

User Manual

Version 1.0 August 2016

Point-of-Sale Hardware System



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Manual Version 1.0

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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.



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”



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

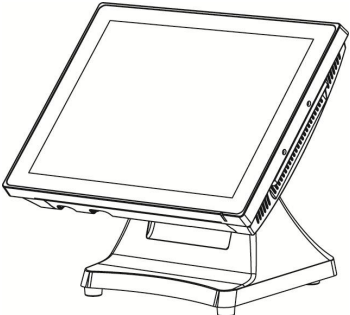
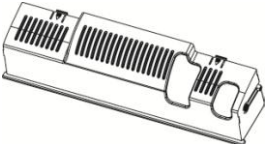
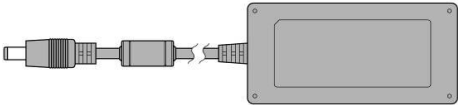


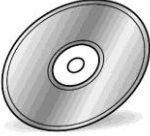
| Revision | Date | Description |
|----------|--------------|-------------|
| V1.0 | August, 2016 | ● Release |

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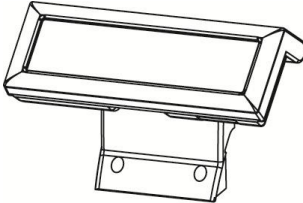
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1 Item Checklist

1-1 Standard Items

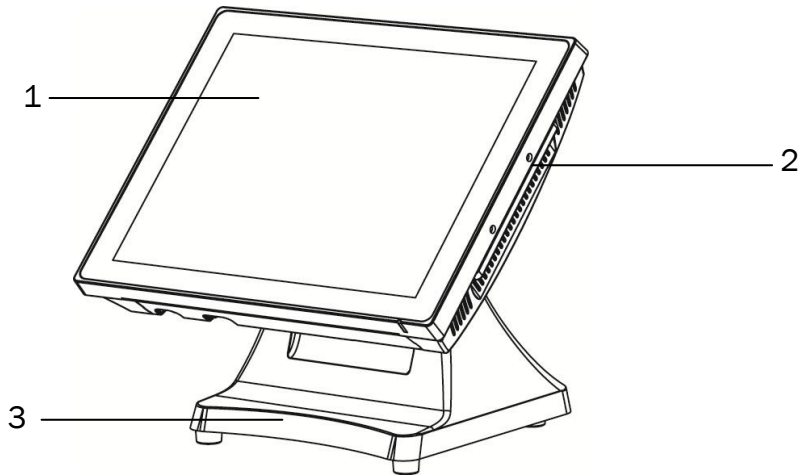
| | |
|---|--|
|  |  |
| a. System | b. Cable cover |
|  |  |
| c. Power adapter (120W) | d. Power cable |
|  |  |
| e. COM-RJ45 cable (x2) | f. Driver CD |

1-2 Optional Items

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

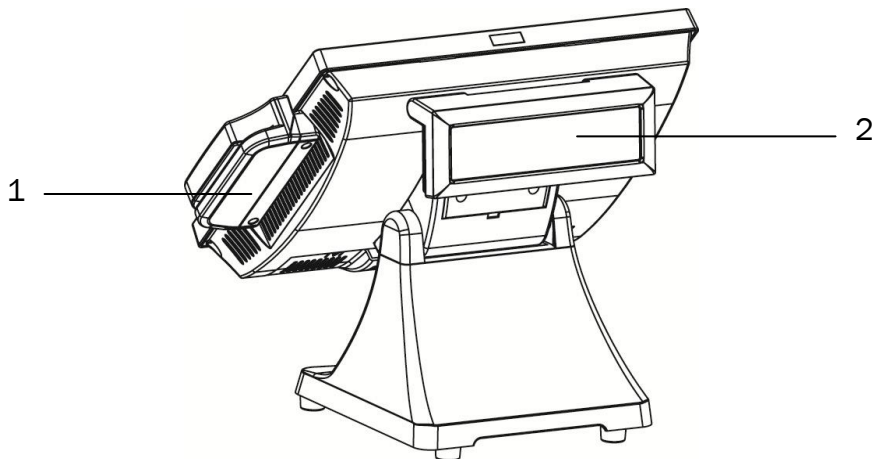
2 System View

2-1 Front View & Side View



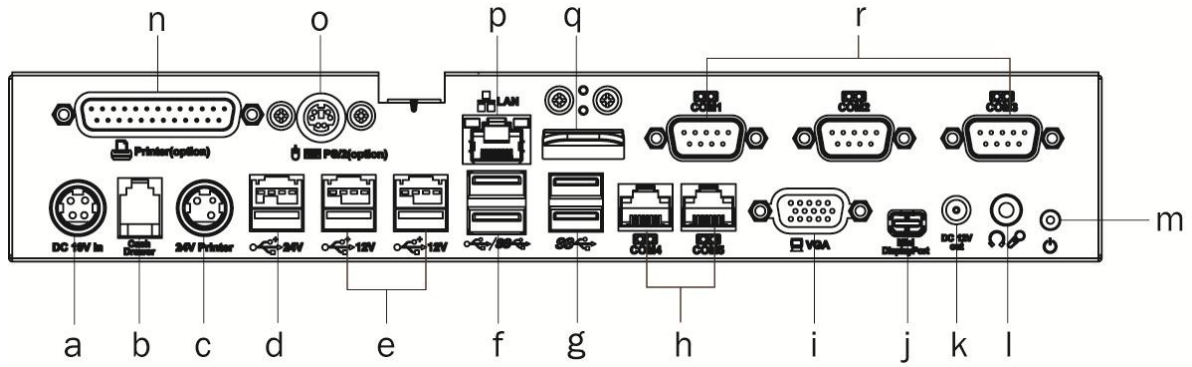
| No | Description |
|----|--------------|
| 1 | Touch screen |
| 2 | Ventilation |
| 3 | Stand base |

2-2 Rear View



| No | Description |
|----|----------------|
| 1 | MSR (optional) |
| 2 | VFD (optional) |

2-3 I/O View

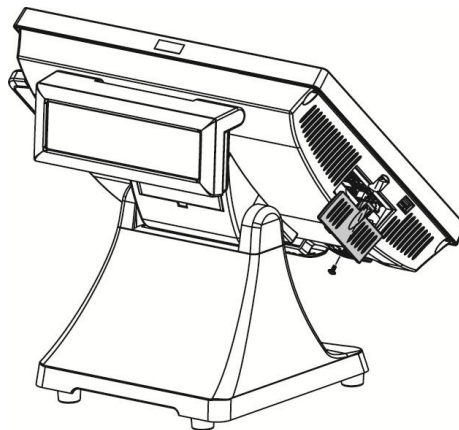


| umber | Description |
|-------|--------------------|
| a | DC 19V in |
| b | Cash drawer |
| c | 24V receipt print |
| d | USB 24V |
| e | USB 12V x 2 |
| f | USB3.0/2.0 x 2 |
| g | USB 2.0 x 2 |
| h | COM4 / COM5 |
| i | VGA |
| j | Mini display port |
| k | DC 12V out |
| l | Line out / Mic in |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

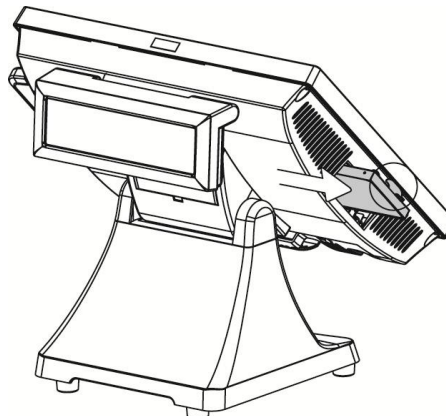
3 System Assembly & Disassembly

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.



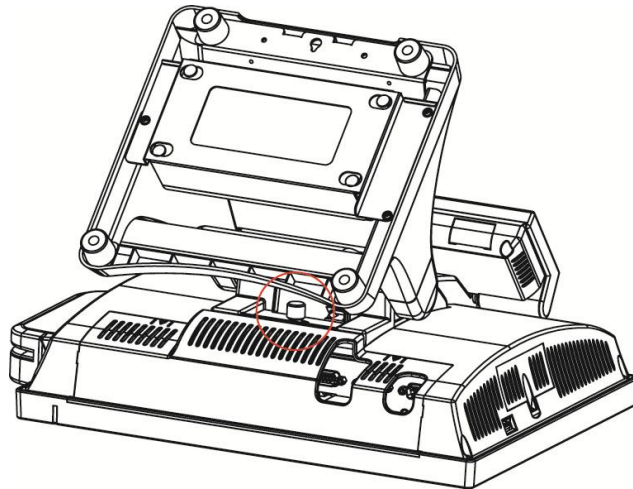
1. The HDDs can easily be accessed by removing a panel on the left side of the unit. HDDs can be installed or removed in seconds by removing one screw.



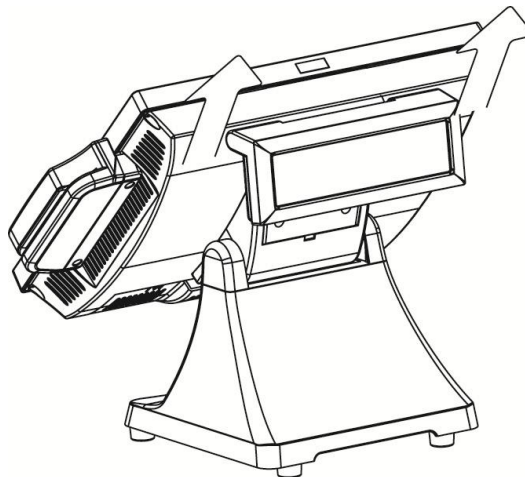
2. A carrying tray fits onto a new drive without tools. The drive can now easily be slid into the drive bay.

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°

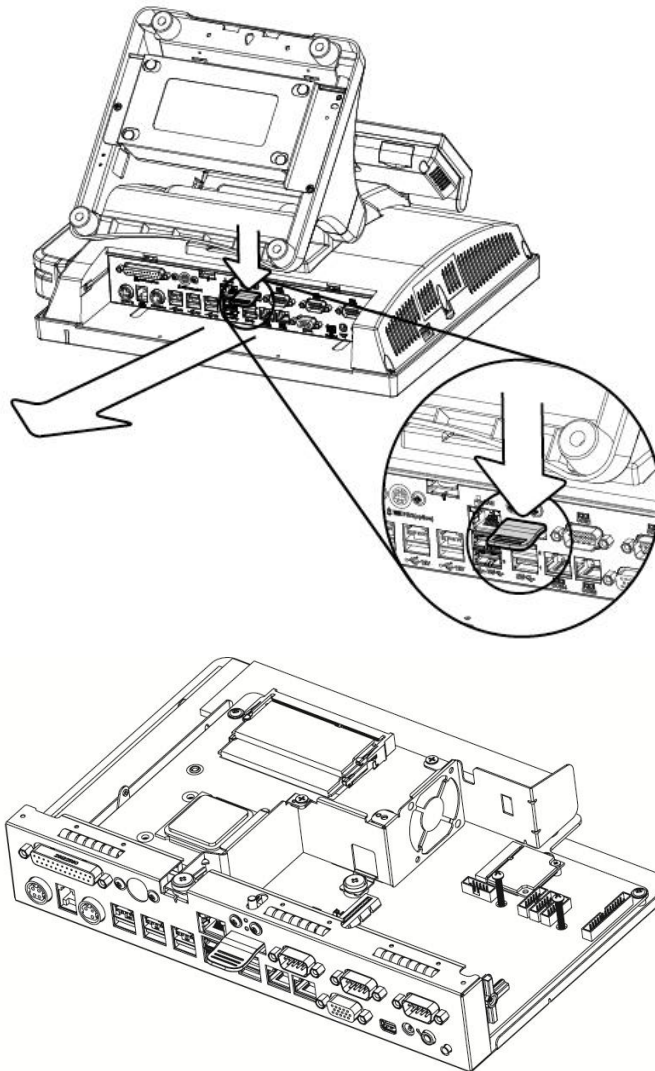


1. To remove the integrated head from the base, fully loosen the thumbscrew located on the back of the unit under the hinge of the counter top base, as shown in the picture.



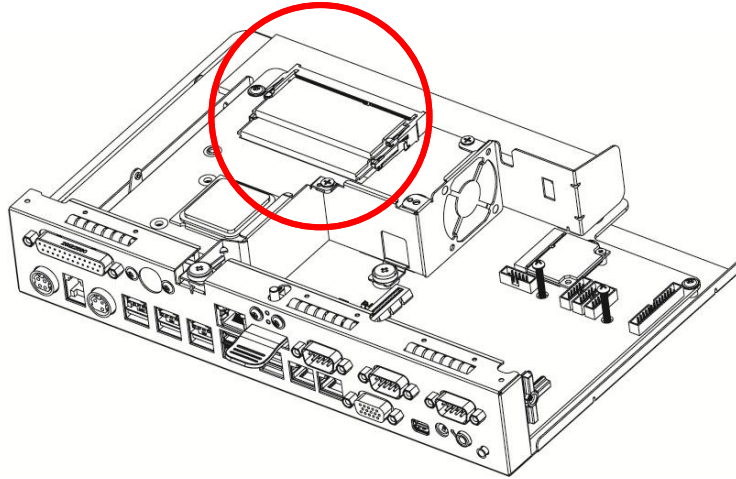
2. Then lift the head as illustrated.

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

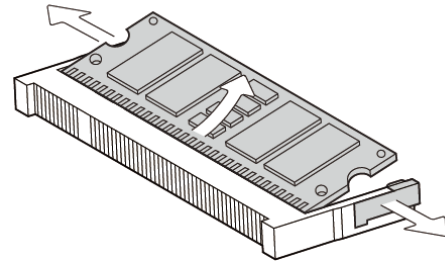


1. Follow the steps described in Chapter 3-3 to pull the motherboard tray outward.
2. Find the RAM location which is as the picture shown.

Removing a RAM module

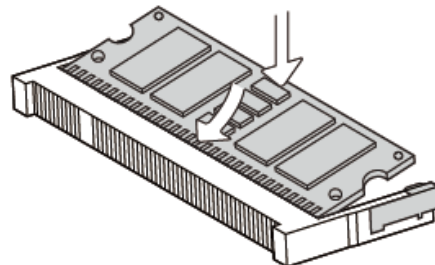
To remove the module pull the ejector clips out of the side of the module.

Slide the memory out of the slot.



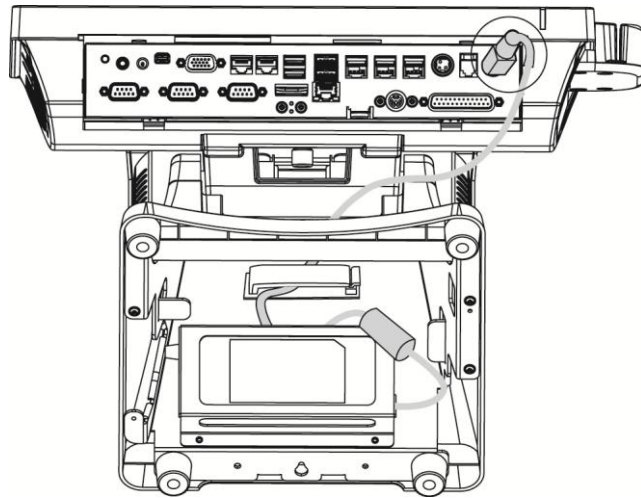
Installing a RAM module

Slide the memory module into the memory slot and press down until the ejector clips snaps in place.

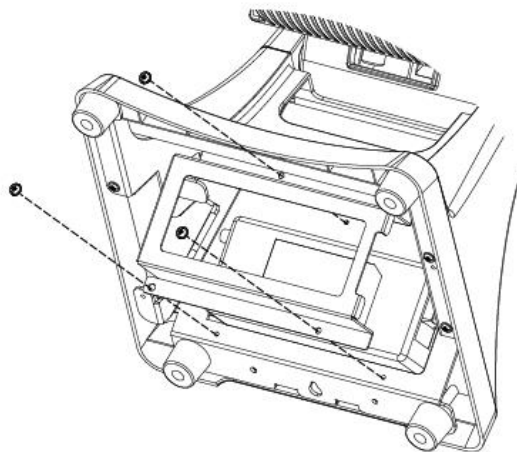


3-5 Replace the Power Adapter

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.

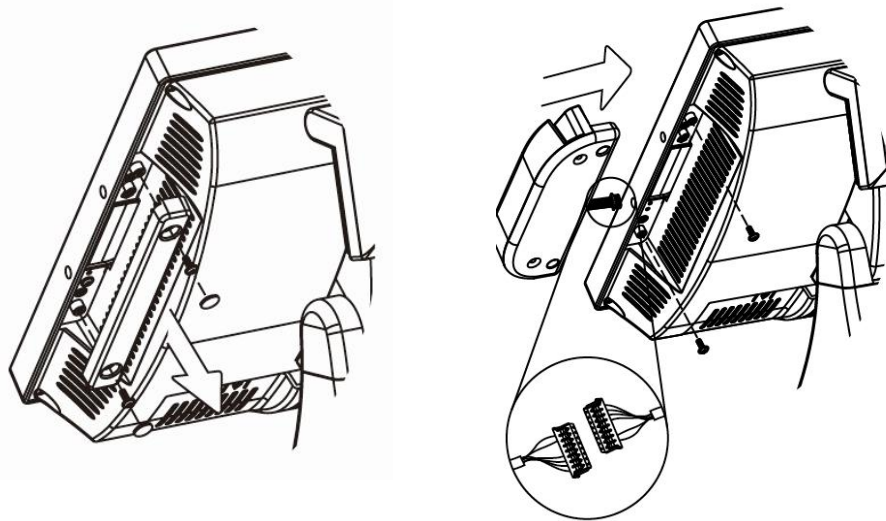


2. Unfasten the screws(x3) on the bottom to release adapter from the stand.

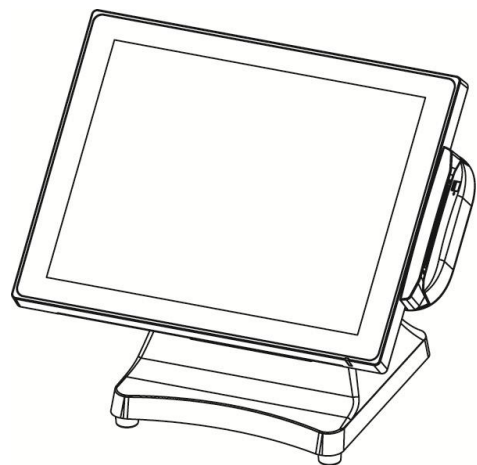
4 Peripherals Installation

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.

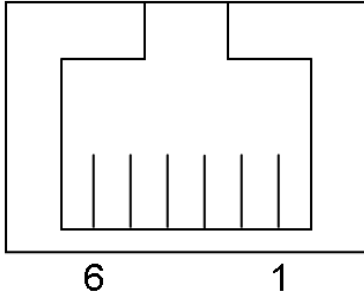


2. The bracket slides on to the mount posts, *as shown*. Normally the bracket would already be mounted to the wall or a VESA mount and the system would be hung on the bracket. Once in place the thumb screw would be tightened.

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

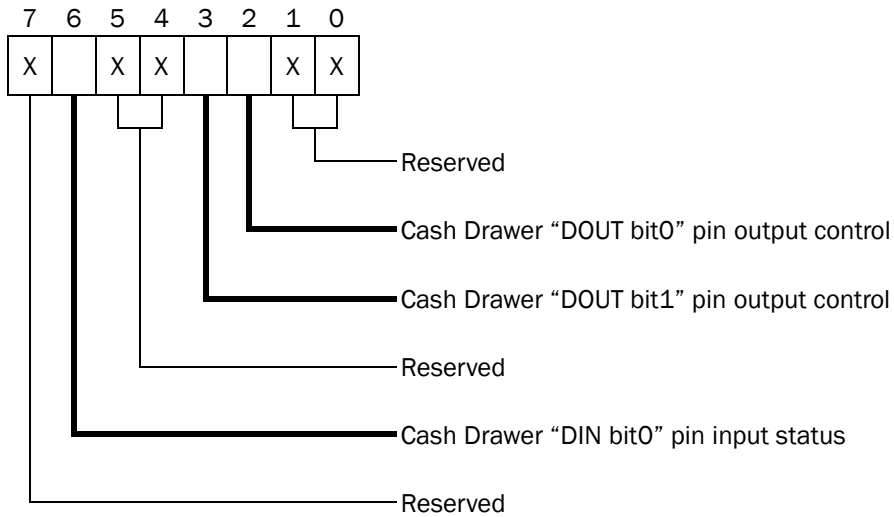
The Cash Drawer Controller use one I/O addresses to control the Cash Drawer.

Register Location: 48Ch

Attribute: Read / Write

Size: 8bit

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



- 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

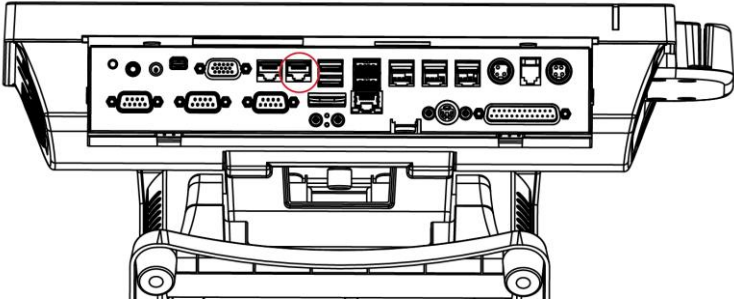
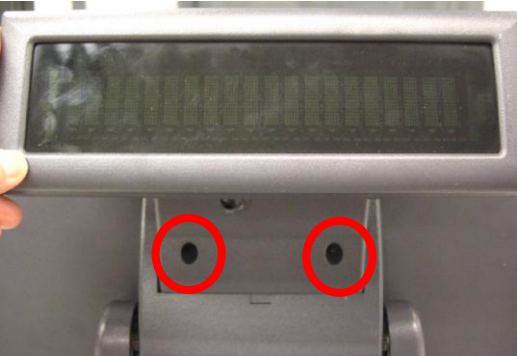
| Command | Cash Drawer |
|--|----------------|
| O 48C 04 | Opening |
| O 48C 00 | Allow to close |
| <ul style="list-style-type: none"> ➤ Set the I/O address 48Ch bit2 =1 for opening Cash Drawer by "DOUT bit0" pin control. ➤ Set the I/O address 48Ch bit2 = 0 for allow close Cash Drawer. | |

| Command | Cash Drawer |
|---|--------------|
| I 48C | Check status |
| <ul style="list-style-type: none"> ➤ 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 connect the VFD cable to the COM4 on the IO bracket.



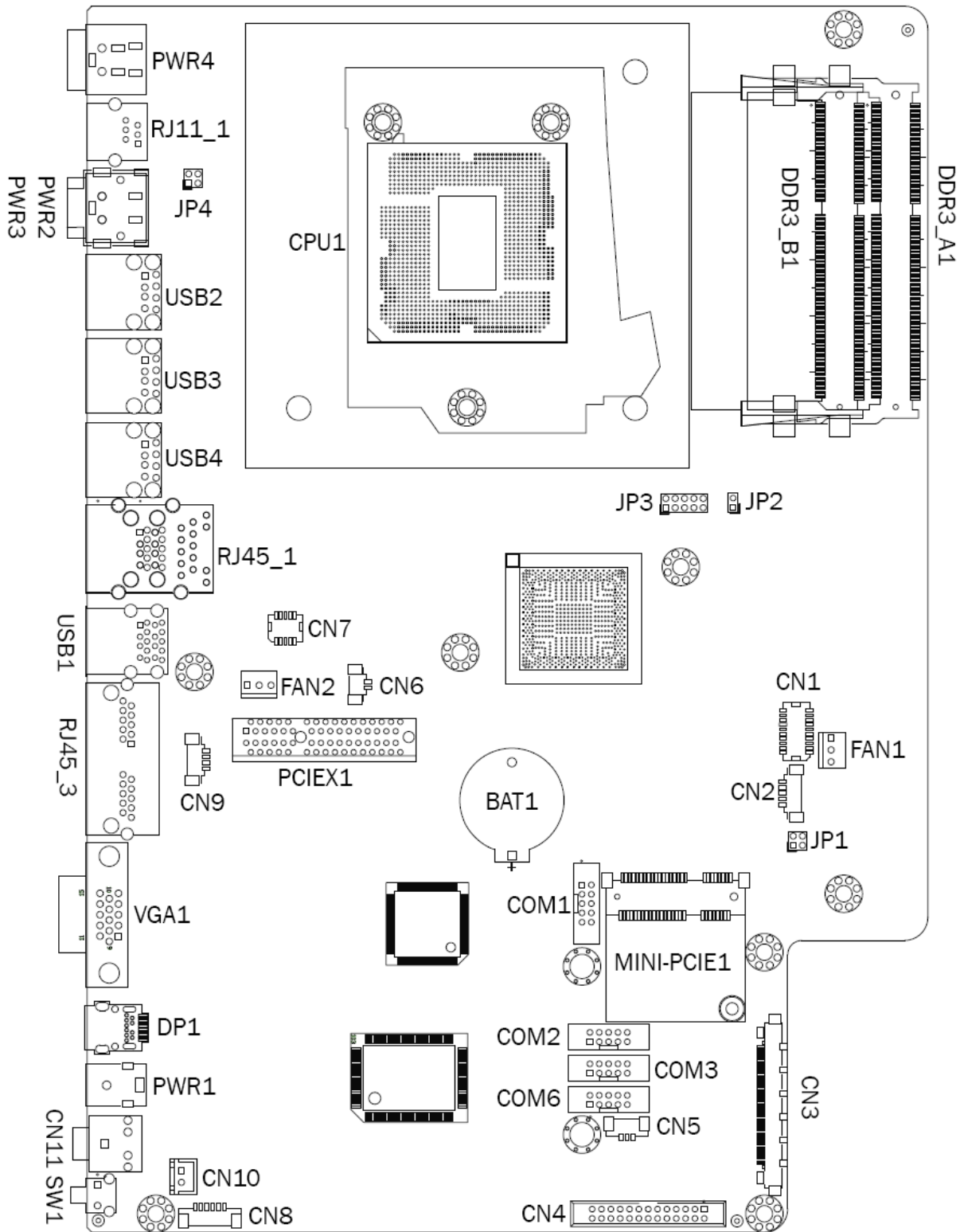
5 Specification

| 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 ~90° | |
| 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



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(Optional) |
| RJ45_2 | LAN1+USB2.0*2(Optional) |
| 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 | <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 | JP4 (1-2) (3-4) | | | | |
|----------|---|---|---|---|---|
| ▲ 24V | <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

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

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”.

FCC Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment.

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, and**
- (2) this device must accept any interference received, including interference that may cause undesired operation.**

Caution!

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.