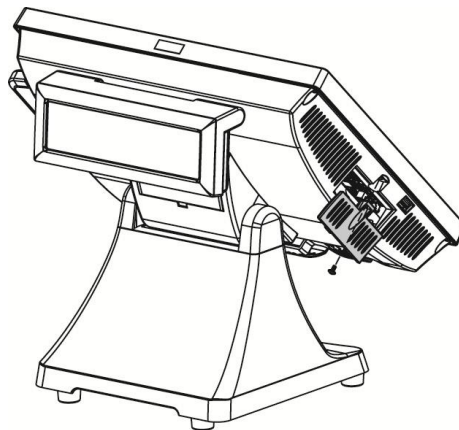
1. The HDDs can easily be accessed by removing a panel on the left side of the unit.   HDDs can be installed or removed in seconds by removing one screw.
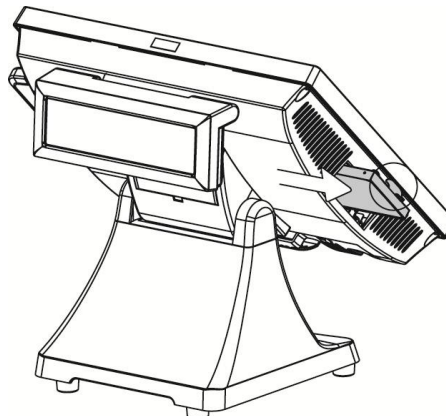
2. A carrying tray fits onto a new drive without tools. The drive can now easily be slid into the drive bay.

3-2 Remove the Stand

The PJ690 is shipped with a counter top base which allows for the head to be adjusted from 0-90°
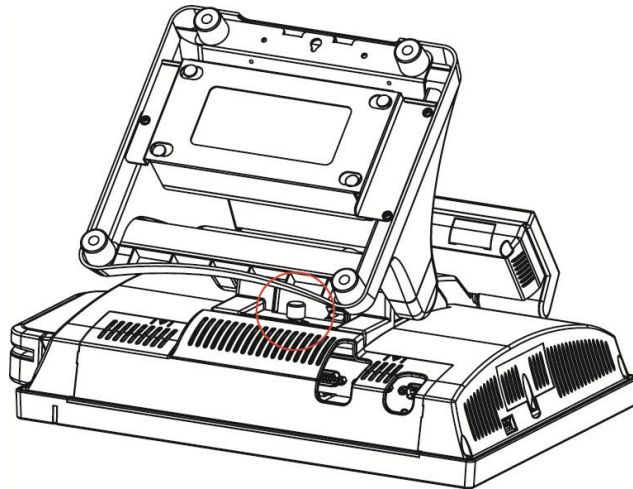
1. To remove the integrated head from the base, fully loosen the thumbscrew located on the back of the unit under the hinge of the counter top base, as shown in the picture.
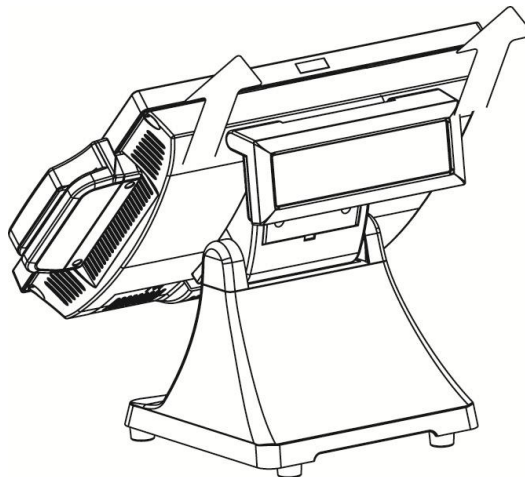
2. Then lift the head as illustrated.

3-3   Replace the Motherboard
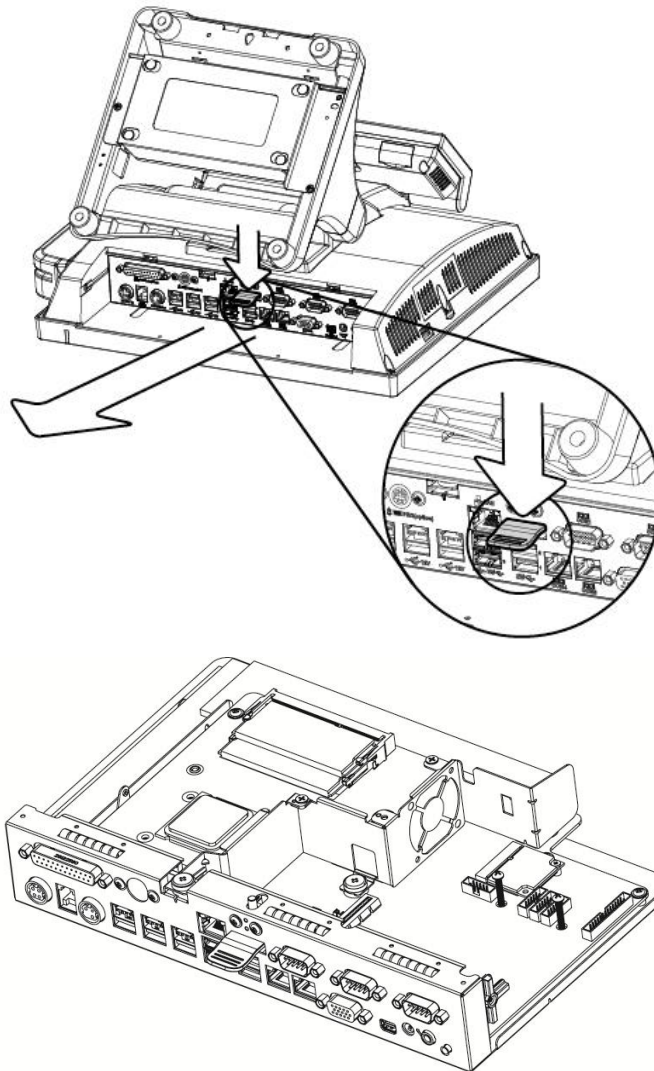
1. Put the system face down. Make sure not to scratch the screen. You will
    find a metal sheet located at the middle of the IO bracket.   Press the metal
    sheet and pull outward the motherboard tray.

3-4 Replace the RAM
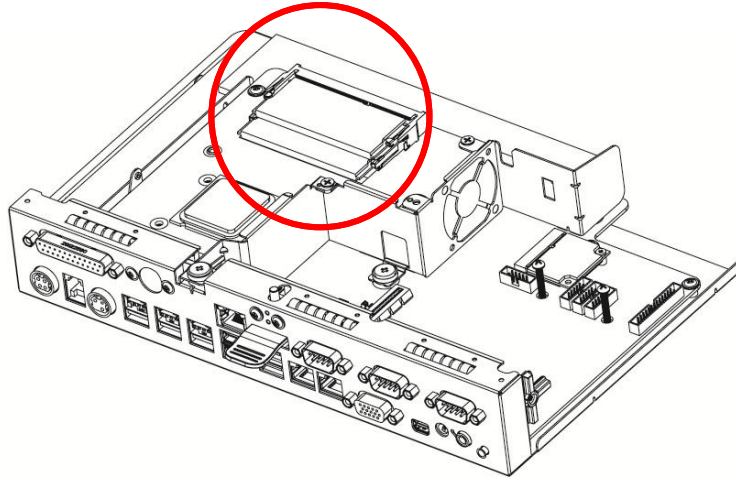
1. Follow the steps described in Chapter 3-3 to pull the motherboard tray outward.
2. Find the RAM location which is as the picture shown.

Removing a RAM module

To remove the module pull the ejector clips out of the side of the module.

Slide the memory out of the slot.
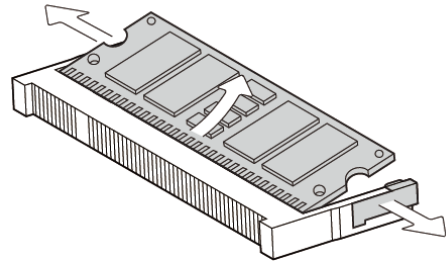
Installing a RAM module

Slide the memory module into the memory slot and press down until the ejector clips snaps in place.
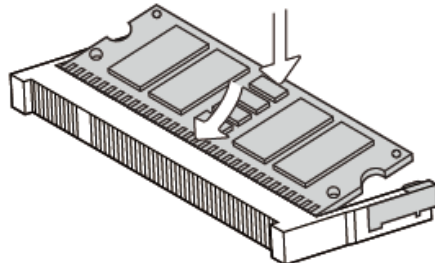
3-5 Replace the Power Adapter

The power supply is normally located in the counter top base.
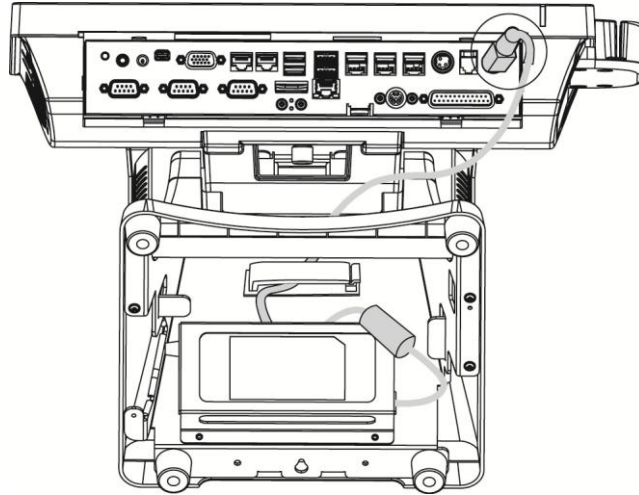
1. To remove the power supply from the base you need to disconnect the power cord from the IO panel first.
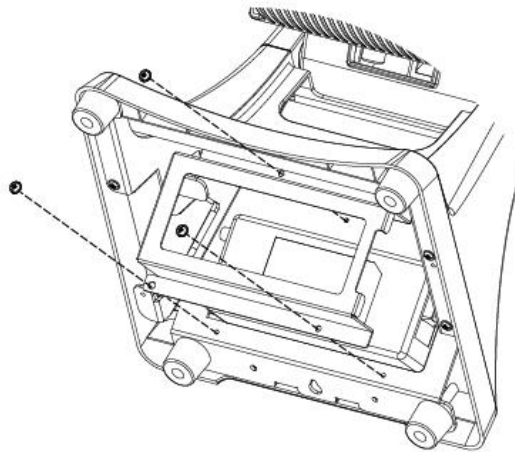
2. Unfasten the screws(x3) on the bottom to release adapter from the stand.

4 Peripherals Installation

4-1 Install the MSR Module

The MSR mounts on the right side of the system and uses a front facing MSR slot. This allows the system to be placed side by side, or in tight spaces, and still be able to swipe the card.
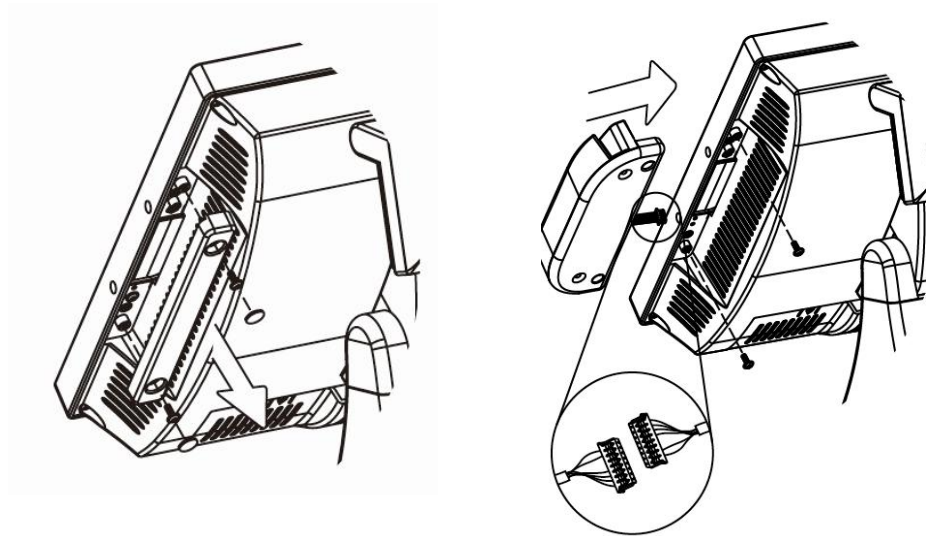
1. The MSR is installed by first removing the two rubber plugs for the option attachment point as shown in the picture.
2. Then remove the MSR cover plate on the right back side of the unit by removing the two screws.
3. Connect the cable together as shown add secure the static ground wire with screw provided as shown.
4. Attach the MSR using the two screws at the locations as shown in the picture.
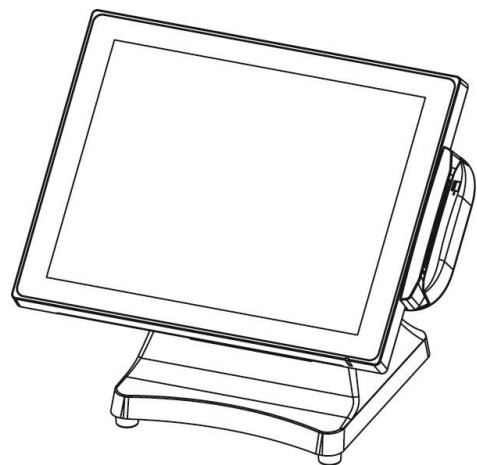
4-2   Install the Wall Mount Kit

The wall mount bracket has threaded mounting holes (*screws provided*) for the 75mm VESA standard; and unthreaded holes for the 100mm standard.
Using the 100mm hole pattern the bracket can be used by itself as a wall mount bracket. After installing the thumbscrew clip mount bracket to the wall, hang the system on the bracket.

1.   Install screw to secure thumbscrew clip.

2.   The bracket slides on to the mount posts, *as shown*. Normally the bracket would already be mounted to the wall or a VESA mount and the system would be hung on the bracket. Once in place the thumb screw would be tightened.

4-3 Install the Cash Drawer

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

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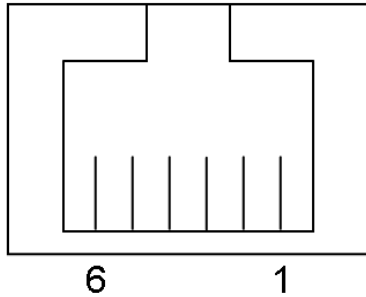
Pin	Signal
1	GND
2	DOUT bit0
3	DIN bit0
4	12V / 19V
5	DOUT bit1
6	GND

Cash Drawer Controller Register

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

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

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

Reserved

Cash Drawer "DOUT bit0" pin output control

Cash Drawer "DOUT bit1" pin output control

Reserved

Cash Drawer "DIN bit0" pin input status
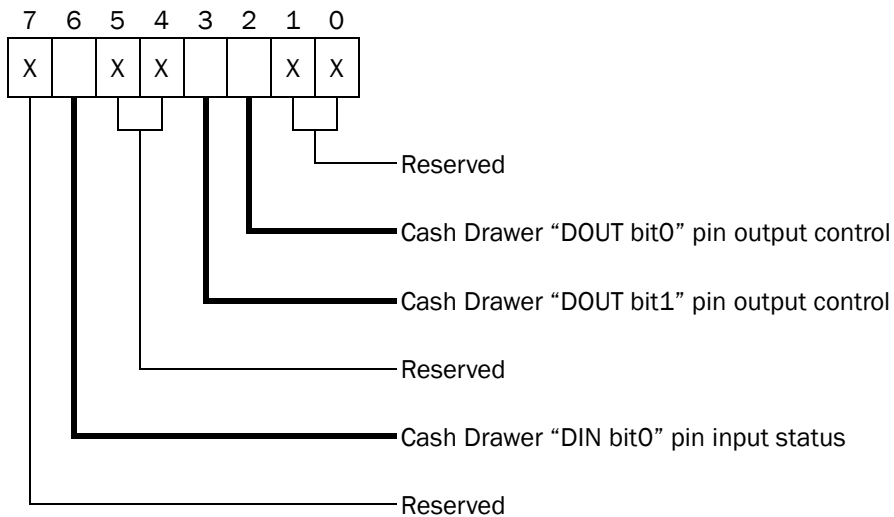
Reserved

Bit 7: Reserved
Bit 6: Cash Drawer "DIN bit0" pin input status.
       = 1: the Cash Drawer closed or no Cash Drawer
       = 0: the Cash Drawer opened
Bit 5: Reserved
Bit 4: Reserved
Bit 3: Cash Drawer "DOUT bit1" pin output control.
       = 1: Opening the Cash Drawer
       = 0: Allow close the Cash Drawer
Bit 2: Cash Drawer "DOUT bit0" pin output control.
       = 1: Opening the Cash Drawer
       = 0: Allow close the Cash Drawer
Bit 1: Reserved
Bit 0: Reserved

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

Cash Drawer Control Command Example

Use Debug.EXE program under DOS or Windows98

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

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

4-4   Install the VFD

1. Thread the VFD cable through the VFD slot.
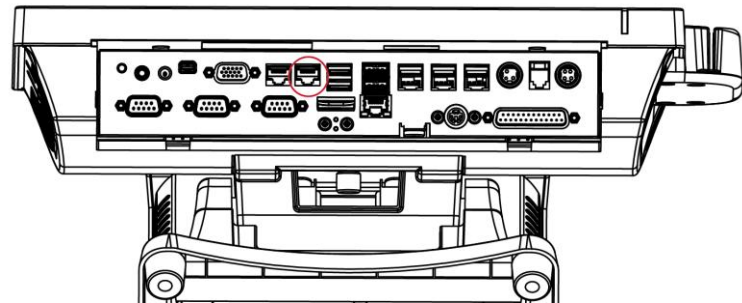
2. Attach the VFD and fasten the screws (x2) to secure the VFD to the system.
3. Finally connet the VFD cable to the COM4 on the IO bracket.

5 Specification

| System	PJ690	
Motherboard	D92	D92L
CPU	Intel Haswell refresh /Haswell LGA-1150 22nm (supports other processors, only standard ones listed, Celeron though i7) Fan-Off mode support all processor types	
	i5-4590S 3.0G LLC 6M, TDP 65W, ATM 9.0 Celeron G1820 2.7G, LLC 2M, 53W	i5-4590S 3.0G LLC 6M, TDP 65W Celeron G1820 2.7G, LLC 2M, 53W
Chipset	Intel Lynx Point PCH Q87 with AMT technology	Intel Lynx Point PCH H81
System memory	DDR3/DDR3L S.O.DIMM x 2, max 16G, default 2G, FSB 1333 / 1600Mhz	DDR3/DDR3L S.O.DIMM x 1, max 8G, default 2G, FSB 1333 / 1600Mhz
Graphic memory	Intel HD Graphic DX11.1	
LAN controller	Intel I218LM (Phy)	
Audio controller	Realtek ALC662VDO-GR	
I/O controller	WINBOND W83627UHG	
LVDS interface	Realtek RTD2136R	
Touch screen type	Projected capacitive (PCT)	
TPM controller	Supported	NA
BIOS	Phoenix UEFI	
Board Dimension	263 (W) x 196 (D) mm	
LCD Touch Display		
LCD size	15" LED panel	
Brightness	250 nits	
Maximal resolution	1024 x 768	
Touch	True Flat projected capacitive touch (USB)	
Tilt angle	$0 \sim 90^0$	
Storage		
HDD	2 x 2.5" SATA HDD (side slide)	
Flash memory	16/32/64 GB option (built-in 2.5" HDD cover)	
Expansion		
Mini PCI-E	1 for WLAN (option)	
Control / Indicator		
Power LED	1 Green Powered up, Amber in Standby (3Pin connector)	
Side I/O		
USB	1 (5V USB)	
Rear I/O		
DC jack	1	
Cash drawer	1 x RJ 11 (12V/24V cash drawer), jumper setting, default 24V	
24V receipt print power	1	
USB2.0	0	2

System	PJ690	
Motherboard	**D92**	**D92L**
USB3.0 / 2.0	4	2
Powered USB 12V	2	
Powered USB 24V	1	
Serial/COM	3 x DB9 COM ports (COM1~COM3) 2 x RJ45 COM ports (COM4 for VFD, COM5) COM port supports +5V/+12V power enabled by BIOS, default w/o power	
VGA	1 (+12V enabled by BIOS)	
Mini display port	1	
LAN (10 / 100/1000)	1	
12V DC out	1	
Audio	Mic in / Line out	
Power button	1	
PS2	1	option (blind hole)
Parallel	1	option (blind hole)
Speaker		
Speakers	1 (2W internal speakers)	
Power		
Power supply	Ext. power adapter 120W/19V	
Environment		
EMC & Safety	FCC Class A, CE, LVD	
Operating temperature	5°C~ +40 °C	
Storage temperature	-20 °C ~70 °C	
Humidity	20% ~ 80% RH non condensing	
Peripherals		
MSR	MSR 3 track (USB, secure head)	
iButton	iButton reader (USB)	
2-in-1 reader	MSR (USB) + Fingerprint (USB) MSR (USB) + iButton reader (USB) MSR (USB) + RFID 125KHz /Mifare 13.56Mhz (USB)	
Second display	8.4" LED display, 800 *600, 200nits (VGA) 10."W LED display, 1024*600, 250nits (display port) 12.1" LED display, 1024*600, 500nits (VGA) 14.1"W LED display,1366*768, 200nits (display port)	
Customer Display	20 x 2 LCM (COM) / 20 x2 VFD (COM, RJ45)	
UPS Battery	4S/2P battery kit	
Mounting		
Standard	Counter top base, tilt angel 0°~90°	
VESA Bracket	Wall mount/VESA bracket included	
Communication		
Wireless LAN	802.11 b/g/n	
OS Support	Windows 7 ,POSReady 7 Windows® Embedded 8.1 Industrial Pro retail Windows® Embedded 8.1 Industry Pro Linux	

6 Configuration

6-1 D92 Motherboard Layout

C92 V1.0
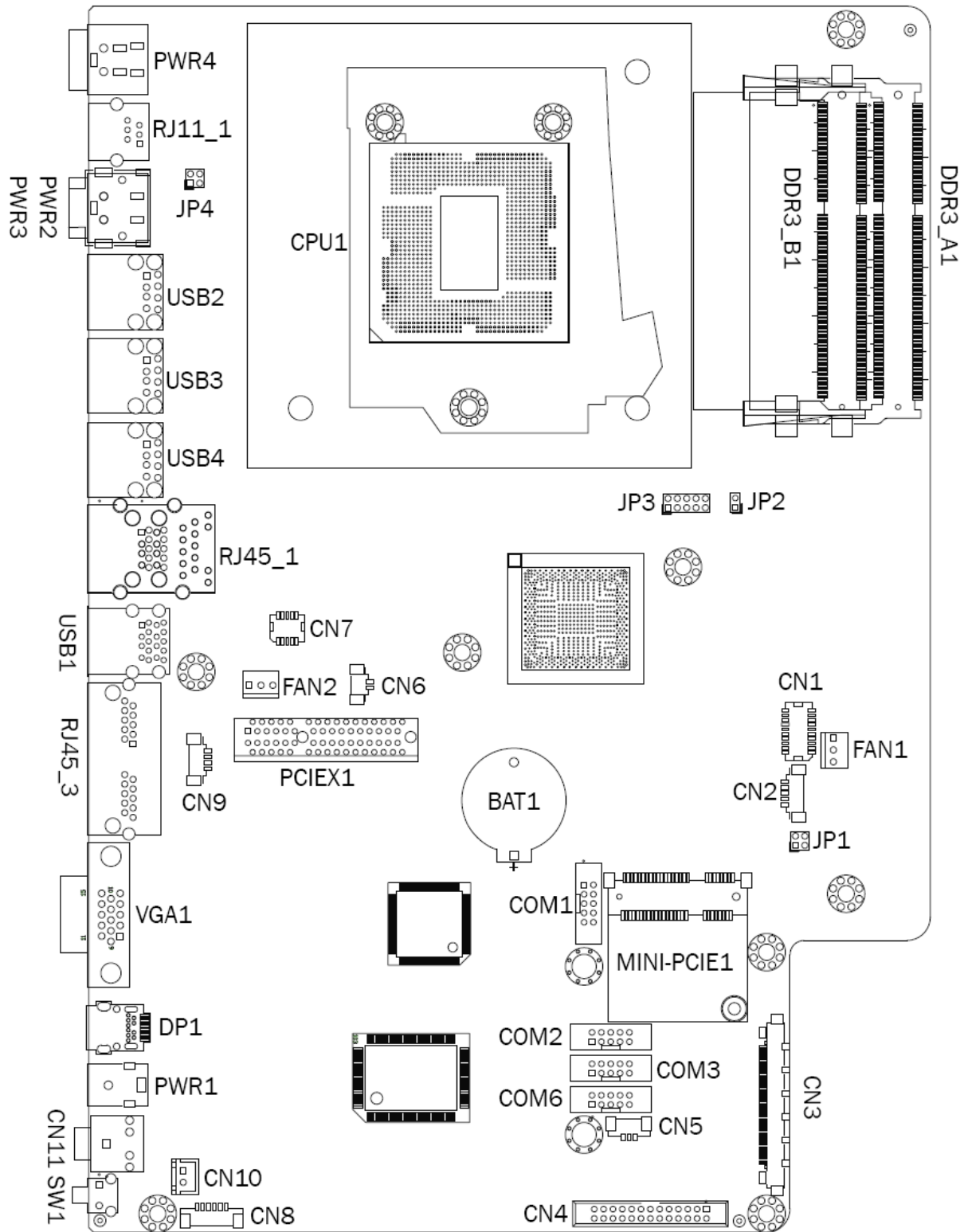
6-2 Connectors & Functions

Connectors	Functions
CN1	SDU CONN
CN2	EC Debug
CN3	51Pin connector (LVDS/Inverter/VGA/PWR LED/Touch/USB*2)
CN4	Printer port connector
CN5	Power LED connector
CN6	HDD LED connector
CN7	SDU CONN(LAN)
CN8	Speaker & Mic connector
CN9	PS/2 connector
CN10	Power button connector
CN11	Audio Jack
COM1	COM1
COM2	COM2
COM3	COM3
COM4~5	RJ45_3 connector
COM6	COM6
PWR1	12V DC jack (2 Pin)
PWR3	24V DC jack (3 Pin)
PWR4	19V DC jack (4 Pin)
USB1	USB3.0*2
USB2	24V Power USB
USB3	12V Power USB
USB4	12V Power USB
FAN1	CPU FAN connector
FAN2	System fan connector
PCIEX1	SATA0/1
RJ11_1	Cash drawer
RJ45_1	LAN1+USB3.0*2(Option)
RJ45_2	LAN1+USB2.0*2(Option)
SW1	Power button
MINI_PCIE1	Mini PCIE socket
VGA1	CRT
DP1	Mimi DP CONN
BAT1	Battery CONN
JP1	Inverter selection
JP2	H/W reset
JP3	LCD ID setting
JP4	Cash drawer power setting

6-3   Jumper Settings

Inverter Selection

Function	JP1 (1-2) (3-4)
LED	1 2 [shorted] / 3 4
▲ CCFL	1 2 / 3 4 [shorted]

Cash Drawer Power Setting

Function	JP4 (1-2) (3-4)
▲ 24V	1 2 [shorted] / 3 4
12V	1 2 / 3 4 [shorted]

LCD ID Setting

Resolution	LVDS		Output Interface	JP3 (1-2) (3-4) (5-6) (7-8) (9-10)
	Bits	Channel		
1024 x 768	18	Single	LVDS Panel	1 2 / 3 4 [shorted] / 5 6 / 7 8 [shorted] / 9 10
1024 x 768	24	Single	LVDS Panel	1 2 / 3 4 / 5 6 / 7 8 [shorted] / 9 10

▲ = Manufacturer Default Setting   ☐☐ OPEN   ■ SHORT

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".