USER MANUAL

KF-7330

17" Payment Kiosk System
Powered By Intel® Bay
Trail Platform

KF-7330 Self-Service Payment Kiosk with P-Cap Touch

DISCLAIMER

This user's manual is meant to assist users in installing and setting up the system. The information contained in this document is subject to change without any notice.

CE NOTICE

This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

FCC NOTICE

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.

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void your authority to operate such equipment.

	**CAUTION:** Danger of explosion may occur when the battery is incorrectly replaced. Replace the battery only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

	**WARNING:** Some internal parts of the system may have high electrical voltage. We strongly recommend that only qualified engineers are allowed to open and disassemble the system. Please operate the LCD and Touchscreen with extra care as they can be broken easily.

Contents

List of Figures

1 Introduction

This chapter provides the information for the KF-7330 Kiosk. It describes how to set up the system quickly and outlines the system specifications.

The following topics are included:

- About This Manual
- Kiosk System Diagram
- Quick Setup
- System Specification
- Safety Precautions

Experienced users can go to Chapter 2 System Configuration on page 2-1 for a quick start.

1.1 About This Manual

Thank you for purchasing our KF-7330 Kiosk System. The KF-7330 is an updated system designed to be comparable with the highest performance of IBM AT personal computers. The KF-7330 provides faster processing speed, greater expandability and can handle more tasks than before. This manual is designed to assist you how to install and set up the whole system. It contains four chapters and three appendixes. Users can configure the system according to their own needs.

Chapter 1 Introduction

This chapter introduces you to the background of this manual. It also includes the physical illustrations, quick setup and specifications for the KF-7330 system. The final section of this chapter indicates some safety reminders on how to take care of your system properly.

Chapter 2 System Configuration

This chapter outlines the locations of the motherboard and sensor board components and their respective functions. You will learn how to set the jumpers and configure the system to meet your own needs.

Chapter 3 Software Utilities

This chapter contains helpful information for proper installations of the Intel Chipset Software Installation Utility, VGA Driver Utility, LAN Driver Utility, Intel® USB 3.0 eXtensible Host Controller Utility, Sound Driver Utility, Touch Screen Driver Utility, and Intel Trusted Execution Engine Interface (TXE) Driver Utility.

Chapter 4 AMI BIOS Setup

This chapter indicates you how to change the BIOS configurations.

Appendix A System Assembly Diagrams

This appendix provides the exploded diagrams and part numbers of the KF-7330.

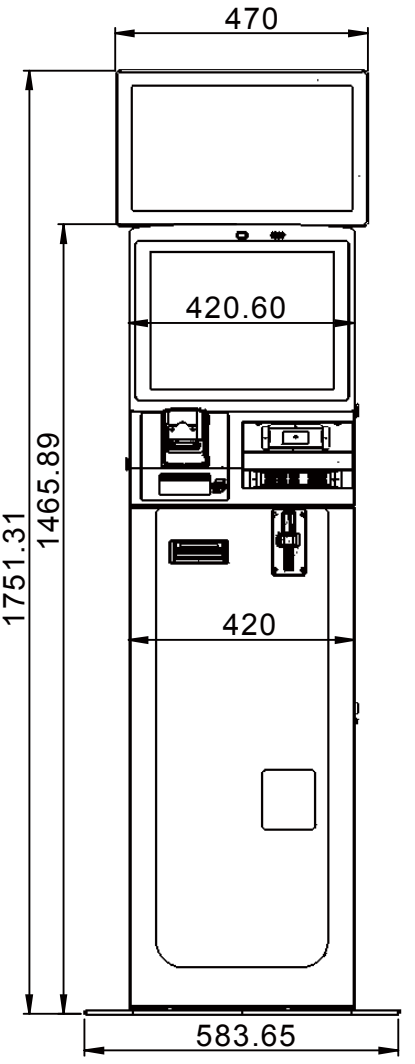
Appendix B Technical Summary

This appendix provides the information about the allocation maps for the system block diagram, system resources, Watchdog Timer Configuration, .Flash BIOS Update and ACPI functions list.

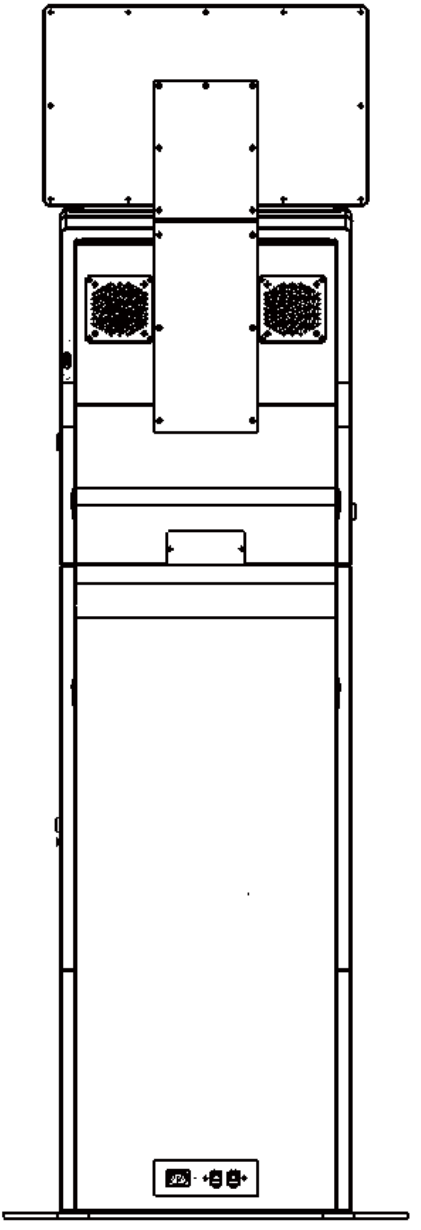
1.2 Kiosk System Diagrams

Unit: mm

1.2.1 Front View

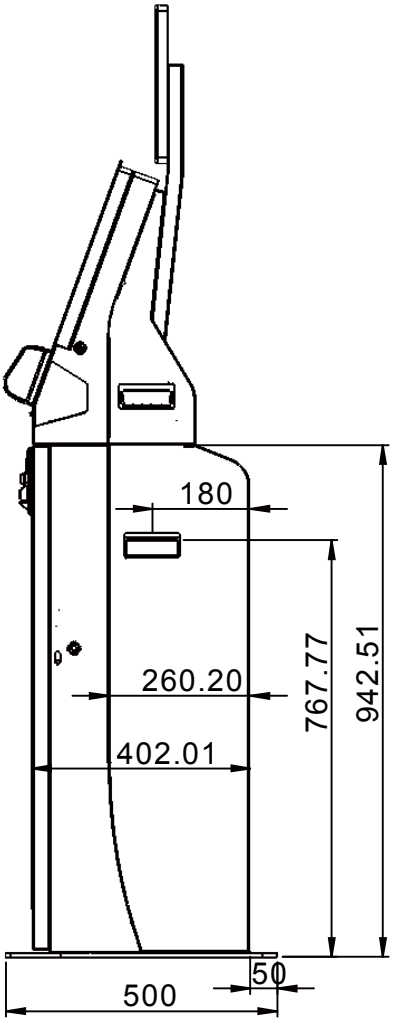


1.2.2 Rear View



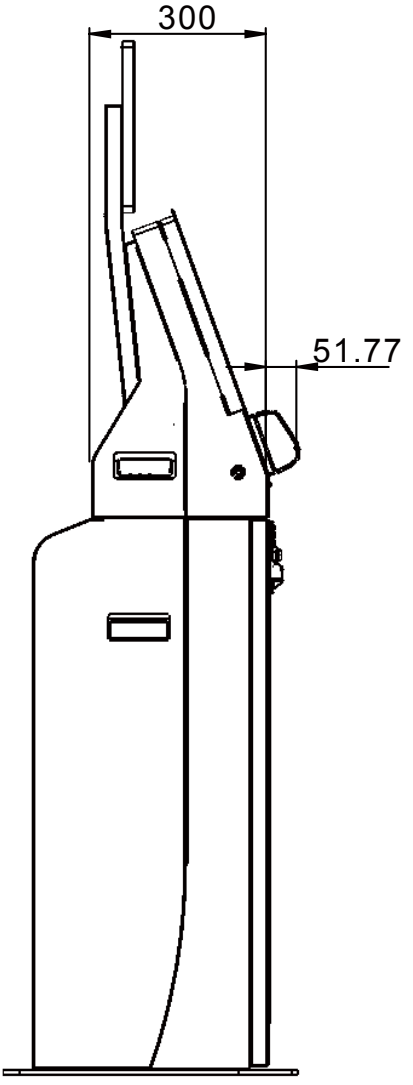
1.2.3 Left Side View

Unit: mm



1.2.4 Right Side View

Unit: mm



1.3 Quick Setup

1.3.1 Power On KF-7330 and Connect to the Network

Step 1. Connect the AC power cord to the AC power jack and connect the Ethernet cable to the LAN port. See Figure 1-1.

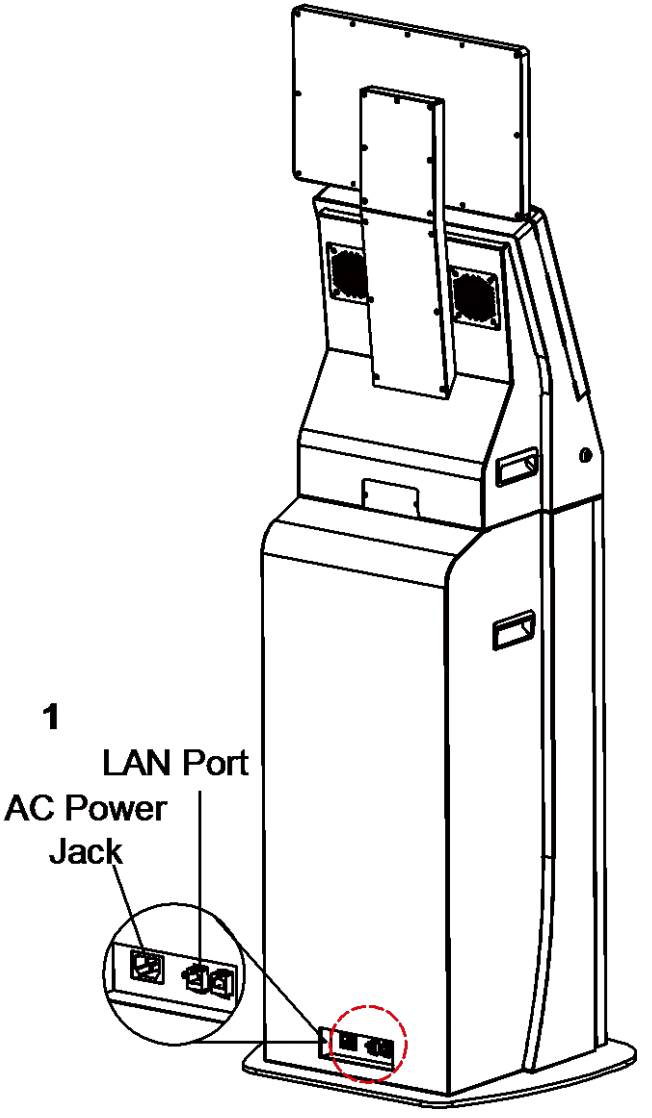


Figure 1-1. Connect KF-7330 to the Network and Power (1)

Step 2. Insert Key **#11089** to unlock the Stand. See Figure 1-2.
Step 3. Pull down the knob of the sliding rod to open the Stand door.
Step 4. Switch on the power of the multi socket extension cord located on the bottom of the inside of the Stand.
Step 5. Insert Key**#11001** to unlock the Panel.
Step 6. Pull down the knob of the sliding rod to open up the panel.
Step 7. Press the Power button to turn on the system.

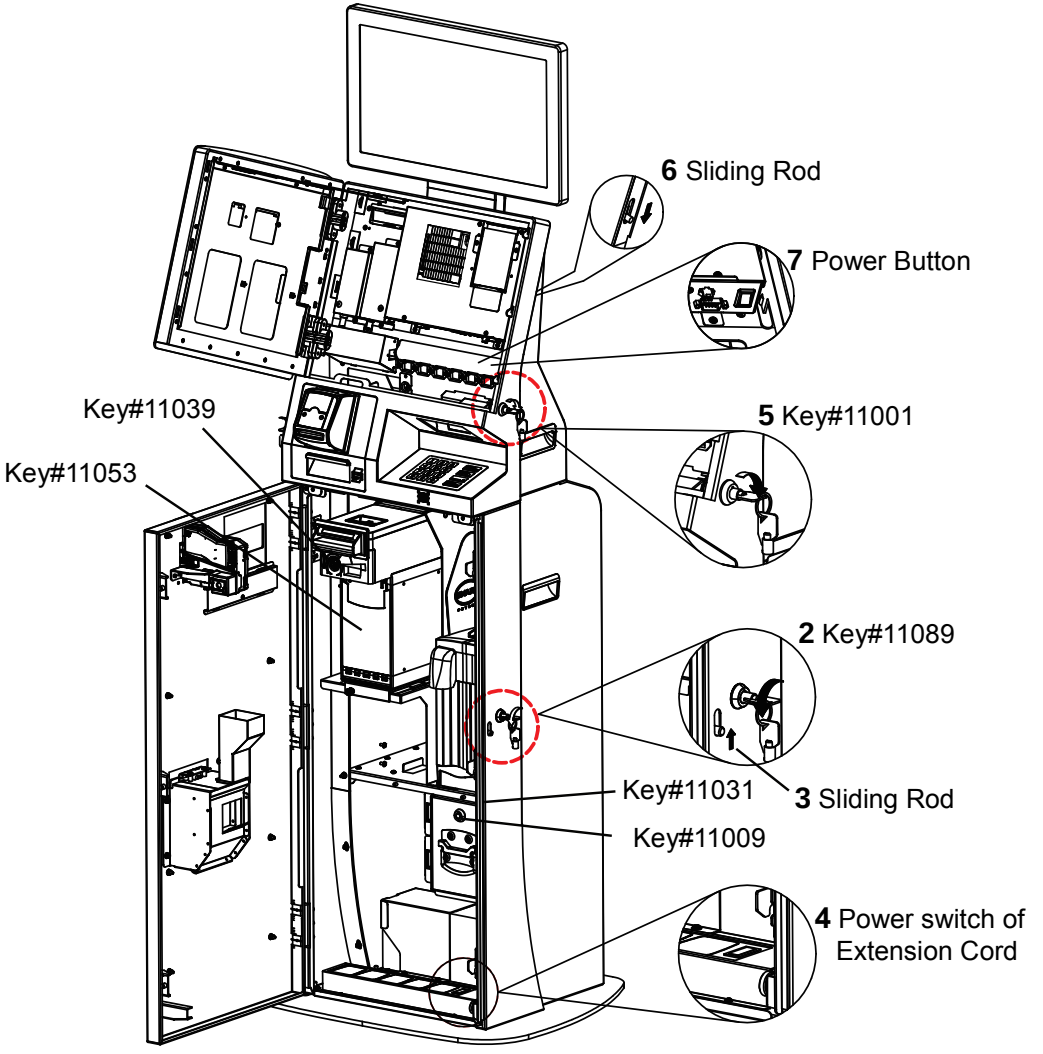


Figure 1-2. Connect KF-7330 to the Network and Power (2)

1.3.2 Installing Paper Roll Axis

Step 1. Insert Key**#10001** to unlock the Printer.

Step 2. Move the printer module outwards.

Step 3. Insert the paper roll onto the paper roll axis.

Step 4. Install the paper roll axis onto the paper holder.

Step 5. Push the paper roll into the printer module.

The paper roll will be then automatically loaded into the printer module after the printer sensor detects the paper.

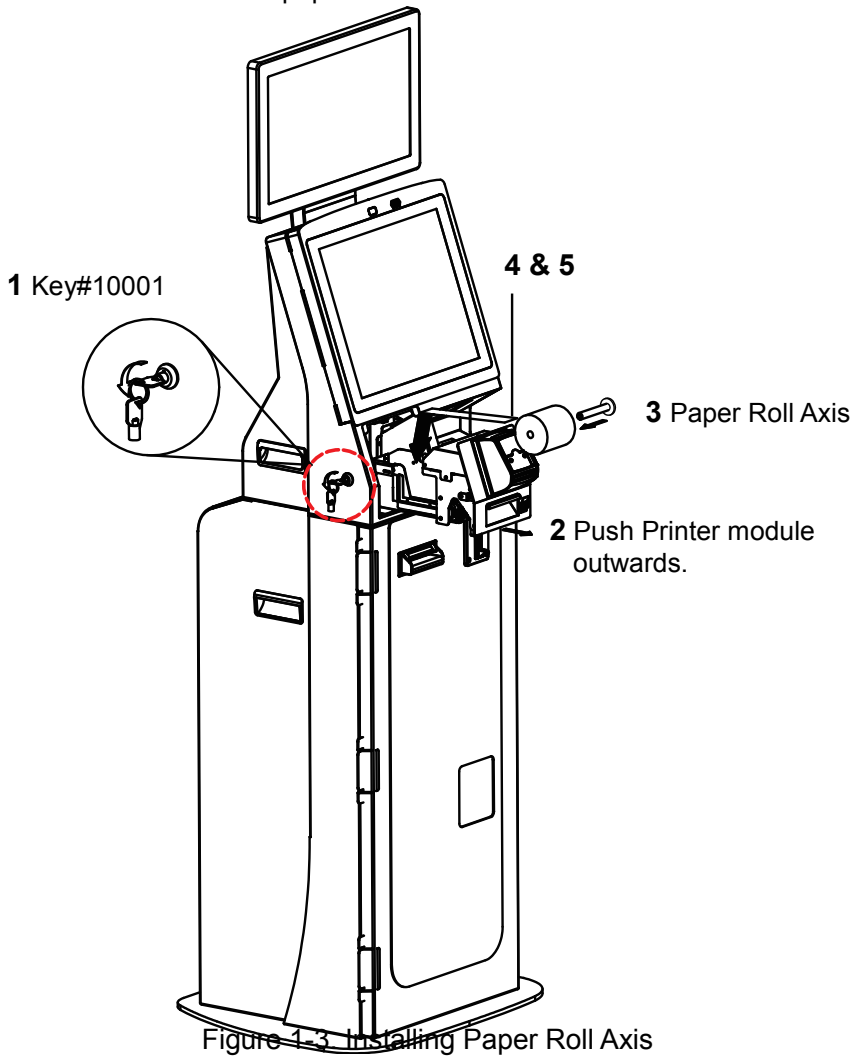


Figure 1-3 Installing Paper Roll Axis

1.4 System Specifications

System

CPU	➢ Intel® J1900 CPU (2M Cache, up to 2.42 GHz)
Memory	➢ 1 x DDR3 SO-DIMM Slot (Default 4GB)
HDD	➢ 1 x 2.5" SATA HDD (Default 500GB)
Network	➢ 10/100/1000Mbps Base-T Fast Ethernet
Power Supply	➢ 100V -240V available
System Weight	➢ About 110KG(with package)
Dimension (WxHxD)	➢ 420 x 1464 x 405 mm
O.S. Support	➢ POSReady 7 / Windows 7
Fan	➢ Two system fans
Material	➢ SPCC
Painting	➢ Powder-paint coating

Operating Display

LCD	➢ 17" (4:3) LED backlight
Max. Resolution	➢ 1280 x 1024
Brightness	➢ 350 cd/m²
Touch Screen	➢ Projected Capacitive Touch
View Angle	➢ Horizontal : (R) 85°/(L) 85° ➢ Vertical : (U) 80°/(L) 80°
Estimated luminance lifetime	➢ 50,000h

Optional Customer Display

Type	➢ 18.5” (16:9) LED backlight
Resolution	➢ 1366x768 dots WXGA
Brightness	➢ typical 300 cd/m2
View Angle	➢ Horizontal : (R) 85°/(L) 85° ➢ Vertical : (U) 80°/(L) 80°
Estimated luminance lifetime	➢ 50,000h

Device

Barcode Scanner	➢ 1D : UPC-A, UPC-E, EAN-8, EAN-13, UCC/EAN-128, Code 39, Code 93, Interleaved 2 of 5, Codabar, MSI, GS1 Databar ➢ 2D : PDF417, MicroPDF417, DataMatrix, QR Code, MaxiCode **Decode Zone** • 4 mils Code 39 65 ~ 150 mm • 5 mils Code 39 46 ~ 195 mm • 10 mils PDF 417 38 ~ 260 mm • 15 mils PDF 417 60 ~ 380 mm

	• 10 mils QR code • 15 mils QR code • 10 mils Data Matrix • 15 mils Data Matrix	45 ~ 170 mm 48 ~ 155 mm 50 ~ 220 mm 40 ~ 305 mm
Speaker	➢ 2W speaker	
MSR	➢ ISO Track 1/2/3 and JIS II	
RFID	➢ Read/Write ISO 14443A Mifare	
Smart Card	➢ Read/Write ISO 7816 Smart Card	
Pin Pad	➢ PCI 3.x certified PAD	
Camera	➢ 2.1M fixed focus CCD camera module	
Contactless Payment	➢ Visa payWave qVSDC, Master Paypass M/Chip, AE ExpressPay, Discover Network ZipSM	
Thermal Printer	➢ Paper Width: 79.5 ± 0.5mm (3.13”) ➢ Cutting Type: Partial cut (one point left uncut) ➢ Printing Speed: 250 mm/s {9.84"} maximum ➢ Paper-end Detector: Photodetector ➢ Support Epson code	
Coin Acceptor	➢ Acceptance Rate: 96% or greater ➢ Accepting Speed: Approx. 3 coin/sec ➢ Interface: RS-232 ➢ Coin Parameters Diameter：20mm~32mm Thickness：1.2mm~3.2mm	
Coin Hopper	➢ Capacity: About €1 x 1500pcs ➢ Payout speed: Up to 12 coins per second ➢ Interface: USB	
Bill Recycler	➢ Capacity: About 500 notes ➢ Recycler Capacity: About 70 notes ➢ Interface: USB	

Environment

EMC & Safety	➢ CE / FCC
Operating Temp.	➢ 5° C ~ 35° C
Storage Temp.	➢ -20° C ~ 60° C
Humidity	➢ 20%~ 85%

1.5 Safety Precautions

Before operating this system, read the following information carefully to protect your systems from damages, and extend the life cycle of the system.

1. Check the Line Voltage
   - The operating voltage for the power supply should be within the range of 100V to 240V AC; otherwise the system may be damaged.
2. Environmental Conditions
   - Place your KF-7330 on a sturdy, level surface. Be sure to allow enough space around the system to have easy access needs.
   - Avoid installing your KF-7330 Kiosk system in extremely hot or cold places.
   - Avoid direct sunlight exposure for a long period of time (for example, in a closed car in summer time. Also avoid the system from any heating device.). Or do not use KF-7330 when it has been left outdoors in a cold winter day.
   - Bear in mind that the operating ambient temperature is between 5°C and 35°C (41°F and 95°F).
   - Avoid moving the system rapidly from a hot place to a cold place, and vice versa, because condensation may occur inside the system.
   - Protect your KF-7330 from strong vibrations which may cause hard disk failure.
   - Do not place the system too close to any radio-active device. Radio-active device may cause signal interference.
   - Always shut down the operating system before turning off the power.
3. Handling
   - Avoid placing heavy objects on the top of the system.
   - Do not turn the system upside down. This may cause the hard drive to malfunction.
   - Do not allow any objects to fall into this device.
   - If water or other liquid spills into the device, unplug the power cord immediately.
4. Good Care
   - When the outside case gets stained, remove the stains using neutral washing agent with a dry cloth.
   - Never use strong agents such as benzene and thinner to clean the surface of the case.
   - If heavy stains are present, moisten a cloth with diluted neutral washing agent or alcohol and then wipe thoroughly with a dry cloth.
   - If dust is accumulated on the case surface, remove it by using a special vacuum cleaner for computers.

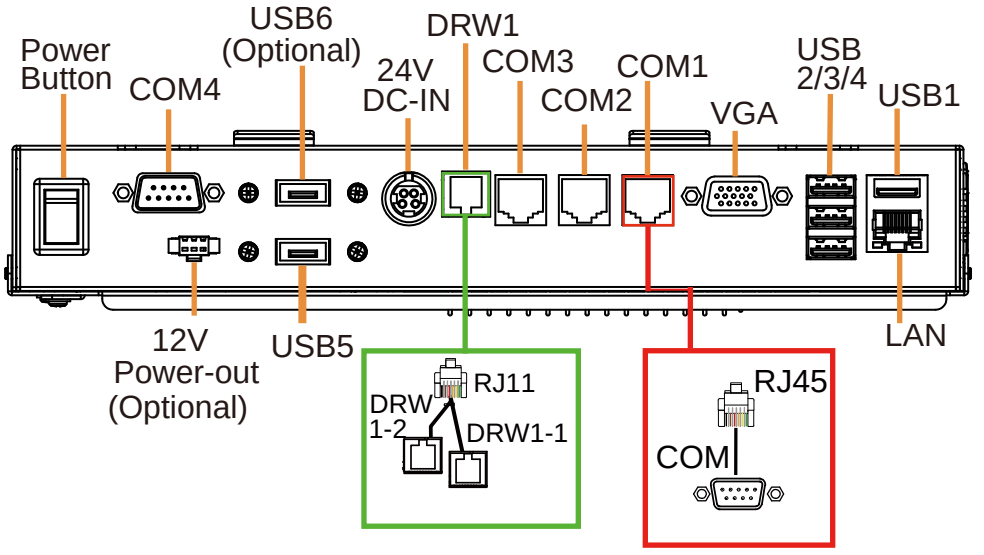
2 System Configuration

This chapter contains helpful information that describes the jumper and connector settings, component locations, and pin assignment.

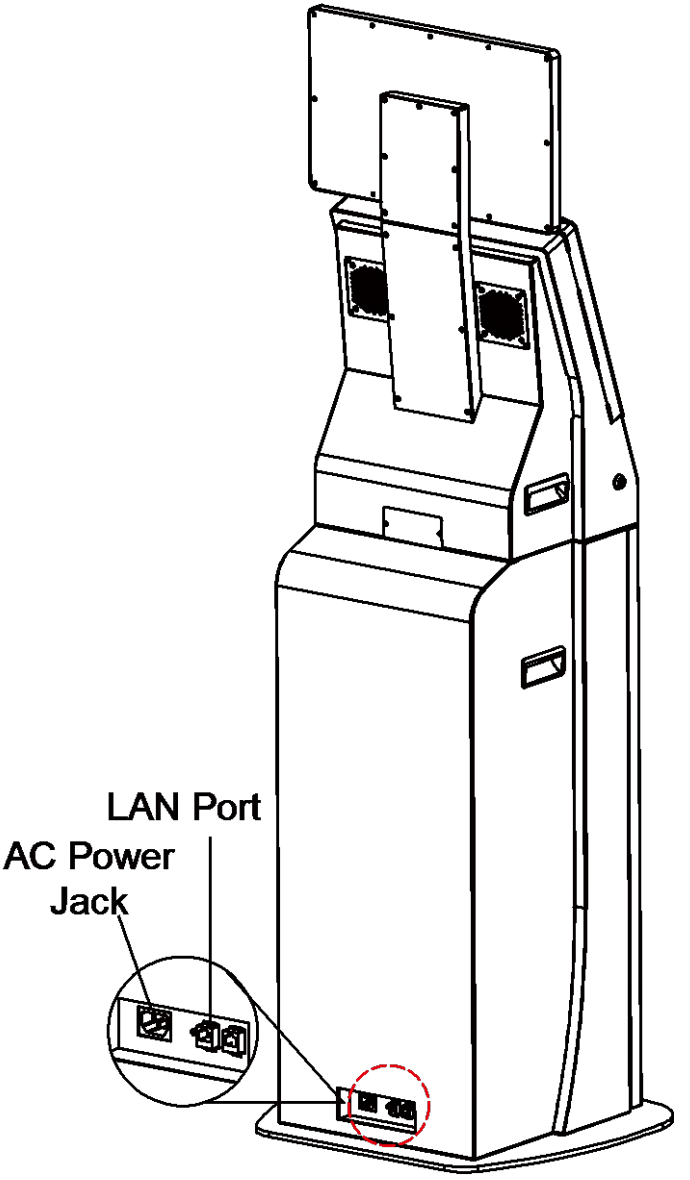
The following topics are included:

- Rear I/O Ports Diagram
- Main Board Component Locations
- How to Set Jumpers
- Setting Main Board Connectors and Jumpers
- Printer Board Component Locations & Pin Assignment
- Setting Printer Board Connectors and Jumpers
  - PDAC-3100
  - MB3010C
  - MB-1011 & MB-1013
- Setting VFD Board Connectors and Jumpers

2.1 Rear I/O Ports Diagram



2.2 LAN Port

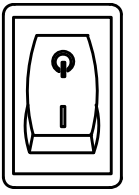


2.3 Function Buttons and I/O Ports

2.3.1 Power Button

To turn on the system, press the power button on the side of the system briefly.

ACTION	ASSIGNMENT
Click	0V
Release	+3.3V

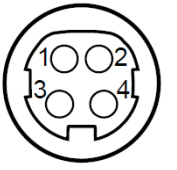


Power Button

2.3.2 DC-IN Port

DC IN: DC Power-In Port (rear IO)

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	3	+24V
2	GND	4	+24V

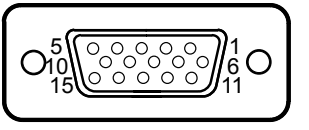


DC IN

2.3.3 VGA Port

VGA: VGA Port, D-Sub 15-pin (rear I/O)

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	RED	9	+5V
2	GREEN	10	GND
3	BLUE	11	NC
4	NC	12	DDCA DATA
5	GND	13	HSYNC
6	GND	14	VSYNC
7	GND	15	DDCA CLK
8	GND	-	-

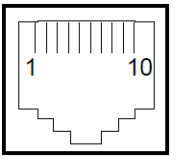


VGA

2.3.4 COM Port

COM1, COM2, COM3: COM Ports (rear I/O)

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	DCD1/2/3	6	DSR1/2/3
2	RXD1/2/3	7	RTS1/2/3
3	TXD1/2/3	8	CTS1/2/3
4	DTR1/2/3	9	RI/+5V/+12V selectable (Max. current: 1A)
5	GND	10	NC



COM1/
COM2/
COM3/
COM4 (option)

2.3.5 USB Port

USB1/
USB2/
USB3/
USB4/
USB5

USB1, USB2, USB3, USB4, USB5: USB Type A Ports
- USB1-4: Rear IO
- USB5: Side IO

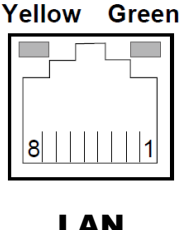
PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	+5V (Max. current: 0.5A)	3	D+
2	D-	4	GND

Note: The USB1 port is provided with Standby power 5V. The other USB ports are without standby power.

2.3.6 LAN Port

LAN: LAN RJ-45 Port (rear I/O)

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	MDIP0	5	MDIP2
2	MDIN0	6	MDIN2
3	MDIP1	7	MDIP3
4	MDIN1	8	MDIN3



LAN LED Indicator

There are 2 LAN LED indicators for LAN on the rear panel of the system. By observing their status, you can know the status of the Ethernet connection.

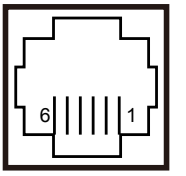
LAN LED Indicator	Color	Status	Description
Left Side LED	Yellow	Blink	LAN connection is activated.
	-	Off	No LAN message active.
Right Side LED	Green	On	10/100Mbps LAN connection is activated.
	Orange	On	Giga LAN connection is activated.
	-	Off	No LAN switch/ hub is activated.

2.3.7 Cash Drawer Port

DRW1 is used by default. If you need a second port, use the method below:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	DRW2 Sense	4	12V/24V (Max. current: 1A)
2	GPIO1 / DRW1	5	GPIO2 / DRW2
3	Draw1 Sense	6	GND

Please refer to page 2-15 for details of DRW2 port.

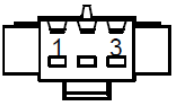


DRW1

2.3.8 2nd Display Power Port

2nd DIS PWR: DC12V power supply of for 2nd display.

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	VCC12	3	VCC12
2	GND	-	-



2nd DIS PWR

2.4 Main Board Component Location & Jumper Settings

M/B: PB-6722

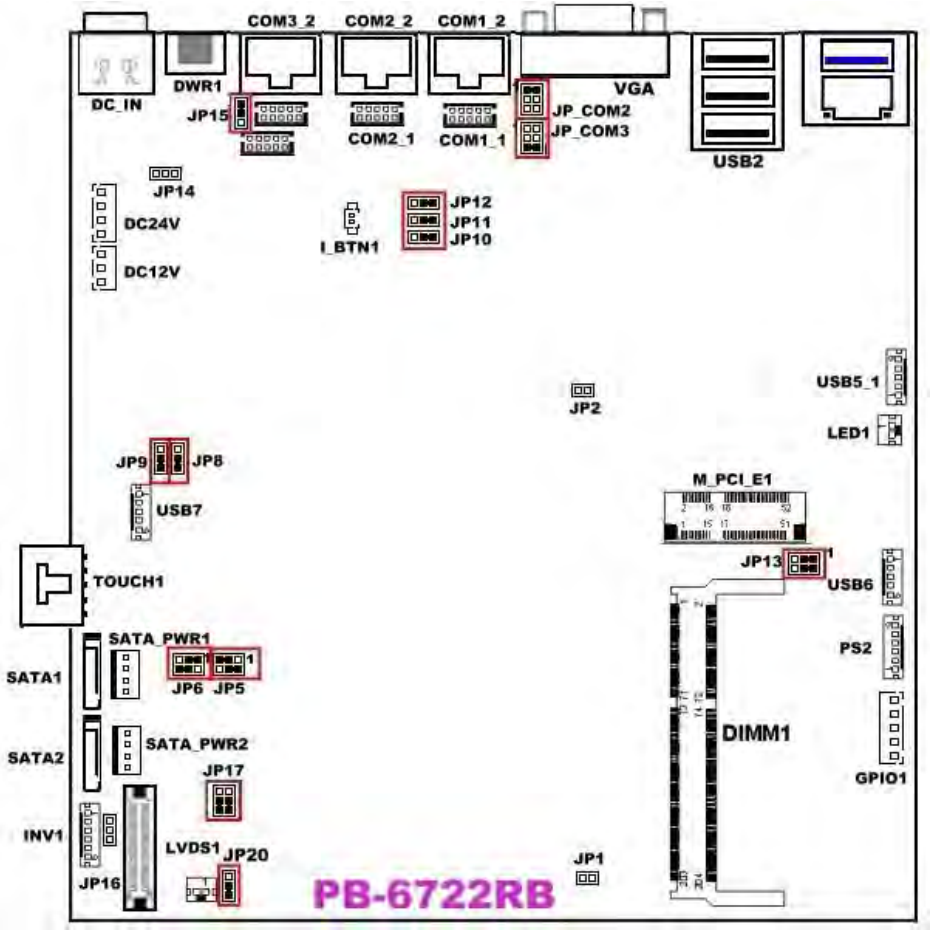


Figure 2-1. PB-6722 Main Board Component Location

	**WARNING:** Always disconnect the power cord when you are working with the connectors and jumpers on the main board. Make sure both the system and the external devices are turned OFF as sudden surge of power could ruin sensitive components. Make sure KF-7330 is properly grounded.
	**CAUTION:** Observe precautions while handling electrostatic sensitive components. Make sure to ground yourself to prevent static charge while configuring the connectors and jumpers. Use a grounding wrist strap and place all electronic components in any static-shielded devices.

2.5 Jumper & Connector Quick Reference Table

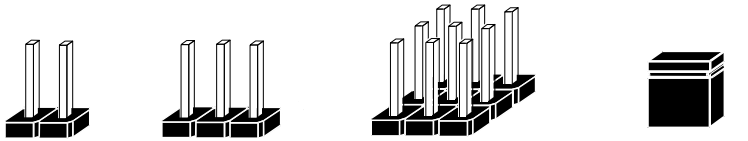
Jumper / Connector	NAME
COM, Cash Drawer Port Voltage Selection	COM2, COM3, JP_COM2, JP_COM3 COM1, COM4, DRW1
COM Connectors	COM1-1, COM2-1, COM3-1, COM4-1
i-Button Connector	I-BUT
i-Button Function Selection	JP10, JP11, JP12
Cash Drawer Control Selection	JP15, DRW1 (DRW1-1, DRW1-2), DRW2
USB Connector	USB5_1, USB6, USB7
LED Connector	LED1
Speaker Connector	SPK1
Power Connector	DC12V, DC24V
Inverter Connector	INV1
Touch Panel Connector	TOUCH1
Reserved Connectors	SPK2, GPIO1
Panel Enable	JP20
Panel Resolution Selection	JP5, JP6, JP13
MSR / Card Reader Connector	PS/2_1
LVDS Connector	LVDS1
LVDS Voltage Selection	JP17
Touch Panel Signal Interface Selection	JP8, JP9
SATA & SATA Power Connector	SATA1, SATA2, SATA_PWR1, SATA_PWR2
Clear CMOS Data Selection	JP3
Mini-PCIe / mSATA Connector	SLOT1

2.6 Setting Jumpers

You can configure your board by setting the jumpers. A jumper consists of two or three metal pins with a plastic base mounted on the card. By using a small plastic "cap", also known as the jumper cap (with a metal contact inside), you are able to connect the pins. So you can configure your hardware settings by "opening" or "closing" jumpers.

Jumpers can be combined into sets that are called jumper blocks. When jumpers are all in the block, you have to put them together to set up the hardware configuration. The figure below shows what this looks like.

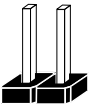
Jumpers & Caps



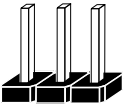
If a jumper has three pins, for example, labeled 1, 2 and 3. You can connect pins 1 and 2 to create one setting and shorting. You can also select to connect pins 2 and 3 to create another setting. The format of the jumper picture will be illustrated throughout this manual. The figure below shows different types of jumpers and jumper settings.

Jumper Diagrams

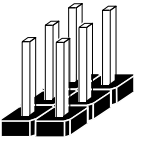
Jumper Cap looks like this 

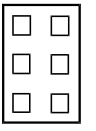


2 pin Jumper looks like this 



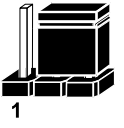
3 pin Jumper looks like this 

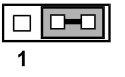


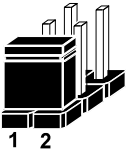
Jumper Block looks like this 

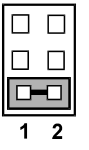
Jumper Settings

2 pin Jumper closed(enabled)
looks like this 



3 pin Jumper
2-3 pin closed(enabled)
looks like this 



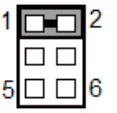
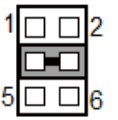
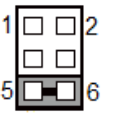
Jumper Block
1-2 pin closed(enabled)
looks like this 

2.7 Setting Main Board Connectors and Jumpers

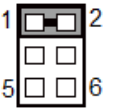
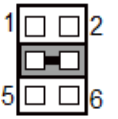
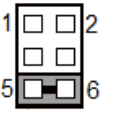
2.7.1 COM, Cash Drawer Port Voltage Selection

COM2 / COM3: The voltages of both COM2 & COM3 ports can be adjusted by setting relevant jumpers on board.

JP_COM2: Pin headers on board

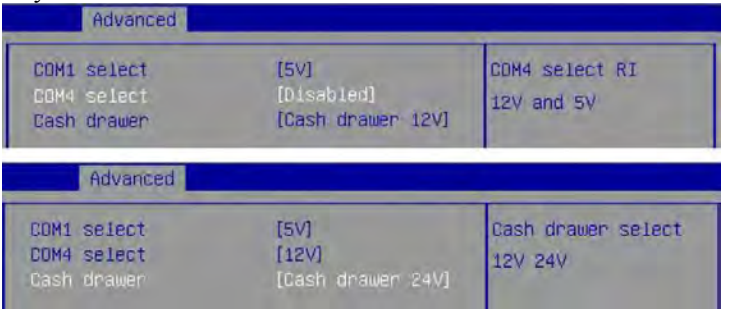
SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
RI (Default)	1-2	 **JP_COM2**
+12V	3-4	 **JP_COM2**
+5V	5-6	 **JP_COM2**

JP_COM3: Pin headers on board

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
RI	1-2	 **JP_COM3**
+12V	3-4	 **JP_COM3**
+5V (Default)	5-6	 **JP_COM3**

COM1 / COM4 /DRW1

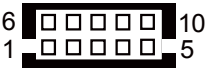
The voltages of the external ports "COM1 & COM4 & Cash Drawer" can be adjusted via BIOS for your convenience.



2.7.2 COM Connectors

COM1-1, COM2-1, COM3-1, COM4-1: COM Connectors

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI/+5V/+12V selectable (Max. current: 1A)
5	GND	10	NC

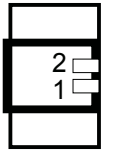


COM1-1/
COM2-1/
COM3-1/
COM4-1

2.7.3 i-Button Connector

I-BUT: i-Button Connector

PIN	ASSIGNMENT
1	COM3_DTR_R_I
2	COM3_RXD_R_I



I-BUT

2.7.4 i-Button Function Selection

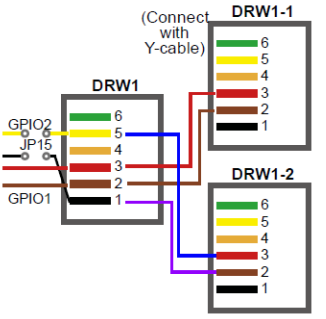
JP10, JP11, JP12: i-Button Function Connectors

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
COM2 (Default)	1-2	 **JP10/JP11/JP12/**
I-BUT*	2-3	 **JP10/JP11/JP12/**

*COM2 & COM2-1 will not function when jumpers JP10, JP11 & JP12 are set as "I-BUT".

2.7.5 Cash Drawer Control Selection

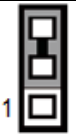
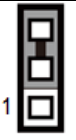
JP15: DRW1, DRW1-1, DRW1-2
DRW1 port is used by default. You can add a second port via either of the methods below:

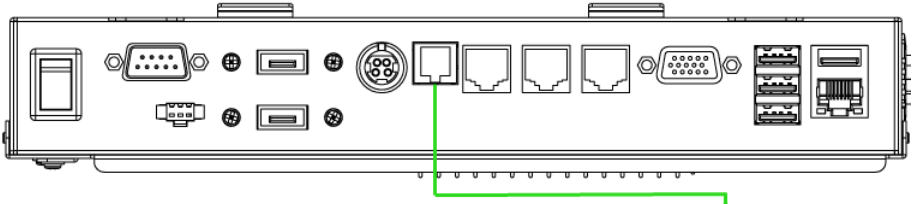


Method 1:
DRW1 includes two groups of GPIO pins.
The second group is normally unused but can be enabled by the jumper. Set the pin header jumper JP15 as 1-2 connected if necessary.

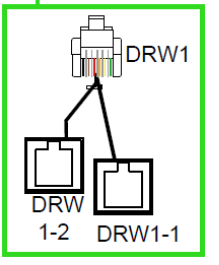
Method 2:
You can split DRW1 into two channels of DRW1-1 & DRW1-2 using the Y-Cable (option).

JP15

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
DRW1-1 & DRW1-2	1-2	 **JP15**
DRW1 only (Default)	2-3	 **JP15**



Step 3.
DRW1, DRW1-1, DRW1-2 shares the same power source. (Default: 12V).



SIO Address	
Cash drawer 1	LDN 06, 0x91 bit 2
Cash drawer 2	LDN 06, 0x91 bit 3

Cash Drawer Configuration

The I/O port address of the cash drawer is 2E (hex) and 2F (hex). 2E (hex) is the address port. 2F (hex) is the data port. User must first assign the address of register by writing address value into address port 2E (hex), then write/read data to/from the assigned register through data port 2F (hex).

Configuration Sequence
To program F81866 configuration registers, the following configuration sequence must be followed:
(1) Enter the extended function mode
(2) Configure the configuration registers
(3) Exit the extended function mode

(1) Enter the extended function mode
To place the chip into the Extended Function Mode, two successive writes of 0x87 must be applied to Extended Function Enable Registers (EFERs, i.e. 2Eh or 4Eh).

(2) Configure the configuration registers
The chip selects the Logical Device and activates the desired Logical Devices through Extended Function Index Register (EFIR) and Extended Function Data Register (EFDR). The EFIR is located at the same address as the EFER, and the EFDR is located at address (EFIR+1). First, write the Logical Device Number (i.e. 0x06) to the EFIR and then write the number of the desired Logical Device to the EFDR. If accessing the Chip (Global) Control Registers, this step is not required. Secondly, write the address of the desired configuration register within the Logical Device to the EFIR and then write (or read) the desired configuration register through the EFDR.

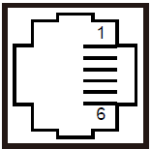
(3) Exit the extended function mode
To exit the Extended Function Mode, writing 0xAA to the EFER is required. Once the chip exits the Extended Function Mode, it is in the normal running mode and is ready to enter the configuration mode.

Code example for open the cash drawer 1

```
;------ Enter to extended function mode ------------------------------------------------------
mov dx, 2eh
mov al, 87h
out dx, al
out dx, al
;------ Select Logical Device 6 of Cash drawer ----------------------------------------
```

```
mov al, 07h
out dx, al
inc dx
mov al, 06h
out dx, al
dec dx
;------ Open the Cash drawer 1 ----------------------------------------
mov al, 91h
out dx, al
inc dx
mov al, 04h
out dx, al
;------ Exit the extended function mode ------------------------------------------------------
dec dx
mov al, 0aah
out dx, al
```

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	4	+24V
2	Drawer Open	5	NC
3	Drawer Sense	6	GND



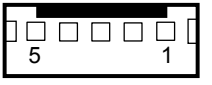
DRW2

Control Codes	Hexadecimal Codes	Function
<DLE EOT>	10 04	Real-time status transmission
<DLE DC4>	10 14	Real-time output of the specified pulse

2.7.6 USB Connector

USB5_1, USB6, USB7: USB 2.0 connector

PIN	ASSIGNMENT
1	5V (Maximum current: 0.5A)
2	D-
3	D+
4	GND
5	GND



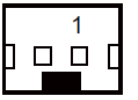
USB5_1/ USB6/ USB7

Notes:

1. USB6 signal is shared from the "MINI-PCIE" port.
2. USB6 can function only when JP13 is set as 1-3, 2-4[short].
3. USB7 signal is shared from the "Touch Controller".
4. USB7 can function only when JP8, JP9 are set as 1-2[short].

2.7.7 LED Connector

LED1: Power indication LED connector



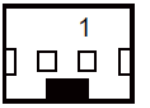
LED1

PIN	ASSIGNMENT
1	GND
2	PWR_LED

2.7.8 Speaker Connector

SPK1: Speaker Connector

PIN	ASSIGNMENT
1	HD_FRONT-OUT-R
2	HD_FRONT-OUT-L

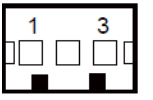


SPK1

2.7.9 Power Connector

DC12V: DC 12 Voltage Provider Connector

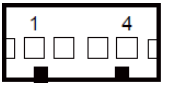
PIN	ASSIGNMENT
1	VCC12
2	GND
3	VCC12



DC12V

DC24V: Power for Thermal Printer Connector

PIN	ASSIGNMENT
1	VCC24
2	VCC24
3	GND
4	GND

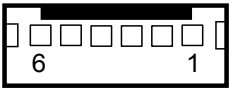


DC24V

2.7.10 Inverter Connector

INV1: Inverter connector

PIN	ASSIGNMENT
1	+12V
2	+12V
3	GND
4	BRCTR
5	GND
6	LVDS_BKLTEN

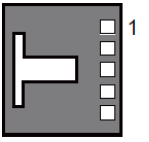


INV1

2.7.11 Touch Panel Connector

TOUCH1: Touch panel connector

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	LR (Low Right)	4	UR (Up Right)
2	LL (Low Left)	5	UL (Up Left)
3	Probe	-	-

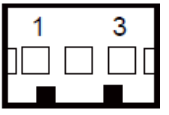


TOUCH1

2.7.12 Reserved Connectors

SPK2: External audio phone jack reserved connector

PIN	ASSIGNMENT
1	HD_FRONT-OUT-L
2	GND
3	HD_FRONT-OUT-R



SPK2

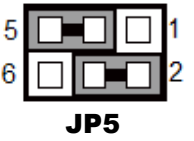
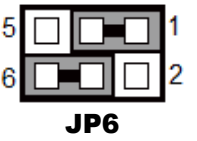
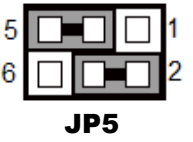
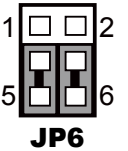
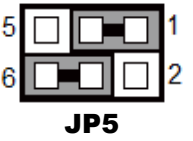
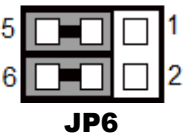
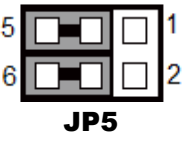
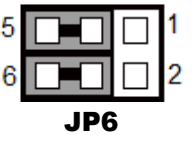
GPIO1: 2 ports GPIO & DC5V & DC3.3V reserved connector

PIN	ASSIGNMENT
1	GPIO1
2	GPIO2
3	5V (Maximum current: 0.5A)
4	3.3V ((Maximum current: 0.5A)
5	GND

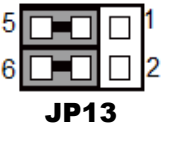
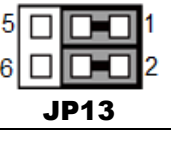
GPIO1

2.7.13 Panel Resolution Selection

JP5, JP6: Panel resolution control connectors

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION	
1280 x 1024 (18bit) (Default)	JP5: 3-5, 2-4 JP6: 1-3, 4-6	 **JP5**	 **JP6**
1024 x 768 (24 bit)	JP5: 3-5, 2-4 JP6: 3-5, 4-6	 **JP5**	 **JP6**
1024 x 768 (18 bit)	JP5: 1-3, 4-6 JP6:3-5, 4-6	 **JP5**	 **JP6**
800 x 600 (18 bit)	JP5: 3-5, 4-6 JP6: 3-5, 4-6	 **JP5**	 **JP6**

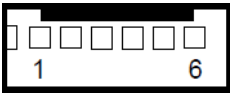
JP13: "USB6 signal support to" selection

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
USB signal to mini-PCIE	3-5, 4-6	 **JP13**
USB signal to USB6 wafer (Default)	1-3, 2-4	 **JP13**

2.7.14 MSR / Card Reader Connector

PS/2_1: MSR / Card reader connector

PIN	ASSIGNMENT
1	KB_CLK (Output)
2	KB_CLK_C (Input)
3	KB_DATA_C (Input)
4	KB_DATA (Output)
5	+5V
6	GND

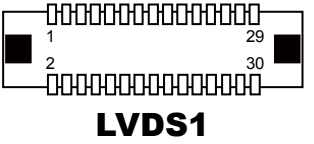


PS/2_1

2.7.15 LVDS Connector

LVDS1: LVDS Connector

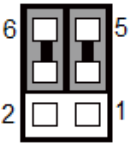
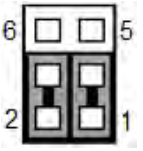
PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	LVDS_VCC	16	LVDS_CLKA_D+
2	PANEL_Reverse	17	VDS_CLKA_D-
3	LVDS_CLKB_D-	18	GND
4	LVDS_CLKB_D+	19	LVDS_A2_D+
5	GND	20	LVDS_A2_D-
6	LVDS_B2_D-	21	GND
7	LVDS_B2_D+	22	LVDS_A1_D+
8	GND	23	LVDS_A1_D-
9	LVDS_B1_D-	24	GND
10	LVDS_B1_D+	25	LVDS_A0_D+
11	LVDS_B3_D+	26	LVDS_A0_D-
12	LVDS_B3_D-	27	LVDS_A3_D+
13	LVDS_B0_D+	28	LVDS_A3_D-
14	LVDS_B0_D-	29	LVDS_VCC
15	GND	30	LVDS_VCC



LVDS1

2.7.16 LVDS Voltage Selection

JP17: LVDS Voltage Selection

Selection	Jumper Setting	Jumper Illustration
3.3V	3-5, 4-6	 **JP17**
5V (Default)	1-3, 2-4	 **JP17**

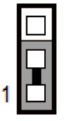
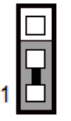
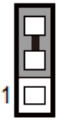
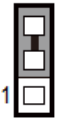
2.7.17 Panel Enable

JP20: Panel Enable

Selection	Jumper Setting	Jumper Illustration
Power Supply 5V	1-2	 **JP20**

2.7.18 Touch Panel Signal Interface Selection

JP8, JP9: Control connectors for touch panel signal interface

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION	
USB7 Connector (Default)	JP8: 1-2 JP9: 1-2	 **JP8**	 **JP9**
USB Interface	JP8: 2-3 JP9: 2-3	 **JP8**	 **JP9**

2.7.19 SATA & SATA Power Connector

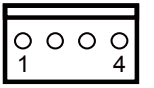
SATA1, SATA2: Serial ATA connectors

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	G1	5	RX-
2	TX+	6	RX+
3	TX-	7	G3
4	G2	-	-

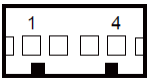
SATA1/
SATA2

SATA_PWR1, SATA_PWR2: Serial ATA power connectors

PIN	ASSIGNMENT
1	VCC
2	GND
3	GND
4	VCC12

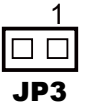


SATA_PWR1/
SATA_PWR2



2.7.20 Clear CMOS Data Selection

JP3: Clear CMOS data selection

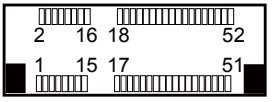
SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
Normal (Default)	Open	 JP3
Clear CMOS*	1-2	 JP3

*To clear CMOS data, power off the computer first and set the jumper to "Clear CMOS" as shown above. After five to six seconds, set the jumper back to "Normal" and power on the computer.

2.7.21 Mini-PCIe / mSATA Connector

SLOT1: Mini-PCIe connector, USB function not supported

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	WAKE#	27	GND
2	+3.3V	28	+1.5V
3	Reserved	29	GND
4	GND	30	SMB_CLK
5	Reserved	31	PETn2
6	+1.5V	32	SMB_DATA
7	CLKREQ#	33	PETp2
8	Reserved	34	GND
9	GND	35	GND
10	Reserved	36	USB D-
11	REFCLK1-	37	GND
12	Reserved	38	USB D+
13	REFCLK1+	39	+3.3V
14	Reserved	40	GND
15	GND	41	+3.3V
16	Reserved	42	Reserved
17	Reserved	43	GND
18	GND	44	Reserved
19	Reserved	45	NC
20	Reserved	46	Reserved
21	GND	47	NC
22	PERST#	48	+1.5V
23	PERn0	49	NC
24	+3.3SB	50	GND
25	PERp0	51	Reserved
26	GND	52	+3.3V



SLOT1

3 Software Utilities

This chapter provides the detailed information that guides users to install driver utilities for the system. The following topics are included:

- Installing Intel® Chipset Software Installation Utility
- Installing VGA Driver Utility
- Installing LAN Driver Utility
- Installing Intel® USB 3.0 eXtensible Host Controller Driver Utility
- Installing Sound Driver Utility
- Installing Intel Trusted Execution Engine Interface (TXE) Driver Utility

3.1 Introduction

Enclosed with the KF-7330 Series package is our driver utilities contained in a DVD-ROM disk. Refer to the following table for driver locations:

Filename (Assume that DVD-ROM drive is D:)	Purpose	Win7 32-bit OS	Win10 32/64-bit OS
D:\Driver\Platform\ WIN7 POSReady 7 (32bit) \Chipset D:\Driver\Platform\ WIN10 (32 64bit) \Chipset	Intel® Chipset Device Software installation	V	V
D:\Driver\ Platform\ WIN7 POSReady 7 (32bit) \VGA D:\Driver\ Platform\ WIN10 (32 64bit) \VGA	Intel® HD Graphics installation	V	V
D:\Driver\ Platform\ WIN7 POSReady 7 (32bit) \LAN D:\Driver\ Platform\ WIN10 (32 64bit) \LAN	Realtek® 8119-CG for LAN installation	V	V
D:\Driver\ Platform\ WIN7 POSReady 7 (32bit) \Sound D:\Driver\ Platform\ WIN10 (32 64bit) \Sound	Realtek® ALC888S-VD for Sound installation	V	V
D:\Driver\ Platform \ WIN7 POSReady 7 (32bit) \Intel TXE Firmware D:\Driver\ Platform \ WIN10 (32 64bit) \Intel TXE Firmware	Intel® Trusted Execution Engine Interface installation	V	V
D:\Driver\ Platform \ WIN10 (32 64bit) \ MBI	Intel® MBI driver installation	N/A	V
D:\Driver\ Platform \ WIN7 POSReady 7 (32bit) \Windows 7 update KMDF	Intel® Kernel-Mode Driver Framework installation	V	N/A
D:\Driver\ Platform \USB3.0\ POS Ready7(32bit)	Intel® USB 3.0 eXtensible Host Controller installation	V	N/A
D:\ Device \ Thermal Printer\ BA-T500IIUtility130.exe	Thermal Printer	V	V
D:\ Device \ Thermal Printer\Driver\ APD_456E.exe	Thermal Printer	V	V
D:\ Device \ Thermal Printer\ USB Driver \ TMUSB610a\ Setup.exe	Thermal Printer	V	V
D:\ Device \ SMART payout \ Driver \NVXUSB,NV200,BV100,SH, SPO – 32 64 bit - USB Driver	SMART payout	V	V
D:\ Device \ SMART payout \ Test tool \ PIPS_2_3_3.msi	SMART payout	V	V

Filename (Assume that DVD-ROM drive is D:)	Purpose	Win7 32-bit OS	Win10 32/64-bit OS
D:\ Device \ SMART hopper \ Driver \NVXUSB,NV200,BV100,SH, SPO – 32 64 bit - USB Driver	SMART hopper	V	V
D:\ Device \ SMART hopper \ Test tool \ PIPS_2_3_3.msi	SMART hopper	V	V
D:\ Device \ Mini Hopper \ Test tool \ Test MiniHopper3.0.5_setup.exe	Mini Hopper	V	V
D:\ Device \ UCA Coin Acceptor \ Test tool \ UCAx Tools v1.7.31(Customer).exe	UCA Coin Acceptor	V	V
D:\ Device \ L70 \ Test tool\ rs232.exe	L70	V	V
D:\ Device \ JCM iPro \ Test tool\ ID003 Basic Driver.exe	JCM iPro	V	V
D:\ Device \ Pin Pad B100 \ Test tool\ IBMSDKDemo.exe	Pin Pad B100	V	V
D:\ Device \ Vend III \ Test tool\ setup.exe	Vend III	V	V
D:\ API Package\ Thermal Printer\ API and Programmer Guide	Thermal Printer	V	V
D:\ API Package\ ICT L70\ L70 ICT104 RS232 Protocol V02.pdf	L70	V	V
D:\ API Package\ ICT MiniHopper\ MH-245125 ICT Protocol_Three in one version SWD-03.pdf	MiniHopper	V	V
D:\ API Package\ ICT UCAx\ API and Programmer Guide	CT UCAx	V	V
D:\ API Package\ SMART\ SDK Package 1.2	SMART	V	V
D:\ API Package\ jcm_iPRO-RC\ SDK	JCM iPro	V	V

Note: Install the driver utilities immediately after the OS installation is completed.

3.2 Installing Intel® Chipset Software Installation Utility

3.2.1 Introduction

The Intel® Chipset Software Installation Utility installs the Windows *.INF files to the target system. These files outline to the operating system how to configure the Intel chipset components in order to ensure that the following functions work properly:

- Core PCI and ISAPNP Services
- PCIe Support
- SATA Storage Support
- USB Support
- Identification of Intel® Chipset Components in the Device Manager

3.2.2 Intel® Chipset Software Installation Utility

The utility pack is to be installed only for POSReady 7 & Windows® 7® (32-bit) & Windows® 10 (32-bit and 64-bit) series, and it should be installed immediately after the OS installation is finished. Please follow the steps below:

1. Connect the USB DVD-ROM device to KF-7330 and insert the driver disk.
2. Enter the **Main Chip** folder where the Chipset driver is located (depending on your OS platform).
3. Click **Setup.exe** file for driver installation.
4. Follow the on-screen instructions to install the driver.
5. Once the installation is completed, shut down the system and restart KF-7330 for the changes to take effects.

3.3 Installing VGA Driver Utility

The VGA interface embedded in KF-7330 can support a wide range of display types. You can have dual displays via LVDS interfaces and make the system work simultaneously.

To install the VGA driver utility, follow the steps below:

1. Connect the USB DVD-ROM device to KF-7330 and insert the driver disk.
2. Enter the **VGA** folder where the driver is located (depending on your OS platform).
3. Click the **Setup.exe** file for driver installation.
4. Follow the on-screen instructions to complete the installation.
5. Once the installation is completed, shut down the system and restart KF-7330 for the changes to take effects.

3.4 Installing LAN Driver Utility

Enhanced with LAN function, KF-7330 supports various network adapters. To install the LAN Driver, follow the steps below:

1. Connect the USB DVD-ROM device to KF-7330 and insert the driver disk.
2. Enter the **LAN** folder where the driver is located (depending on your OS platform).
3. Click **Setup.exe** file for driver installation.
4. Follow the on-screen instructions to complete the installation.
5. Once the installation is completed, shut down the system and restart KF-7330 for the changes to take effects.

For more details on the installation procedure, refer to the Readme.txt file that you can find on LAN Driver Utility.

3.5 Intel® USB 3.0 eXtensible Host Controller Utility

Intel® USB 3.0 eXtensible Host Controller Driver supports the following Intel® Chipsets/Processors:

- Intel® 8 Series/C220 series Chipset Family
- Intel® 4th Generation Core™ Processors
- Intel® C610 series Chipset Family
- Intel® 9 Series Chipset Family
- Intel® Pentium® Processor or Intel® Celeron® Processor N- & J-Series
- Intel® 5th generation Intel® Core™ Processors
- Intel® Core™ M Processor
- Intel® 6th generation Intel® Core™ processors
- Intel® 100 Series Chipset Family

To install the utility, follow the steps below:

1 Insert the driver disk into a DVD-ROM device.

2 Under Windows system, go to the directory where the driver is located.

3 Run the application with administrative privileges.

3.6 Installing Sound Driver Utility

The sound function enhanced in this system is fully compatible with POSReady 7 & Windows® 7 & Windows® 10 series.

To install the Sound Driver, follow the steps below:

1. Connect the USB DVD-ROM device to KF-7330 and insert the driver disk.
2. Open the **Sound** folder where the driver is located (depending on your OS platform).
3. Click the **Setup.exe** file for driver installation.
4. Follow the on-screen instructions to complete the installation.
5. Once the installation is completed, shut down the system and restart KF-7330 for the changes to take effects.

3.7 For Intel Trusted Execution Engine Interface

For Windows 7 only. Pre-install Microsoft's Kernel-Mode Driver Framework (KMDF) version 1.11 before you install the Intel(R) Trusted Execution Engine (TXE) driver in order to avoid errors in Device Manager.

Installation Instructions for Kernel-Mode Driver Framework (KMDF)

To install the Kernel-Mode Driver Framework (KMDF), follow the steps below:

1. Insert the driver disk into a DVD-ROM device.
2. (For Windows 7 only) Enter the "**Windows 7 KMDF**" folder where the Chipset driver is located (depending on your OS platform).
3. (For Windows 7 only) Click **Setup kmdf-1.11 exe** file for driver installation.
4. Enter the "**Intel(R) TXE Package**" folder where the Chipset driver is located (depending on your OS platform).
5. Click **Setup TXE.exe** file for driver installation.

4 BIOS SETUP

This chapter guides users how to configure the basic system configurations via the BIOS Setup Utilities. The information of the system configuration is saved in battery-backed CMOS RAM and BIOS NVRAM so that the Setup information is retained when the system power is off. The BIOS Setup Utilities consist of the following menu items:

- Accessing Setup Utilities
- Main Menu
- Advanced Menu
- Chipset Menu
- Boot Menu
- Security Menu
- Save & Exit Menu

4.1 Introduction

The KF-7330 Kiosk System uses an AMI (American Megatrends Incorporated) Aptio BIOS that is stored in the Serial Peripheral Interface Flash Memory (SPI Flash) and can be updated. The SPI Flash contains the built-in BIOS setup program, Power-On Self-Test (POST), PCI auto-configuration utility, LAN EEPROM information, and Plug and Play support.

Aptio is AMI's BIOS firmware based on the UEFI (Unified Extensible Firmware Interface) specifications and the Intel Platform Innovation Framework for EFI. The UEFI specification defines an interface between the operating system and platform firmware. The interface consists of data tables that contain platform-related information, boot service calls, and runtime service calls that are available to the operating system and its loader. These elements have combined to provide a standard environment for booting the operating system and running pre-boot applications.

The diagram below shows the Extensible Firmware Interface's location in the software stack.

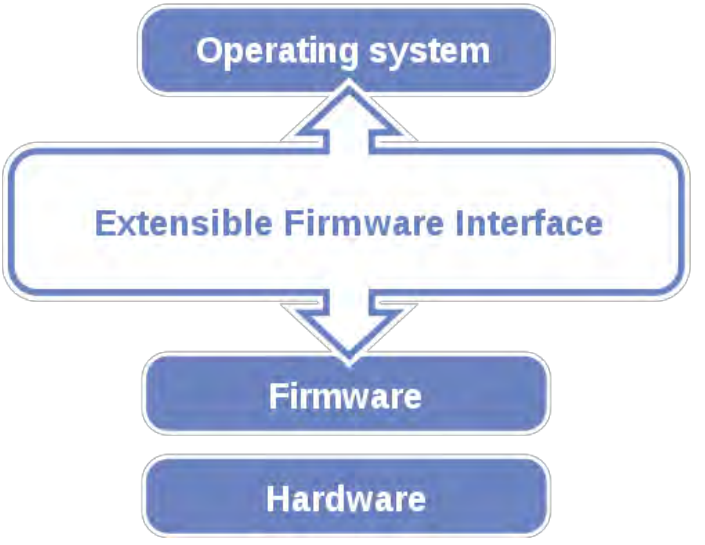


Figure 4-1. Extensible Firmware Interface Diagram

EFI BIOS provides an user interface that allows you to modify hardware configuration, e.g. change the system date and time, enable/disable a system component, determine bootable device priority, set up personal password, etc., which is convenient for engineers to perform modifications and customize the computer system and allows technicians to troubleshoot the occurred errors when the hardware is faulty.

The BIOS setup menu allows users to view and modify the BIOS settings for the computer. After the system is powered on, users can access the BIOS setup menu by pressing <Del> or <Esc> immediately while the POST message is running before the operating system is loading.

Users will need to set up the system configuration from the BIOS Setup Utility when any of the following conditions occurs:

1. You are starting your system for the first time.
2. You have changed the hardware in your system or the hardware becomes faulty.
3. The system configuration is reset after the user configures to clear CMOS data via the JP3 jumper.
4. The power of the CMOS RAM became lost and the system configuration has been erased.

All the menu settings are described in details in this chapter.

4.2 Accessing Setup Utility

After the system is powered on, BIOS will enter the Power-On Self-Test (POST) routines and the POST message will be displayed:

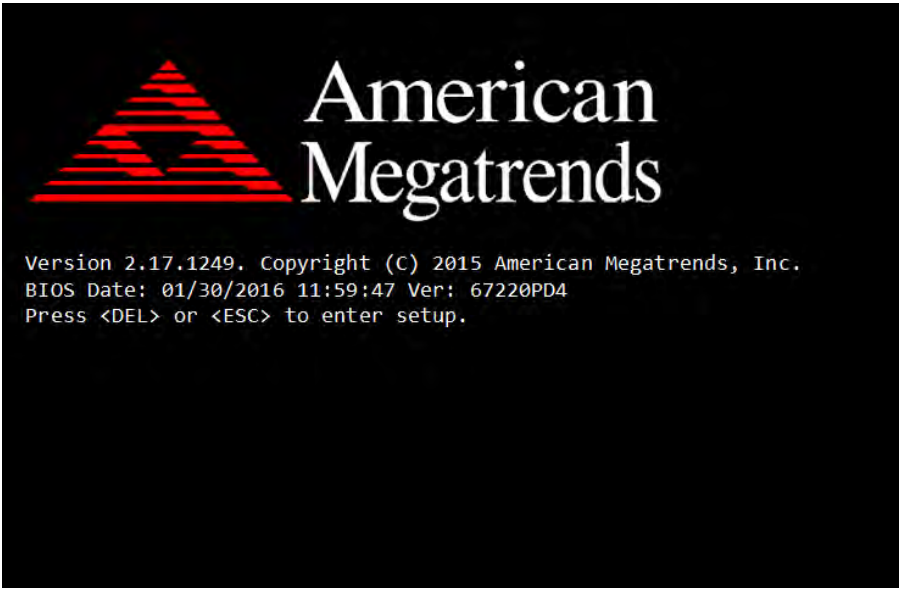


Figure 4-2. POST Screen with AMI Logo

Press the <Del> key to access the Setup Utility program and enter the password in the dialog window below:

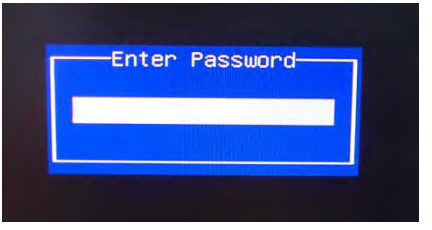


Figure 4-3. Enter Password

After you type the correct password and press **Enter**, the **Main** menu of the Aptio Setup Utility will appear on the screen as below:

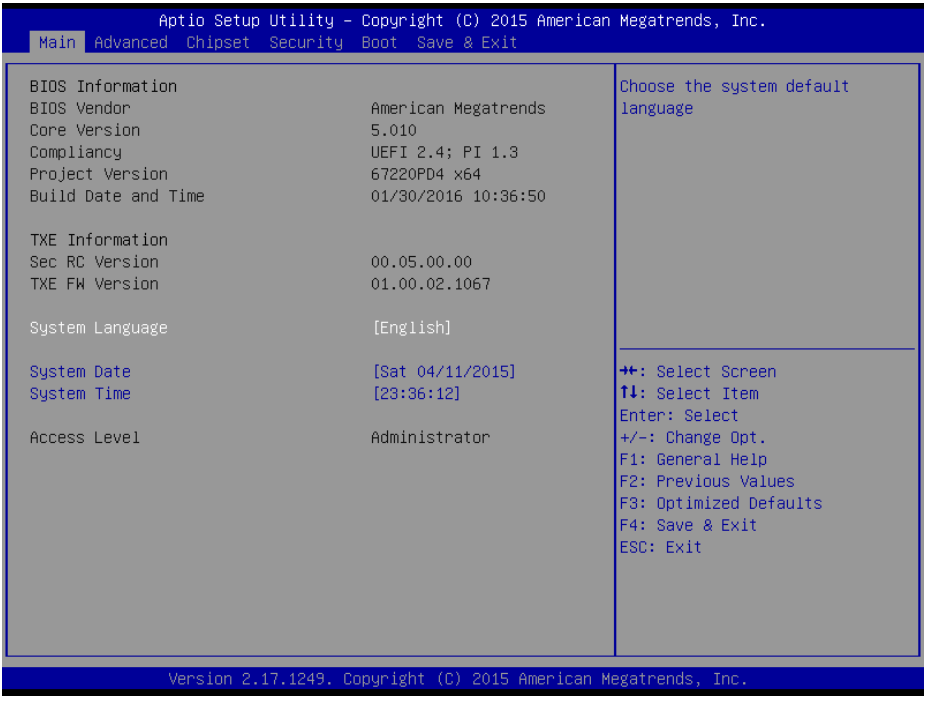


Figure 4-4. BIOS Setup Menu Initialization Screen

If you enter incorrect passwords for 3 consecutive times, the screen will be locked and you will not be able to enter any data unless the system is restarted.

The language of the BIOS setup menu interface and help messages are shown in US English. You may use the up <↑> /down <↓> arrow key to select among the items and press <Enter> to confirm and enter the sub-menu. A brief help message of the selected item will also appear at the bottom of the screen for your information. The following table provides the list of the keys that you can use while operating the BIOS setup menu.

BIOS Setup Menu Key	Description
<←> and <→>	Select a different menu screen (move the cursor from the selected menu to the left or right).

BIOS Setup Menu Key	Description
<↑> and <↓>	Select a different item (move the cursor from the selected item upwards or downwards)
<Enter>	Execute the command or select the sub-menu.
<F2>	Load the previous configuration values.
<F3>	Load the default configuration values.
<F4>	Save the current values and exit the BIOS setup menu.
<Esc>	Close the sub-menu. Trigger the confirmation to exit BIOS setup menu.

BIOS Messages

This section describes the alert messages generated by the board's BIOS. These messages would be shown on the monitor when certain recoverable errors/events occur during the POST stage. The table bellow gives an explanation of the BIOS alert messages:

BIOS Message	Explanation
A first boot or NVRAM reset condition has been detected.	BIOS has been updated or the battery was replaced.
The CMOS defaults were loaded.	Default values have been loaded after the BIOS was updated or the battery was replaced.
The CMOS battery is bad or has been recently replaced.	The battery may be losing power and users should replace the battery immediately. Also, this message is displayed once the new battery is replaced.

4.3 Main Menu

Menu Path *Main*

The **Main** menu allows you to view the BIOS Information, change the system date and time, and view the user access privilege level. Use tab to switch between date elements.

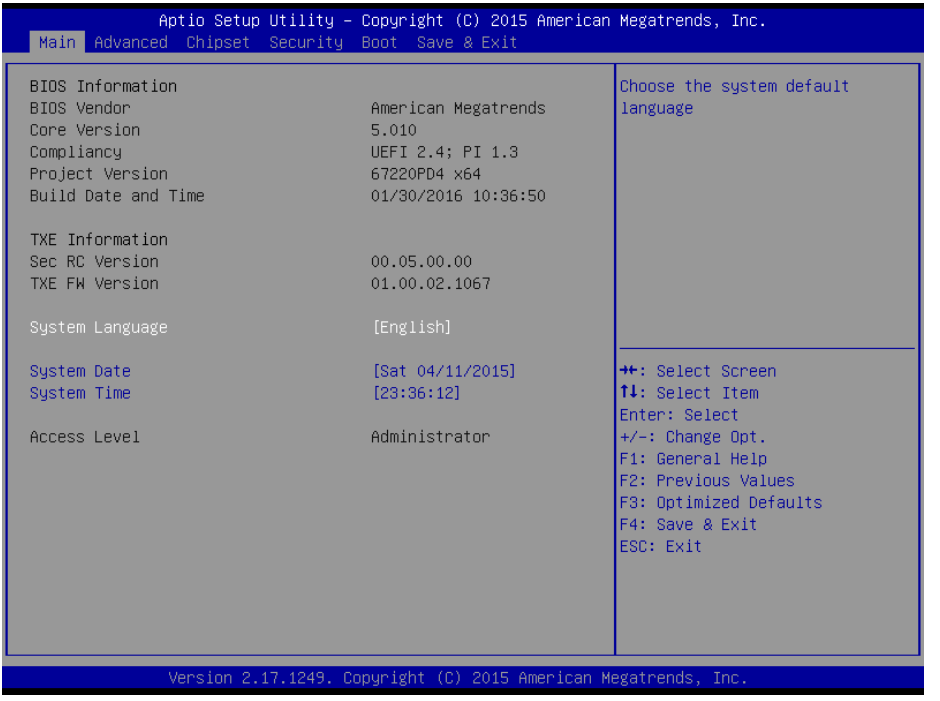


Figure 4-5. BIOS Main Menu

BIOS Setting	Options	Description/Purpose
BIOS Vendor	No changeable options	Display the BIOS vendor.
Core Version	No changeable options	Display the current BIOS core version.
Compliancy	No changeable options	Display the current UEFI version.
Project Version	No changeable options	Display the version of the BIOS currently installed on the platform.
Build Date and Time	No changeable options	Display the date of current BIOS version.
Sec RC Version	No changeable options	Display the current Sec RC version.
TXE FW Version	No changeable options	Display the current TXE Version
System Language	English	BIOS Setup language.
System Date	month, day, year	Specify the current date.

BIOS Setting	Options	Description/Purpose
System Time	hour, minute, second	Specify the current time.

4.4 Advanced Menu

Menu Path *Advanced*

This menu provides advanced configurations such as ACPI Settings, F81866 Super I/O Configuration, Hardware Monitor, F81866 Watchdog, CPU Configuration, IDE Configuration, OS Selection, CSM Configuration, USB Configuration, etc.

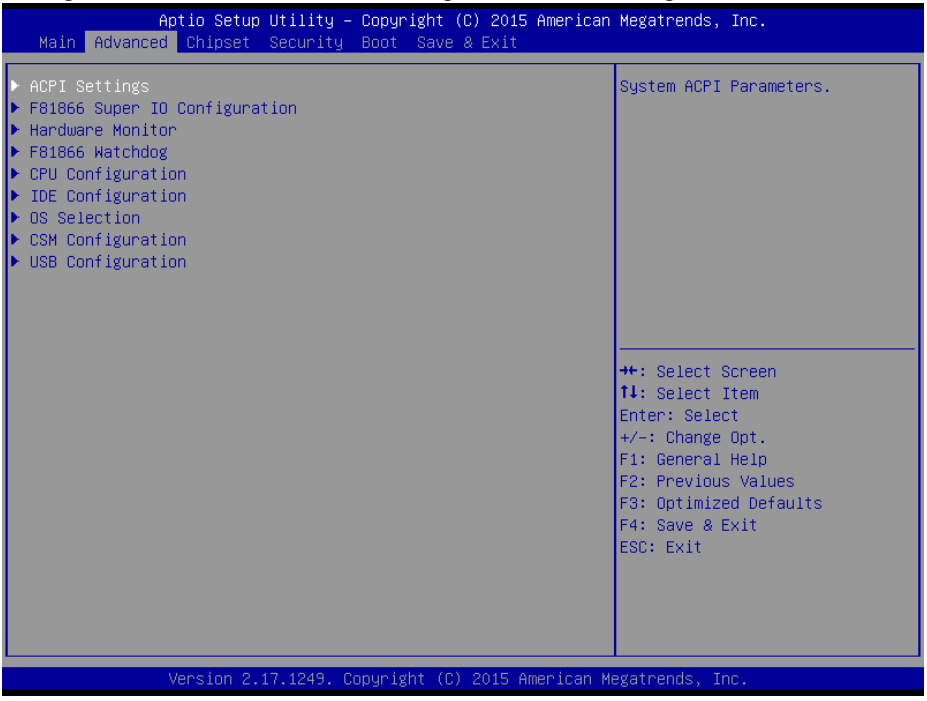


Figure 4-6. BIOS Advanced Menu

BIOS Setting	Options	Description/Purpose
ACPI Settings	Sub-Menu	System ACPI Parameters.
F81866 Super IO Configuration	Sub-Menu	System Super I/O Chip Parameters
Hardware Monitor	Sub-Menu	Monitor hardware status
F81866 Watchdog	Sub-Menu	F81866 Watchdog Parameters.
CPU Configuration	Sub-Menu	CPU Configuration. Parameters.
IDE Configuration	Sub-Menu	SATA Configuration Parameters.
OS Selection	Sub-Menu	OS Selection
CSM Configuration	Sub-Menu	Configure Option ROM execution, boot options filters, etc.

BIOS Setting	Options	Description/Purpose
USB Configuration	Sub-Menu	USB Configuration Parameters.

4.4.1 ACPI Settings

Menu Path *Advanced > ACPI Configuration*

Select **ACPI Configuration** from the **Advanced** menu and press **Enter** to configure relevant ACPI configuration parameters.

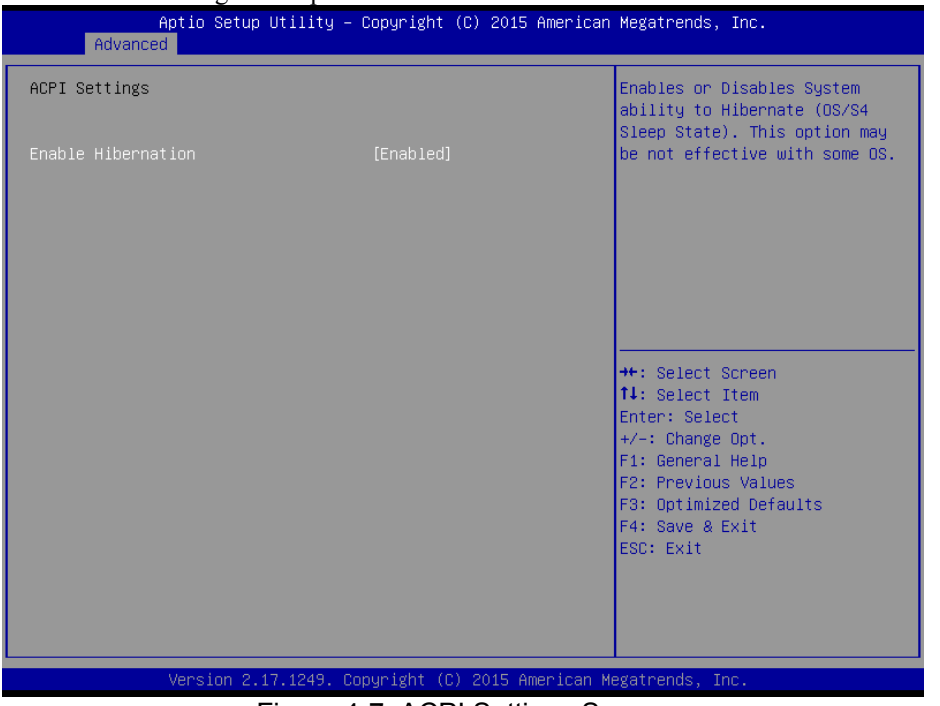


Figure 4-7. ACPI Settings Screen

BIOS Setting	Options	Description/Purpose
Enable Hibernation	- Disabled - Enabled	Enable or disable the system ability to hibernate (OS/S4 Sleep State). This option may be not effective with some OS.

4.4.2 F81866 Super IO Configuration

Menu Path *Advanced > F81866 Super IO Configuration*

Select **F81866 Super IO Configuration** from the **Advanced** menu and press **Enter** to configure the serial ports 1-4, parallel port and Cash Drawer.

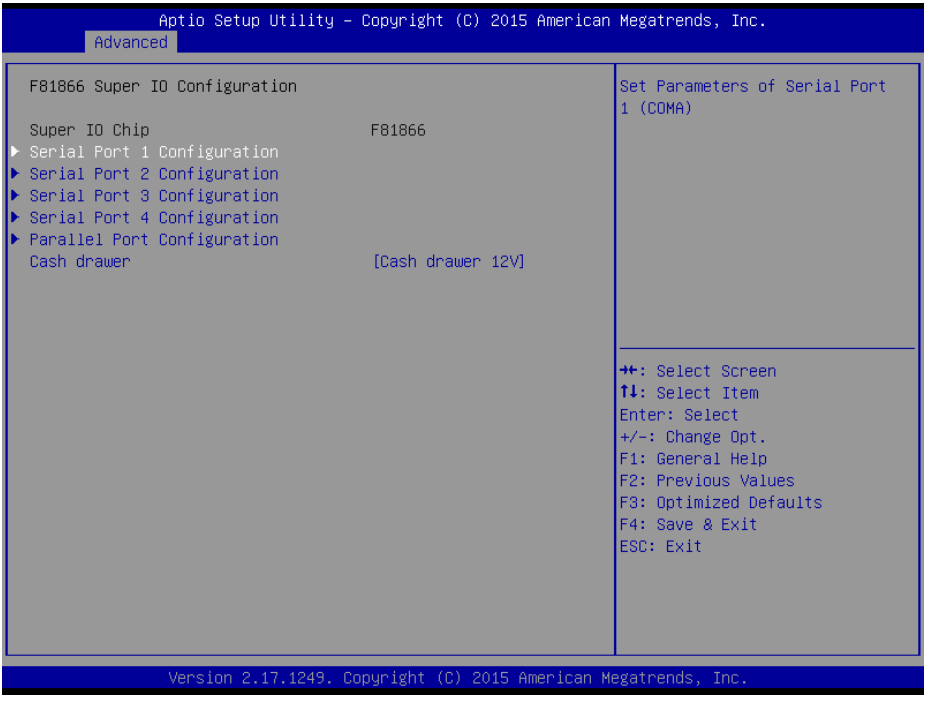


Figure 4-8. Super IO Configuration Screen

BIOS Setting	Options	Description/Purpose
Serial Port 1 Configuration	Sub-menu	Sets Parameters of Serial Port 1 (COMA).
Serial Port 2 Configuration	Sub-menu	Sets Parameters of Serial Port 2 (COMB).
Serial Port 3 Configuration	Sub-menu	Sets Parameters of Serial Port 3 (COMC).
Serial Port 4 Configuration	Sub-menu	Sets Parameters of Serial Port 4 (COMD).
Parallel Port Configuration	Sub-menu	Sets Parameters of Parallel Port (LPT/LPTE).
Cash drawer	- Cash Drawer 12V - Cash Drawer 24V	Selects Cash Drawer voltage 12V or 24V for.

Serial Port 1 Configuration

Menu Path *Advanced > F81866 Super IO Configuration > Serial Port 1 Configuration*

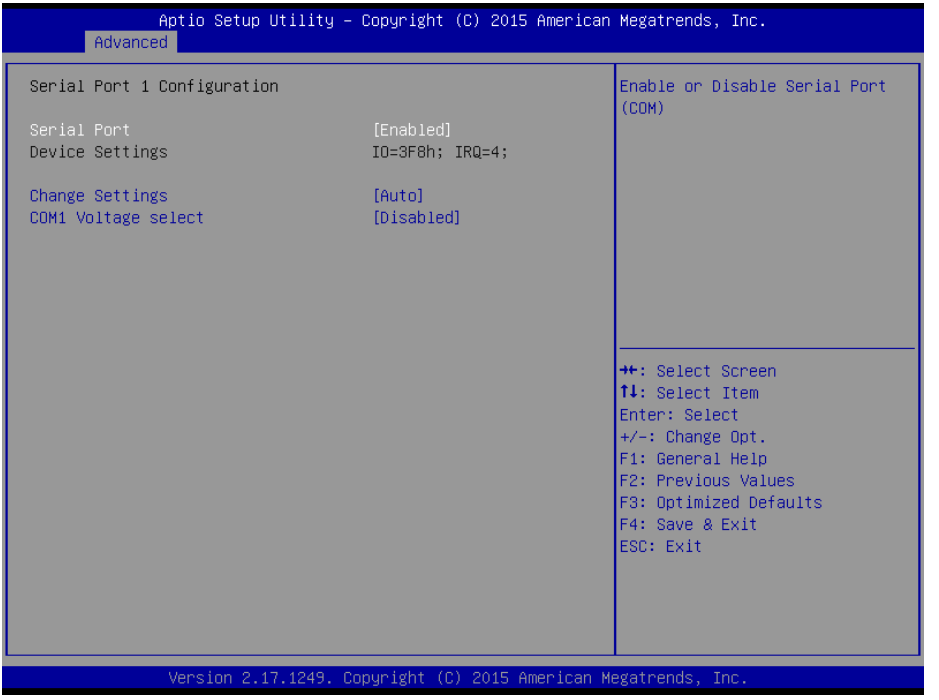


Figure 4-9. Serial Port 1 Configuration Screen

BIOS Setting	Options	Description/Purpose
Serial Port	-Disabled -Enabled	Enables or disables serial port 1.
Device settings	No changeable options	Displays the current settings of serial port 1.
Change settings	-Auto -IO=3F8h; IRQ=4; -IO=3F8h; IRQ=3,4,5,6,7,9,10,11,12; -IO=2F8h; IRQ=3,4,5,6,7,9,10,11,12; -IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; -IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12;	Selects IRQ and I/O resource settings for serial port 1.
COM1 Voltage select	-Disabled -12V -5V	Disables or selects COM1 Voltage 12V/5V.

Serial Port 2 Configuration

Menu Path *Advanced > F81866 Super IO Configuration > Serial Port 2 Configuration*

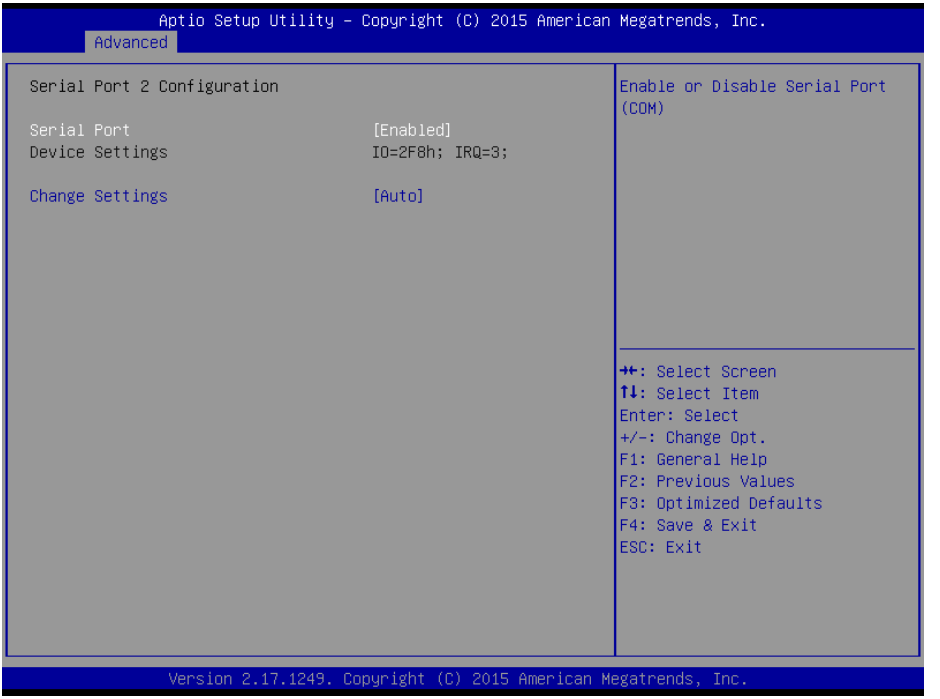


Figure 4-10. Serial Port 2 Configuration Screen

BIOS Setting	Options	Description/Purpose
Serial Port	-Disabled -Enabled	Enables or disables serial port 2.
Device settings	No changeable options	Displays the current settings of serial port 2.
Change settings	-Auto -IO=2F8h; IRQ=3; -IO=3F8h; IRQ=3,4,5,6,7,9,10,11,12; -IO=2F8h; IRQ=3,4,5,6,7,9,10,11,12; -IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; -IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12;	Selects IRQ and I/O resource settings for serial port 2.

Serial Port 3 Configuration

Menu Path	*Advanced > F81866 Super IO Configuration > Serial Port 3 Configuration*

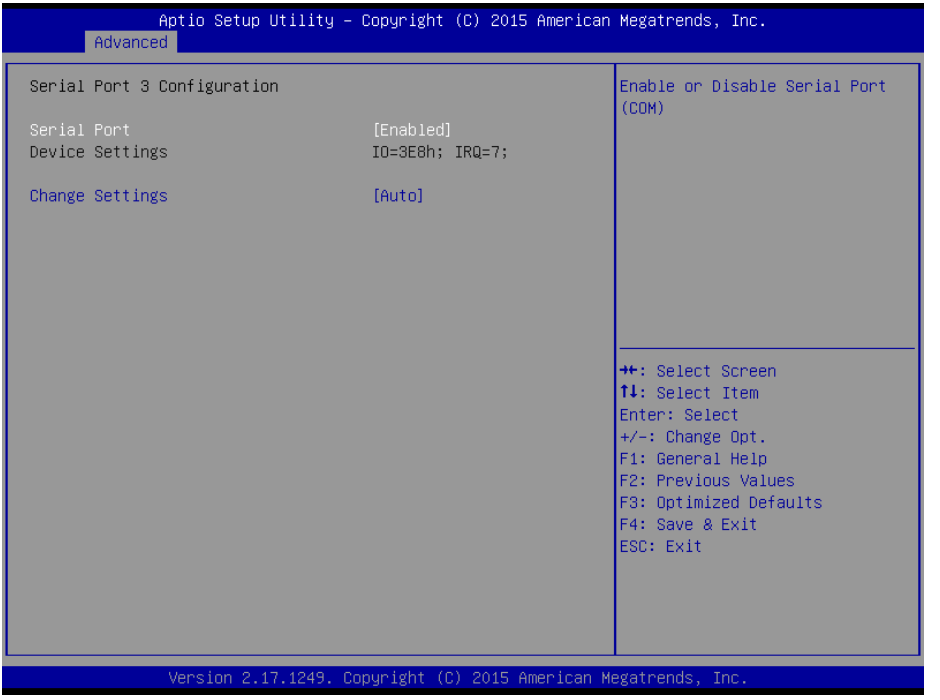


Figure 4-11. Serial Port 3 Configuration Screen

BIOS Setting	Options	Description/Purpose
Serial Port	-Disabled -Enabled	Enable or disable serial port 3.
Device settings	No changeable options	Displays the current settings of serial port 3.
Change settings	-Auto -IO=3E8h; IRQ=7; -IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; -IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12; -IO=2F0h; IRQ=3,4,5,6,7,9,10,11,12; -IO=2E0h; IRQ=3,4,5,6,7,9,10,11,12;	Select IRQ and I/O resource setting for serial port 3.

Serial Port 4 Configuration

Menu Path *Advanced > F81866 Super IO Configuration > Serial Port 4 Configuration*

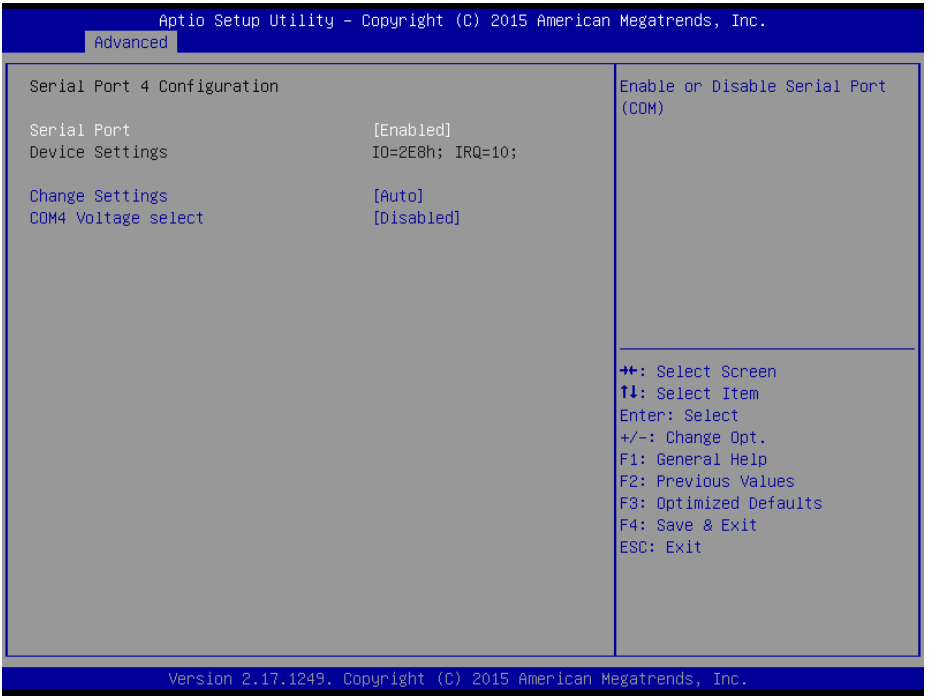


Figure 4-12. Serial Port 4 Configuration Screen

BIOS Setting	Options	Description/Purpose
Serial Port	-Disabled -Enabled	Enable or disable serial port 4.
Device settings	No changeable options	Displays current settings of serial port 4.
Change settings	-Auto -IO=2E8h; IRQ=10; -IO=3E8h; IRQ=3,4,5,6,7,9,10,11,12; -IO=2E8h; IRQ=3,4,5,6,7,9,10,11,12; -IO=2F0h; IRQ=3,4,5,6,7,9,10,11,12; -IO=2E0h; IRQ=3,4,5,6,7,9,10,11,12;	Select IRQ and I/O resource for the serial port 4.
COM4 Voltage select	-Disabled -12V -5V	Disable or select COM4 Voltage 12V/5V

Parallel Port Configuration

Menu Path *Advanced > F81866 Super IO Configuration > Parallel Port Configuration*

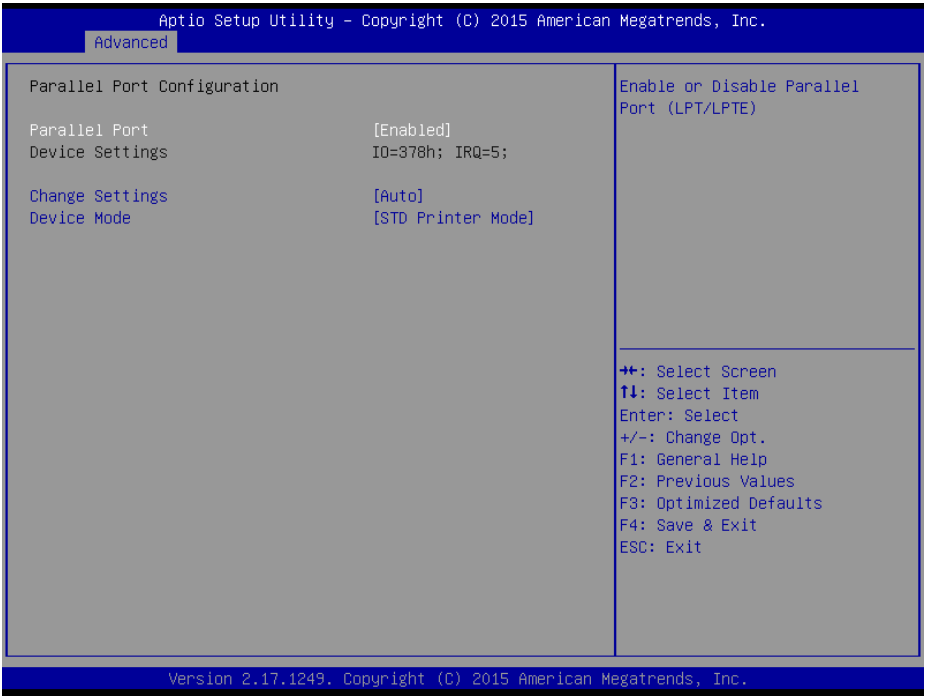


Figure 4-13. Parallel Port Configuration Screen

BIOS Setting	Options	Description/Purpose
Parallel Port	-Disabled -Enabled	Enables or disables the parallel port.
Device settings	No changeable options	Displays the current settings of the parallel port.
Change settings	-Auto -IO=378h; IRQ=5 -IO=378h; IRQ=5,6,7,9,10,11,12 -IO=278h; IRQ=5,6,7,9,10,11,12 -IO=3BCh; IRQ=5,6,7,9,10,11,12	Selects IRQ and I/O resource for parallel port.
Mode	-STD Printer Mode -SPP Mode -EPP-1.9 and SPP Mode -EPP-1.7 and SPP Mode -ECP Mode -ECP and EPP 1.9 Mode	Changes the printer port mode.

BIOS Setting	Options	Description/Purpose
	-ECP and EPP 1.7 Mode	

4.4.3 Hardware Monitor

Menu Path *Advanced > Hardware Monitor*

The **Hardware Monitor** allows users to monitor the health and status of the system such as CPU temperature, system temperature and voltage levels in supply.

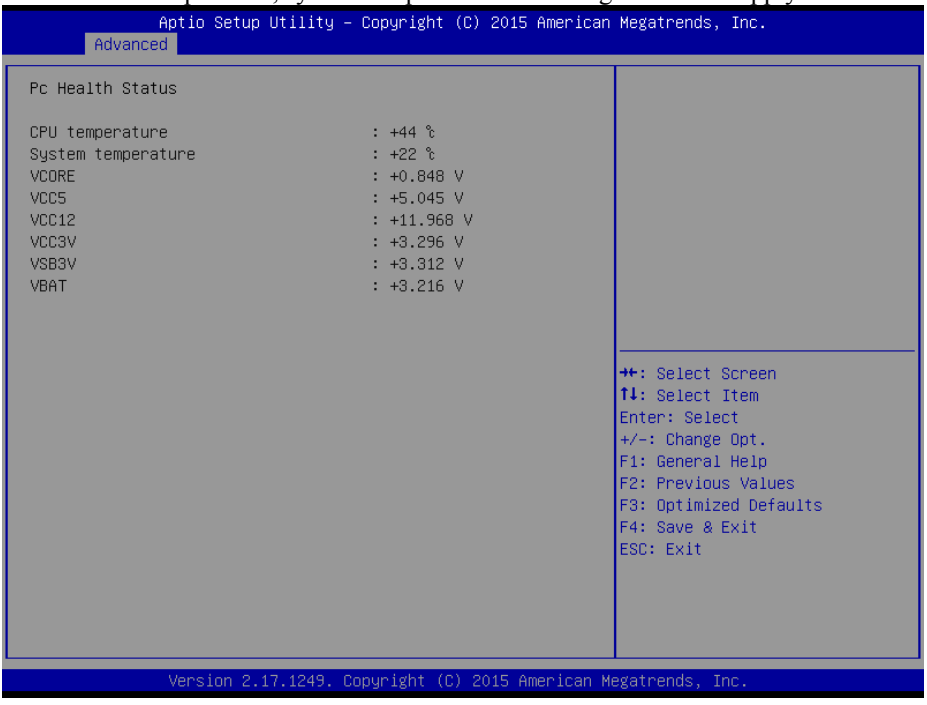


Figure 4-14. Hardware Monitor Screen

BIOS Setting	Options	Description/Purpose
CPU Temperature	No changeable options	Displays the processor's temperature.
System Temperature	No changeable options	Displays the system's temperature.
VCORE	No changeable options	Displays voltage level of VCORE in supply.
VCC5	No changeable options	Displays voltage level of VCC5 in supply.
VCC12	No changeable options	Displays voltage level of VCC12 in supply.
VCC3V	No changeable options	Displays voltage level of VCC3V in supply.
VSB3V	No changeable options	Displays voltage level of VSB3V in supply.
VBAT	No changeable options	Displays voltage level of VBAT in supply.

4.4.4 F81866 Watchdog

Menu Path *Advanced > F81866 Watchdog*

If the system hangs or fails to respond, enable the F81866 watchdog function to trigger a system reset via the 255-level watchdog timer.

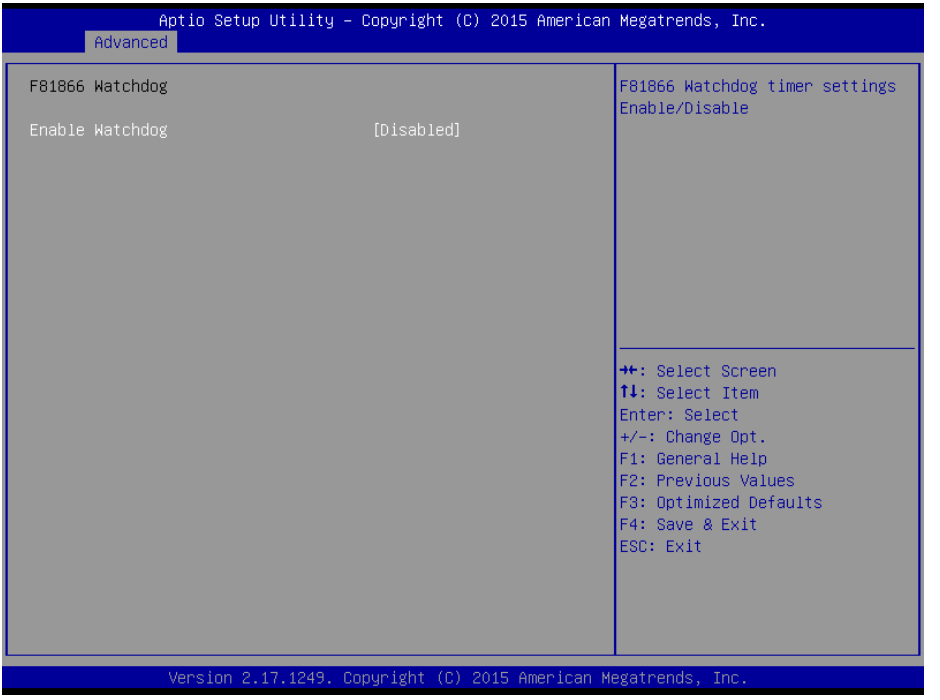


Figure 4-15. F81866 Watchdog Screen

BIOS Setting	Options	Description/Purpose
Enable WatchDog	-Enabled -Disable	Enables/ disables the watchdog timer.
Watchdog timer unit	-1s -60s	Selects the time interval in seconds or minutes
Count for Timer (Seconds)	multiple options ranging from 1 to 255	Sets the desired value (seconds) for the watchdog timer.

4.4.5 CPU Configuration

Menu Path *Advanced > CPU Configuration*

The **CPU Configuration** provides advanced CPU settings and some information about CPU.

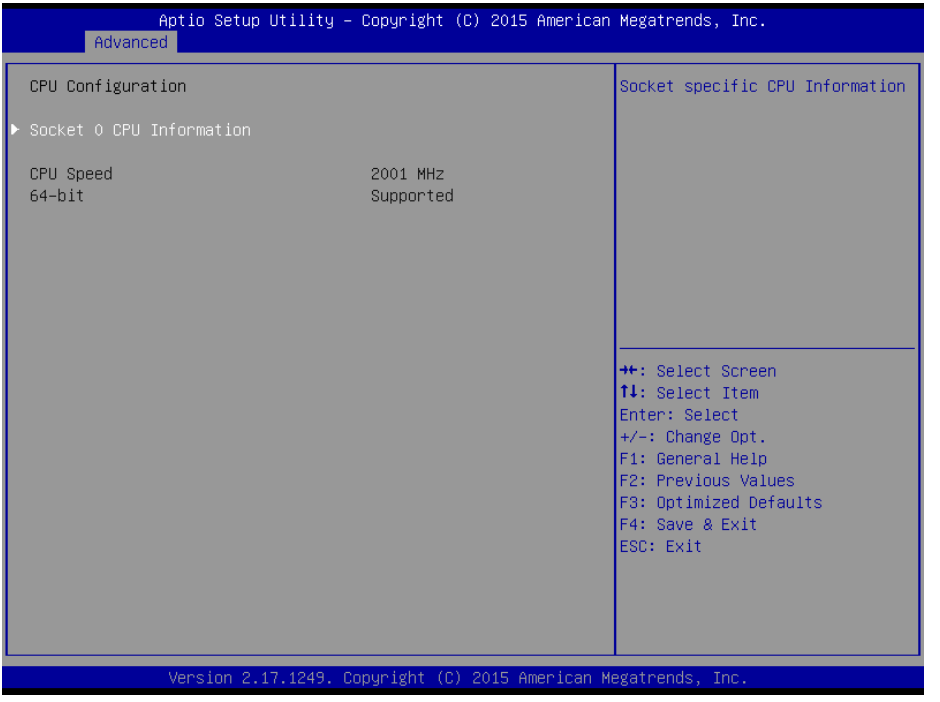


Figure 4-16. Advanced Menu > CPU Configuration Screen

BIOS Setting	Options	Description/Purpose
Socket 0 CPU Information	Sub-Menu	Reports the CPU Information.
CPU Speed	No changeable options	Reports the current CPU Speed.
64-bit	No changeable options	Reports if 64-bit is supported by the processor.

4.4.5.1 Socket 0 CPU Information

Menu Path *Advanced > CPU Configuration > Socket 0 Configuration*

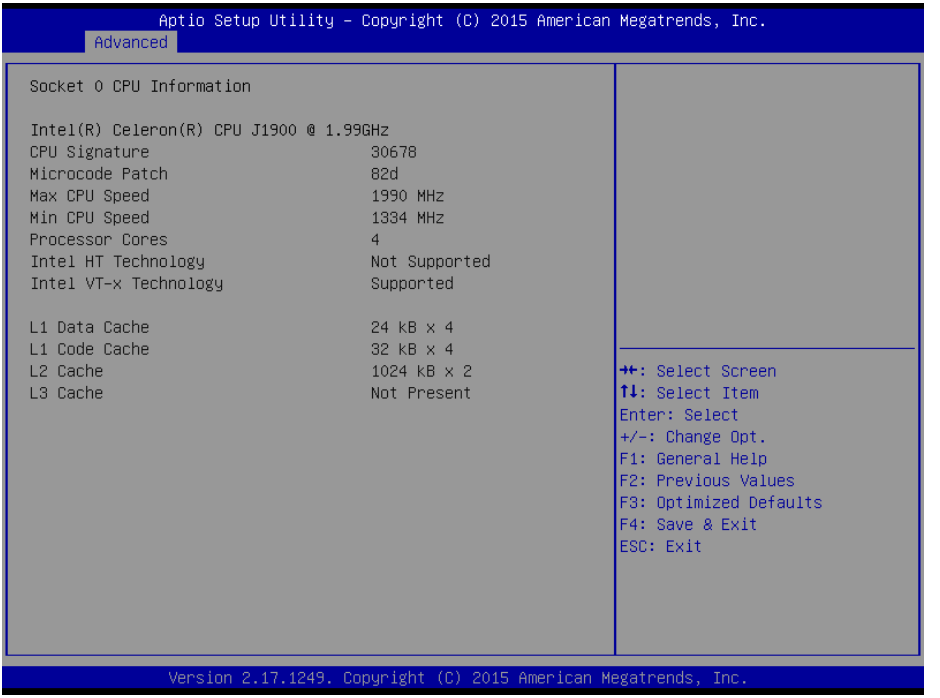


Figure 4-17. Socket 0 CPU Information Screen

BIOS Setting	Options	Description/Purpose
CPU Signature	No changeable options	Report the CPU Signature.
Microcode Patch	No changeable options	Report the CPU Microcode Patch Version.
Max CPU Speed	No changeable options	Report the maximum CPU Speed.
Min CPU Speed	No changeable options	Report the minimum CPU Speed.
Processor Cores	No changeable options	Display the number of physical cores in the processor.
Intel HT Technology	No changeable options	Reports if Intel Hyper-Threading Technology is supported by the processor.
Intel VT-x Technology	No changeable options	Reports if Intel VT-x Technology is supported by the processor.
L1 Data Cache	No changeable options	Display L1 data cache size.
L1 Code Cache	No changeable options	Display L1 code cache size.
L2 Cache	No changeable options	Display L2 cache size.

BIOS Setting	Options	Description/Purpose
L3 Cache	No changeable options	Display L3 cache size.

4.4.6 IDE Configuration

Menu Path *Advanced > IDE Configuration*

The **IDE Configuration** allows users to configure relevant SATA settings.

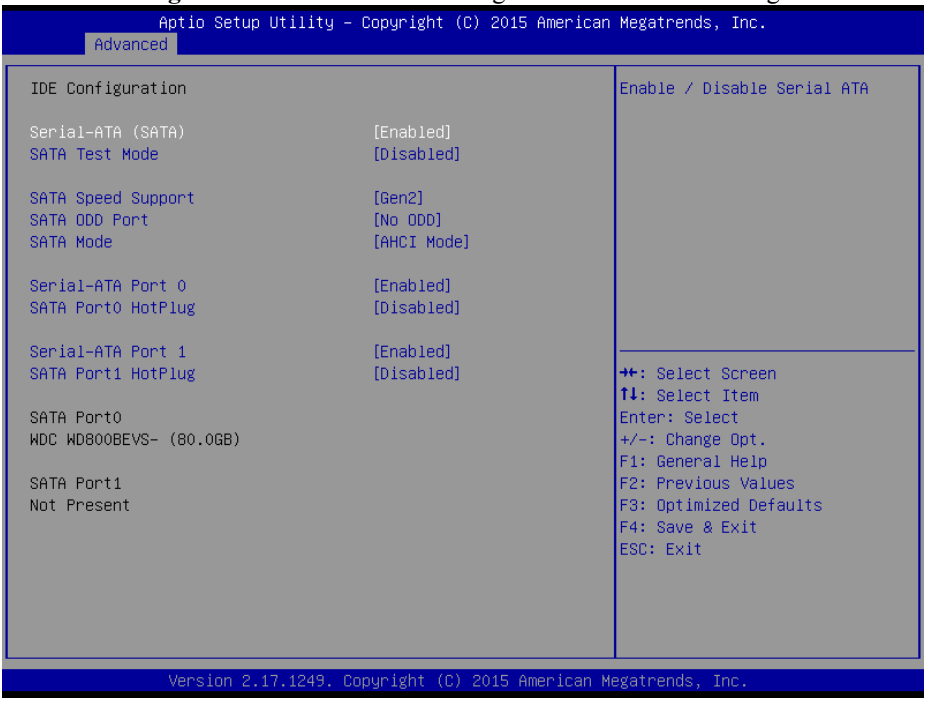


Figure 4-18. IDE Configuration Screen

BIOS Setting	Options	Description/Purpose
Serial-ATA Controller(s)	- Disabled - Enabled	Enables or disables SATA Device.
SATA Test Mode	- Disabled - Enabled	Enable or disable SATA Test Mode.
SATA Speed Support	- GEN1 - GEN2	Gen1 mode sets the device to 1.5 Gbit/s speed. Gen2 mode sets the device to 3 Gbit/s speed (in case it is compatible).
SATA ODD Port	- Port0 ODD - Port1 ODD - No ODD	SATA ODD is Port0 or Port1

BIOS Setting	Options	Description/Purpose
SATA Mode	- IDE mode - AHCI mode	Configure SATA as following: • **IDE:** Set SATA operation mode to IDE mode. • **AHCI:** SATA works as AHCI (Advanced Host Controller Interface) mode for getting better performance.
SATA Port 0	- Disabled - Enabled	Enables or disables SATA port 0 device.
SATA Port 0 HotPlug	- Disabled - Enabled	Enables or disables SATA port 0 device Hot Plug
SATA Port 1	- Disabled - Enabled	Enables or disables SATA port 1 device.
SATA Port 1 HotPlug	- Disabled - Enabled	Enables or disables SATA port 1 Device Hot Plug
SATA Port 0	[drive]	Displays the drive installed on this SATA port 0. Shows [Empty] if no drive is installed.
SATA Port 1	[drive]	Displays the drive installed on this SATA port 1. Shows [Empty] if no drive is installed.

4.4.7 OS Selection

Menu Path *Advanced > OS Selection*

The **OS Selection** allows users to select the Windows operating system.

Figure 4-19. OS Selection Screen

BIOS Setting	Options	Description/Purpose
OS Selection	- Windows 7 - Windows 8 - Windows 8 UEFI	If you use Windows 8 with UEFI and GPT partition, please select Windows 8 UEFI. Limitation: DOS is unbootable under Windows 8 UEFI mode.

4.4.8 CSM Configuration

Menu Path *Advanced > CSM Configuration*

The **CSM Configuration** provides advanced CSM (Compatibility Support Module) configurations such as Enable/Disable CSM Support, configure Option ROM execution and boot option filter.

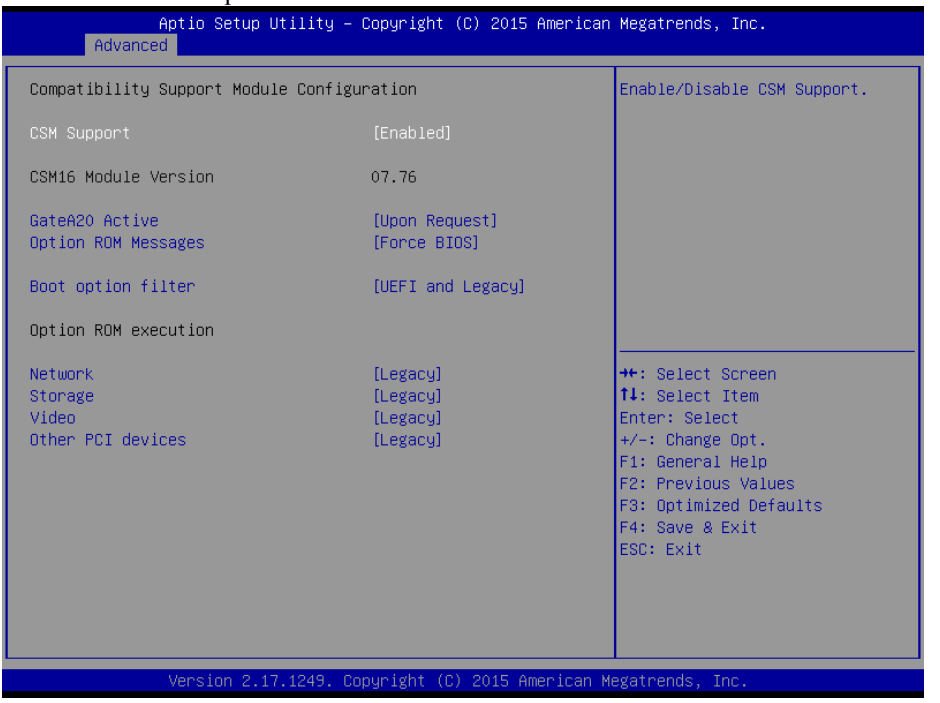


Figure 4-20. CSM Configuration Screen

BIOS Setting	Options	Description/Purpose
CSM Support	- Disabled - Enabled	Disables or enables CSM support
CSM16 Module Version	No changeable options	Displays the current CSM (Compatibility Support Module) version.
GateA20 Active	- Upon Request - Always	Selects Gate A20 operation mode. • **Upon Request**: GA20 can be disabled using BIOS services. • **Always:** do not allow disabling GA20; this option is useful when any RT code is executed above 1MB.
Option ROM	- Force BIOS	Sets the display mode for Option ROM

BIOS Setting	Options	Description/Purpose
Messages	- Keep Current	messages.
Boot option filter	- UEFI and Legacy - Legacy only - UEFI only	This option controls what kind of devices that the system can boot.
Network	- Do not launch - UEFI - Legacy	Controls the execution of UEFI or Legacy PXE.
Storage	- Do not launch - UEFI - Legacy	Controls the execution of UEFI or Legacy Storage.
Video	- Do not launch - UEFI - Legacy	Controls the execution of UEFI and Legacy Video.
Other PCI devices	- Do not launch - UEFI - Legacy	Selects the launch method for other PCI devices, such as NIC, mass storage or video card.

4.4.9 USB Configuration

Menu Path *Advanced > USB Configuration*

The **USB Configuration** allows users to configure advanced USB settings such as Legacy USB support.

Figure 4-21. USB Configuration Screen

BIOS Setting	Options	Description/Purpose
USB Devices	No changeable options	Display the number of available USB devices.
Legacy USB Support	- Disabled - Enabled - Auto	Enables the support for legacy USB.
XHCI Hand-off	- Disabled - Enabled	This is a workaround for OSes without XHCI hand-off support.
EHCI Hand-off	- Disabled - Enabled	This is a workaround for OSes without EHCI hand-off support.
USB Mass Storage Driver Support	- Disabled - Enabled	Enables/Disables USB mass storage driver support.
USB transfer time-out	1 / 5 / 10 /20 sec	The time-out value for Control, Bulk, and Interrupt transfers.
Device reset time-out	10 / 20 / 30 / 40 sec	USB mass storage device Start Unit

BIOS Setting	Options	Description/Purpose
		command time-out.
Device power-up delay	- Auto - Manual	The maximum time the device will take before it properly reports itself to the Host Controller. 'Auto' uses default value: for a Root port it is 100 ms, for a Hub port the delay is taken from Hub descriptor.
Device power-up delay in seconds	multiple options ranging from 0 to 40	The delay range is from 1 to 40 seconds in one second increments
Mass Storage Devices:	- Auto - Floppy - Force FDD - Hard Disk - CD-ROM	Displays the device name and chooses the device emulation type.

4.5 Chipset Menu

Menu Path *Advanced > Chipset*

This menu allows users to configure advanced Chipset settings such as North Bridge and South Bridge.

Figure 4-22. Chipset Menu Screen

BIOS Setting	Options	Description/Purpose
North Bridge	Sub-menu	Sets the parameter for North Bridge configuration.
South Bridge	Sub-menu	Sets the parameter for South Bridge configuration.

4.5.1 Configuring North Bridge

Menu Path *Advanced > Chipset > North Bridge*

The **North Bridge** allows users to configure graphics settings and display the DRAM information on the platform.

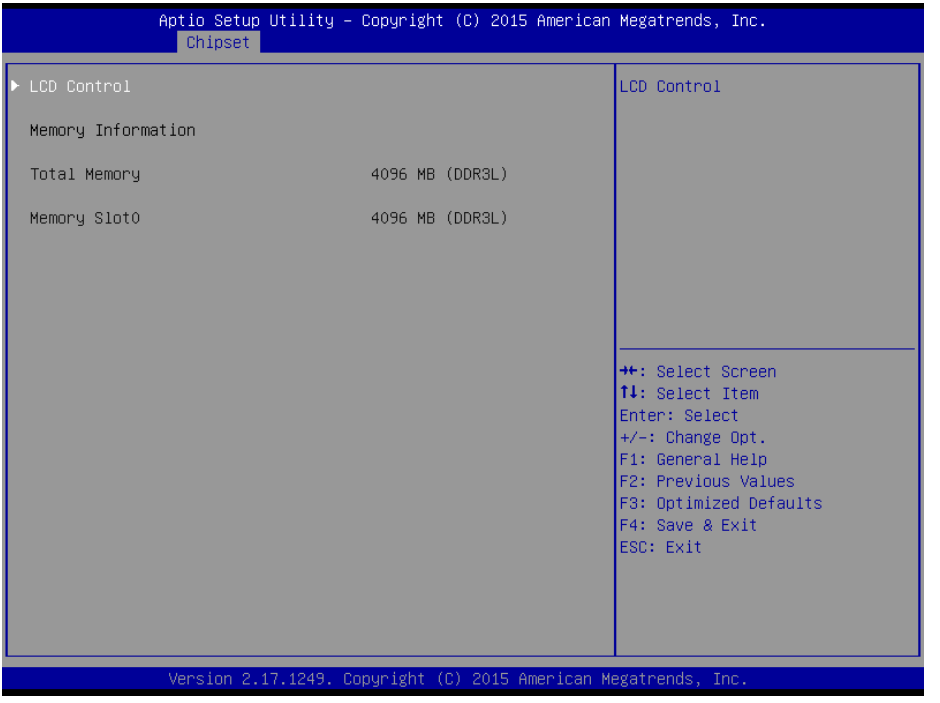


Figure 4-23. North Bridge Configuration Screen

BIOS Setting	Options	Description/Purpose
LCD Control	Sub-menu	LCD Control menu.
Memory Information	No changeable options	Displays the DRAM information on the platform.
Total Memory	No changeable options	Displays the DRAM size.
Memory Slot0	No changeable options	Memory in the slot.

4.5.1.1 LCD Control Configuration

Menu Path *Advanced > Chipset > North Bridge > LCD Control*

The **LCD Control** allows users to select the primary and secondary display device.

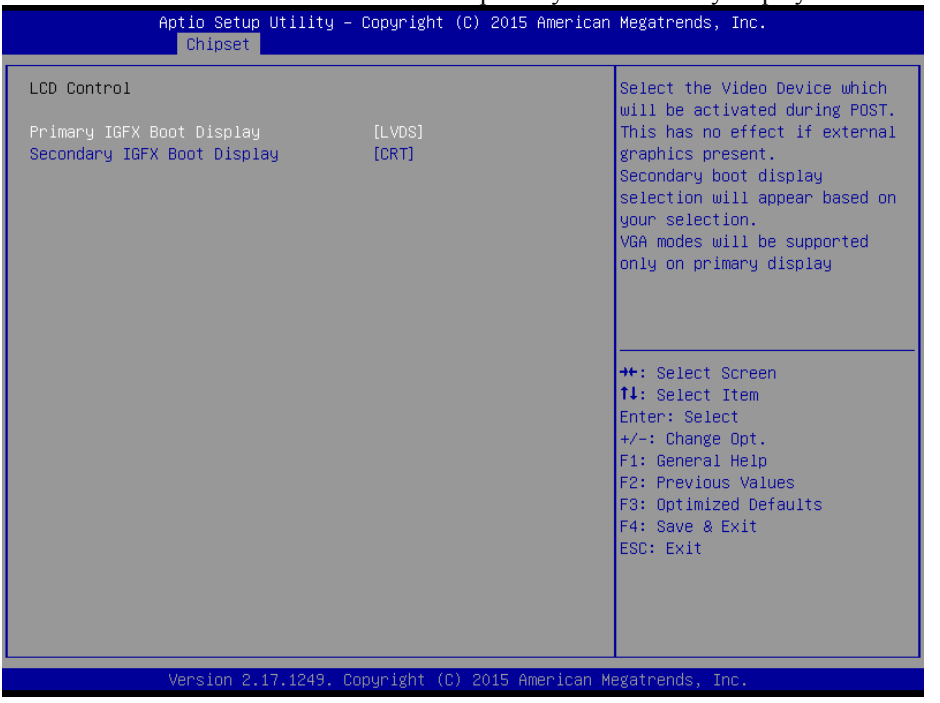


Figure 4-24. LCD Control Configuration Screen

BIOS Setting	Options	Description/Purpose
Primary IGFX Boot Display	- CRT - LVDS	Selects Primary Display Device.
Secondary IGFX Boot Display	- Disabled - CRT - LVDS	Selects Secondary Display Device.

4.5.2 South Bridge

Menu Path *Advanced > Chipset > South Bridge*

The **South Bridge** allows users to select the AC power state when the power supply is restored following a power failure.

Figure 4-25. South Bridge Screen

BIOS Setting	Options	Description/Purpose
Restore AC Power Loss	- Power Off - Power On - Last State	Select the AC power state when the power supply is restored following a power failure. • **Power Off** keeps the power off unless the power button is pressed. • **Power On** keeps the system power on after the AC power is restored to the board. • **Last State** brings the system back to the last power state before the AC power is lost.

4.6 Security Menu

Menu Path *Security*

From the **Security** menu, you are allowed to configure or change the administrator password. You will be asked to enter the configured administrator password before you are allowed to access the Setup Utility.

By setting an administrator password, you will prevent other users from changing your BIOS settings. You can configure an Administrator password and then configure a user password. Heed that a user password does not provide access to many of the features in the Setup utility.

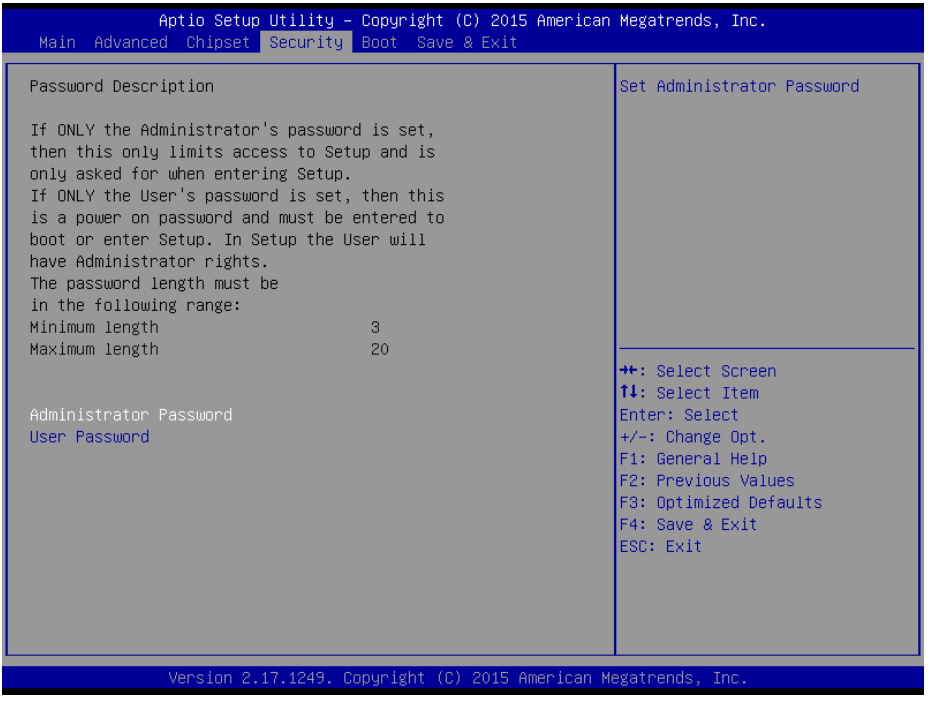


Figure 4-26. BIOS Password Configuration Screen

Configure the Administrator Password according to the password policy specified below:

BIOS Setting	Option	Description/Purpose
Administrator Password	3-20 alphanumeric characters	Configure the administrator password.
User Password	3-20 alphanumeric characters	Configure the user password.

Follow the instructions below to configure the administrator password:

1. Select the **Administrator Password** item and press **Enter**.
2. Type in the new administrator password and press **Enter** when you are finished.
3. Another dialog box prompts you to retype the password for confirmation. Retype the password correctly and press **Enter**.
4. Navigate back to the main menu and select **SAVE & EXIT** menu. Your system will then reboot and you'll be prompted for the password.

To remove the password protection, highlight the **Administrator Password** item and type in the current password. Press **Enter** to disable the password protection from the dialog box that opens.

4.7 Boot Menu

Menu Path *Boot*

Select the **Boot** menu to configure the boot sequence and priority of the boot devices.

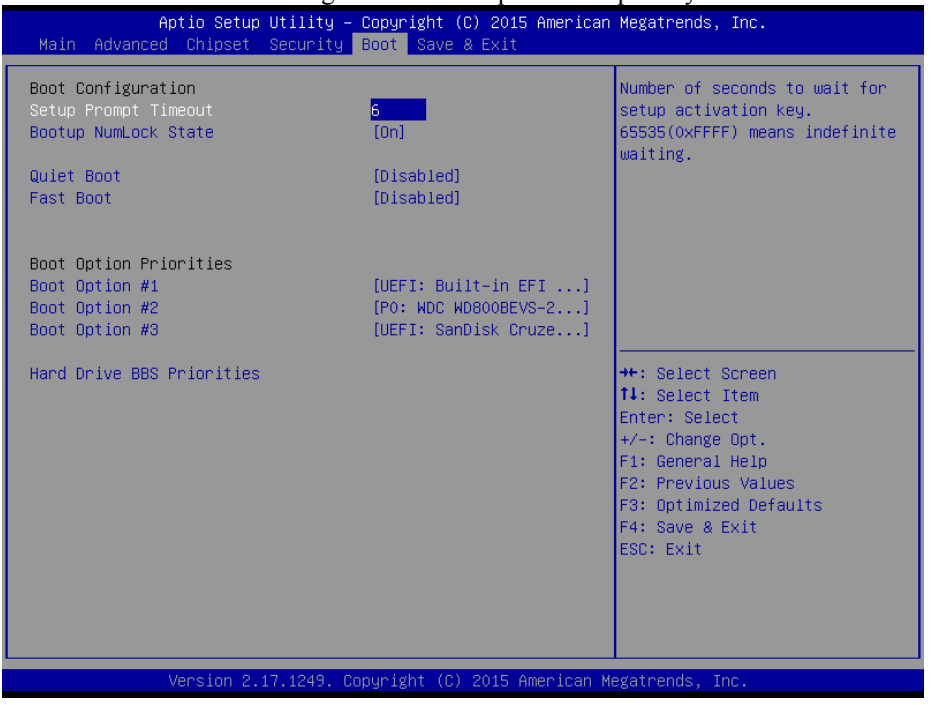


Figure 4-27. Boot Configuration Screen

BIOS Setting	Option	Description/Purpose
Setup Prompt Timeout	Numeric	Number of seconds to wait for setup activation key.
Bootup NumLock State	- On - Off	Selects the NumLock sate after the system is powered on. • **On:** Enables the NumLock function automatically after the system is powered on. • **Off:** Disables the NumLock function after the system is powered on.
Quiet Boot	- Disabled - Enabled	Enables/Disables Quiet Boot Options.
Boot Option #1~#n	- [Drive(s)] - Disabled	Allows users to set the boot option listed in Hard Drive BBS Priorities.
Hard Drive BBS Priorities	Sub-Menu	Allows users to select the boot order of the available drive(s).

4.8 Save & Exit Menu

Menu Path *Save & Exit*

To save and validate the changed BIOS settings, select the **Save & Exit** menu and the following page will display:

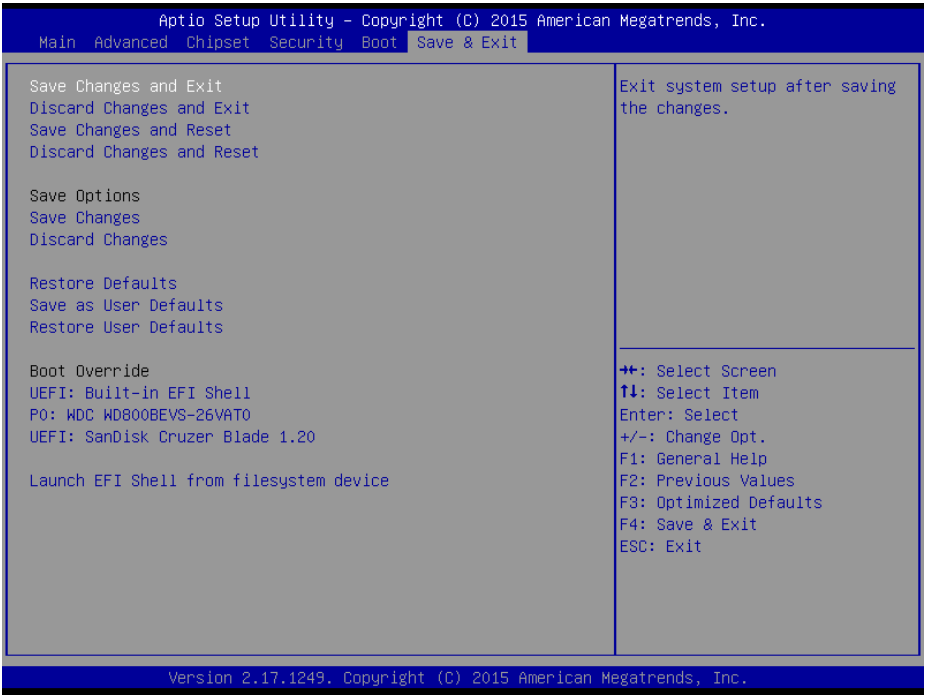


Figure 4-28. Save & Exit Menu Screen

Configure the following fields according to your needs:

BIOS Setting	Options	Description/Purpose
Save Changes and Exit	No changeable option	Exits and saves the changes in NVRAM.
Discard Changes and Exit	No changeable options	Exits the system without saving any changes made in BIOS settings.
Save Changes and Reset	No changeable options	Saves the changes in NVRAM and reset the system.
Discard Changes and Reset	No changeable options	Resets the system without saving any changes made in BIOS settings.
Restore Defaults	No changeable options	Loads the optimized defaults for BIOS settings.
Boot Override	- [Drive(s)]	Forces to boot from the selected [drive(s)].

Appendix A System Diagrams

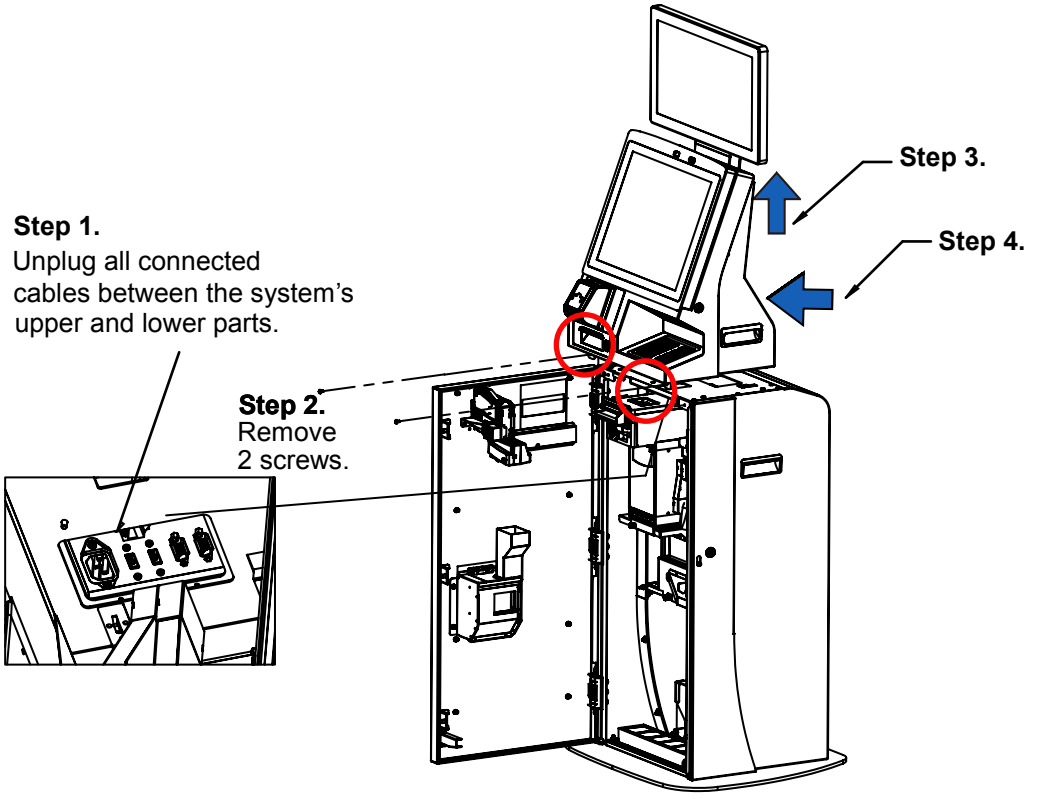
This appendix contains exploded diagrams and part numbers of the KF-7330 system. The following topics are included:

- Explode Diagram – KF-7330 Upper & Lower Part Separation
- Coin Acceptor and Return Assembly Exploded Diagram
- SMART Hopper & Payout Assembly Exploded Diagram (1)
- SMART Hopper & Payout Assembly Exploded Diagram (2)
- SMART Hopper & iPRO-RC Assembly Exploded Diagram (1)
- SMART Hopper & iPRO-RC Assembly Exploded Diagram (2)
- Coin Return Module Assembly Exploded Diagram
- KF-7330 Stand Assembly Exploded Diagrams
- Coin Box Assembly Exploded Diagram
- Stand Adapter Assembly Exploded Diagram
- Stand I/O Module Assembly Exploded Diagram
- SMART Payout Assembly Exploded Diagram
- Stand Side Cover Assembly Exploded Diagram
- Stand Button & Rubber Foot Assembly Exploded Diagram
- iPRO-RC Stand Top Cover Assembly Exploded Diagram
- Panel & Printer Module Exploded Diagram
- MB Box Module and Adapter Assembly Exploded Diagram
- Barcode and Pin Pad Module Exploded Diagram
- Upper Front & Back Side Assembly Exploded Diagram
- Touch Module Assembly Exploded Diagram
- Panel Module Assembly Exploded Diagram

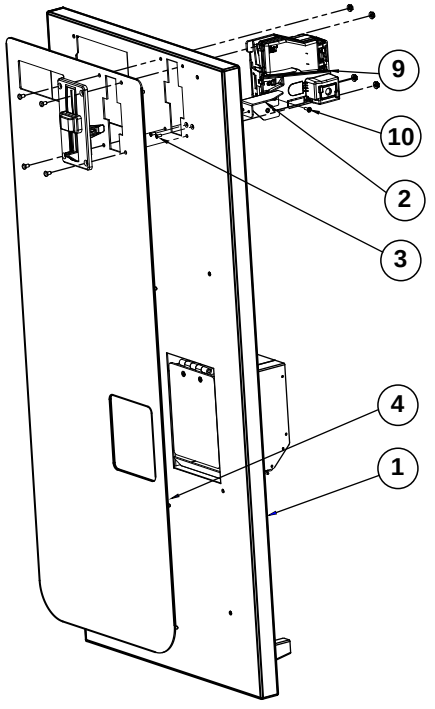
- 2-Inch Printer Module Assembly Exploded Diagram
- 2-Inch Printer Cable Fixing Unit Assembly Exploded Diagram
- 2-Inch Printer Module Assembly Exploded Diagram (2-1)
- 2-Inch Printer Cable Fixing Unit Assembly Exploded Diagram (2-2)
- MB Box Module Assembly Exploded Diagram
- HDD Module Assembly Exploded Diagram
- Barcode Module Assembly Exploded Diagram
- RFID Module Assembly Exploded Diagram
- Pin Pad Module Assembly Exploded Diagram
- Cable Adapter Bracket Assembly Exploded Diagram (Standard)
- Cable Adapter Bracket Assembly Exploded Diagram (SAP)
- Fan Module Assembly Exploded Diagram (1)
- Fan Module Assembly Exploded Diagram (2)
- Second Display Assembly Exploded Diagram

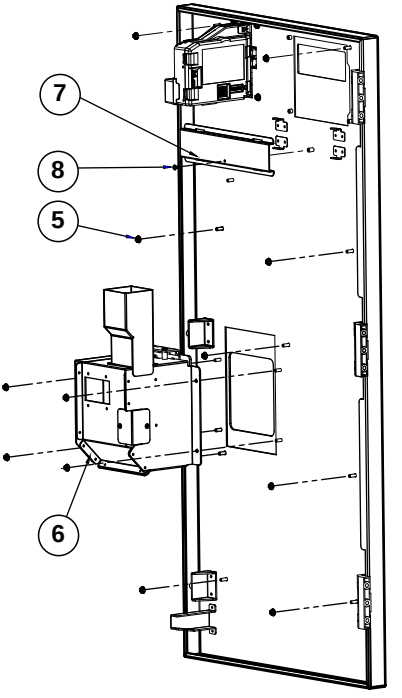
Exploded Diagram – KF-7330 Upper and Lower Part Separation

Step 1. Unplug all the cables connected between the upper and lower parts of the system.
Step 2. Remove the two screws as shown.
Step 3. Move the Panel PC towards the user's direction as shown.
Step 4. Set the Panel PC and Stand apart from each other.



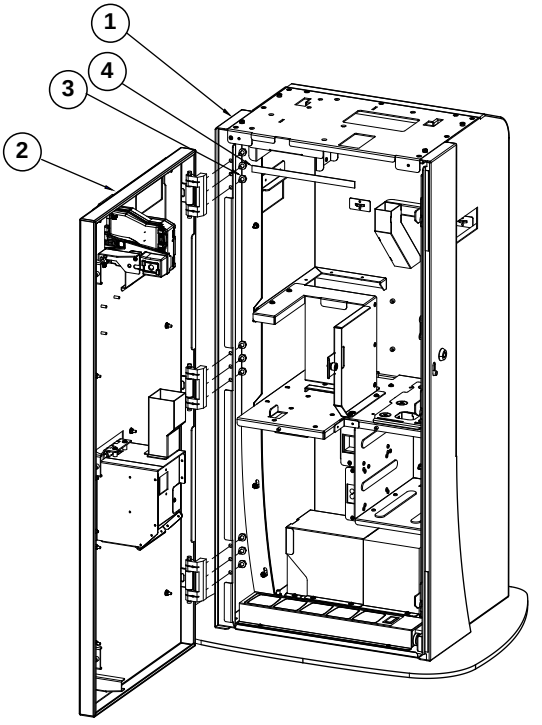
Coin Acceptor and Return Assembly Exploded Diagram





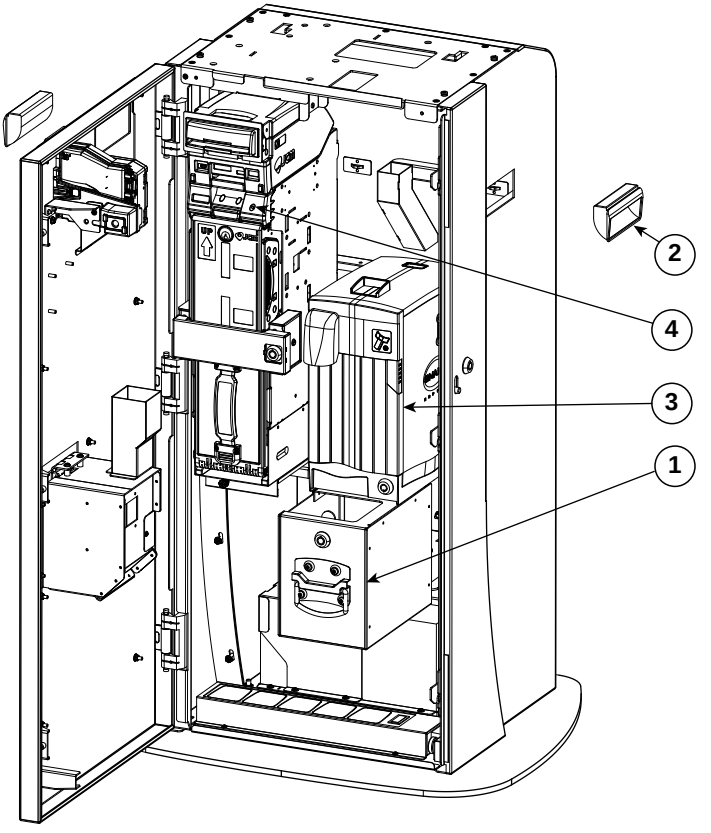
No.	Component Name	P/N No.	Q'ty
1	FRONT DOOR IPRO	20-047-02064375	1
2	COIN ACCEPTOR HOLDER	20-029-02112375	1
3	FLAT HEAD SCREW #2/ψ 5 / M3x0.5Px8mm	22-215-30008011	2
4	STAND BEZEL IPRO	20-004-02117375	1
5	FLANGED NUT M4	23-142-40450801	13
6	COIN RETURN CUP ASSY-STD	N/A	1
7	FRONT DOOR CABLE COVER	20-004-02003375	1
8	ROUND WASHER HEAD SCREW M3x0.5Px5mm	22-242-30005311	1
9	COIN ACCEPTOR	52-990-00010044	1
10	ROUND WASHER HEAD SCREW M3x0.5Px10mm	22-232-30010311	1

SMART Hopper & Payout Assembly Exploded Diagram (1)



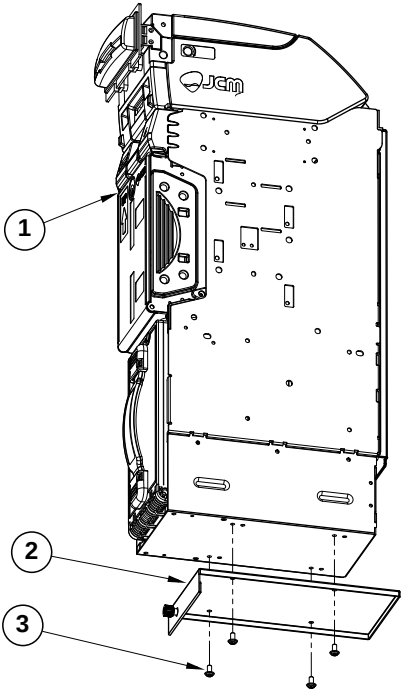
No.	Component Name	P/N No.	Q'ty
1	STAND BACK ASSY IPRO-2	N/A	1
2	FRONT DOOR FOR IPRO	N/A	1
3	HEX HEAD WITH SPRING WASHER SCREW #3 / M6x1.0Px12mm	22-251-60012011	9
4	STAND TOP COVER EVA	90-013-15200375	1

SMART Hopper & Payout Assembly Exploded Diagram (2)



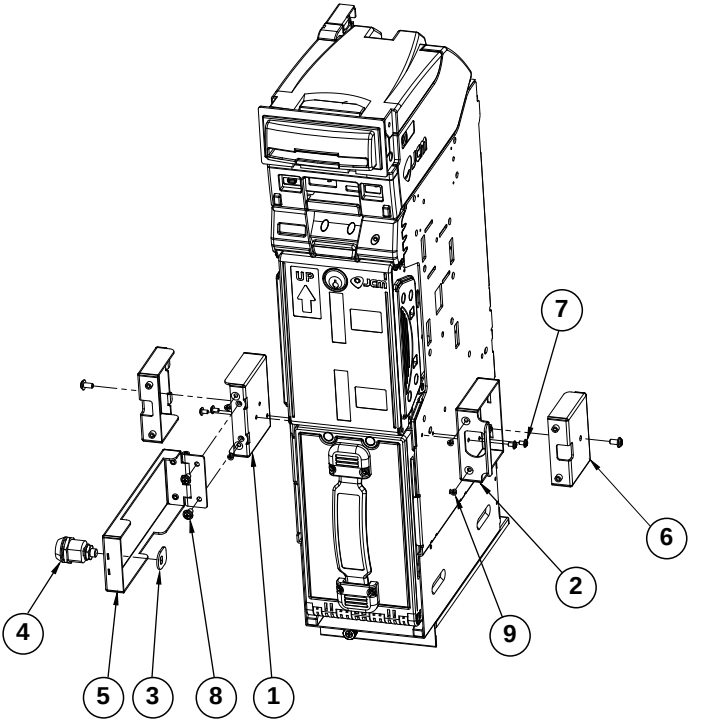
No.	Component Name	P/N No.	Q'ty
1	COIN BOX ASSY		1
2	PULL	30-080-08110284	2
3			1
4			1

SMART Hopper & iPRO-RC Assembly Exploded Diagram (1)



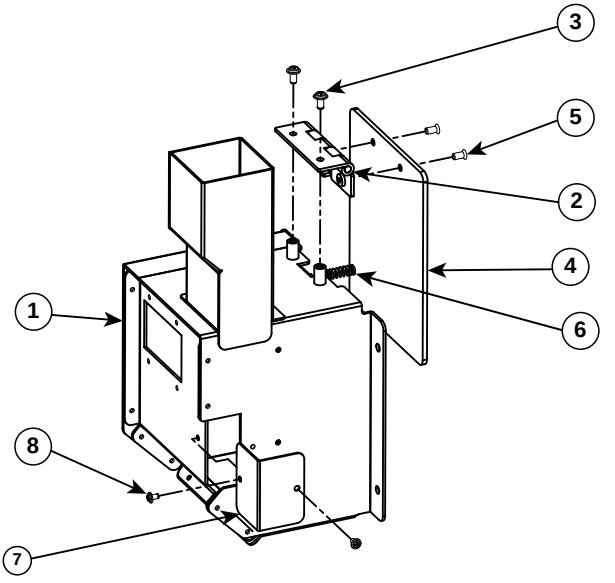
No.	Component Name	P/N No.	Q'ty
1	BILL RECYCLER	52-990-00001445	1
2	PAYOUT BRACKET-PRO	20-006-02116375	1
3	ROUND WASHER HEAD SCREW #2/M4x0.7Px8mm	22-232-40008011	4

SMART Hopper & iPRO-RC Assembly Exploded Diagram (2)



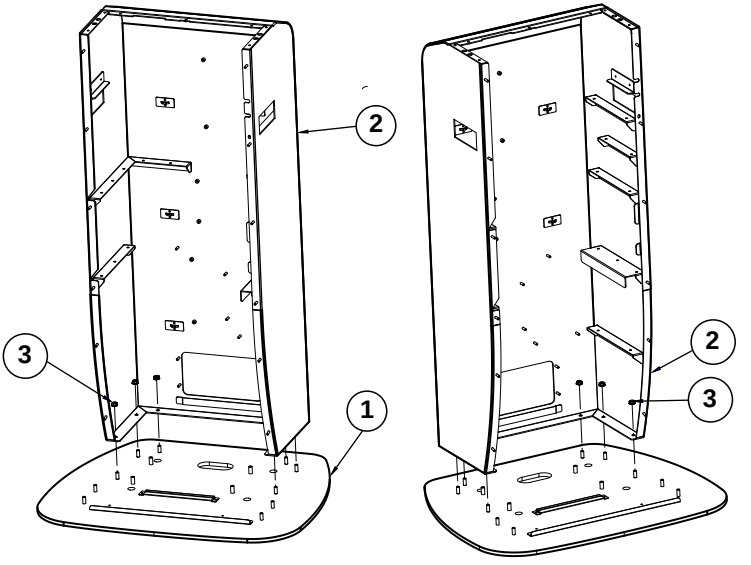
No.	Component Name	P/N No.	Q'ty
1	IPRO SIDE BRACKET L	80-006-02001375	1
2	IPRO SIDE BRACKET R	80-006-02002375	1
3	IPRO DOOR LOCK SHEET	80-047-02003375	1
4	LOCK	N/A	1
5	IPRO DOOR	80-047-02002375	1
6	IPRO SIDE BRACKET COVER	20-006-02118375	2
7	ROUND WASHER HEAD SCREW M3x0.5Px5mm	22-242-30005311	4
8	ROUND WASHER HEAD SCREW #2/M4x0.7Px8mm	22-232-40008011	4
9	FLAT HEAD SCREWψ 5.0 / M3x0.5Px4mm	22-212-30004011	4

Coin Return Module Assembly Exploded Diagram



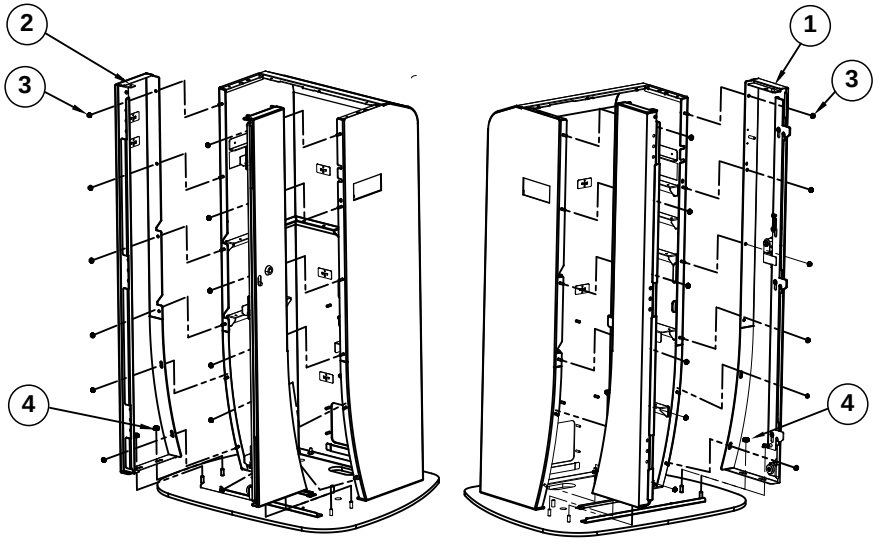
No.	Component Name	P/N No.	Q'ty
1	COIN RETURN CUP	20-004-07001375	1
2	COIN DOOR HINGE	20-012-02001375	1
3	ROUND WASHER HEAD SCREW #2/M4x0.7Px8mm	22-232-40008011	2
4	COIN DOOR	30-007-10130375	1
5	FLAT HEAD SCREWψ 6.4/M4x0.7Px8mm	22-215-40008711	2
6	SPRING	20-009-26082139	1
7	COIN RETURN SIDE COVER	80-004-02002375	1
8	ROUND WASHER HEAD SCREW M3x0.5Px5mm	22-242-30005311	2

KF-7330 Stand Back & Bottom Assembly Exploded Diagram



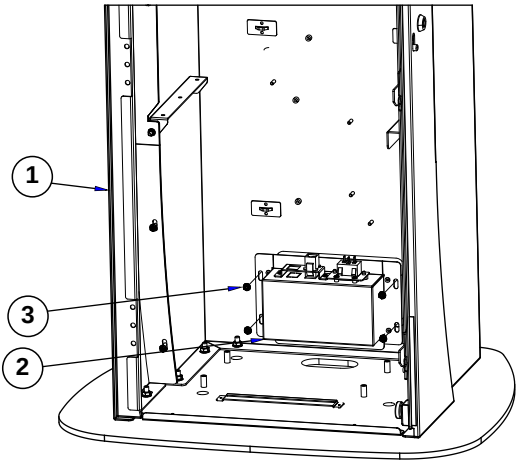
No.	Component Name	P/N No.	Q'ty
1	STAND BOTTOM ASSY	N/A	1
2	STAND BACK IPRO	20-029-02065375	1
3	FLANGED NUT M6	23-142-60601271	6

KF-7330 Stand Column Assembly Exploded Diagram



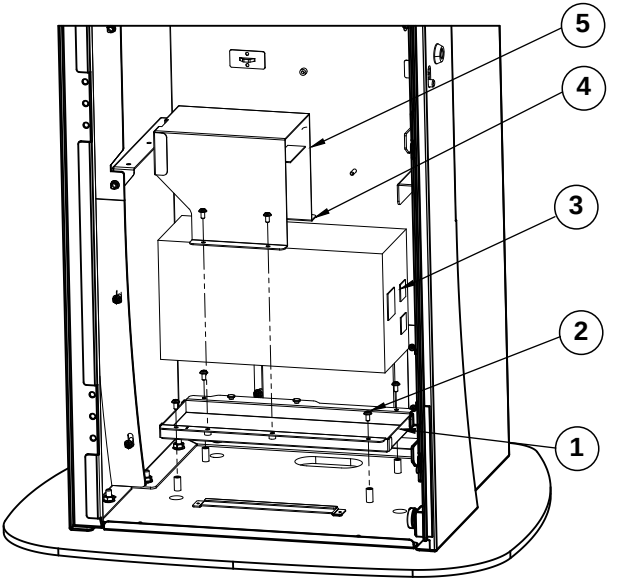
No.	Component Name	P/N No.	Q'ty
1	SLIDE COVER R ASSY	N/A	1
2	SIDE COVER L-IPRO	20-004-02114375	1
3	FLANGED NUT M4	23-142-40450801	12
4	FLANGED NUT M6	23-142-60601271	4

KF-7330 Stand I/O Bracket Assembly Exploded Diagram



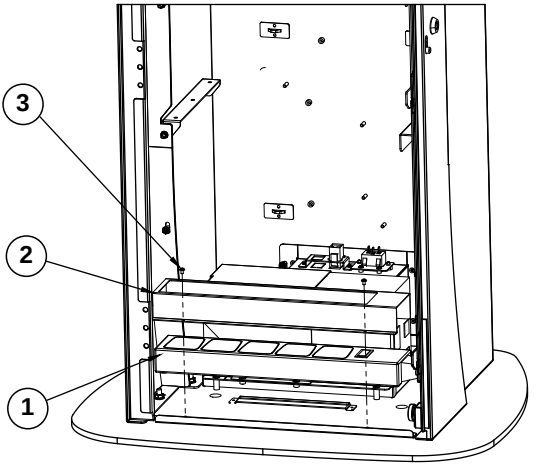
No.	Component Name	P/N No.	Q'ty
1	STAND BACK ASSY-1	N/A	1
2	IO CUP ASSY	N/A	1
3	FLANGED NUT M4	23-142-40450801	4

KF-7330 Stand UPS Module Assembly Exploded Diagram



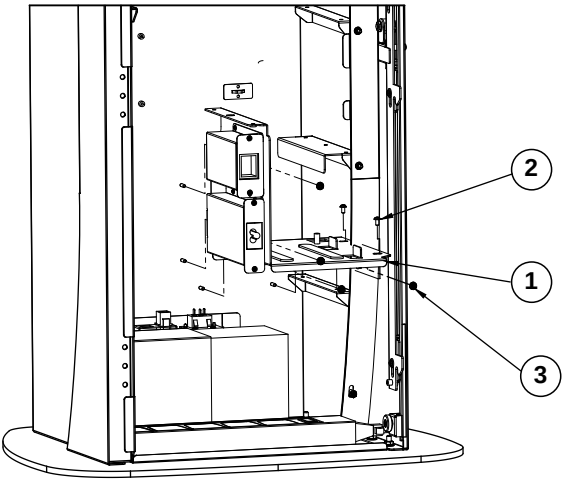
No.	Component Name	P/N No.	Q'ty
1	UPS HOLDER	20-029-02009375	1
2	ROUND WASHER HEAD SCREW #2/M4x0.7Px8mm	22-232-40008011	6
3	UPS	N/A	1
4	UPS COVER	20-004-02005375	1
5	UPS COVER EVA	90-013-15300375	1

KF-7330 Stand Power Extension Assembly Exploded Diagram



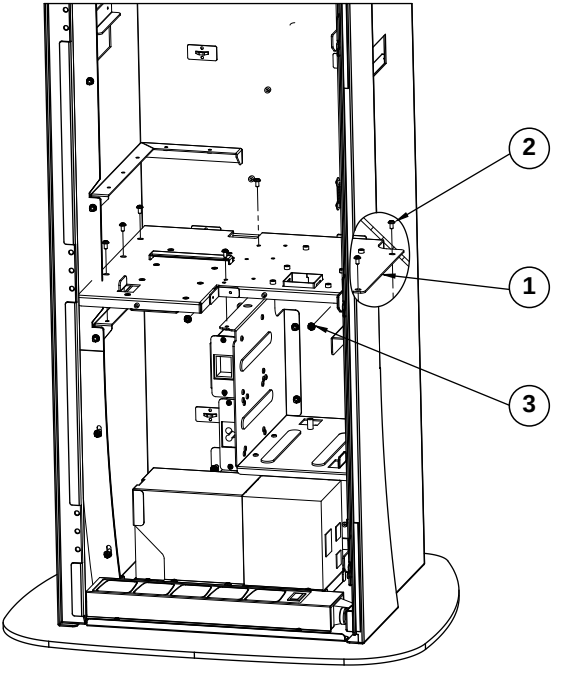
No.	Component Name	P/N No.	Q'ty
1	EXTENSION SET	52-990-01050040	1
2	EXTENSION SET HOLDER	20-029-02006375	1
3	ROUND WASHER HEAD SCREW M3x0.5Px5mm	22-242-30005311	2

KF-7330 Stand Coin Box Bracket Assembly Exploded Diagram



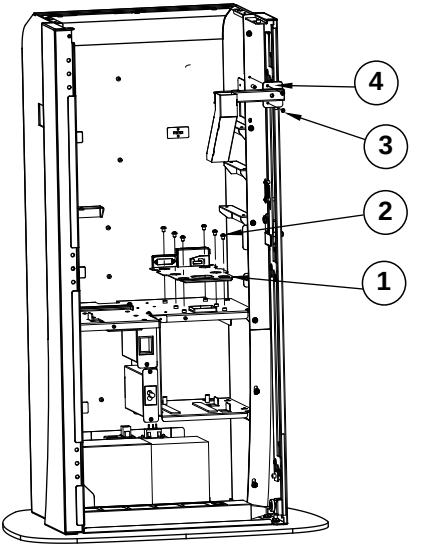
No.	Component Name	P/N No.	Q'ty
1	COIN BRACKET ASSY IPRO	N/A	1
2	ROUND WASHER HEAD SCREW #2/M4x0.7Px8mm	22-232-40008011	2
3	FLANGED NUT M4	23-142-40450801	4

KF-7330 Stand Shelf Assembly Exploded Diagram



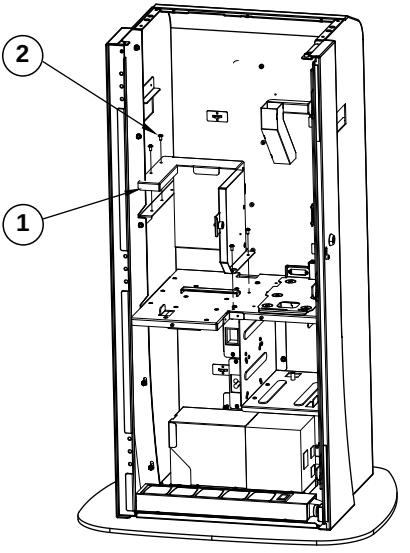
No.	Component Name	P/N No.	Q'ty
1	HOPPER BRACKET IPRO-S	20-006-02115375	1
2	ROUND WASHER HEAD SCREW #2/M4x0.7Px8mm	22-232-40008011	7
3	FLANGED NUT M4	23-142-40450801	2

KF-7330 Smart Hopper Holder Assembly Exploded Diagram



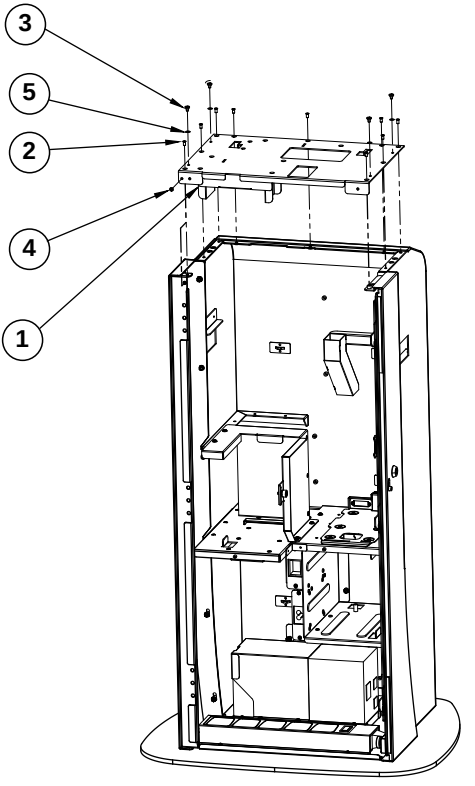
No.	Component Name	P/N No.	Q'ty
1	HOPPER HOLDER	N/A	1
2	ROUND HEAD SCREW M5x0.8Px6mm	22-232-50006011	6
3	ROUND WASHER HEAD SCREW M3x0.5Px5mm	22-242-30005311	2
4	COIN FEEDER	20-006-02002375	1

KF-7330 Smart Payment Bracket Assembly Exploded Diagram



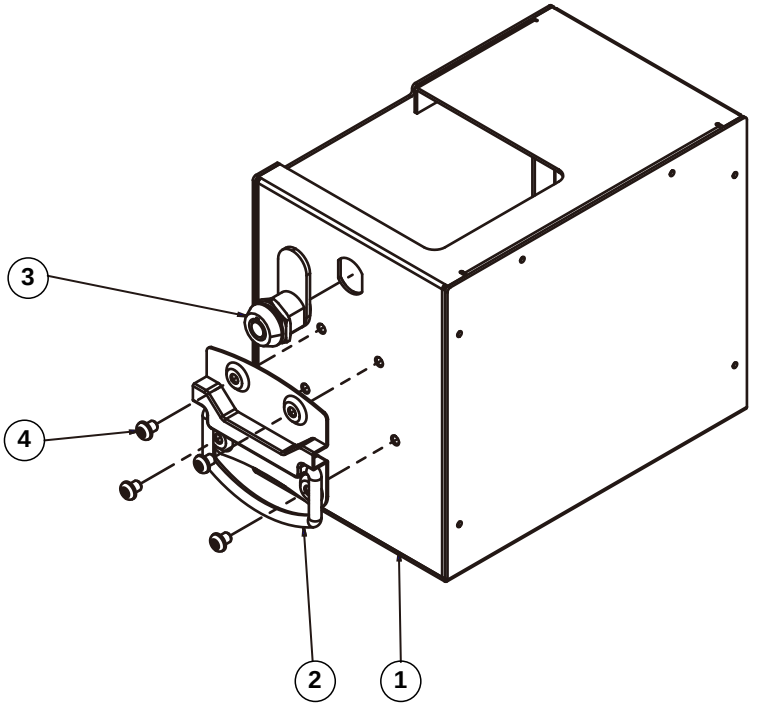
No.	Component Name	P/N No.	Q'ty
1	IPRO HOLDER	20-029-02114375	1
2	ROUND WASHER HEAD SCREW #2/M4x0.7Px8mm	22-232-40008011	4

KF-7330 Stand Top Cover Assembly Exploded Diagram



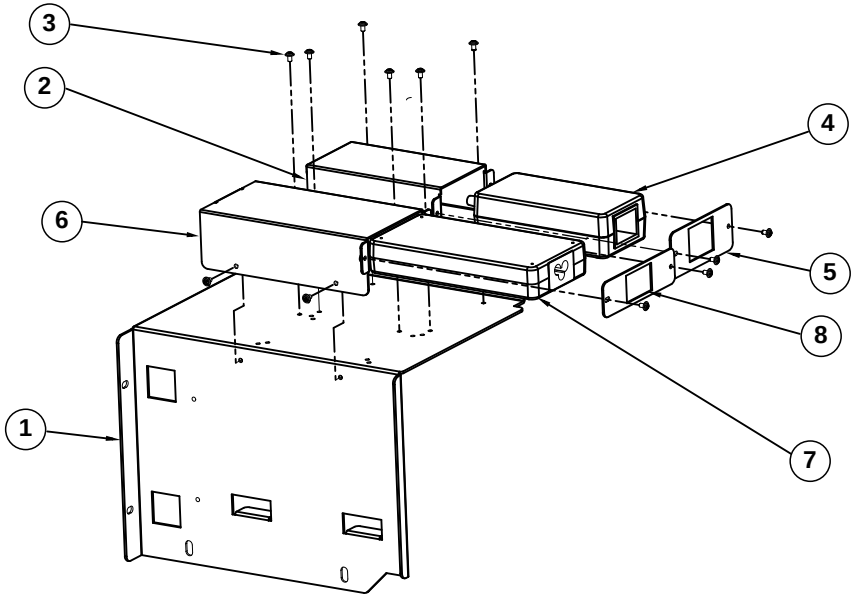
No.	Component Name	P/N No.	Q'ty
1	TOP COVER IPRO	N/A	1
2	FLAT HEAD SCREWψ 6.4 / M4x0.7Px8mm	22-215-40008711	9
3	FILLISTR HEAD SCREW #2 / M4x0.7Px6mm	22-272-40006911	4
4	ROUND WASHER HEAD SCREW M3x0.5Px5mm	22-242-30005311	1
5	WASHER	23-202-04080081	4

Coin Box Assembly Exploded Diagram



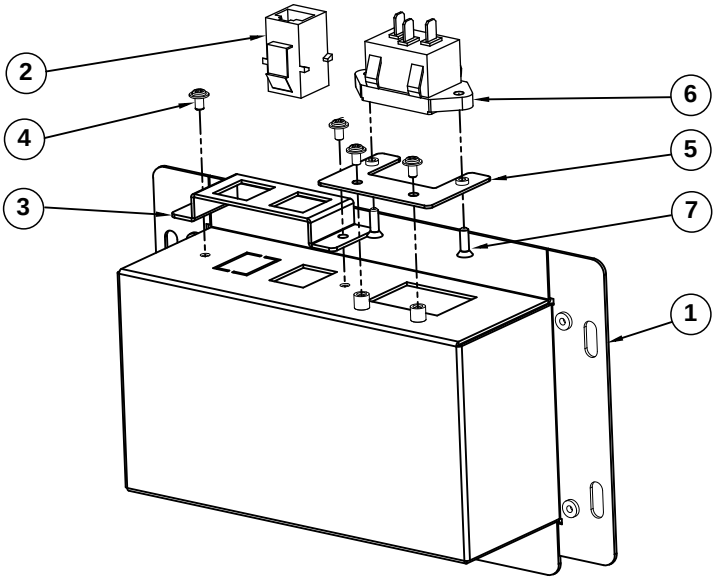
No.	Component Name	P/N No.	Q'ty
1	COIN BOX	20-040-02002375	1
2	LIFTING HANDLES	20-035-10001000	1
3	LOCK	NO.11009	1
4	ROUND HEAD SCREW M5x0.8Px6mm	22-232-50006011	4

Stand Adapter Assembly Exploded Diagram



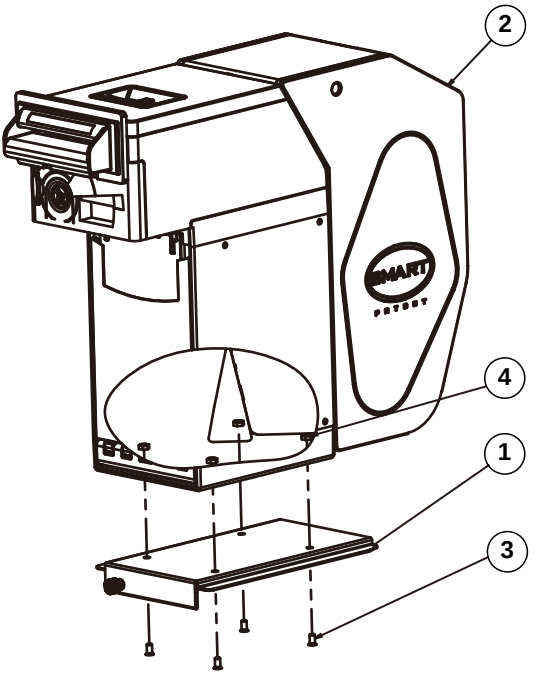
No.	Component Name	P/N No.	Q'ty
1	COIN BOX BRACKET IPRO	20-006-02111375	1
2	AC ADPAPTER 12V HOLDER	20-029-02002375	1
3	ROUND WASHER HEAD SCREW M3x0.5Px5mm	22-242-30005311	12
4	AC ADPATER 12V	52-002-03052102	1
5	AC ADPATER 12V PLATE	20-005-02001375	1
6	ADAPTER 24V HOLDER-FSP120	20-029-02113375	1
7	AC ADPATER 24V	52-002-02900101	1
8	AC ADPATER 24V PLATE-FSP120	80-005-02001375	1

Stand I/O Module Assembly Exploded Diagram



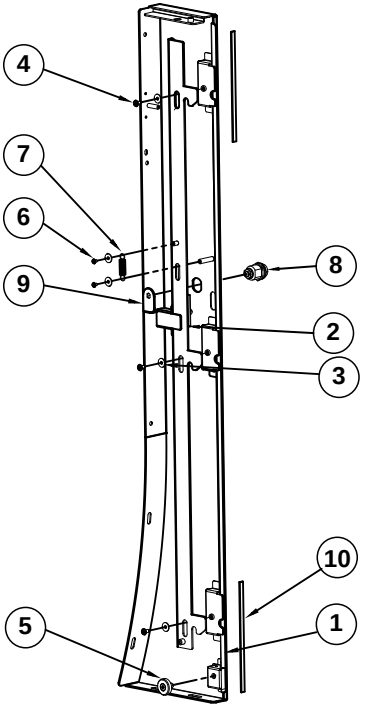
No.	Component Name	P/N No.	Q'ty
1	IO CUP-IPRO	20-006-02062375	1
2	MODULAR COUPLER JACK	10-085-08012135	1
3	LAN HOLDER	20-029-02007375	1
4	ROUND WASHER HEAD SCREW M3x0.5Px5mm	22-242-30005311	4
5	AC CABLE HOLDER	20-029-02004375	1
6	AC CABLE	N/A	1
7	FLAT HEAD SCREW #2 / M3x0.5Px10mm	22-212-30010311	2

SMART Payout Assembly Exploded Diagram



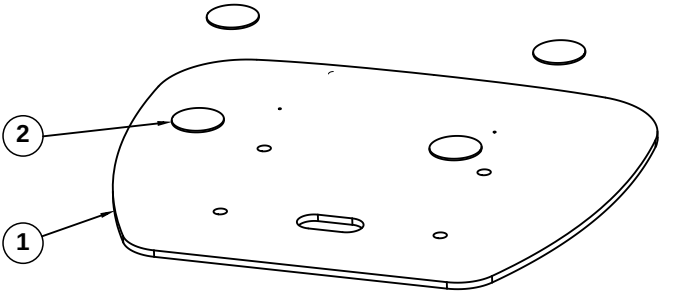
NO.	COMPONENT NAME	PART NO.	Q'ty
1	NOTE HOLDER	20-029-02008375	1
2	PAYOUT	52-990-00000143	1
3	SCREW	22-215-40008011	4
4	M4 NUT	23-102-40300071	4

Stand Side Cover Assembly Exploded Diagram



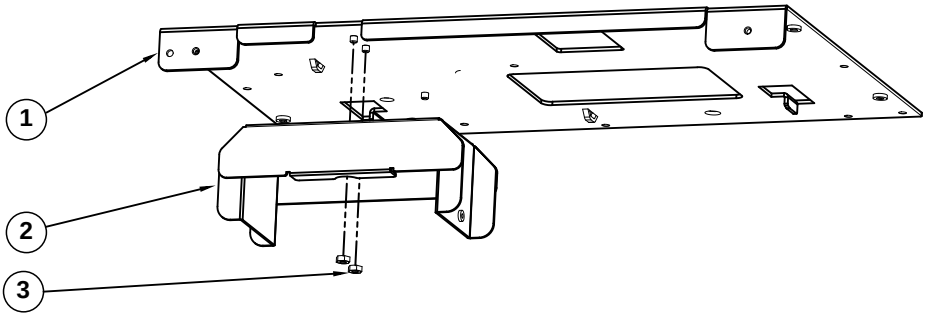
No.	Component Name	P/N No.	Q'ty
1	SIDE COVER R-IPRO	20-004-02115375	1
2	DOOR HOOK	20-004-07002375	1
3	WASHER	23-312-40010121	5
4	ROUND WASHER HEAD SCREW #2 / M4x0.7Px8mm	22-232-40008011	3
5	PLASTIC WHEEL	22-281-60007001	1
6	ROUND WASHER HEAD SCREW M3x0.5Px5mm	22-242-30005311	2
7	DOOR HOOK EXTENSION SPRING	23-002-00000092	1
8	LOCK	NO.10089	1
9	DOOR LOCK SHEET	20-025-02002375	1
10	DOOR EVA	90-013-15100375	1

Stand Button & Rubber Foot Assembly Exploded Diagram



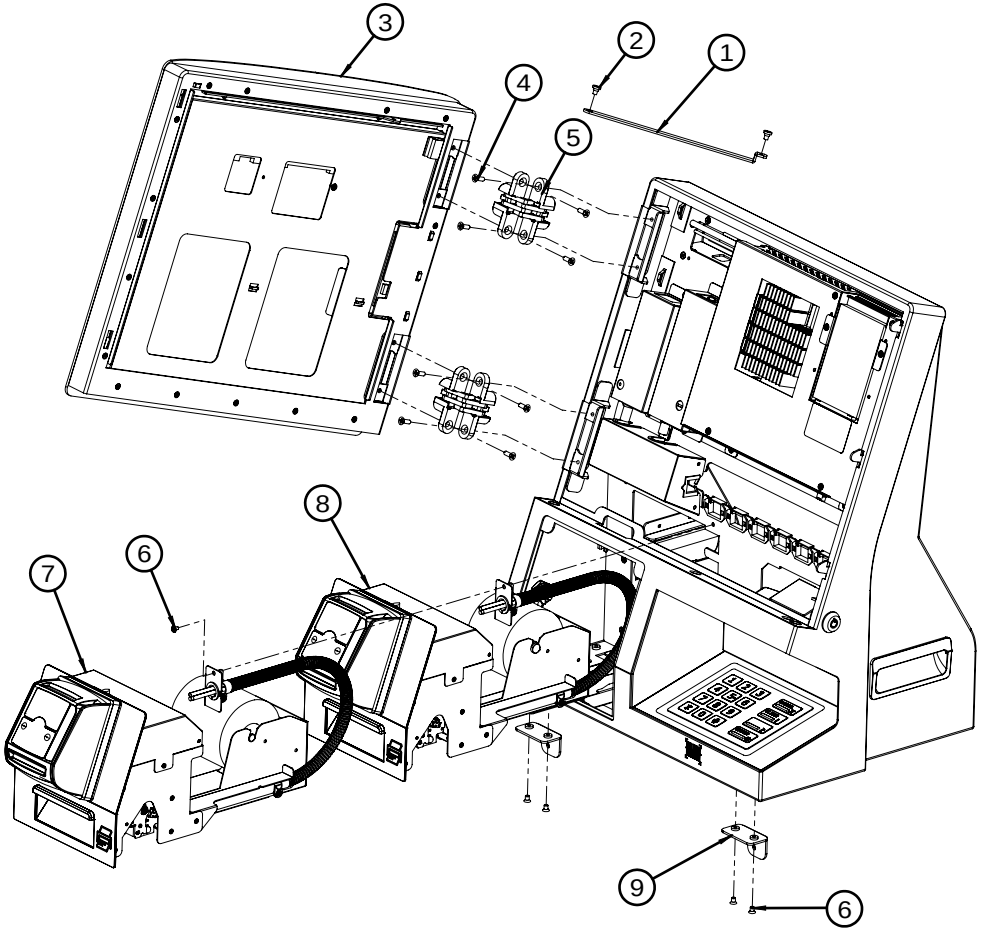
No.	Component Name	P/N No.	Q'ty
1	STAND BOTTOM	20-017-02064375	1
2	RUBBER FOOT	90-004-01000000	4

iPRO-RC Stand Top Cover Assembly Exploded Diagram



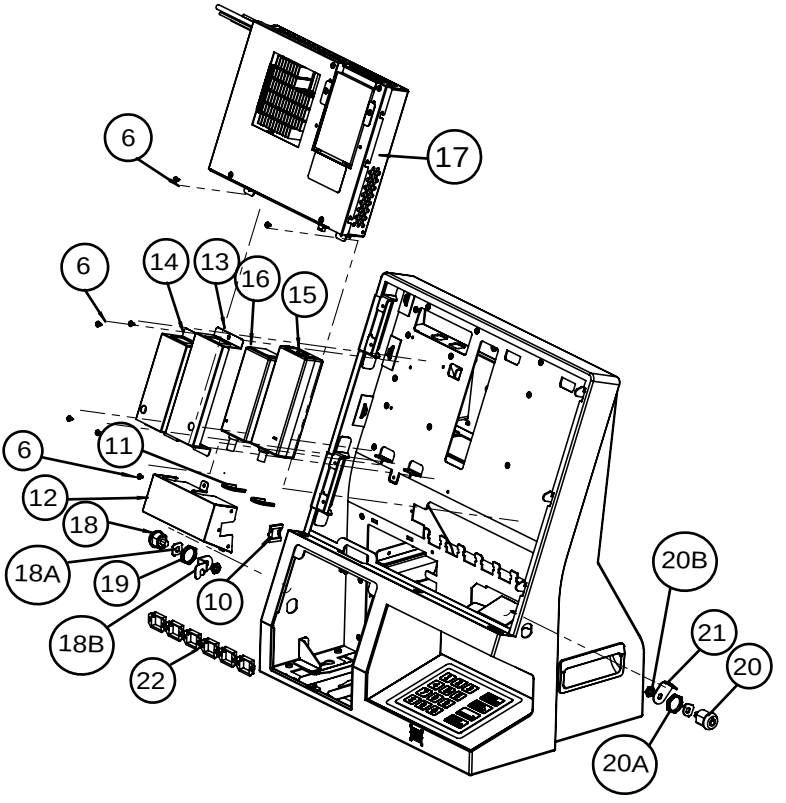
No.	Component Name	P/N No.	Q'ty
1	STAND TOP COVER-SJ	80-004-02005375	1
2	IPRO UPPER HOLDER	80-029-02002375	1
3	HEX NUTS(M4x0.7P,H=3mm)	23-102-40300071	2

Panel & Printer Module Exploded Diagram



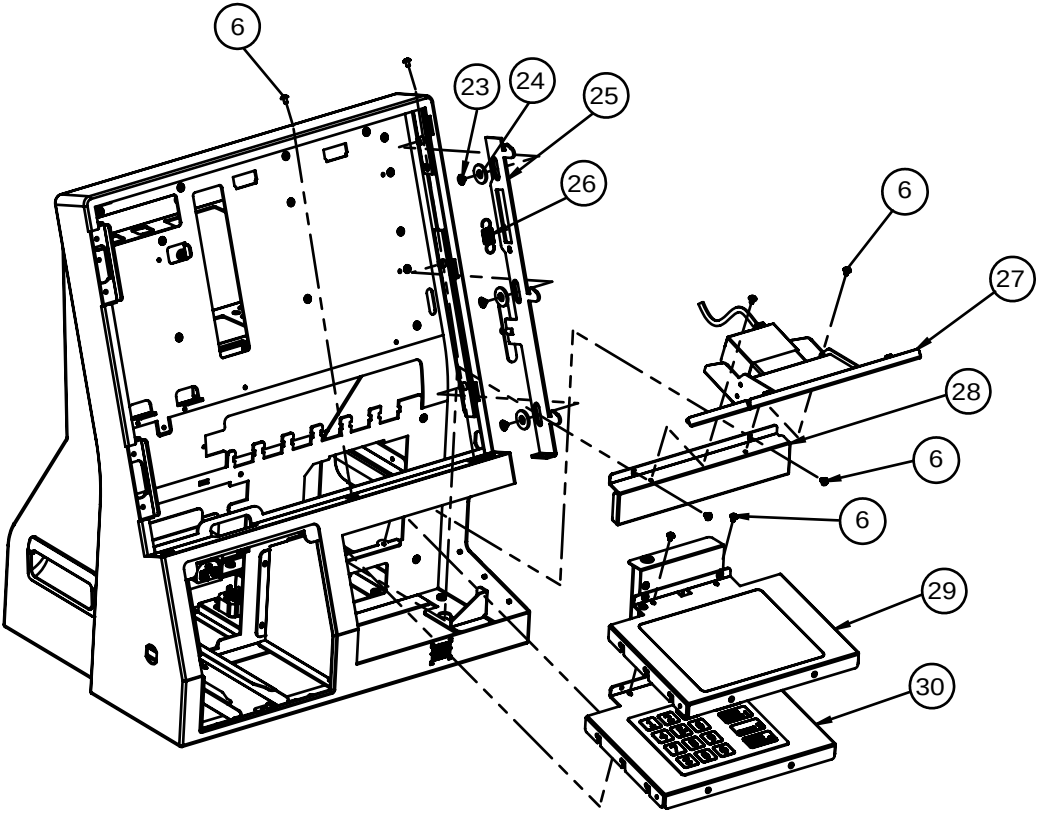
NO.	COMPONENT NAME	PART NO.	Q'ty
1	panel_link_part	20-004-03002375	1
2	M4_H2.2_L4_I_Ni	22-272-40004911	2
3	KF-7330_panel_unit	---	1
4	M4_L12_F-t2_B	22-215-40012011	8
5	CL-70	20-012-35001375	2
6	M3_L5_W_Ni	22-242-30005311	16
7	KF-7330 3INCH Printer	--	1
8	KF-7230 2INCH Printer	--	1
9	link_part	20-004-03001375	2

MB Box Module and Adapter Assembly Exploded Diagram



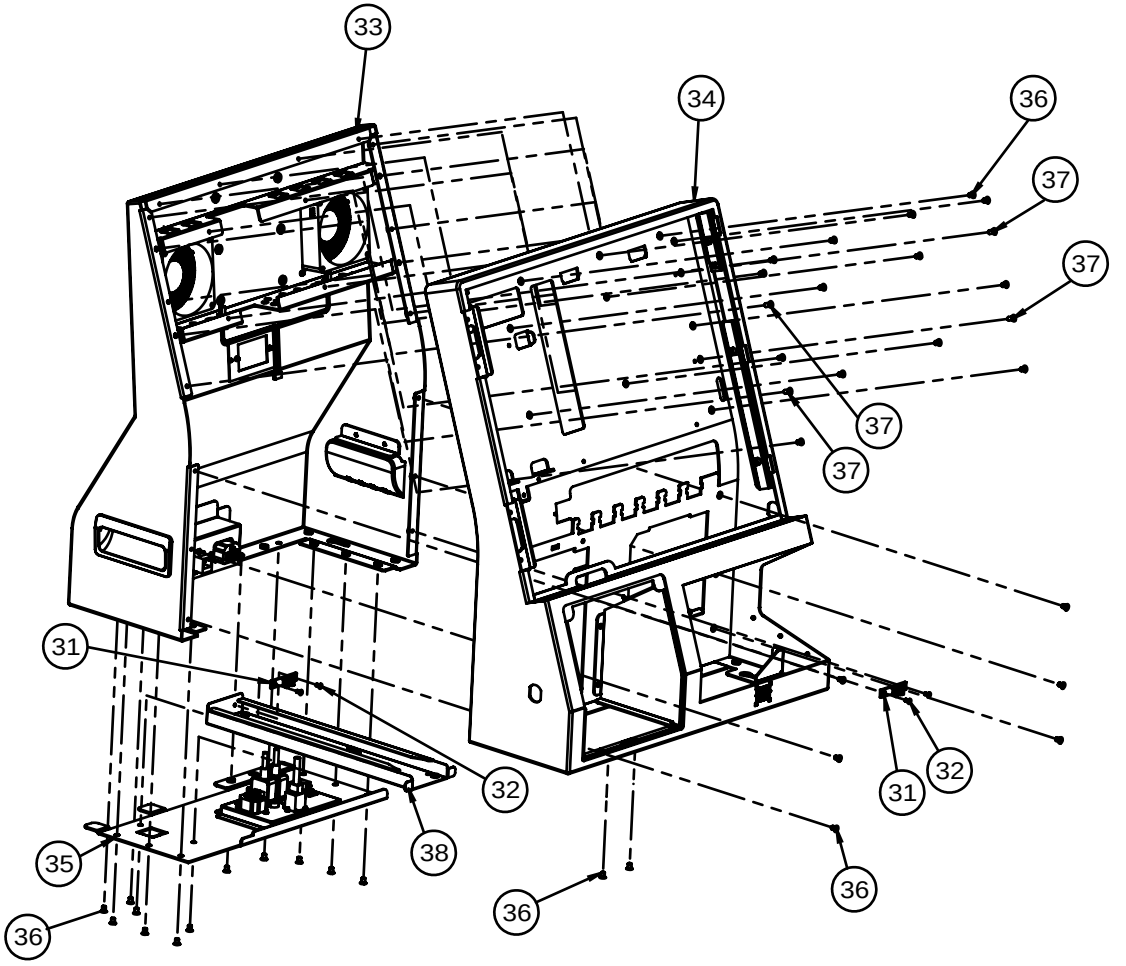
NO.	COMPONENT NAME	PART NO.	Q'ty
10	EDGE SADDLE(SQB-2)	90-026-04500000	1
11	EDGE SADDLE(UST-05)	90-058-04300000	2
12	adapter_cable_box	20-040-03001375	1
13	small_adapter_holer	20-029-03005375	1
14	adapter_113X49X34_holer	20-029-03002375	1
15	120w_Adapter	52-002-11072302	1
16	Adapter	52-002-10068302	1
17	PCB BOX Unit	--	1
18	Printer_LOCK	20-025-30001284	1
19	Printer_lock_sheet	20-025-02006375	1
20	PANEL_LOCK	20-025-31001375	1
21	Panel_lock_sheet	20-025-02005375	1
22	EDGE SADDLE(SQJA-2)	90-058-04200000	6

Barcode and Pin Pad Module Exploded Diagram



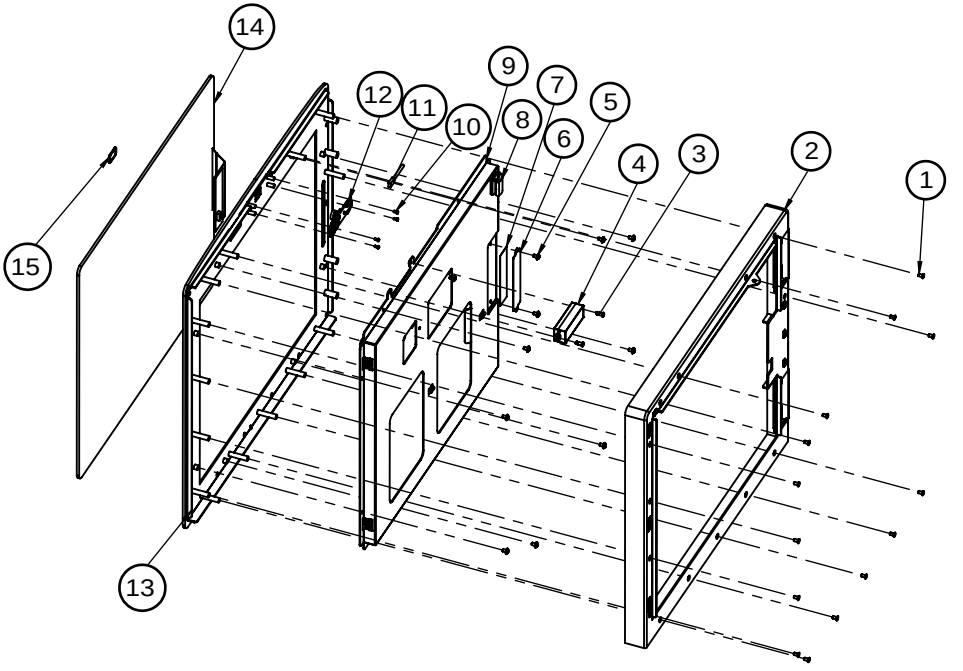
NO.	COMPONENT NAME	PART NO.	Q'ty
23	m4_4_big_i	22-275-40004911	3
24	ID7.5/OD18/t1.8 washer	23-342-18010751	3
25	panel_lock_bar	20-025-02004375	1
26	lock_spring	23-002-00001002	1
27	KF-7330_Barcode_unit	--	1
28	KF-7330_keypad_mid_cover	20-004-02063375	1
29	NFC_UNIT	--	1
30	KF-7330_keypad_unit	----	1

Upper Front and Back Side Assembly Exploded Diagram



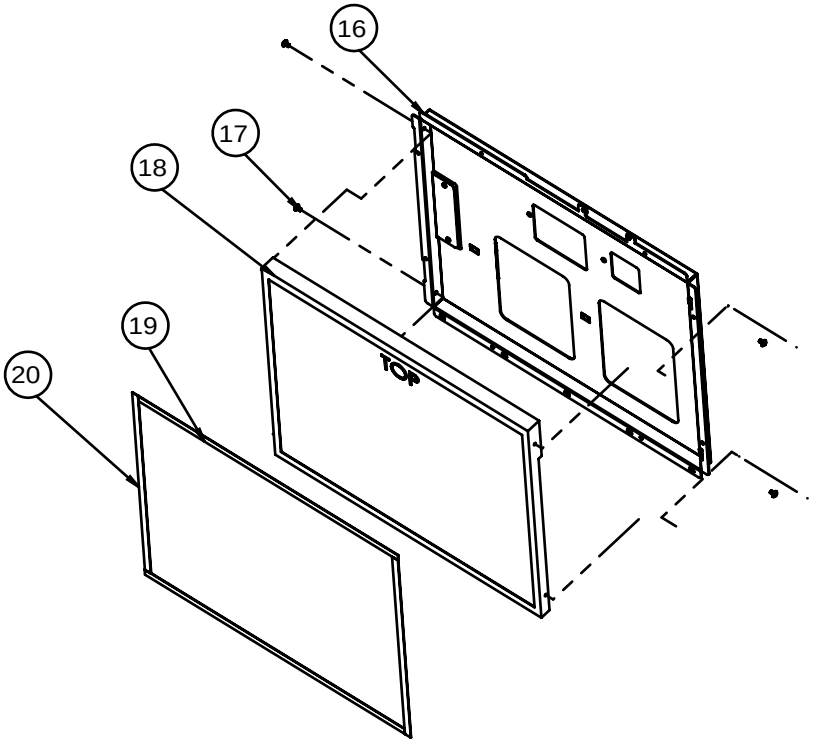
NO.	COMPONENT NAME	PART NO.	Q'ty
31	DL-9DK	90-023-09100000	2
32	M3_L6_F_B	22-215-30060011	4
33	KF-7330_Upper_Back_UNIT	--	1
34	KF-7330_Upper_Front_Asm	20-001-02061375	1
35	Back_cover_bot_Unit	--	1
36	M4_L6_F_B	22-215-40006011	38
37	M4_L8_F_B	22-215-40008711	4
38	printer_slot_base	20-032-02001375	1

Touch Module Assembly Exploded Diagram



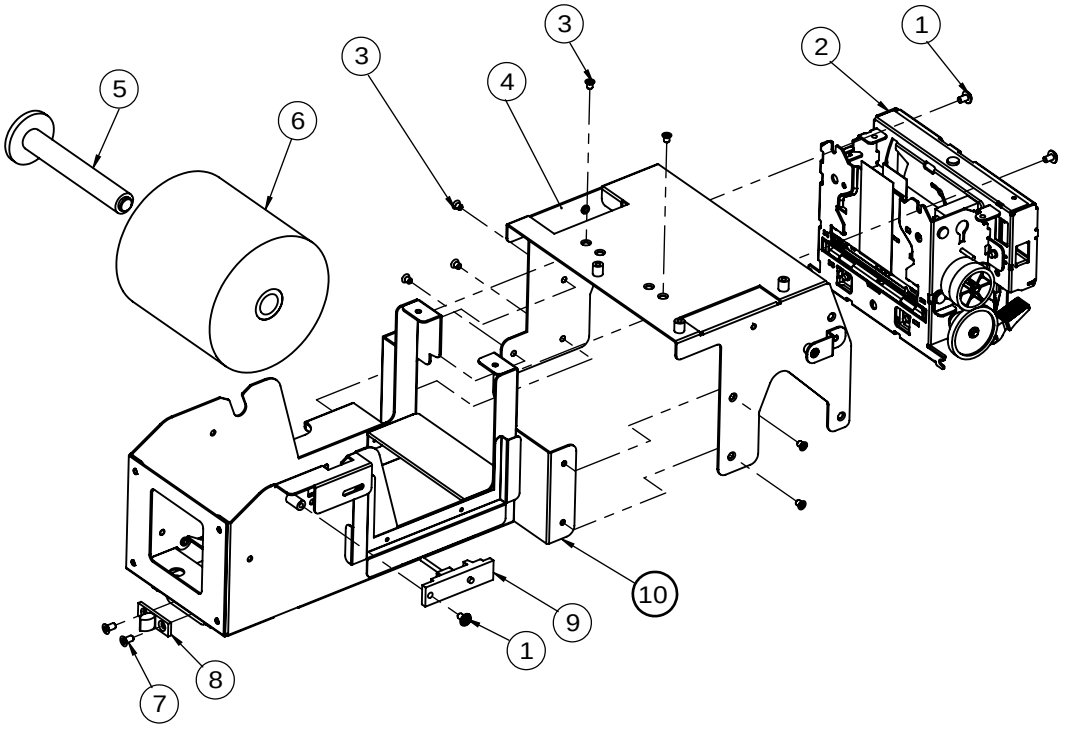
NO.	COMPONENT NAME	PART NO.	QTY.
1	M3 L6 F B	22-215-30060011	14
2	KF-7330_PANEL_BACK_COVER	20-004-02064375	1
3	m3_l5_h3_i_ni	22-272-30008015	2
4	KF-7330_speaker	27-021-26902071	1
5	M3_L5_W_Ni	22-242-30005311	11
6	MM-7017 TOUCH BOARD BRACKET	80-006-03001258	1
7	BOARD_Bracket_Both_side_tape	94-026-04502258	1
8	Cable clip(FW-7)	30-023-04300010	1
9	KF-7330_LCD_UNIT	--	1
10	M2_L4_R_Ni	22-232-20004811	4
11	KF-7330_camera_cable2	27-055-37509111	1
12	FACE CAMERA PCBA-New Lens	52-151-08000231	1
13	KF-7330_FRONT_PLANE	20-003-02061375	1
14	Mildex_17"_Flat_capacitive	52-380-04203317	1
15	pk-7090 CANERA LENS	30-021-28100284	1

Panel Module Assembly Exploded Diagram



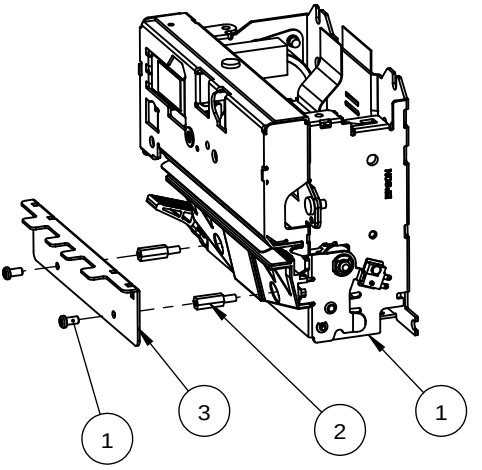
NO.	COMPONENT NAME	PART NO.	Q'ty
16	KF-7330_LCD_holder	20-029-03003375	1
17	M3_L5_W_Ni	22-242-30005311	4
18	AUO G170EG01	52-351-04017002	1
19	PORON_341.9x8x0.5	30-013-24100000	2
20	PORON_341.9x8x0.5	30-013-24100000	2

3-Inch Printer Base Unit Assembly Exploded Diagram (1)



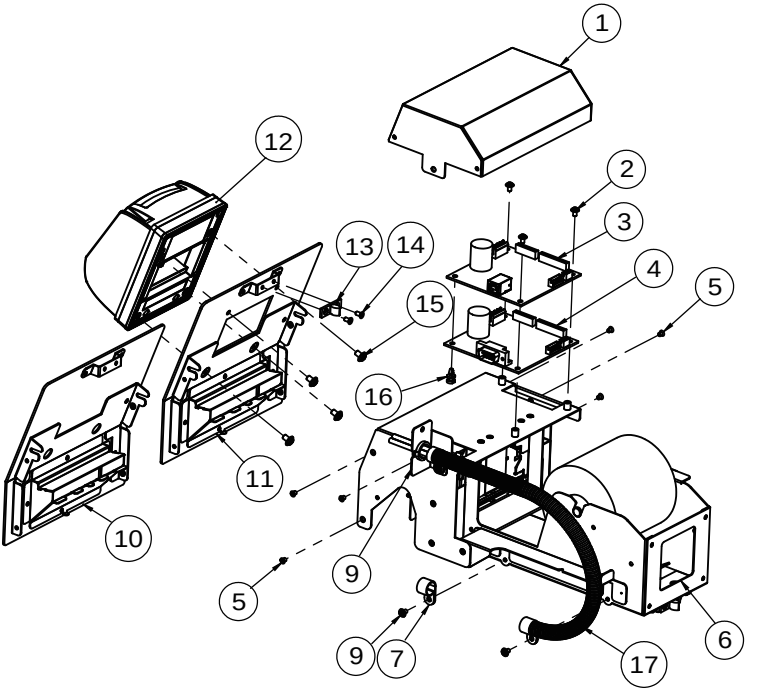
NO.	COMPONENT NAME	PART NO.	Q'ty
1	M3_L5_W_Ni	22-242-30005311	3
2	M-T532ii_for_7330	---	1
3	M3_L4_F_Ni	22-215-30004311	7
4	KF-7330_printer_holder_b	20-029-03004375	1
5	BARS_AXIS_130MM	22-000-30087001	1
6	ROLL_80x80_ID12mm	34-027-04711000	1
7	M3_L6_F_B	22-215-30060011	2
8	dl-8dk	90-023-04101000	1
9	PAPER_NEAR_ENDS_SENSOR	52-370-10050009	1
10	KF-7330_3inch_paper_holder	20-029-03001375	1

3-Inch Printer Base Unit Assembly Exploded Diagram (2)



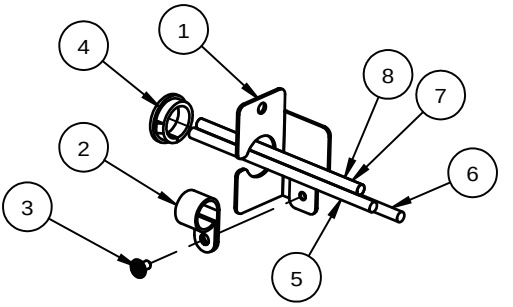
NO.	COMPONENT NAME	PART NO.	Q'ty
1	m-t532iiaf_e11038	52-701-02025008	1
2	M2.5_L3_H10_HEX_BOSS	22-298-25010001	2
3	3inch_paper_support	20-002-02064375	1

3-Inch Printer Module Assembly Exploded Diagram



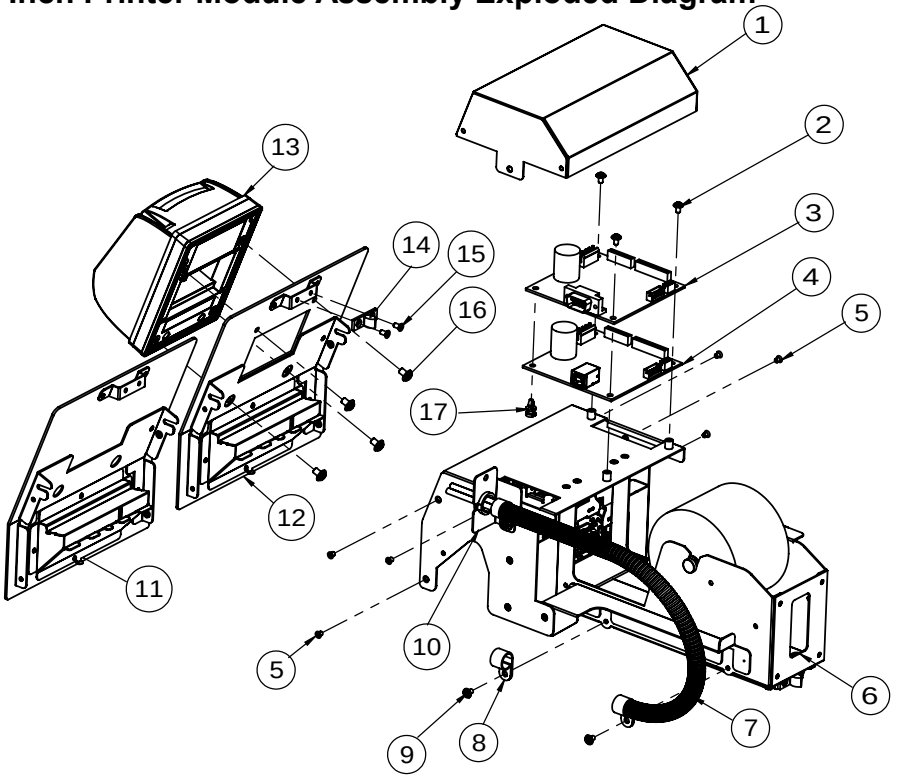
NO.	COMPONENT NAME	PART NO.	Q'ty
1	printer_pcb_box	20-040-03002375	1
2	M3_L5_W_Ni	22-242-30005311	3
3	BA-T500_pcb_USB	52-370-06050009	1
4	BA-T500_pcb_RS232	52-370-06029209	1
5	M3_L4_F_Ni	22-215-30004311	6
6	KF-7330_3inch_printer_base_UNIT	--	1
7	Cable clip(CC-18)	90-023-04201000	2
8	M3_L5_W_Ni	22-242-30005311	2
9	Printer_cable_fix_unit	--	1
10	KF-7330_printer_Holder_without_VEND	20-029-02064375	1
11	KF-7330_printer_Holder	20-029-02063375	1
12	Credit Card Reader	52-551-19000010	1
13	dl-8dk	90-023-04101000	1
14	M3_L6_F_B	22-215-30060011	2
15	M4_L6_W_Ni	22-232-40006311	4
16	Spacer Supper(DCBS-6)	90-041-04102000	1
17	printer_cable_pole	30-047-05100000	1/865

3-Inch Printer Cable Fixing Unit Assembly Exploded Diagram



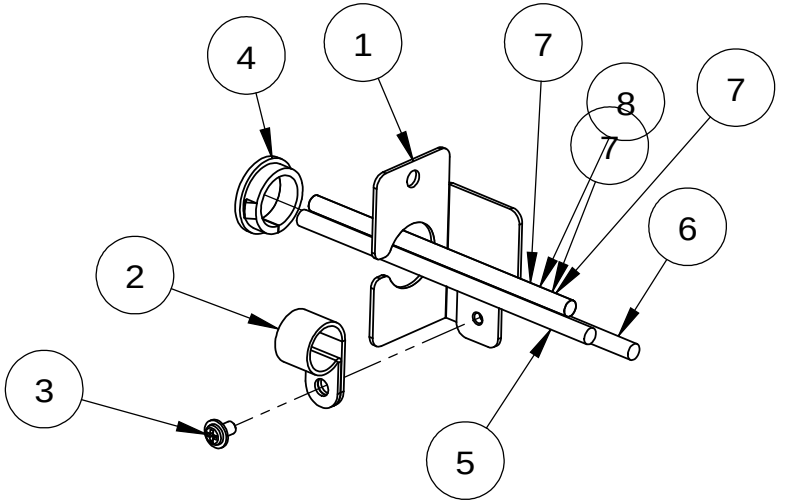
NO.	COMPONENT NAME	PART NO.	QTY.
1	printer_cable_Fix	20-004-02068375	1
2	Cable clip(CC-18)	90-023-04201000	1
3	M3_L5_W_Ni	22-242-30005311	1
4	SA-1316A	90-026-04300000	1
5	7330_printer_power_cable	27-012-37511111	1
6	7330_Credit_card_cable	27-026-37512111	1
7	7330_printer_Cable(USB)	27-006-37516111	1
8	7330_printer_Cable(COM)	27-024-37516111	1

2-Inch Printer Module Assembly Exploded Diagram



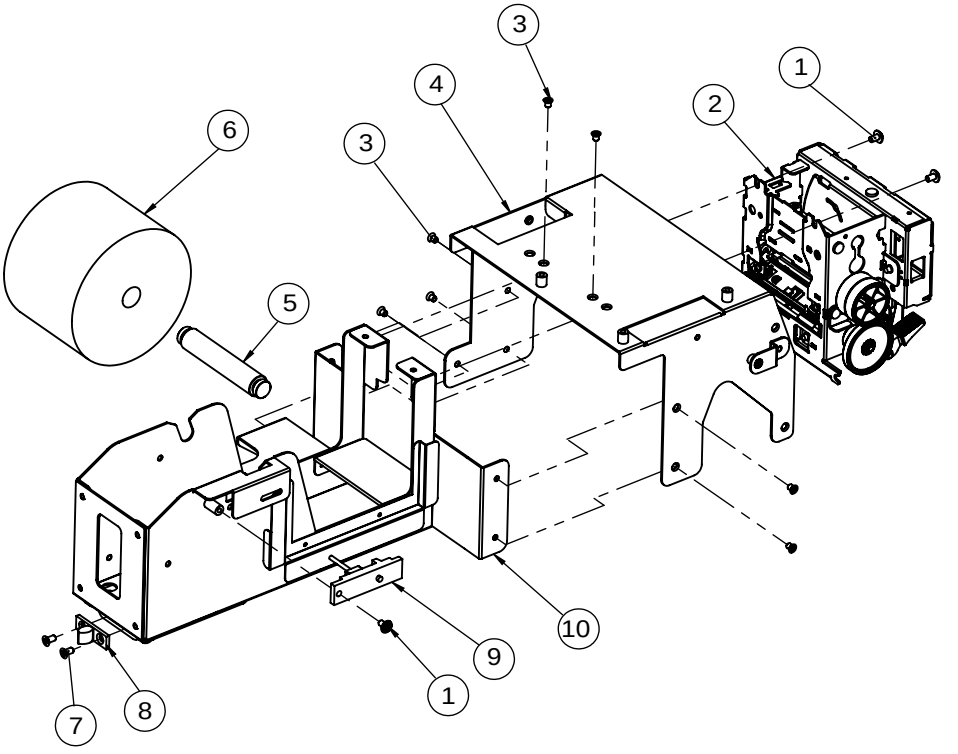
NO.	COMPONENT NAME	PART NO.	Q'ty
1	printer_pcb_box	20-040-03002375	1
2	M3_L5_W_Ni	22-242-30005311	3
3	BA-T500_pcb_RS232	52-370-06029209	1
4	BA-T500_pcb_USB	52-370-06050009	1
5	M3_L4_F_Ni	22-215-30004311	6
6	KF-7330_2inch_printer_base_Unit	--	1
7	printer_cable_pole	30-047-05100000	1/865
8	Cable clip(CC-18)	90-023-04201000	2
9	M3_L5_W_Ni	22-242-30005311	2
10	Printer_cable_fix_unit	--	1
11	KF-7330_printer_Holder_without_VEND	20-029-02064375	1
12	KF-7330_printer_Holder	20-029-02063375	1
13	Credit Card Reader	52-551-19000010	1
14	dl-8dk	90-023-04101000	1
15	M3_L6_F_B	22-215-30060011	2
16	M4_L6_W_Ni	22-232-40006311	4
17	Spacer Supper(DCBS-6)	90-041-04102000	1

2-Inch Printer Cable Fixing Unit Assembly Exploded Diagram



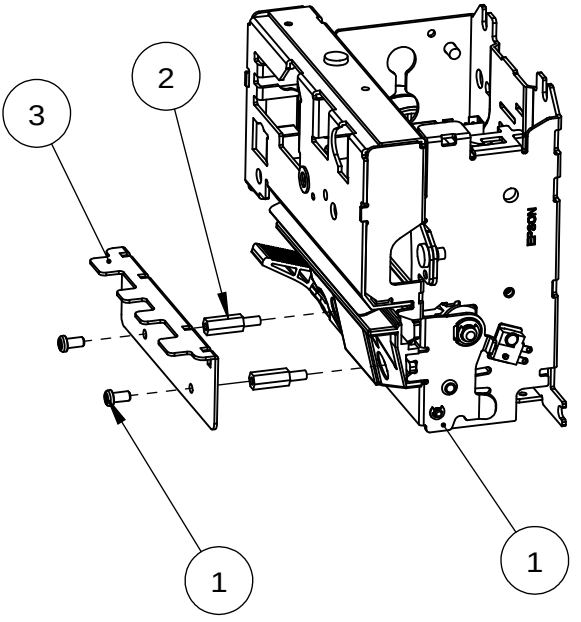
NO.	COMPONENT NAME	PART NO.	Q'ty
1	printer_cable_Fix	20-004-02068375	1
2	Cable clip(CC-18)	90-023-04201000	1
3	M3_L5_W_Ni	22-242-30005311	1
4	SA-1316A	90-026-04300000	1
5	7330_printer_power_cable	27-012-37511111	1
6	7330_Credit_card_cable	27-026-37512111	1
7	7330_printer_Cable(USB)	27-006-37516111	1
8	7330_printer_Cable(COM)	27-024-37516111	1

2-Inch Printer Module Assembly Exploded Diagram (2-1)



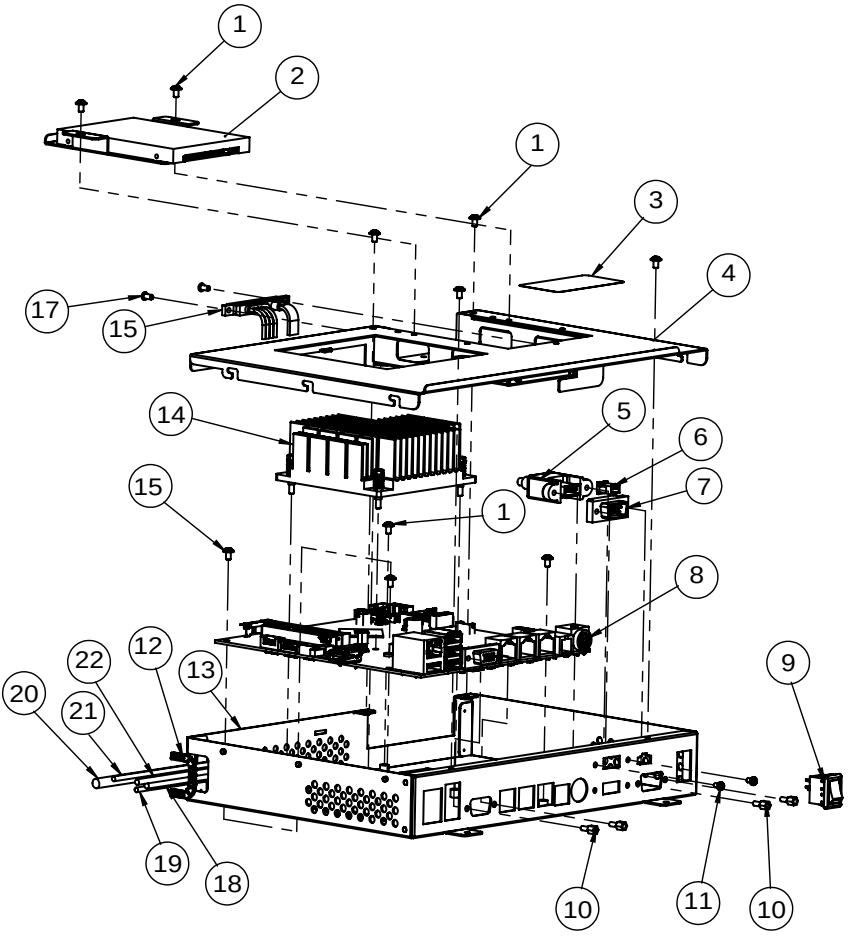
NO.	COMPONENT NAME	PART NO.	Q'ty
1	M3_L5_W_Ni	22-242-30005311	3
2	M-T512IIAP_for_7330_Unit	--	1
3	M3_L4_F_Ni	22-215-30004311	8
4	KF-7330_printer_holder_b	20-029-03004375	1
5	2inch_paper_center_pin	22-000-12046001	1
6	2Inch_ROLL_OD80_ID12	34-027-04708000	1
7	M3_L6_F_B	22-215-30060011	2
8	dl-8dk	90-023-04101000	1
9	PAPER_NEAR_ENDS_SENSOR	52-370-10050009	1
10	KF-7330_2inch_paper_holder	20-029-02001375	1

2-Inch Printer Module Assembly Exploded Diagram (2-2)



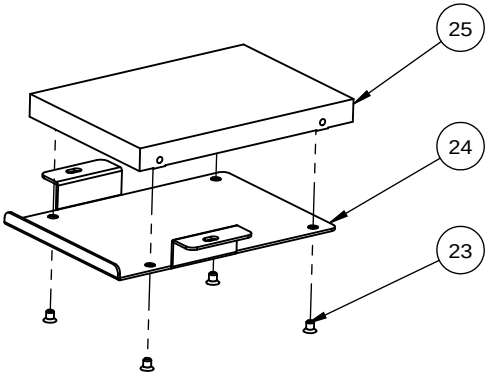
NO.	COMPONENT NAME	PART NO.	Q'ty
1	Epson M-T512IIAP	52-701-04025008	1
2	M2.5_L3_H10_HEX_BOSS	22-298-25010001	2
3	2inch_paper_support	20-002-02061375	1

MB Box Module Assembly Exploded Diagram



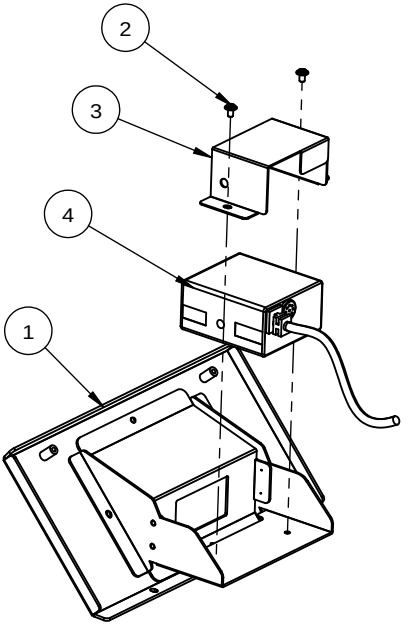
NO.	COMPONENT NAME	PART NO.	Q'ty
1	M3_L5_W_Ni	22-242-30005311	7
2	hdd_unit-2	--	1
3	KF-7230_label	94-017-01601375	1
4	system_box_Top	20-040-03004375	1
5	KF-7330_system_USB_cable	27-006-35306111	1
6	KF-7330_2nd_power_cable	27-012-31403072	1
7	KF-7330_d-sub_cable	27-024-18203031	1
8	PA-6722_MB_RC	PA-6722_MB_RC	1
9	KF-7330_SWITCH_cable	27-019-07305071	1
10	No.4_UNC_L5_H6.8_BOSS	22-692-40048051	4
11	No.4_L4_R_Ni	22-322-40004011	2
12	US-1204	90-026-04400000	1
13	system_box	20-040-03003375	1
14	KF-7330_heat_sink_M	21-002-19090009	1
15	M3_L5_W_NI	22-242=30005311	3
15	KF-7330_sata_Cable	27-008-31803081	1
17	M3_L6_I_B	82-275-30006018	2
18	KF-7330_panel_led_cable	27-055-37519111	1
19	KF-7330_camera_cable1	27-055-37511111	1
20	KF-7330_LVDS_cable	27-020-37518111	1
21	KF-7330_spk_cable	27-055-37520111	1
22	KF-7330_touch_cable	27-055-37517111	1

HDD Module Assembly Exploded Diagram



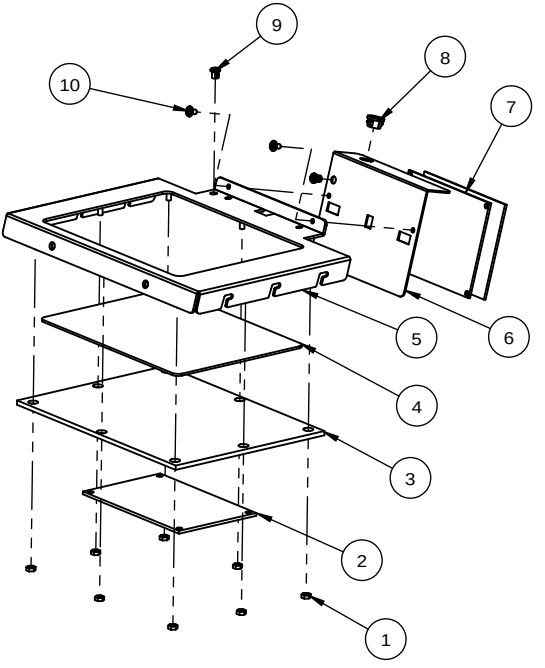
NO.	COMPONENT NAME	PART NO.	Q'ty
23	M3_L4_F_Ni	22-215-30004311	4
24	KF-7330_hdd_tray_type2	20-054-03002375	1
25	2.5" Sata HDD	See Order	1

Barcode Module Assembly Exploded Diagram



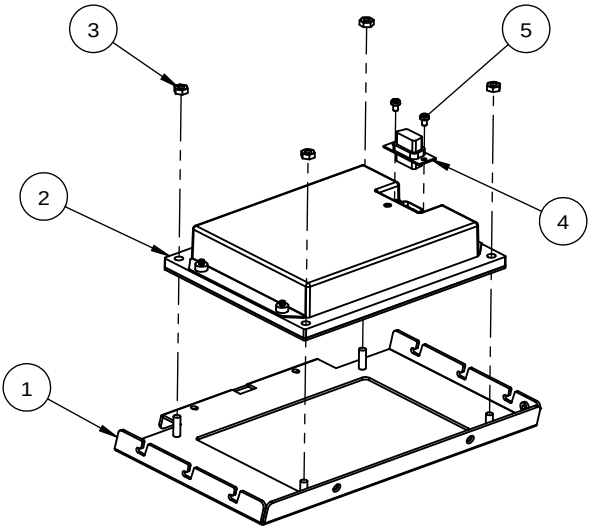
NO.	COMPONENT NAME	PART NO.	Q'ty
1	KF-7330_barcode_base	20-029-02061375	1
2	M3_L5_W_Ni	22-242-30005311	2
3	BarCode_lock	20-025-03001375	1
4	Barcode Scanner(fs5020e)	52-820-50220207	1

RFID Module Assembly Exploded Diagram



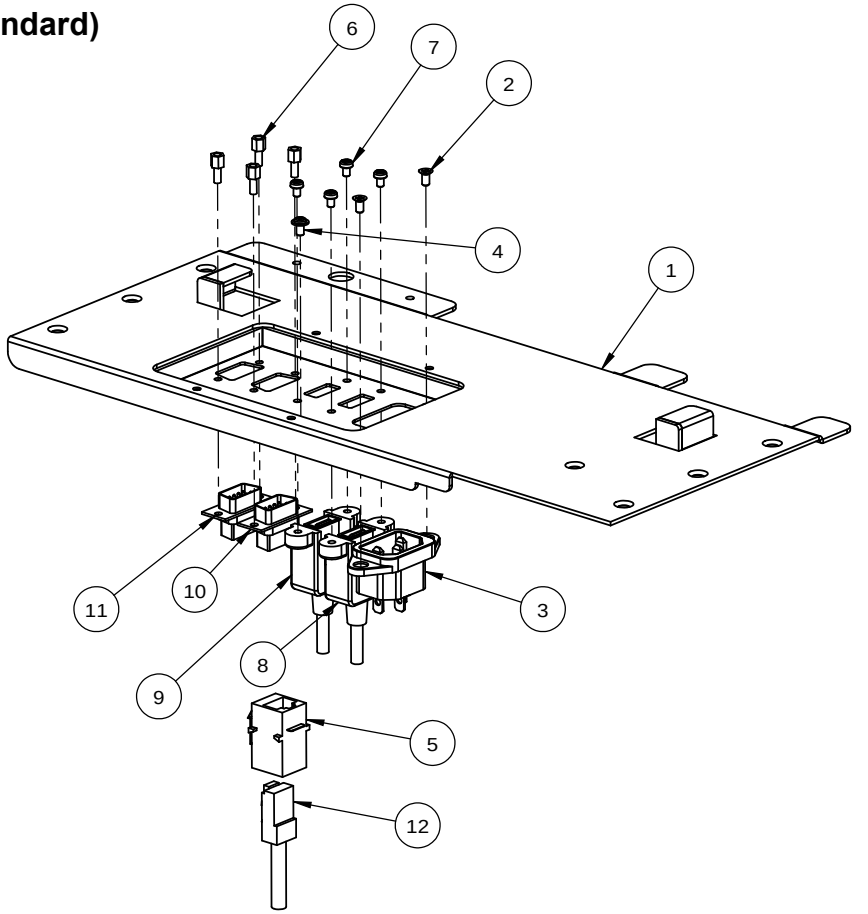
NO.	COMPONENT NAME	PART NO.	Q'ty
1	m3_nut	23-142-30020051	8
2	MP-507	?????	1
3	NFC_BOT_cover	30-002-28220375	1
4	nfc_cover_Top	30-002-28120375	1
5	NFC_table	20-006-02061375	1
6	nfc_pcb_holder		1
7	MP1512R		1
8	Open Bushing(SB-609A)	30-026-04200008	1
9	SB-0305	30-026-04100008	2
10	M3_L5_W_Ni	22-242-30005311	2

Pin Pad Module Assembly Exploded Diagram



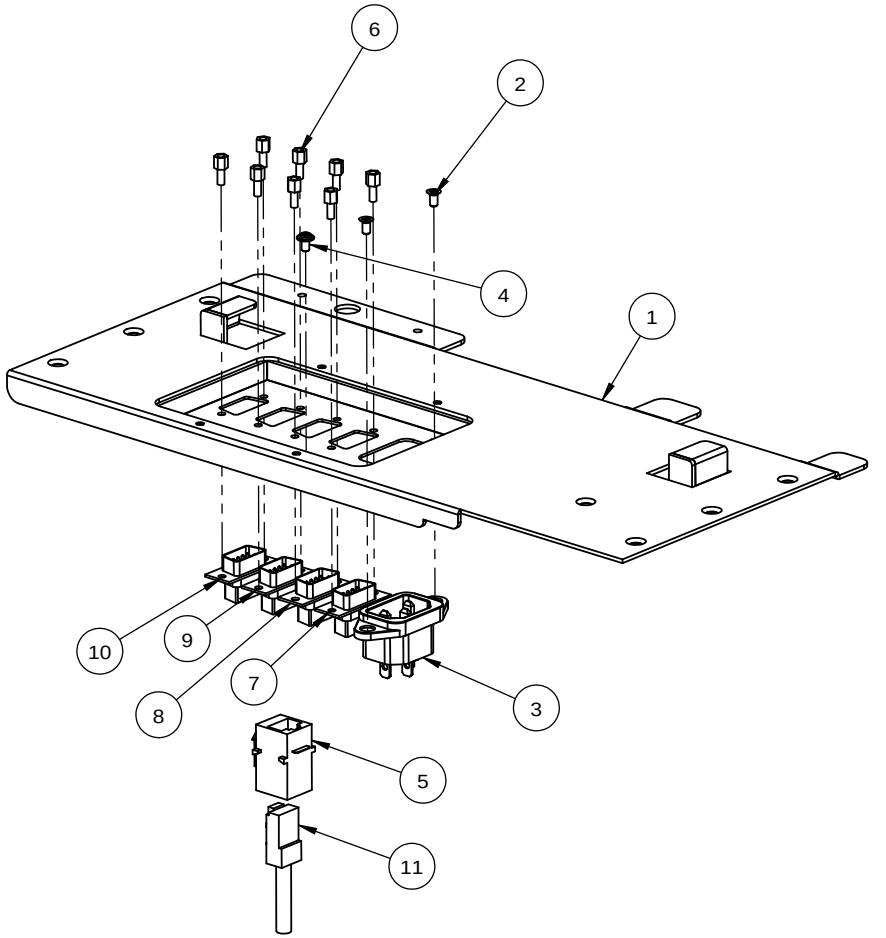
NO.	COMPONENT NAME	PART NO.	Q'ty
1	KF-7330_keypad_base	20-032-02061375	1
2	Number_keyboard	52-990-01000042	1
3	M4_NUT	23-102-40300071	4
4	KF-7330_keypad_cable	27-024-37513111	1
5	No.4_L4_R_Ni	22-322-40004011	2

Cable Adapter Bracket Assembly Exploded Diagram (Standard)



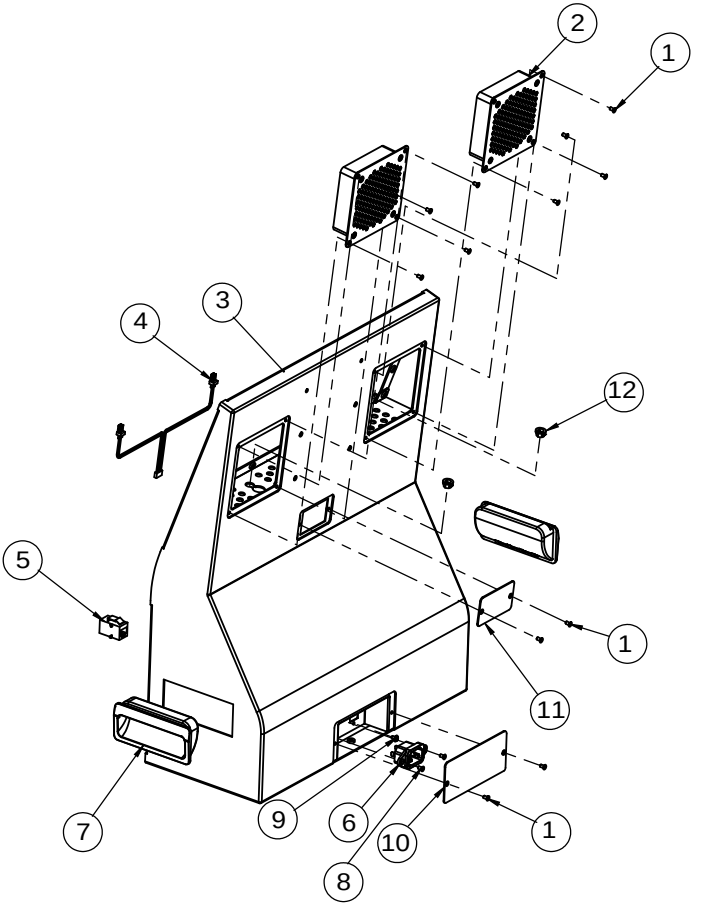
NO.	COMPONENT NAME	PART NO.	Q'ty
1	KF-7330_Upper_Back_cover_bot	20-004-03061375	1
2	M3_L6_F_B	22-215-30060011	2
3	AC_inlet_cable	27-012-37513111	1
4	M3_L5_W_Ni	22-242-30005311	1
5	8P8C Connector	10-085-08012135	1
6	No.4_UNC_L5_H6.8_BOSS	22-692-40048051	4
7	No.4_L4_R_Ni	22-322-40004011	4
8	USB_Cable(Coin Hopper)	27-006-37507111	1
9	USB_Cable((Note Acceptor)	27-006-37508111	1
10	COM Cable(Coin Acceptor)	27-024-37507111	1
11	COM Cable(UPS)	27-031-37507111	1
12	7330_Lan_Cable	27-026-16607111	1

Cable Adapter Bracket Assembly Exploded Diagram (SAP)



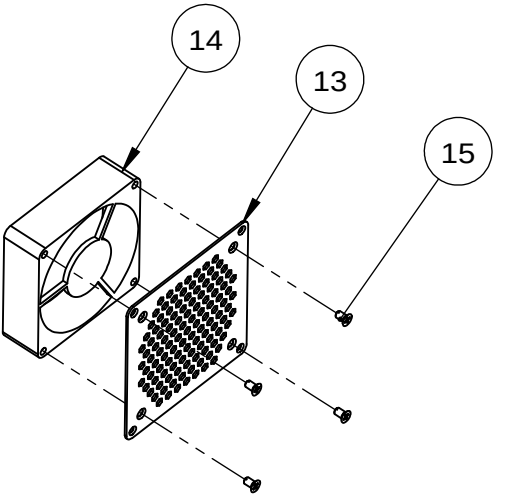
NO.	COMPONENT NAME	PART NO.	Q'ty
1	KF-7330_Upper_Back_cover_bot_type-A	20-004-03062375	1
2	M3_L6_F_B	22-215-30060011	2
3	AC_inlet_cable	27-012-37513111	1
4	M3_L5_W_Ni	22-242-30005311	1
5	8P8C Connector	10-085-08012135	1
6	No.4_UNC_L5_H6.8_BOSS	22-692-40048051	8
7	USB to COM Adapter(Note Acceptor)	52-152-22023257	1
8	COM Cable(Mini Hopper)	27-024-37507112	1
9	COM Cable(Mini Hopper)	27-024-37507111	1
10	COM Cable(Coin Acceptor)	27-031-37507111	1
11	7330_Lan_Cable	27-026-16607111	1

Fan Module Assembly Exploded Diagram (1)



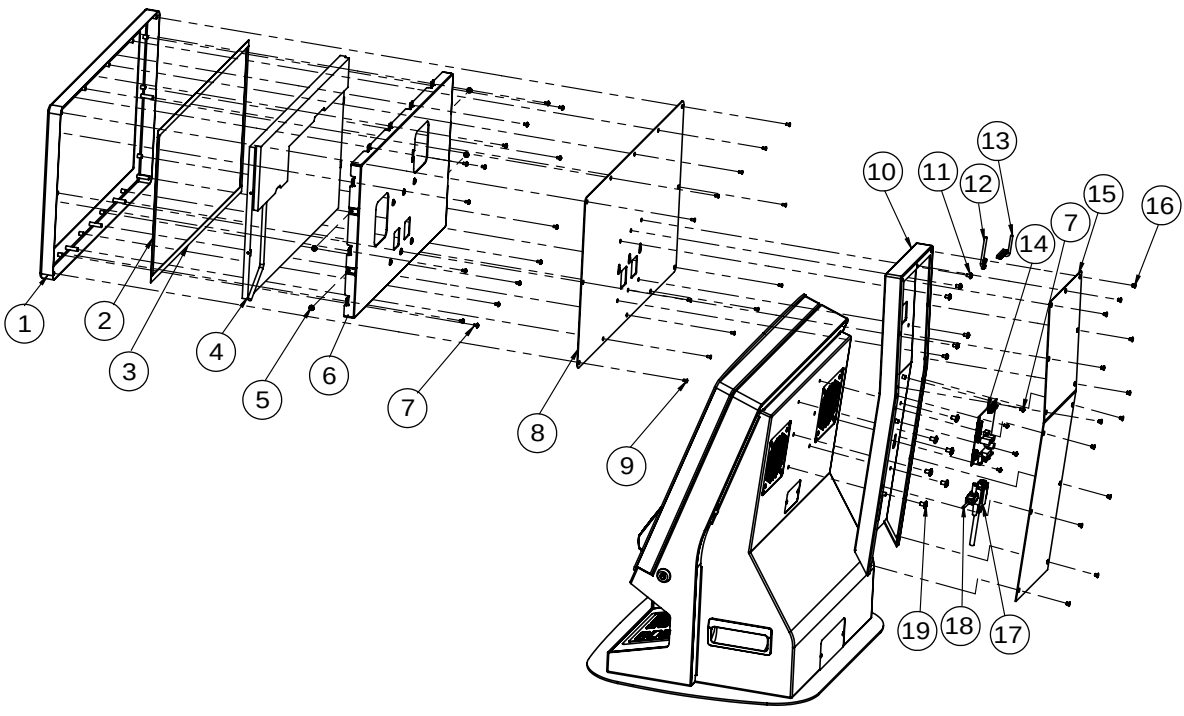
NO.	COMPONENT NAME	PART NO.	Q'ty
1	M3_L6_F_Ni	22-212-30006311	12
2	KF-7330 fan_unit	--	2
3	KF-7330_Upper_Back_cover	20-004-02067375	1
4	KF-7330_Fan_Cable	27-055-37512111	1
5	8P8C Connector	10-085-08012135	1
6	AC_inlet_cable	27-012-37513111	1
7	PULL Cover(HP-746-1.6)	30-080-08110284	2
8	M3_L6_F_B	22-215-30060011	2
9	M3_L5_W_Ni	22-242-30005311	1
10	KF-7330_Upper_cable_cover	20-004-02069375	1
11	2nd_display_hole_door	20-047-02001375	1
12	Open Bushing(SB-609A)	30-026-04200008	2

Fan Module Assembly Exploded Diagram (2)



NO.	COMPONENT NAME	PART NO.	Q'ty
13	fan_cover	20-004-02062375	1
14	80x80x20_Fan	21-004-08080132	1
15	T4_L7_F_B	22-112-40007015	4

Second Display Assembly Exploded Diagram



NO.	COMPONENT NAME	PART NO.	Q'ty
1	KF-7130 2ND FRONT HOLDER	20-006-03062360	1
2	PK-7090 2ND LCD PORON	30-013-24100284	2
3	PK-7090 2ND LCD PORON	30-013-24100284	2
4	18.5" LCD panel	52-351-14018521	1
5	M3_L5_S_W_Ni	22-232-30060011	4
6	KF-7130 2ND LCD HOLDER	20-029-03001360	1
7	M3_L5_W_Ni	22-242-30005311	19
8	KF-7130 2ND BACK BRACKET	20-006-03061360	1
9	M3_6_FLAT_1	22-215-30060011	12
10	2nd_display_support-b	20-002-02062375	1
11	M4_L6_W_Ni	22-232-40006311	6
12	2nd_display_led_cable	27-069-36008111	1
13	2nd_display_lvds_cable	27-020-36008111	1
14	AD Board	52-152-20001052	1
15	KF-7330_2nd_support_Back	20-002-02063375	1
16	M4_L5_F_Ni	22-212-40005011	13
17	KF-7330_2nd_VGA_Cable	27-017-36008111	1
18	AD Board Dc Cable	27-012-12812111	1
19	M5_L8_BR_Ni	22-242-50008011	6

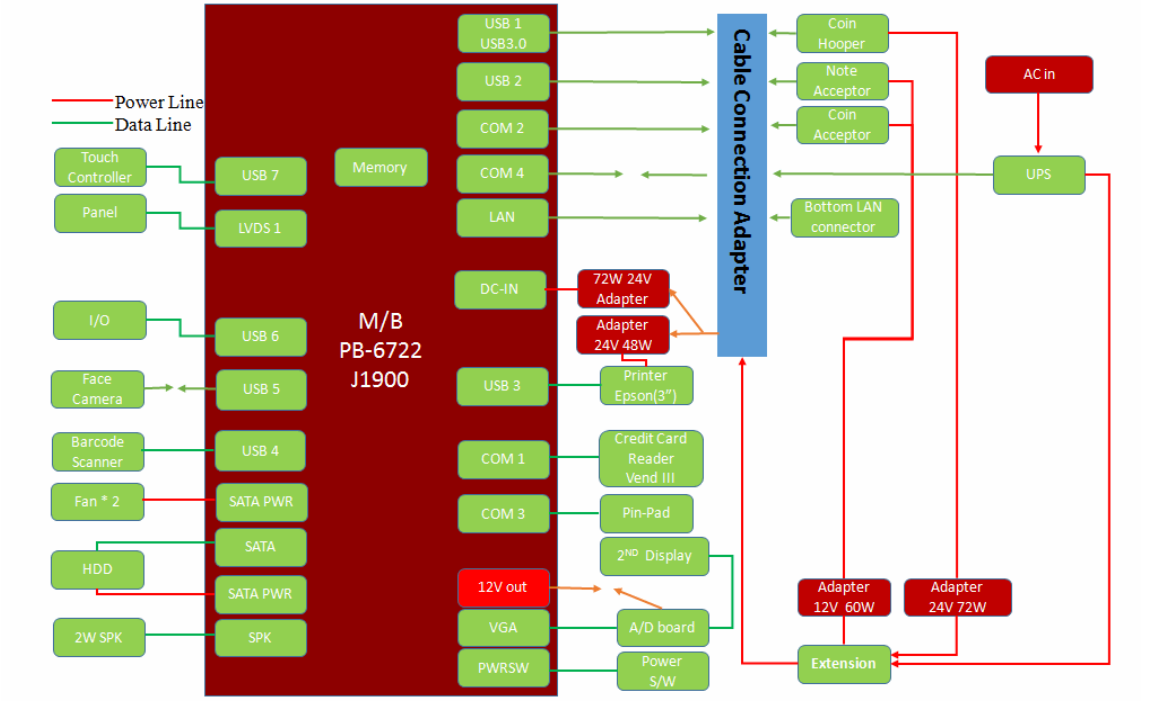
Appendix B Technical Summary

This appendix will give you a brief introduction of the allocation maps for the system resources.

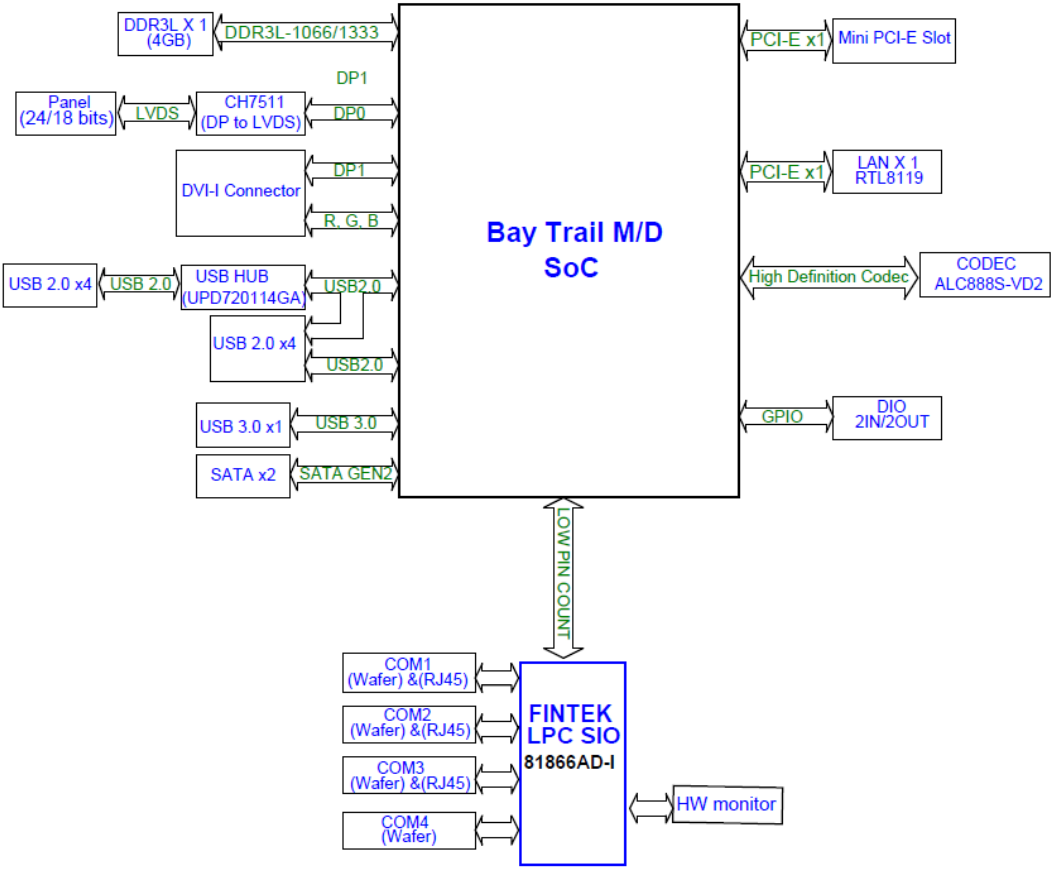
The following topics are included:

- System Block Diagram
- Interrupt Map
- DMA Channels Map
- I/O Map
- Memory Map
- DMA Map
- Configuring WatchDog Timer
- Flash BIOS Update

System Block Diagram



Main Board Block Diagram



Interrupt Map

IRQ	Assignment
IRQ 0	System timer
IRQ 1	Standard PS/2 Keyboard
IRQ 3	Communications Port (COM2)
IRQ 4	Communications Port (COM1)
IRQ 7	Communications Port (COM3)
IRQ 8	High precision event timer
IRQ 10	Communications Port (COM4)
IRQ 10	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor Platform Control Unit - SMBus Port - 0F12
IRQ 12	PS/2 Compatible Mouse
IRQ 16	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 1 - 0F48
IRQ 17	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 2 - 0F4A
IRQ 18	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 3 - 0F4C
IRQ 19	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 4 - 0F4E
IRQ 19	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor AHCI - 0F23
IRQ 22	High Definition Audio Controller
IRQ 81	Microsoft ACPI-Compliant System
IRQ 82	Microsoft ACPI-Compliant System
IRQ 83	Microsoft ACPI-Compliant System
IRQ 84	Microsoft ACPI-Compliant System
IRQ 85	Microsoft ACPI-Compliant System
IRQ 86	Microsoft ACPI-Compliant System
IRQ 87	Microsoft ACPI-Compliant System
IRQ 88	Microsoft ACPI-Compliant System

IRQ	Assignment
IRQ 89	Microsoft ACPI-Compliant System
IRQ 90	Microsoft ACPI-Compliant System
IRQ 91	Microsoft ACPI-Compliant System
IRQ 92	Microsoft ACPI-Compliant System
IRQ 93	Microsoft ACPI-Compliant System
IRQ 94	Microsoft ACPI-Compliant System
IRQ 95	Microsoft ACPI-Compliant System
IRQ 96	Microsoft ACPI-Compliant System
IRQ 97	Microsoft ACPI-Compliant System
IRQ 98	Microsoft ACPI-Compliant System
IRQ 99	Microsoft ACPI-Compliant System
IRQ 100	Microsoft ACPI-Compliant System
IRQ 101	Microsoft ACPI-Compliant System
IRQ 102	Microsoft ACPI-Compliant System
IRQ 103	Microsoft ACPI-Compliant System
IRQ 104	Microsoft ACPI-Compliant System
IRQ 105	Microsoft ACPI-Compliant System
IRQ 106	Microsoft ACPI-Compliant System
IRQ 107	Microsoft ACPI-Compliant System
IRQ 108	Microsoft ACPI-Compliant System
IRQ 109	Microsoft ACPI-Compliant System
IRQ 110	Microsoft ACPI-Compliant System
IRQ 111	Microsoft ACPI-Compliant System
IRQ 112	Microsoft ACPI-Compliant System
IRQ 113	Microsoft ACPI-Compliant System
IRQ 114	Microsoft ACPI-Compliant System
IRQ 115	Microsoft ACPI-Compliant System
IRQ 116	Microsoft ACPI-Compliant System
IRQ 117	Microsoft ACPI-Compliant System
IRQ 118	Microsoft ACPI-Compliant System

IRQ	Assignment
IRQ 119	Microsoft ACPI-Compliant System
IRQ 120	Microsoft ACPI-Compliant System
IRQ 121	Microsoft ACPI-Compliant System
IRQ 122	Microsoft ACPI-Compliant System
IRQ 123	Microsoft ACPI-Compliant System
IRQ 124	Microsoft ACPI-Compliant System
IRQ 125	Microsoft ACPI-Compliant System
IRQ 126	Microsoft ACPI-Compliant System
IRQ 127	Microsoft ACPI-Compliant System
IRQ 128	Microsoft ACPI-Compliant System
IRQ 129	Microsoft ACPI-Compliant System
IRQ 130	Microsoft ACPI-Compliant System
IRQ 131	Microsoft ACPI-Compliant System
IRQ 132	Microsoft ACPI-Compliant System
IRQ 133	Microsoft ACPI-Compliant System
IRQ 134	Microsoft ACPI-Compliant System
IRQ 135	Microsoft ACPI-Compliant System
IRQ 136	Microsoft ACPI-Compliant System
IRQ 137	Microsoft ACPI-Compliant System
IRQ 138	Microsoft ACPI-Compliant System
IRQ 139	Microsoft ACPI-Compliant System
IRQ 140	Microsoft ACPI-Compliant System
IRQ 141	Microsoft ACPI-Compliant System
IRQ 142	Microsoft ACPI-Compliant System
IRQ 143	Microsoft ACPI-Compliant System
IRQ 144	Microsoft ACPI-Compliant System
IRQ 145	Microsoft ACPI-Compliant System
IRQ 146	Microsoft ACPI-Compliant System
IRQ 147	Microsoft ACPI-Compliant System
IRQ 148	Microsoft ACPI-Compliant System

IRQ	Assignment
IRQ 149	Microsoft ACPI-Compliant System
IRQ 150	Microsoft ACPI-Compliant System
IRQ 151	Microsoft ACPI-Compliant System
IRQ 152	Microsoft ACPI-Compliant System
IRQ 153	Microsoft ACPI-Compliant System
IRQ 154	Microsoft ACPI-Compliant System
IRQ 155	Microsoft ACPI-Compliant System
IRQ 156	Microsoft ACPI-Compliant System
IRQ 157	Microsoft ACPI-Compliant System
IRQ 158	Microsoft ACPI-Compliant System
IRQ 159	Microsoft ACPI-Compliant System
IRQ 160	Microsoft ACPI-Compliant System
IRQ 161	Microsoft ACPI-Compliant System
IRQ 162	Microsoft ACPI-Compliant System
IRQ 163	Microsoft ACPI-Compliant System
IRQ 164	Microsoft ACPI-Compliant System
IRQ 165	Microsoft ACPI-Compliant System
IRQ 166	Microsoft ACPI-Compliant System
IRQ 167	Microsoft ACPI-Compliant System
IRQ 168	Microsoft ACPI-Compliant System
IRQ 169	Microsoft ACPI-Compliant System
IRQ 170	Microsoft ACPI-Compliant System
IRQ 171	Microsoft ACPI-Compliant System
IRQ 172	Microsoft ACPI-Compliant System
IRQ 173	Microsoft ACPI-Compliant System
IRQ 174	Microsoft ACPI-Compliant System
IRQ 175	Microsoft ACPI-Compliant System
IRQ 176	Microsoft ACPI-Compliant System
IRQ 177	Microsoft ACPI-Compliant System
IRQ 178	Microsoft ACPI-Compliant System

IRQ	Assignment
IRQ 179	Microsoft ACPI-Compliant System
IRQ 180	Microsoft ACPI-Compliant System
IRQ 181	Microsoft ACPI-Compliant System
IRQ 182	Microsoft ACPI-Compliant System
IRQ 183	Microsoft ACPI-Compliant System
IRQ 184	Microsoft ACPI-Compliant System
IRQ 185	Microsoft ACPI-Compliant System
IRQ 186	Microsoft ACPI-Compliant System
IRQ 187	Microsoft ACPI-Compliant System
IRQ 188	Microsoft ACPI-Compliant System
IRQ 189	Microsoft ACPI-Compliant System
IRQ 190	Microsoft ACPI-Compliant System
IRQ 4294967292	Realtek PCIe GBE Family Controller
IRQ 4294967293	Intel(R) USB 3.0 eXtensible Host Controller
IRQ 4294967294	Intel(R) Atom(TM) Processor E3800 Series/Intel(R) Celeron(R) Processor N2920/J1900

Note: These resource information were gathered using Windows 7 (the IRQ could be assigned differently depending on OS).

I/O MAP

I/O Map	Assignment
0x00000000-0x0000006F	PCI bus
0x00000020-0x00000021	Programmable interrupt controller
0x00000024-0x00000025	Programmable interrupt controller
0x00000028-0x00000029	Programmable interrupt controller
0x0000002C-0x0000002D	Programmable interrupt controller
0x0000002E-0x0000002F	Motherboard resources
0x00000030-0x00000031	Programmable interrupt controller
0x00000034-0x00000035	Programmable interrupt controller
0x00000038-0x00000039	Programmable interrupt controller
0x0000003C-0x0000003D	Programmable interrupt controller
0x00000040-0x00000043	System timer
0x0000004E-0x0000004F	Motherboard resources
0x00000050-0x00000053	System timer
0x00000060-0x00000060	Standard PS/2 Keyboard
0x00000061-0x00000061	Motherboard resources
0x00000063-0x00000063	Motherboard resources
0x00000064-0x00000064	Standard PS/2 Keyboard
0x00000065-0x00000065	Motherboard resources
0x00000067-0x00000067	Motherboard resources
0x00000070-0x00000077	System CMOS/real time clock
0x00000070-0x00000077	Motherboard resources
0x00000078-0x00000CF7	PCI bus
0x00000080-0x0000008F	Motherboard resources
0x00000092-0x00000092	Motherboard resources
0x000000A0-0x000000A1	Programmable interrupt controller

I/O Map	Assignment
0x000000A4-0x000000A5	Programmable interrupt controller
0x000000A8-0x000000A9	Programmable interrupt controller
0x000000AC-0x000000AD	Programmable interrupt controller
0x000000B0-0x000000B1	Programmable interrupt controller
0x000000B2-0x000000B3	Motherboard resources
0x000000B4-0x000000B5	Programmable interrupt controller
0x000000B8-0x000000B9	Programmable interrupt controller
0x000000BC-0x000000BD	Programmable interrupt controller
0x000002E8-0x000002EF	Communications Port (COM4)
0x000002F8-0x000002FF	Communications Port (COM2)
0x00000378-0x0000037F	Printer Port (LPT1)
0x000003B0-0x000003BB	Intel(R) Atom(TM) Processor E3800 Series/Intel(R) Celeron(R) Processor N2920/J1900
0x000003C0-0x000003DF	Intel(R) Atom(TM) Processor E3800 Series/Intel(R) Celeron(R) Processor N2920/J1900
0x000003E8-0x000003EF	Communications Port (COM3)
0x000003F8-0x000003FF	Communications Port (COM1)
0x00000400-0x0000047F	Motherboard resources
0x000004D0-0x000004D1	Programmable interrupt controller
0x00000500-0x000005FE	Motherboard resources
0x00000600-0x0000061F	Motherboard resources
0x00000680-0x0000069F	Motherboard resources
0x00000A00-0x00000A0F	Motherboard resources
0x00000A10-0x00000A1F	Motherboard resources
0x00000A20-0x00000A2F	Motherboard resources

I/O Map	Assignment
0x00000D00-0x0000FFFF	PCI bus
0x0000E000-0x0000EFFF	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 4 - 0F4E
0x0000E000-0x0000EFFF	Realtek PCIe GBE Family Controller
0x0000F000-0x0000F01F	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor Platform Control Unit - SMBus Port - 0F12
0x0000F020-0x0000F03F	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor AHCI - 0F23
0x0000F040-0x0000F043	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor AHCI - 0F23
0x0000F050-0x0000F057	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor AHCI - 0F23
0x0000F060-0x0000F063	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor AHCI - 0F23
0x0000F070-0x0000F077	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor AHCI - 0F23
0x0000F080-0x0000F087	Intel(R) Atom(TM) Processor E3800 Series/Intel(R) Celeron(R) Processor N2920/J1900

Memory Map

Memory Map	Assignment
0xD0600000-0xD06FFFFF	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor PCI Express - Root Port 4 - 0F4E
0xD0600000-0xD06FFFFF	Realtek PCIe GBE Family Controller
0xFF000000-0xFFFFFFFF	Intel(R) 82802 Firmware Hub Device
0xE00000D0-0xE00000DB	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor MBI Device - 33BD
0xD0716000-0xD07167FF	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor AHCI - 0F23
0xD0000000-0xD03FFFFF	Intel(R) Atom(TM) Processor E3800 Series/Intel(R) Celeron(R) Processor N2920/J1900
0xC0000000-0xCFFFFFFF	Intel(R) Atom(TM) Processor E3800 Series/Intel(R) Celeron(R) Processor N2920/J1900
0xC0000000-0xCFFFFFFF	PCI bus
0xFED00000-0xFED003FF	High precision event timer
0xD0604000-0xD0604FFF	Realtek PCIe GBE Family Controller
0xD0700000-0xD070FFFF	Intel(R) USB 3.0 eXtensible Host Controller
0xE0000000-0xEFFFFFFF	Motherboard resources
0xFED01000-0xFED01FFF	Motherboard resources
0xFED03000-0xFED03FFF	Motherboard resources
0xFED04000-0xFED04FFF	Motherboard resources
0xFED0C000-0xFED0FFFF	Motherboard resources
0xFED08000-0xFED08FFF	Motherboard resources
0xFED1C000-0xFED1CFFF	Motherboard resources
0xFEE00000-0xFEEFFFFF	Motherboard resources

Memory Map	Assignment
0xFEF00000-0xFEFFFFFF	Motherboard resources
0xD0710000-0xD0713FFF	High Definition Audio Controller
0xD0714000-0xD071401F	Intel(R) Atom(TM)/Celeron(R)/Pentium(R) Processor Platform Control Unit - SMBus Port - 0F12
0xD0500000-0xD05FFFFF	Intel(R) Trusted Execution Engine Interface
0xD0400000-0xD04FFFFF	Intel(R) Trusted Execution Engine Interface
0xA0000-0xBFFFF	Intel(R) Atom(TM) Processor E3800 Series/Intel(R) Celeron(R) Processor N2920/J1900
0xA0000-0xBFFFF	PCI bus
0xC0000-0xDFFFF	PCI bus
0xE0000-0xFFFFF	PCI bus

DMA Map

Memory Map	Assignment
Channel 3	Printer Port (LPT1)

Configuring WatchDog Timer

The I/O port address of the watchdog timer is 2E (hex) and 2F (hex). 2E (hex) is the address port. 2F (hex) is the data port. User must first assign the address of register by writing address value into address port 2E (hex), then write/read data to/from the assigned register through data port 2F (hex).

Configuration Sequence

To program F81866 configuration registers, the following configuration sequence must be followed:

(1) Enter the extended function mode

To place the chip into the Extended Function Mode, two successive writes of 0x87 must be applied to Extended Function Enable Registers (EFERs, i.e. 2Eh or 4Eh).

(2) Configure the configuration registers

The chip selects the Logical Device and activates the desired Logical Devices through Extended Function Index Register (EFIR) and Extended Function Data Register (EFDR). The EFIR is located at the same address as the EFER, and the EFDR is located at address (EFIR+1). First, write the Logical Device Number (i.e. 0x07) to the EFIR and then write the number of the desired Logical Device to the EFDR. If accessing the Chip (Global) Control Registers, this step is not required. Secondly, write the address of the desired configuration register within the Logical Device to the EFIR and then write (or read) the desired configuration register through the EFDR.

(3) Exit the extended function mode

To exit the Extended Function Mode, writing 0xAA to the EFER is required. Once the chip exits the Extended Function Mode, it is in the

normal running mode and is ready to enter the configuration mode.

Code example for watch dog timer

Enable watchdog timer and set timeout interval to 30 seconds.

```
; ------------------------- Enter to extended function mode ----------------------------
mov     dx,     2eh
mov     al,     87h
out     dx,     al
out     dx,     al
; ---------------------- Select Logical Device 7 of watchdog timer -------------------
mov     al,     07h
out     dx,     al
inc     dx
mov     al,     07h
out     dx,     al
;---------------------------- Enable Watch dog feature ------------------------------------
mov     al,     030h
out     dx,     al
inc     dx
mov     al,     01h
out     dx,     al
; -------------      -------- Set timeout interval as 30 seconds ----------------------------
dec     dx
mov     al,     0F6h
out     dx,     al
inc     dx
mov     al,     1Eh
out     dx,     al
;------------------------------ Enable Watch PME-----------------------------------------
dec     dx
mov     al,     0FAh
out     dx,     al
```

```
inc     dx
in      al,     dx
and     al,     51h
out     dx,     al
;---------- Set second as counting unit and start counting ----------
dec     dx
mov     al,     0F5h
out     dx,     al
inc     dx
in      al,     dx
and     al,     20h
out     dx,     al
;---------- Exit the extended function mode ----------
dec     dx
mov     al,     0aah
out     dx,     al
```

Flash BIOS Update

I. Prerequisites

1 Prepare a bootable media (e.g. USB storage device) which can boot system to DOS prompt.

2 Download and save the BIOS file (e.g. 67220PD4.bin) to the bootable device.

3 Copy AMI flash utility – AFUDOS.exe (v5.07) into bootable device.

4 Make sure the target system can first boot to the bootable device.

(1) Connect the bootable USB device.

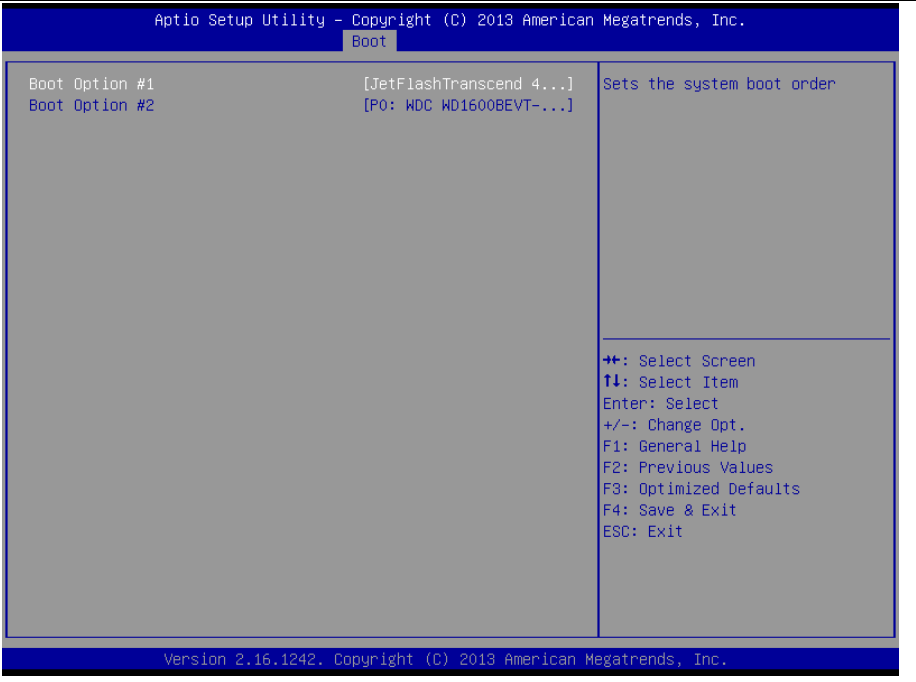
(2) Turn on the computer and press **<ESC>** or **<DEL>** during boot to enter BIOS Setup.

(3) The system will go into the BIOS setup menu.

(4) Select **[Boot]** menu.

(5) Select **[Hard Drive BBS Priorities]** and set the USB bootable device as the 1st boot device.

(6) Press **F4** to save the configuration and exit the BIOS setup menu.


Aptio Setup Utility – Copyright (C) 2013 American Megatrends, Inc.
Boot
Boot Option #1
[JetFlashTranscend 4...]
Boot Option #2
[P0: WDC WD1600BEVT-...]
Sets the system boot order
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F2: Previous Values
F3: Optimized Defaults
F4: Save & Exit
ESC: Exit
Version 2.16.1242. Copyright (C) 2013 American Megatrends, Inc.

AFUDOS command for system BIOS update

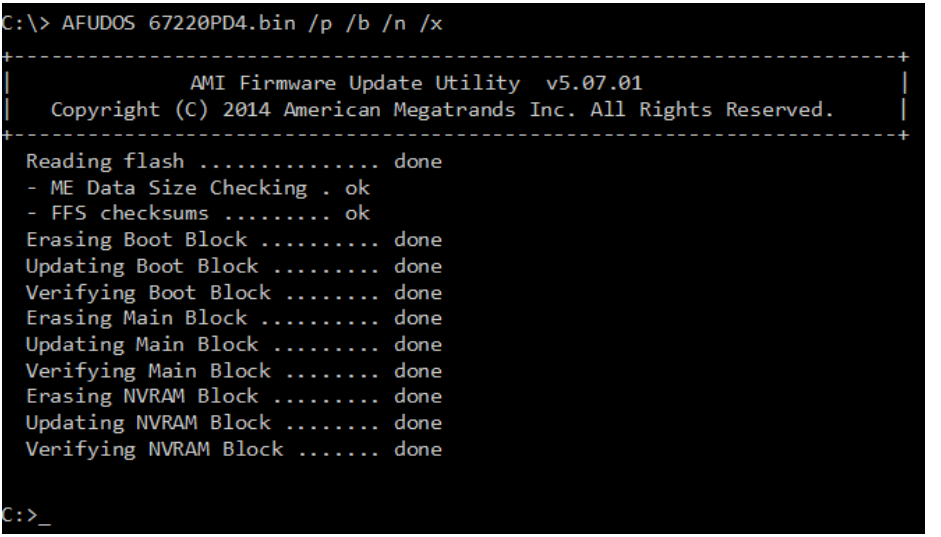
AFUDOS.exe is the AMI firmware update utility; the command line is shown as below:

AFUDOS <ROM File Name> [option1] [option2]….
Users can type "AFUDOS/ ?" to see all the definition of each control options. The recommended options for BIOS ROM update include following parameters:

/P: Program main BIOS image.
/B: Program Boot Block.
/N: Program NVRAM.
/X: Don't check ROM ID.

II. BIOS Update Procedure

1. Use the bootable USB storage to boot up the system into the DOS command prompt.
2. Type "**AFUDOS 6722xxxx.bin /p /b /n /x" and** press **Enter** to start the flash procedure.
   (Note that xxxx means the BIOS revision part, e.g. 0PD2…)
3. During the BIOS update procedure, you will see the BIOS update process status and its percentage. Beware! Do not turn off the system power or reset your computer when the entire update procedure are not complete; otherwise, the BIOS ROM may be crashed and the system will be unable to boot up next time.
4. After the BIOS update procedure is completed, the following messages will be shown:



5. Restart the system and boot up with the new BIOS configurations.
6. The BIOS Update is completed after the system is restarted.
7. Reboot the system and verify if the BIOS version shown on the initialization screen has been updated.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BIOS Date: 01/30/2016 11:59:47 Ver: 67220PD4
Press <DEL> or <ESC> to enter setup.