USER'S MANUAL

POS-3120 Series

Mini POS System Powered by
Intel® Atom® Platform

POS-3120 Series M4

POS-3120 Series POS System
With LCD / Touchscreen

PREFACE

COPYRIGHT NOTICE

ACKNOWLEDGEMENTS

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 if battery is incorrectly replaced. Replace 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. And therefore we strongly recommend that qualified engineers can open and disassemble the system.
The LCD and Touchscreen are easily breakable, please handle them with extra care.

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INTRODUCTION

CHAPTER

1

This chapter gives you the information for the POS-3120. It also outlines the system specifications.

Sections included:

- About This Manual
- POS System Illustration
- System Specifications
- Safety Precautions

Experienced users can jump to chapter 2 on page 2-1 for a quick start.

1-1. ABOUT THIS MANUAL

Thank you for purchasing our POS-3120 Series System. The POS-3120 is an updated system designed to be comparable with the highest performance of IBM AT personal computers. The POS-3120 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 two 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 illustrations and specifications for the whole system. The final section of this chapter indicates some safety reminders on how to take care of your system.

Chapter 2 System Configuration

This chapter outlines the location of motherboard components and their function. 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 Utility, VGA Utility, LAN Utility, Sound Utility, and Touch Screen Utility.

Chapter 4 AMI BIOS Setup

This chapter indicates you how to change the BIOS configurations.

Appendix A System Assembly

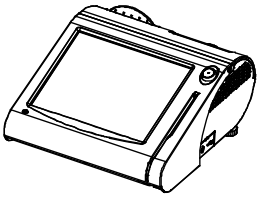
This appendix gives you the exploded diagrams and part numbers of the POS-3120.

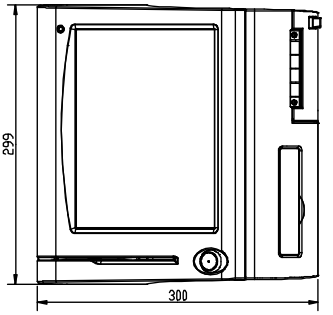
Appendix B Technical Summary

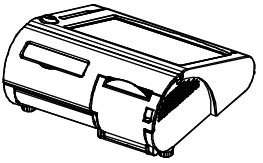
This appendix gives you the information about the allocation maps for the system resources, Watchdog Timer Configuration, and Flash BIOS Update.

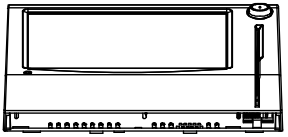
1-2. POS SYSTEM ILLUSTRATION

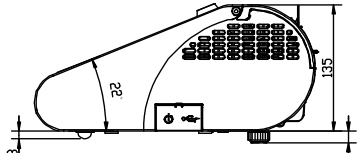
POS-3120 i-Button Type

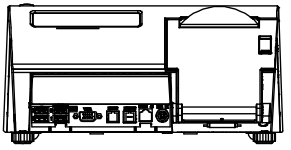


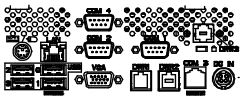


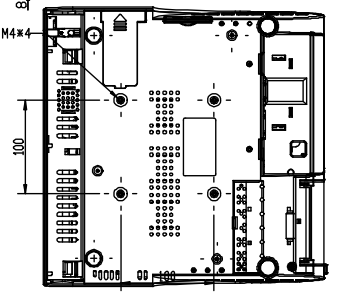




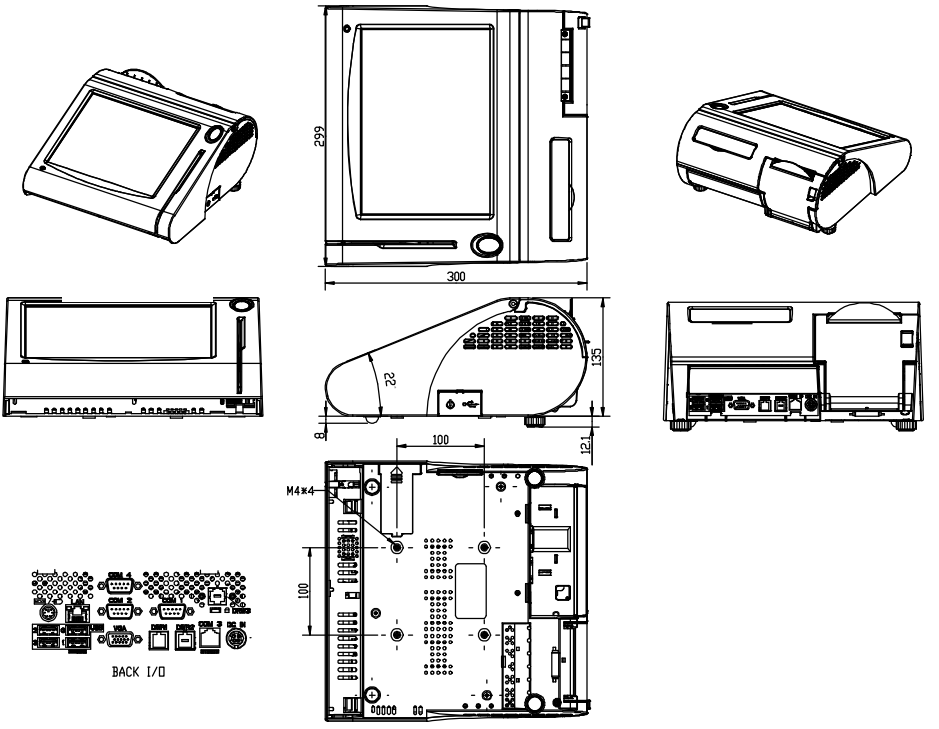




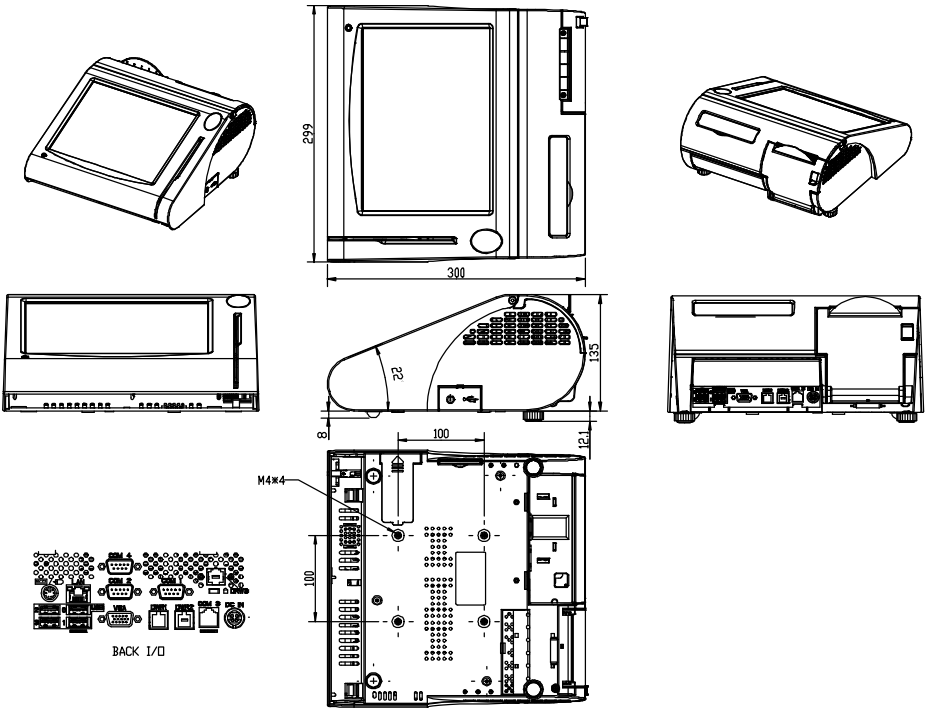




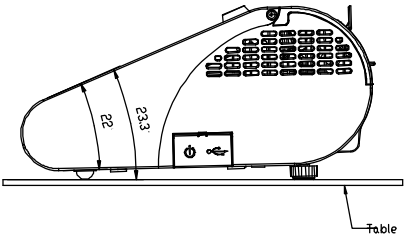
POS-3120 Finger Printer Type



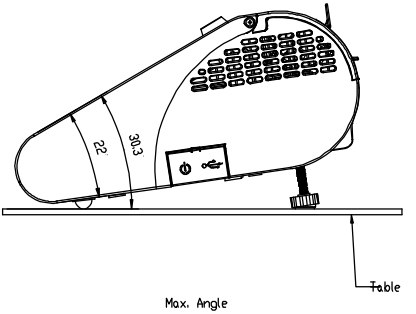
POS-3120 Empty Type



POS-3120 SIDE VIEW



Min. Angle



Max. Angle

1-3. SYSTEM SPECIFICATIONS

MAINBOARD (PROX3120LF)

- **CPU Type:**
  Intel® ATOM™ Pineview D525

- **Chipset:**
  Intel® ICH8M

- **Memory:**
  2 x DDR3 SO-DIMM Slot, 1G DDR3 SO-DIMM default (up to 4GB)

- **Cache:**
  Depended on CPU

- **Real-Time Clock / Calendar:**
  Embedded in Intel ICH8M South Bridge

- **BIOS:**
  AMI BIOS

- **Keyboard Connector:**
  PS/2 Keyboard, with mini DIN connecter on rear panel.

- **Mouse Connector:**
  PS/2 Mouse, with mini DIN connecter on rear panel.

- **Serial Port:**
  3 x DB-9, 1 x RJ45, +5V/ 12V selectable

- **Universal Serial BUS Port:**
  4 x USB2.0 ports
  1 x USB2.0 on side bezel

- **LAN Function:**
  1 x 10/100/1000 Mbps

- **Audio Function:**
  1 x 2W Speaker

- **VGA Function:**
  1 x DB-15 VGA Interface

- **Dimension (W x H x D):**
  300mm x 299mm x 135mm (11.81" x 11.77" x 5.31")

- **System Weight:**
  4.5kg

- **LCD Panel:**

Type	XGA/SVGA
Max. Resolution	1024 x 768 / 800 x 600
Size/Type	10.4" / TFT
Viewing Angel (degree)	+70°~-70° horizontal +60°~-60° vertical
Brightness	300 / 230 cd / m^2
Signal Interface (bit)	TTL (18-bit)
LCD MTBF	20,000
Back Light MTBF (Hrs)	20,000

- **Touch Panel:**
  10.4" 5wire Analog resistive

- **Printer:**
  2" or 3" easy loading thermal printer with Auto cutter
  (* Diameter of paper roll can not exceed 8 cm.)

- **I-Button (Optional):**
  Read only, output through PS/2 KB interface

- **MSR (Optional):**
  JIS-I or II, ISO Tracker 1+2+3 (PS/2 KB Interface)

- **Wireless LAN (Optional):**
  Mini PCIe Wireless LAN Module (802.11b/g/n, 1T1R)

- **Fingerprint (Optional):**
  Embedded Fingerprint module (USB interface)

1-4. SAFETY PRECAUTIONS

The following messages are safety reminders on how to protect your systems from damages, and extending the life cycle of the system.

1. Check the Line Voltage

a. 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

a. Place your POS-3120 on a sturdy, level surface. Be sure to allow enough space around the system to have easy access needs.

b. Avoid installing your POS-3120 system in extremely hot or cold places.

c. Avoid exposure to sunlight 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 the POS-3120 when it has been left outdoors in a cold winter day.

d. Bear in mind that the operating ambient temperature is between 0°C and 35°C (32°F and 95°F).

e. Avoid moving the system rapidly from a hot place to a cold place, and vice versa, because condensation may occur inside the system.

f. Protect your POS-3120 against strong vibrations, which may cause hard disk failure.

g. Do not place the system too close to any radio-active device. Radio-active device may cause signal interference.

h. Always shutdown the operation system before turning off the power.

3. Handling

a. Avoid placing heavy objects on the top of the system.

b. Do not turn the system upside down. This may cause the hard drive to malfunction.

c. Do not allow any objects to fall into this product.

d. If water or other liquid spills into the product, unplug the power cord immediately.

4. Good Care

a. When the outside case gets stained, remove the stains using neutral washing agent with a dry cloth.

b. Never use strong agents such as benzene and thinner to clean the surface of the case.

c. If heavy stains are present, moisten a cloth with diluted neutral washing agent or alcohol and then wipe thoroughly with a dry cloth.

d. If dust is accumulated on the case surface, remove it by using a special vacuum cleaner for computers.

SYSTEM CONFIGURATION

CHAPTER

2

Helpful information that describes the jumper and connector settings, and component locations.

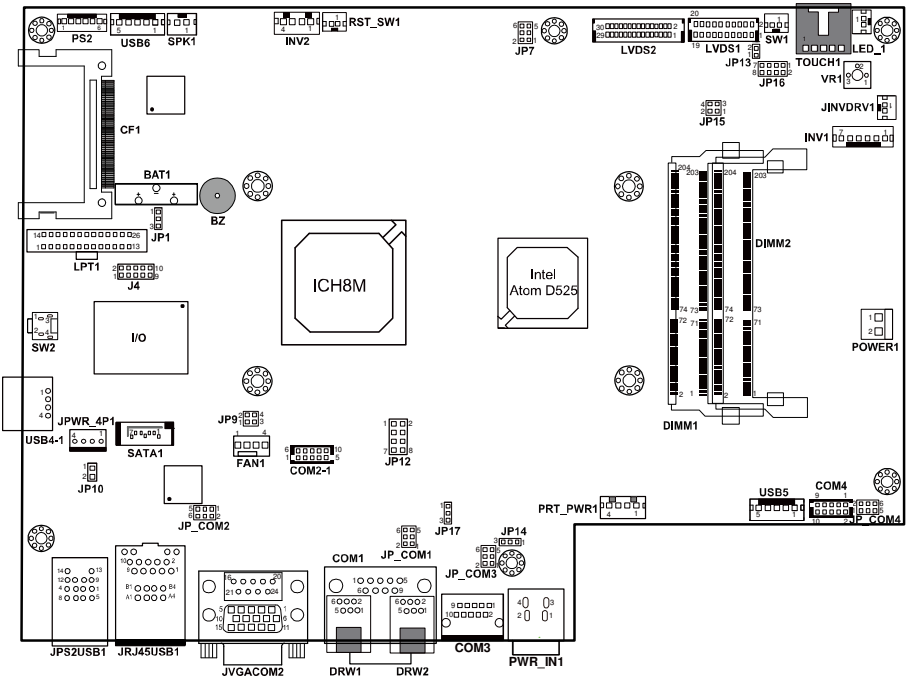
Sections included:

- Jumper & Connector Quick Reference Table
- Component Locations
- Configuration and Jumper settings
- Connector Pin Assignments

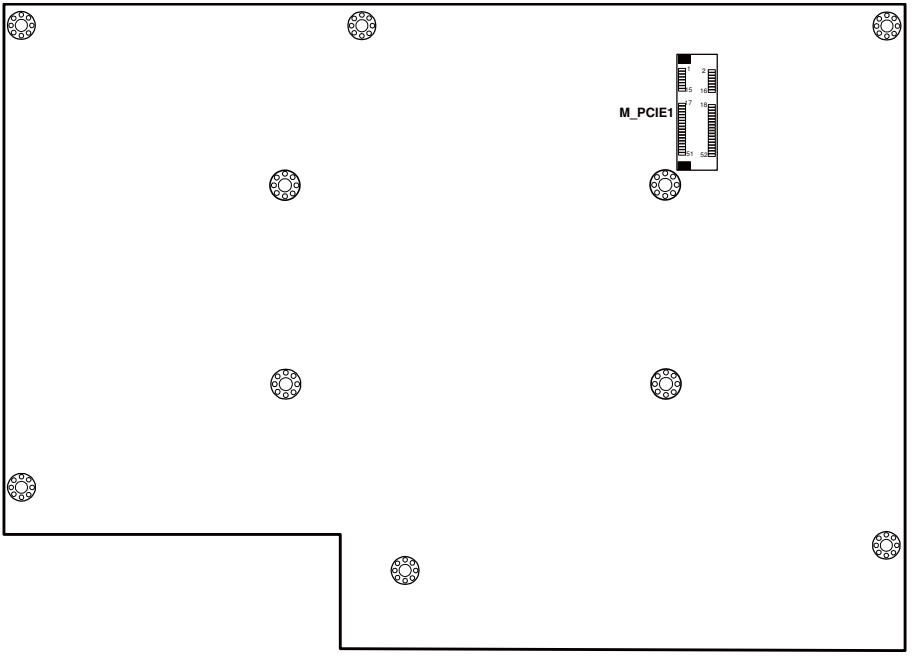
2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

Connector & Jumper	Name	Page
COM Port & VGA Connector	COM1, COM3, COM4, COM2-1, JVGACOM2	2-7
COM Port RI and Voltage Selection	JP_COM1, JP_COM2, JP_COM3, JP_COM4	2-10
MINI-DIN and USB Connector	JPS2USB1, USB5, USB6	2-14
LAN & USB Connector	JRJ45USB1	2-15
Cash Drawer Connector	DRW1, DRW2	2-16
Cash Drawer Power Selection	JP14	2-17
Power LED Connector	LED_1	2-18
Smart Fan Connector	FAN1	2-18
Power Connector	POWER1	2-18
Reset Switch Connector	RST_SW1	2-19
Power for Thermal printer Connector	PRT_PWR1	2-19
External Speaker Connector	SPK1	2-19
Inverter Connector	INV1, INV2	2-20
MSR/ Card Reader Connector	PS2	2-21
Printer Connector	LPT1	2-21
LVDS Connector	LVDS1, LVDS2	2-22
SATA Connector	SATA1	2-24
SATA Power Connector	JPWR_4P1	2-24
Touch Panel Connector	TOUCH1	2-25
Touch Panel Selection	JP16	2-25
Clear CMOS Data Selection	JP1	2-26
Compact Flash Connector	CF1	2-27

2-2. COMPONENT LOCATIONS



POS-3120 Mainboard Front Connector, Jumper and Component locations



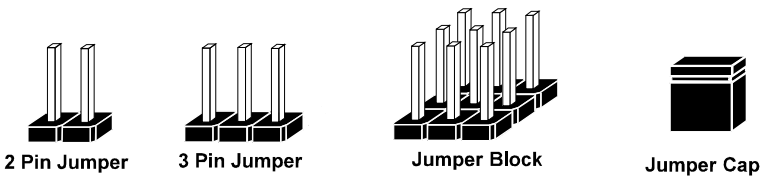
POS-3120 Mainboard Rear Connector, Jumper and Component locations

2-3. HOW TO SET THE JUMPERS

You can configure your board by setting the jumpers. Jumper is consists of two or three metal pins with a plastic base mounted on the card, and 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 set-up your hardware configuration by "opening" or "closing" pins.

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

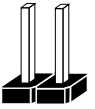
JUMPERS AND CAPS



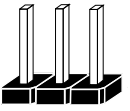
If a jumper has three pins for example, labelled PIN1, PIN2, and PIN3. You can connect PIN1 & PIN2 to create one setting and shorting. You can either connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figure below shows what the manual diagrams look and what they represent.

JUMPER DIAGRAMS

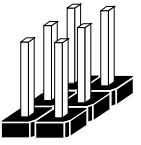
Jumper Cap looks like this



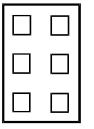
2 pin Jumper looks like this



3 pin Jumper looks like this

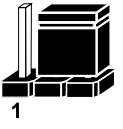


Jumper Block looks like this

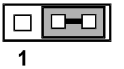


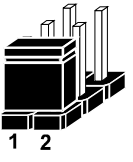
JUMPER SETTINGS

2 pin Jumper closed(enabled)
looks like this

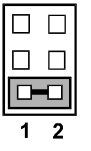


3 pin Jumper
2-3 pin closed(enabled)
looks like this





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



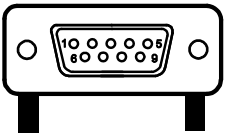
2-4. COM PORT & VGA CONNECTOR

There are four COM ports enhanced in this board namely: COM1, COM2, COM3 and COM4.

Caution: When using a 72W power adaptor, do not set the voltage at "12V" for three COM ports or above; otherwise, the system may shut down due to power deficiency.

COM1: COM1 Connector
The pin assignments are as follows:

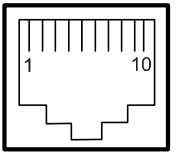
PIN	ASSIGNMENT
1	DCD2
2	RXD2
3	TXD2
4	DTR2
5	GND
6	DSR2
7	RTS2
8	CTS2
9	RI / +5V / +12V selectable



COM1

COM3: COM3 Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	DCD3
2	RXD3
3	TXD3
4	DTR3
5	GND
6	DSR3
7	RTS3
8	CTS3
9	RI / +5V / +12V selectable
10	NC



COM3

COM4: COM4 Connector
The pin assignments are as follows:

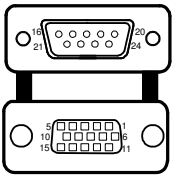
PIN	ASSIGNMENT
1	DCD4
2	RXD4
3	TXD4
4	DTR4
5	GND
6	DSR4
7	RTS4
8	CTS4
9	RI / +5V / +12V selectable
10	NC

COM2-1: COM2 External Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	DCD1
2	RXD1
3	TXD1
4	DTR1
5	GND
6	DSR1
7	RTS1
8	CTS1
9	RI / +5V / +12V selectable
10	NC

JVGACOM2: COM2 & VGA Connector
The COM2 & VGA Connector assignments are as follows:

PIN	ASSIGNMENT
1	RED
2	GREEN
3	BLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	+5V
10	GND
11	NC
12	DDCA DATA
13	HSYNC
14	VSYNC
15	DDCA CLK
16	DCD1
17	RXD1
18	TXD1
19	DTR1
20	GND
21	DSR1
22	RTS1
23	CTS1
24	RI / +5V / +12V selectable



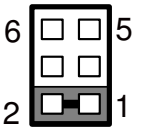
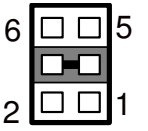
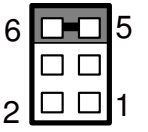
JVGACOM2

📖 All COM port is selectable for RI, +5V or +12V. For more information, please refer to our "COM RI and Voltage Selection".

2-5. COM PORT RI & VOLTAGE SELECTION

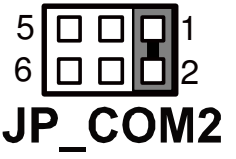
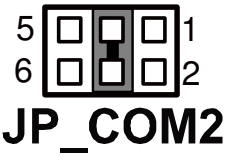
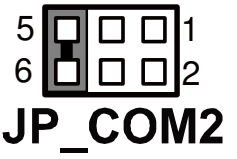
Caution: When using a 72W power adaptor, do not set the voltage at "12V" for three COM ports or above; otherwise, the system may shut down due to power deficiency.

JP_COM1: COM1 RI & Voltage Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
RI	1-2	 JP_COM1
VCC12	3-4	 JP_COM1
VCC	5-6	 JP_COM1

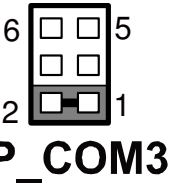
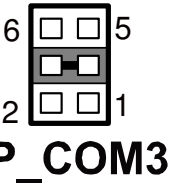
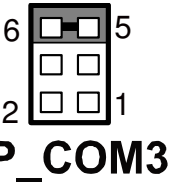
***Manufacturing Default – RI

JP_COM2: COM2 RI & Voltage Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
RI	1-2	
VCC12	3-4	
VCC	5-6	

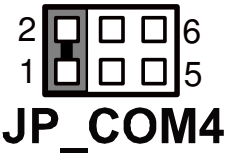
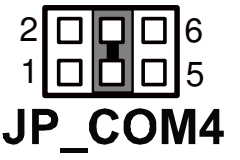
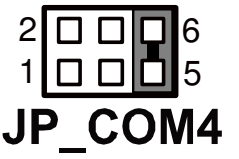
***Manufacturing Default – RI

JP_COM3: COM3 RI & Voltage Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
RI	1-2	
VCC12	3-4	
VCC	5-6	

***Manufacturing Default – RI

JP_COM4: COM4 RI & Voltage Selection
The selections are as follows:

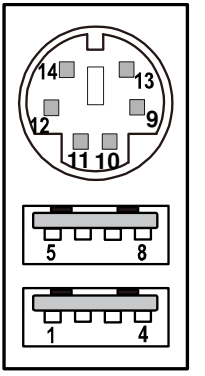
SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
RI	1-2	
VCC12	3-4	
VCC	5-6	

***Manufacturing Default – RI

2-6. MINI-DIN AND USB CONNECTOR

JPS2USB1: Two USB Ports Connector and MINI-DIM
MINI-DIN connector can support keyboard, Y-cable, or PS/2 Mouse
The pin assignments are as follows:

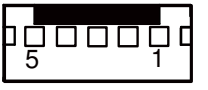
PIN	ASSIGNMENT
1	GND
2	USB2+
3	USB2-
4	VCC5
5	GND
6	USB3+
7	USB3-
8	VCC5
9	GND
10	KDAT
11	MDAT
12	V5SB
13	KCLK
14	MCLK



JPS2USB1

USB5: Internal USB Ports Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	USB5-
2	USB5+
3	GND
4	VCC5
5	GND



USB5

USB6: Internal USB Ports Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	USB6-
2	USB6+
3	GND
4	VCC5
5	GND

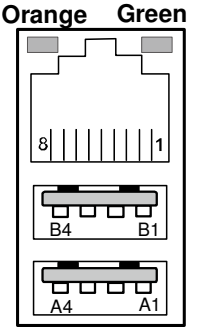
USB6

2-7. LAN & USB CONNECTOR

JRJ45USB1: LAN & USB Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	LAN1_MDIP0
2	LAN1_MDIN0
3	LAN1_MDIP1
4	LAN1_MDIN1
5	LAN1_MDIP2
6	LAN1_MDIN2
7	LAN1_MDIP3
8	LAN1_MDIN3

PIN	ASSIGNMENT
A1	VCC5
A2	USB0-
A3	USB0+
A4	GND
B1	VCC5
B2	USB1-
B3	USB1+
B4	GND

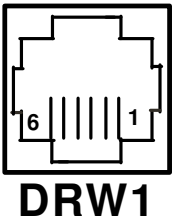


JRJ45USB1

2-8. CASH DRAWER CONNECTOR

DRW1, DRW2: Cash Drawer Connector
The pin assignments are as follows:

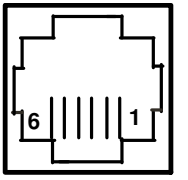
PIN	ASSIGNMENT
1	GND
2	Drawer Open
3	Drawer Sense
4	+12V
5	NC
6	GND



DRW1

PROX-A3120 cash drawer control in GPIO port

To Open Drawer1 (GPIO 7)
Write "0"h to I/O space register "50C"h Bit 7
To Close Drawer1
Write "1"h to I/O space register "50C"h Bit 7



DRW2

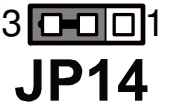
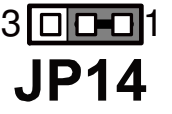
Detect Drawer1 Status
Read I/O space register "50E"h (GPIO 20)
Definition (bit4)

To Open Drawer2 (GPIO 6)
Write "0"h to I/O space register "50C"h Bit 6
To Close Drawer2
Write "1"h to I/O space register "50C"h Bit 6

Detect Drawer2 Status
Read I/O space register "538"h (GPIO 37)
Definition (bit5)

2-9. CASH DRAWER POWER SELECTION

JP14: Cash Drawer Power Selection
The pin assignments are as follows:

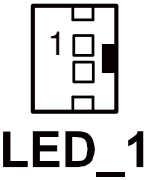
SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
+12V	2-3	
+24V (default)	1-2	

*** Manufactory default – +24V

2-10. POWER LED CONNECTOR

LED_1: LED Connector
The pin assignments are as follows:

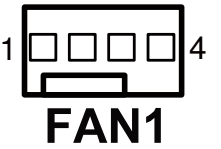
PIN	ASSIGNMENT
1	GND
2	VCC_PWR_LED



2-11. SMART FAN CONNECTOR

FAN1: CPU Smart Fan Connector
The pin assignments are as follows:

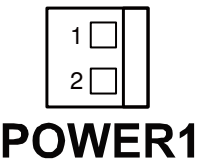
PIN	ASSIGNMENT
1	GND
2	12V
3	CPUFANIN
4	CPUFANOUT



2-12. POWER CONNECTOR

POWER1: Provide 12 Voltage Connector
The pin assignments are as follows:

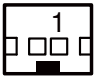
PIN	ASSIGNMENT
1	VCC12
2	GND



2-13. RESET SWITCH CONNECTOR

RST_SW1: Power Switch Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	RST_SW
2	GND

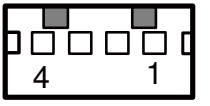


RST_SW1

2-14. POWER FOR THERMAL PRINTER CONNECTOR

PRT_PWR1: Power for Thermal printer Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	VCC24SB
2	VCC24SB
3	GND
4	GND

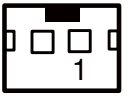


PRT_PWR1

2-15. EXTERNAL SPEAKER CONNECTOR

SPK1: External Speaker Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	SPK_GND
2	SPK_OUT

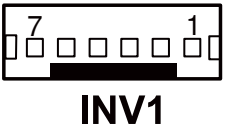


SPK1

2-16. INVERTER CONNECTOR

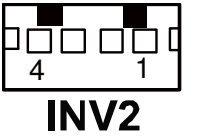
INV1: Inverter Connector
The pin assignments are as follows:

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



INV2: Inverter Connector
The pin assignments are as follows:

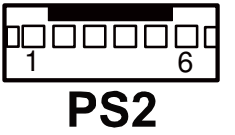
PIN	ASSIGNMENT
1	+12V
2	GND
3	LVDS_BKLTEN
4	BRCTR



2-17. MSR/ CARD READER CONNECTOR

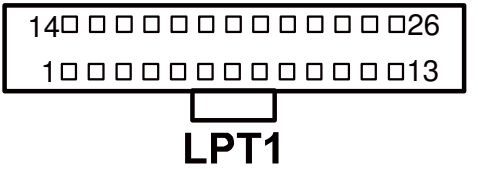
PS2: MSR/ Card Reader Connector
The pin assignments are as follows:

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



2-18. PRINTER CONNECTOR

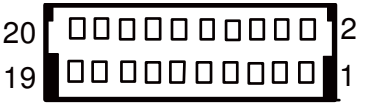
LPT1: LPT Connector. The assignments are as follows:



PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	STBJ	14	ALFJ
2	PDR0	15	ERRJ
3	PDR1	16	PAR_INITJ
4	PDR2	17	SLCTINJ
5	PDR3	18	GND
6	PDR4	19	GND
7	PDR5	20	GND
8	PDR6	21	GND
9	PDR7	22	GND
10	ACKJ	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCTJ	26	NC

2-19. LVDS Connector

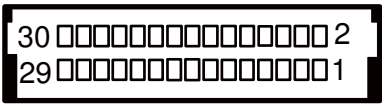
LVDS1: LVDS Connector. The pin assignments are as follows:



LVDS1

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	2	LVDS_VCC
3	LVDS_YAP2	4	LVDS_VCC
5	LVDS_YAM2	6	GND
7	GND	8	GND
9	LVDS_YAP1	10	LVDS_CLKAP
11	LVDS_YAM1	12	LVDS_CLKAM
13	GND	14	GND
15	LVDS_YAP0	16	GND
17	LVDS_YAM0	18	LVDS_VCC
19	GND	20	LVDS_VCC

LVDS2: LVDS Connector. The pin assignments are as follows:



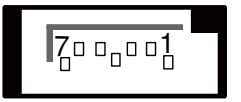
LVDS2

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	LVDS_VCC	2	GND
3	NC	4	NC
5	GND	6	NC
7	NC	8	GND
9	NC	10	NC
11	NC	12	NC
13	NC	14	NC
15	GND	16	CLKO+
17	CLKO-	18	GND
19	RINO2+	20	RINO2-
21	GND	22	RINO1+
23	RINO1-	24	GND
25	RINO0+	26	RINO0-
27	NC	28	NC
29	LVDS_VCC	30	LVDS_VCC

2-20. SATA CONNECTOR

SATA1: Serial ATA Connector
The pin assignments are as follows:

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

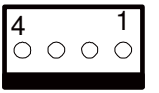


SATA1

2-21. SATA POWER CONNECTOR

JPWR_4P1: Serial ATA Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	VCC
2	GND
3	GND
4	VCC12

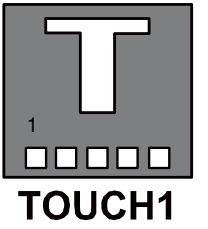


JPWR_4P1

2-22. TOUCH PANEL CONNECTOR

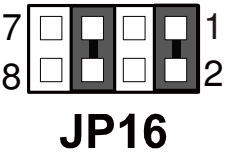
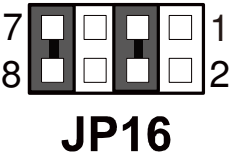
TOUCH1: Touch Panel Connector
The pin assignments are as follows:

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



2-23. TOUCH PANEL SELECTION

JP16: Touch Panel Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
e-Turbo	1-2 5-6	
Elo	3-4 7-8	

*** Manufactory default – Elo

2-24. CLEAR CMOS DATA SELECTION

JP1: Clear CMOS Data Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
Clear CMOS	2-3	
Nornal	1-2	

*** Manufacturing Default – Normal

🕮 To clear CMOS data, user must power-off the computer and set the jumper to “Clear CMOS” as illustrated above. After five to six seconds, set the jumper back to “Normal” and power-on the computer.

2-25. COMPACT FLASH CONNECTOR

CF1: Compact Flash Connector
The pin assignments are as follows:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	26	GND
2	D03	27	D11
3	D04	28	D12
4	D05	29	D13
5	D06	30	D14
6	D07	31	D15
7	CSJ1	32	CSJ3
8	GND	33	GND
9	GND	34	SDIORDJ
10	GND	35	SDIOWRJ
11	GND	36	+5V
12	GND	37	IRQ14
13	+5V	38	+5V
14	GND	39	-CSEL
15	GND	40	NC
16	GND	41	RESETJ
17	GND	42	IORDJ
18	A02	43	REQ
19	A01	44	ACKJ
20	A00	45	CF_LEDJ
21	D00	46	-PDIAG
22	D01	47	D08
23	D02	48	D09
24	NC	49	D10
25	GND	50	GND

SOFTWARE UTILITIES

CHAPTER

3

This chapter provides the detailed information users need to install driver utilities for the system.

Sections included:

- Intel® Chipset Software Installation Utility
- VGA Driver Utility
- LAN Driver Utility
- Sound Driver Utility
- Touch Screen Driver Utility
- Wireless Driver Utility (Optional)

3-1. INTRODUCTION

Enclosed with the POS-3120 Series package is our driver utilities, which comes in a CD ROM format. Refer to the following table for driver locations.

Filename (Assume that CD ROM drive is D:)	**Purpose**
D:\Driver\Plaform\XP,POSReady2009 (32-bit)\Main Chip or D:\Driver\Plaform\Win7,POSReady7(32-bit)\Main Chip	Intel® Chipset Software Installation Utility
D:\Driver\Plaform\XP,POSReady2009 (32-bit)\VGA or D:\Driver\Plaform\Win7,POSReady7(32-bit)\VGA	Intel® Graphics Media Accelerator 3150 for VGA driver installation
D:\Driver\Plaform\XP,POSReady2009 (32-bit)\LAN or D:\Driver\Plaform\Win7,POSReady7(32-bit)\LAN	Realtek® 8111DL for LAN Driver installation
D:\Driver\Plaform\XP,POSReady2009 (32-bit)\Sound or D:\Driver\Plaform\Win7,POSReady7(32-bit)\Sound	Realtek® ALC888 for Sound driver installation
D:\Driver\Device	Driver installation for touchscreen, embedded printer, wireless, MSR, etc.

🔔 Users must install the driver utilities right after the OS is fully installed.

3-2. INTEL® CHIPSET SOFTWARE INSTALLATION UTILITY

3-2-1. Introduction

The Intel® Chipset Software Installation Utility installs to the target system the Windows* INF files that outline to the operating system how the chipset components will be configured. This is needed for the proper functioning of the following features:

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

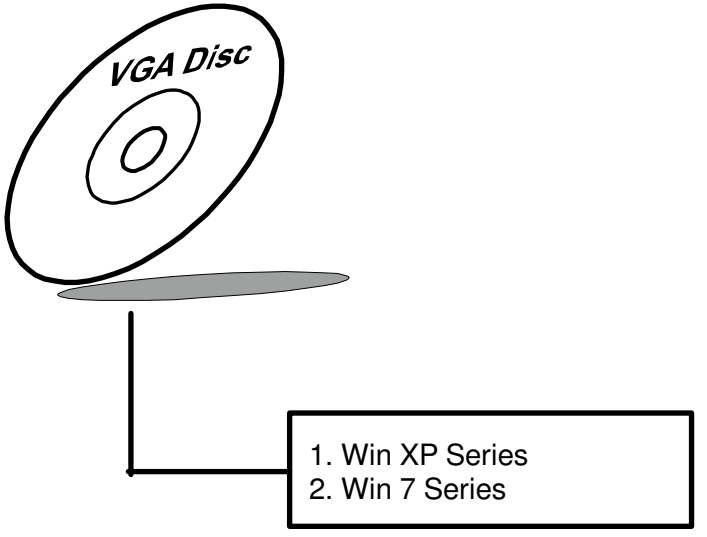
3-2-2. Installation of Intel® Chipset Driver

The utility pack is to be installed only for Windows XP/ 7 series, and it should be installed right after the OS installation. Please follow the steps below:

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
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 complete the installation.
5. Once installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

3-3. VGA DRIVER UTILITY

The VGA interface embedded with the POS-3120 series can support a wide range of display types. You can have dual displays via CRT and LVDS interfaces work simultaneously.



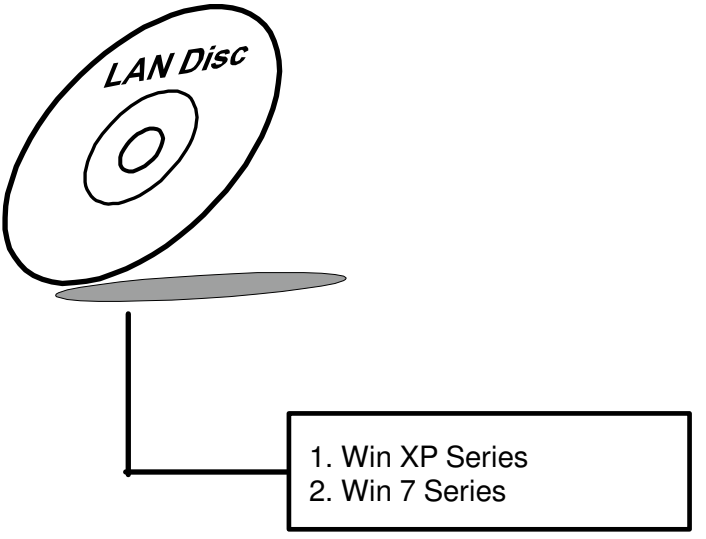
3-3-1. Installation of VGA Driver

To install the VGA Driver, follow the steps below:

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
2. Enter the "VGA" folder where the VGA 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 installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

3-4. LAN DRIVER UTILITY

The POS-3120 Series is enhanced with LAN function that can support various network adapters. Installation platform for the LAN driver is listed as follows:



For more details on Installation procedure, please refer to the Readme.txt file found on LAN Driver Utility.

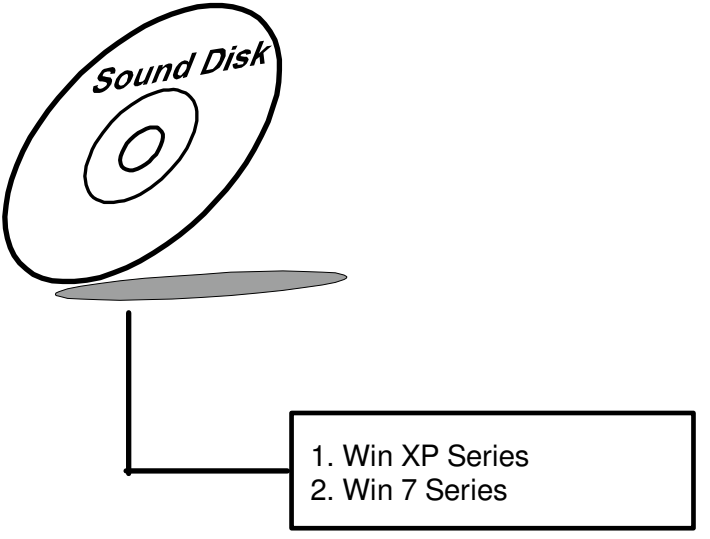
3-4-1. Installation of LAN Driver

To install the LAN Driver, follow the steps below:

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
2. Enter the "LAN" folder where the LAN 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 installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

3-5. SOUND DRIVER UTILITY

The sound function enhanced in this system is fully compatible with Windows XP/ 7 series. Below, you will find the content of the Sound driver.



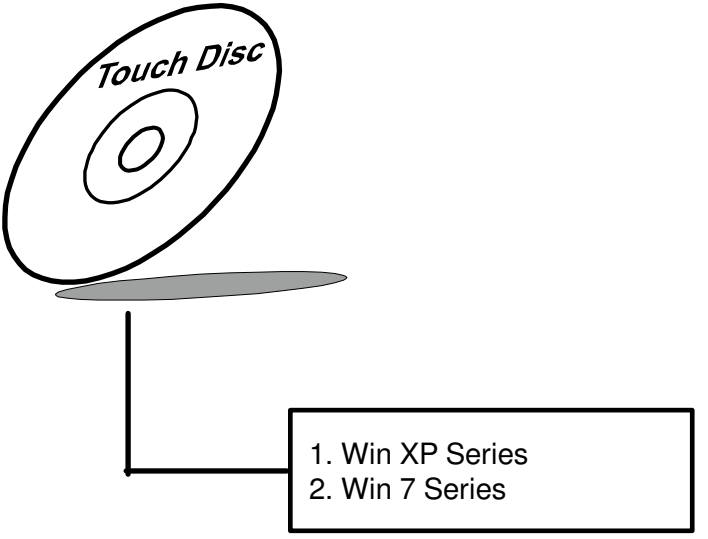
3-5-1. Installation of Sound Driver

To install the Sound Driver, refer to the readme.txt file on the driver disc (:\Sound\Realtek\Readme.txt).

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
2. Enter the "Sound" folder where the Sound 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 installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

3-6. TOUCHSCREEN DRIVER UTILITY

The touchscreen driver utility can only be installed on a Windows platform (XP/ 7 series), and it should be installed right after the OS installation.



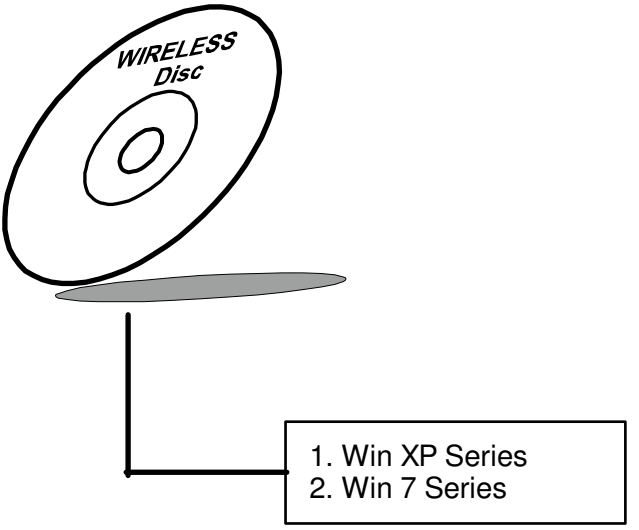
3-6-1. Installation of Touchscreen Driver

To install the Touchscreen Driver, follow the steps below:

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
2. Enter the "Device\Touchscreen" folder where the Touchscreen driver is located.
3. Click **Setup.exe** file for driver installation.
4. Follow the on-screen instructions to complete the installation.
5. Once installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

3-7. WIRELESS DRIVER UTILITY (OPTIONAL)

The wireless driver utility can only be installed on a Windows platform (XP/ 7 series), and it should be installed right after the OS installation.



3-7-1. Installation of Wireless Driver

To install the Wireless Driver, follow the steps below:

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
2. Enter the "Device\Embedded Wireless Module" folder where the Wireless driver is located.
3. Click **Setup.exe** file for driver installation.
4. Follow the on-screen instructions to complete the installation.
5. Once installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

CHAPTER

4

AMI BIOS SETUP

This chapter shows how to configure the AMI BIOS settings.

Sections included:

- Introduction
- Entering Setup
- Main
- Advanced
- Boot
- Security
- Chipset
- Exit

4-1. INTRODUCTION

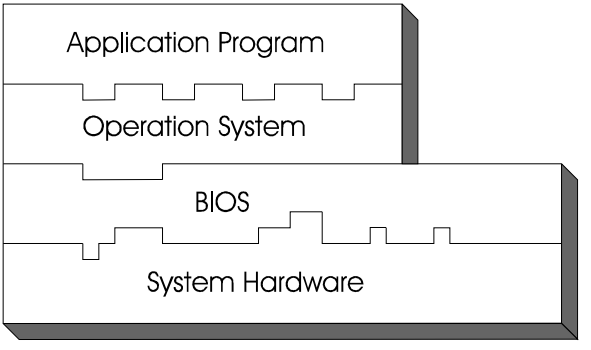
This chapter will show you the function of the BIOS (Basic Input and Output System) in managing the features of your system. The A3120LF motherboard is equipped with the BIOS from AMI (American Megatrends Inc). The following pages describe how to use the BIOS for configure system hardware by BIOS Setup menu.

When the PC starts up, the first job for the BIOS is to initialize and identify system devices such as the video display card, keyboard and mouse, hard disk, CD/DVD drive and other hardware. The BIOS then locates software held on a peripheral device (designated as a 'boot device'), such as a hard disk or a CD, and loads and executes that software, giving it control of the PC.

BIOS code is stored on a non-volatile, ROM chip built into the system, on the mother board and the BIOS software is specifically designed to work with the particular type of system in question including having a knowledge of the workings of various devices that make up the complementary chipset of the system

BIOS also provide a user interface, this is a menu system accessed by pressing a certain key on the keyboard when the PC starts. In the BIOS UI, a user can configure hardware, set the system clock, enable or disable system components, and most importantly, select which devices are eligible to be a potential boot device and set various password prompts, most importantly a password for securing access to the BIOS UI functions itself and preventing malicious users from booting the system from unauthorized peripheral devices.

The following diagram illustrates the relationships between system hardware, BIOS, operating system, and application program:

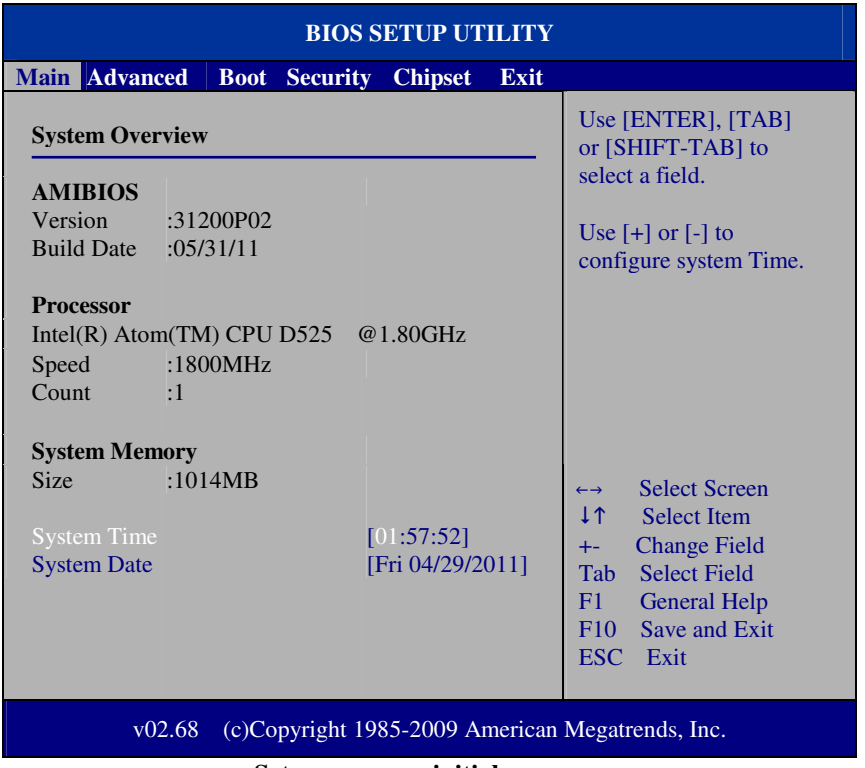


4-2 ENTERING SETUP

When system powered on, BIOS will enter the Power-On Self Test (POST) routines and displays below message on the screen:

POST Screen

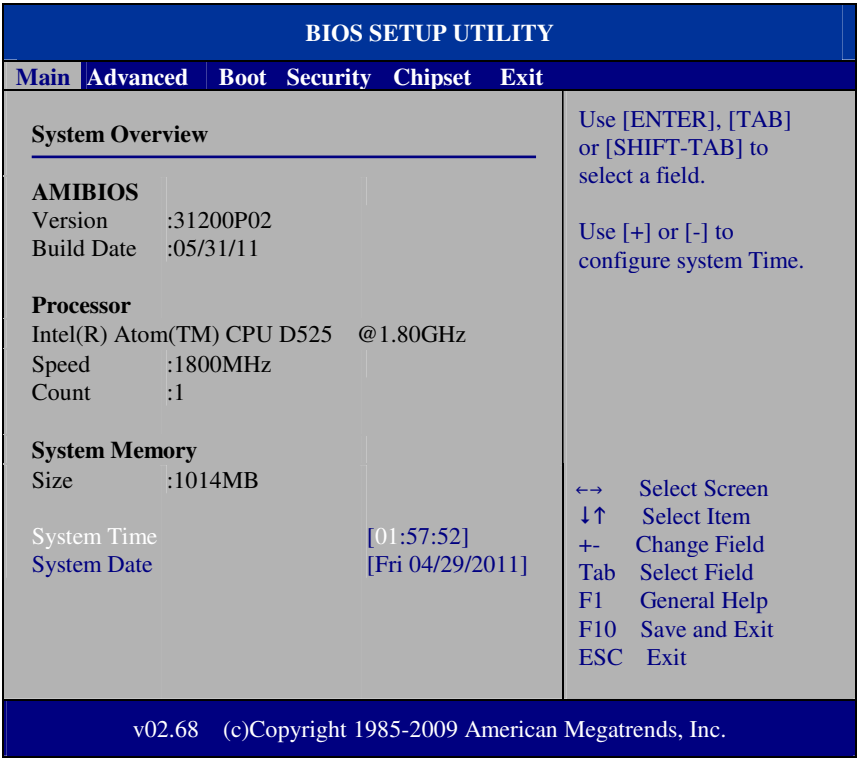
As long as this logo is present on the screen you may press the <Del> key (the one that shares the decimal point at the bottom of the number keypad) to enter the BIOS setup program. In a moment, the main menu of the AMI SETUP program will be shown on the screen:



Setup program initial screen

You may move the cursor by up/down keys to highlight the individual menu items. As you highlight each item, a brief description of the highlighted selection will appear at the right side of the screen.

4-3. Main



Main Screen

use < ↑ > or < ↓ > arrow keys to highlight the item and key in the value you want in each item. This menu provides basic system configurations, such as time and date.

AMI BIOS, Processor, System Memory

This items show the BIOS version, BIOS build up date, processor and system memory information of your system.

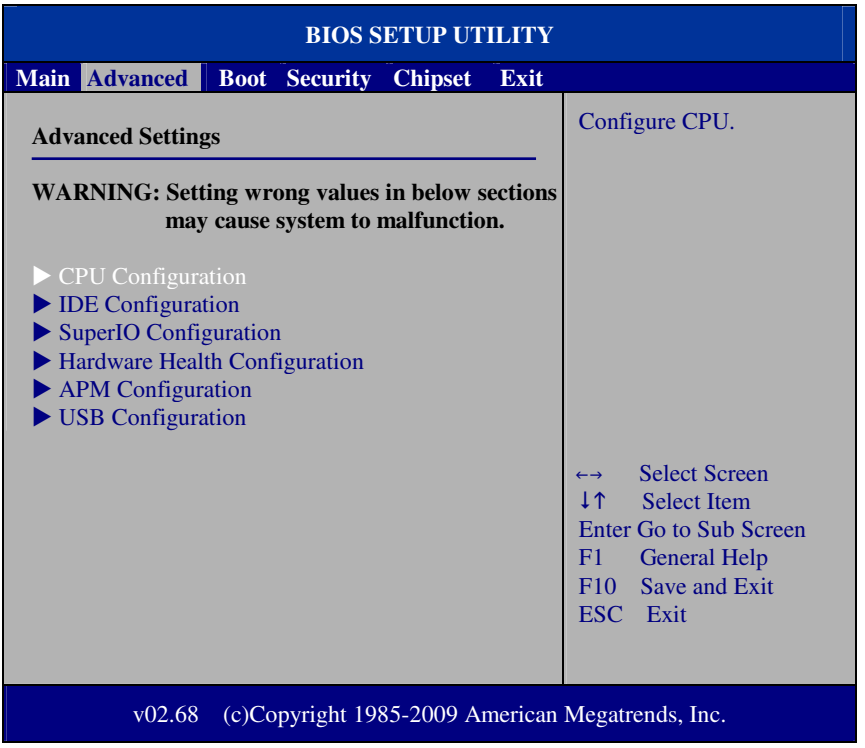
System Time

This setting allows you to set the system time. The format is [Hour: Minute: Second]. User can directly key-in value or use <+> or <-> arrow keys to increase/decrease it.

System Date

This setting allows you to set the system date. The format is [Day Month/ Date/ Year]. User can directly key-in value or use <+> or <-> arrow keys to increase/decrease it.

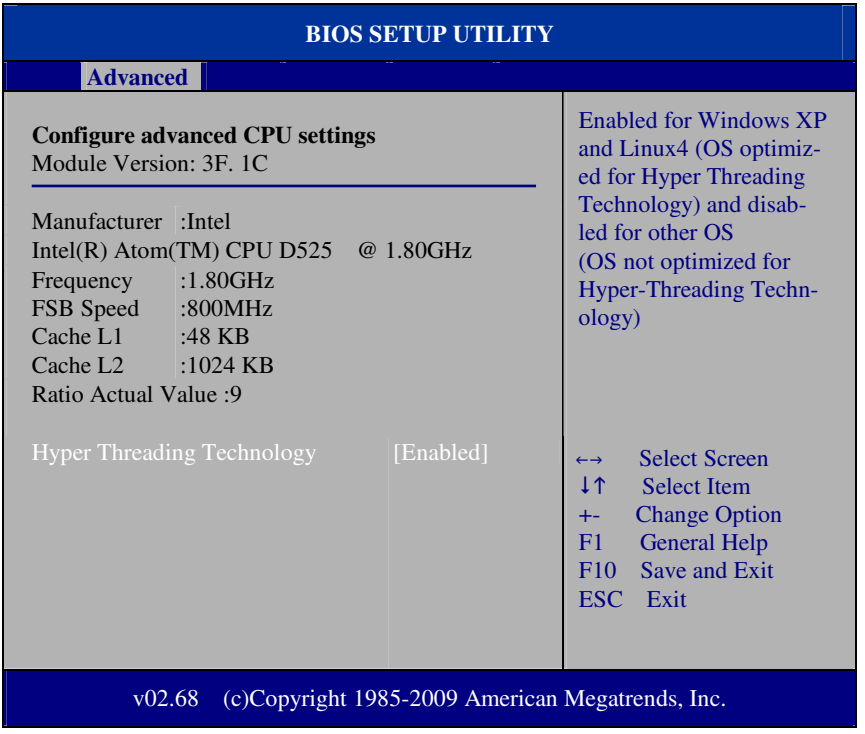
4-4. Advanced



Advanced Screen

This menu provides advanced configurations such as CPU Configuration, IDE Configuration, SuperIO Configuration…etc.

4-4.1. CPU Configuration



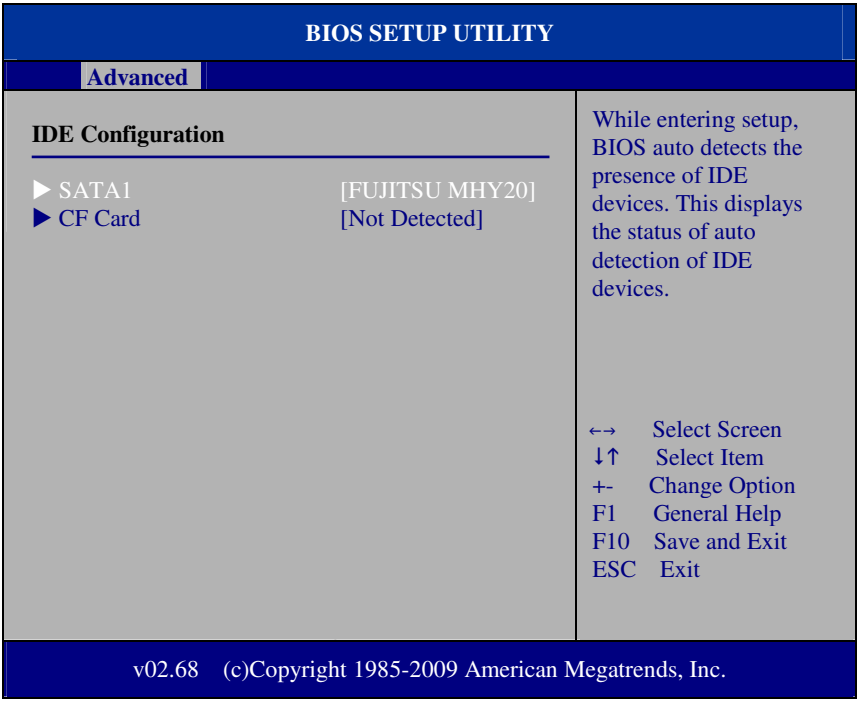
CPU Configuration Screen

This menu provides advanced CPU settings and some information about CPU.

Hyper Threading Technology

Hyper Threading is Intel's term for its simultaneous multithreading implementation in their CPUs. Enable this function will improve parallelization of computation performed on PC microprocessor. For each processor core that is physically present, the operation system addresses two virtual processors, and shares the workload between them when possible.

4-4.2. IDE Configuration



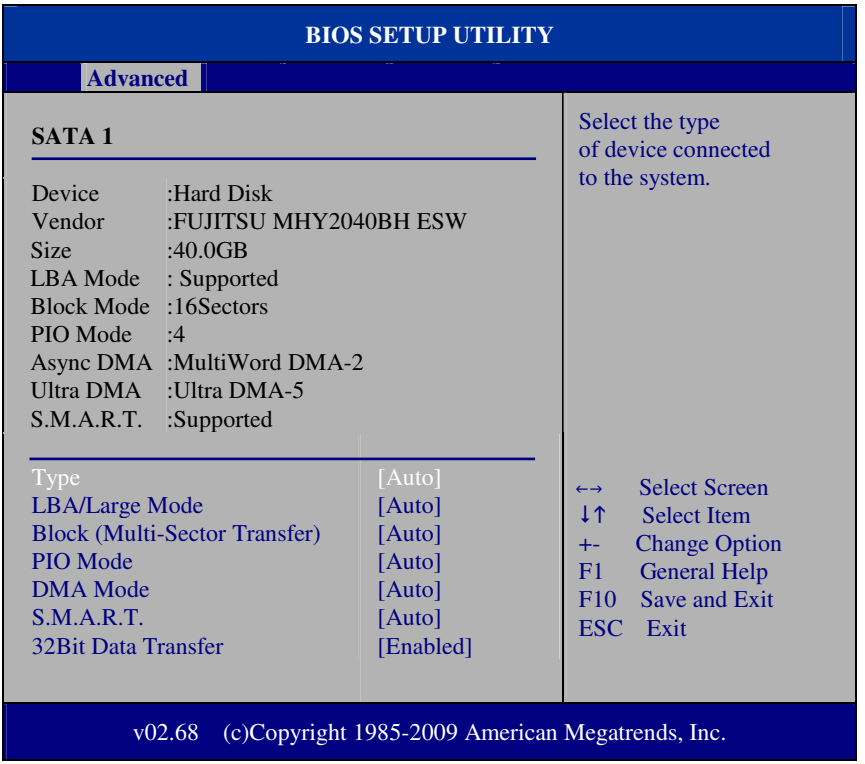
IDE Configuration Screen

This menu provides advanced IDE configuration for hard drive. The control items of SATA 1 / CF Card are all the same and describe in next section.

SATA 1/ CF Card

This setting displays the status of storages.

4-4.2.1 SATA 1 and CF Card



SATA 1 Screen

Type
Select the type of device connected to the system.

LBA/Large Mode
Enabling LBA causes Logical Block Addressing to be used in place of Cylinders, Heads and Sectors.

Block (Multi-Sector Transfer)

Any selection except Disabled determines the number of sectors transferred per block.

PIO Mode

Configure the type of PIO (Programmed Input/Output) mode 0-4 for IDE device. Mode 0 through 4 provides successively increased performance.

DMA Mode

Select the type of Ultra DMA mode on a hard drive.

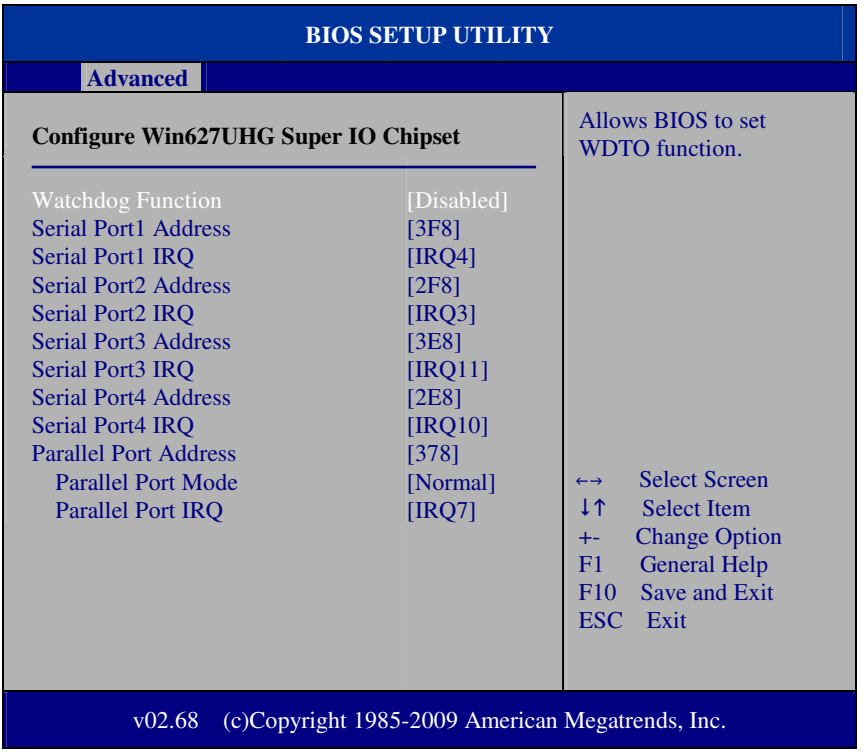
S.M.A.R.T

This allows you to activate the S.M.A.R.T. (Self-Monitoring Analysis & Reporting Technology) capability for the hard disks. S.M.A.R.T is a utility that monitors your disk status to predict hard disk failure. This gives you an opportunity to move data from a hard disk that is going to fail to a safe place before the hard disk becomes offline.

32Bit Data Transfer

Enables/Disable 32-bit data transfer.

4-4.3. SuperIO Configuration



SuperIO Configuration Screen

* WatchDog function

If system hang or not respond for user, enable watchdog function can triggers a system reset by an user given value count down to zero.

Serial Port1~4 Address

Select IO address as serial ports default resource.

Serial Port1~4 IRQ

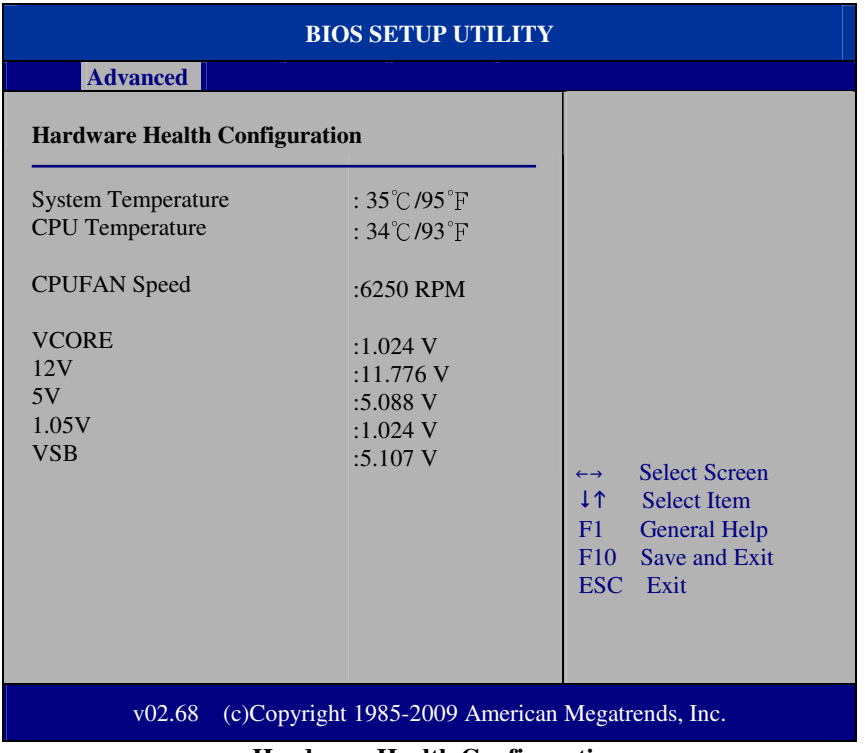
Select IO IRQ as serial ports default resource.

Parallel Port Address
Select IO address for parallel ports resource allocation.

Parallel Port Mode
Select the operation mode for parallel port.

Parallel Port IRQ
Select IRQ for parallel ports resource allocation.

4-4.4. Hardware Health Configuration



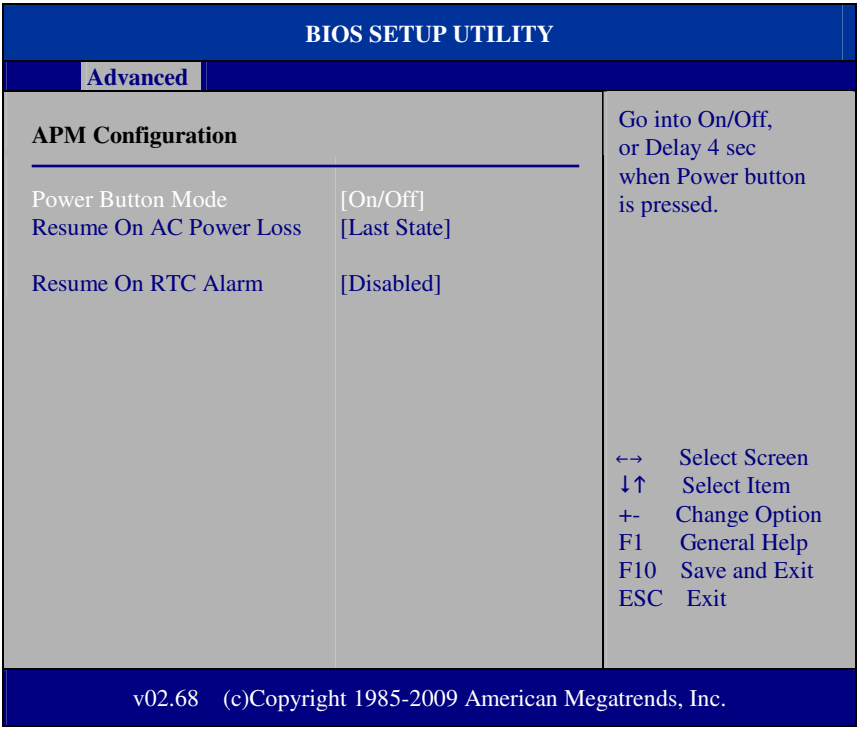
Hardware Health Configuration

System Temperature / CPU Temperature
Both section show System and CPU current temperature.

CPUFAN Speed
This item shows CPU fan speed.

VCORE / 12V / 5V / 1.05V / VSB
These items provide hardware health information.

4-4.5. APM Configuration



APM Configuration Screen

Power Button Mode

This setting controls shutdown action by pressing power button. The system will be shutdown immediately after pressing power button when set to "On/Off". If set the power button mode to "Delay 4 seconds", system will be shutdown after pressing and hold the power button over 4 seconds.

Restore on AC/Power Loss

Once a power failure situation happens, this item decides the system power state after AC power restore back.

Resume On RTC Alarm

When user set this option to [Enable], it allows system to be wake up at specific date/time.

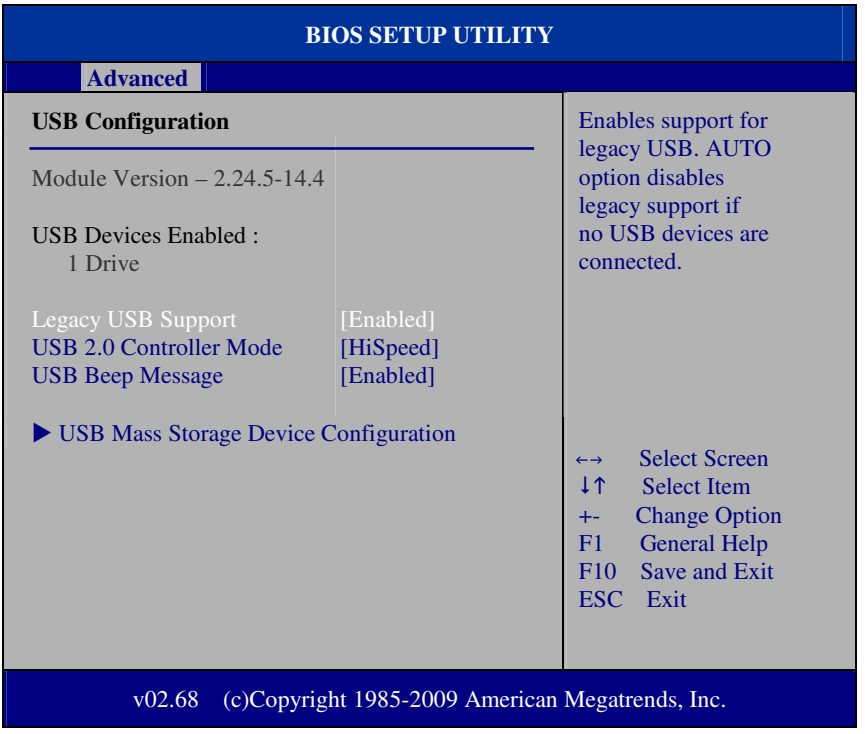
RTC Alarm Date (Days)

Set a specific date value for RTC alarm function to wakeup system from soft off state.

System Time

Set a specific time value for RTC alarm function to wakeup system from soft off state.

4-4.6.USB Configuration



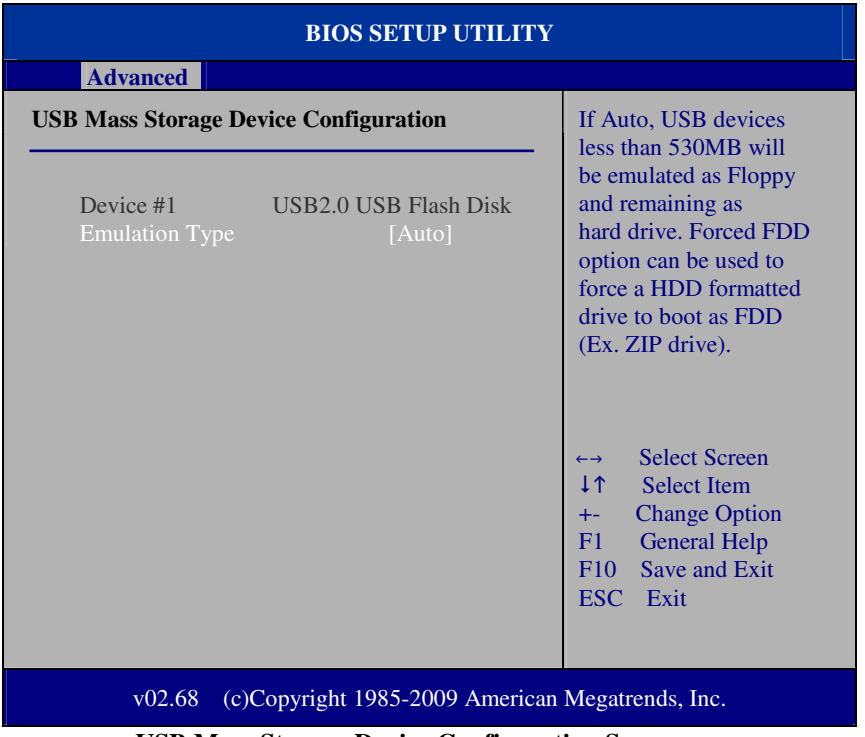
USB Configuration Screen

Legacy USB Support
Set to [Enabled] if you want to use USB device in the legacy operating system, such as MS-DOS or SCO Unix.

USB 2.0 Controller Mode
Configure the onboard USB 2.0 controller operation mode to high Speed or full speed mode.

USB Beep Message
System will generate beep sound during USB device enumeration.

4-4.6.1 USB Mass Storage Device Configuration

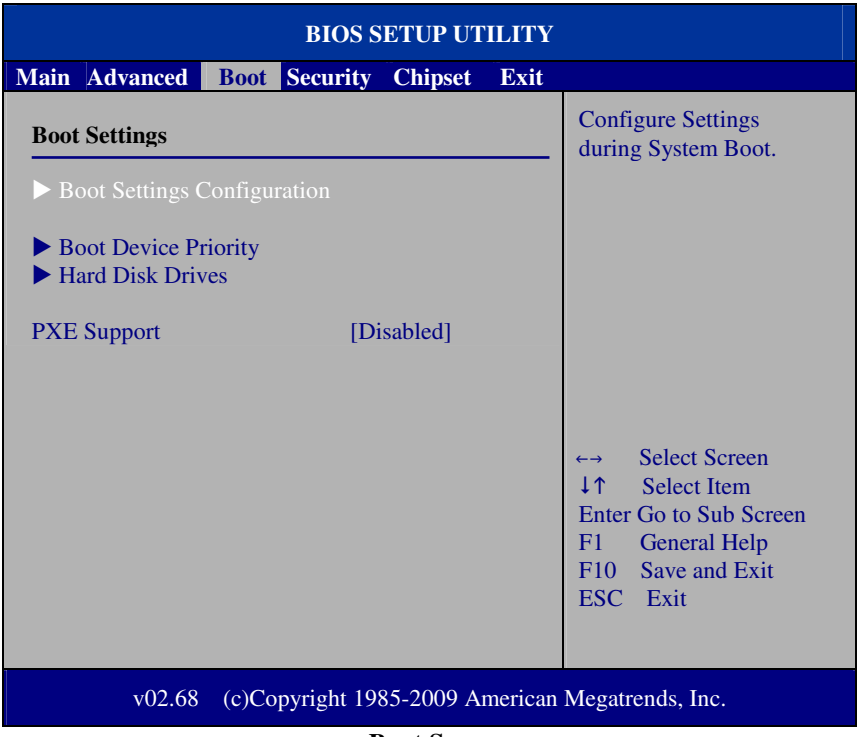


USB Mass Storage Device Configuration Screen

Emulation Type

Select which type of device that USB mass storage emulation. When user select to [Auto], the USB storage size less than 530MB will be emulated as floppy drive and remaining as hard drive.

4-5. Boot



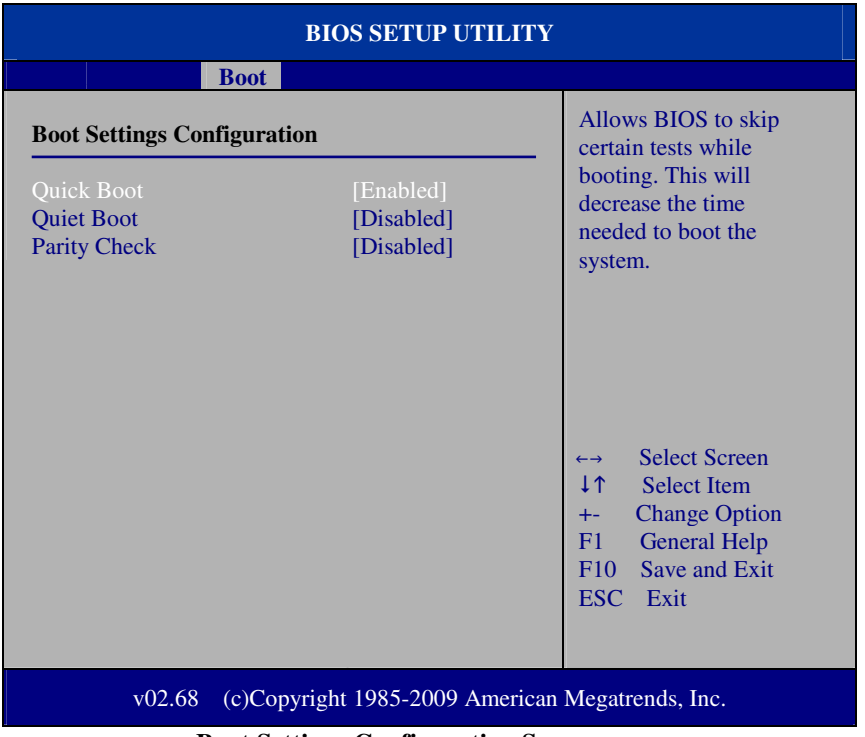
Boot Screen

This menu provides control items for system boot configuration.

PXE Support

This is the main control item for enable/disable PXE (Preboot Execution Environment) support.

4-5.1 Boot Settings Configuration



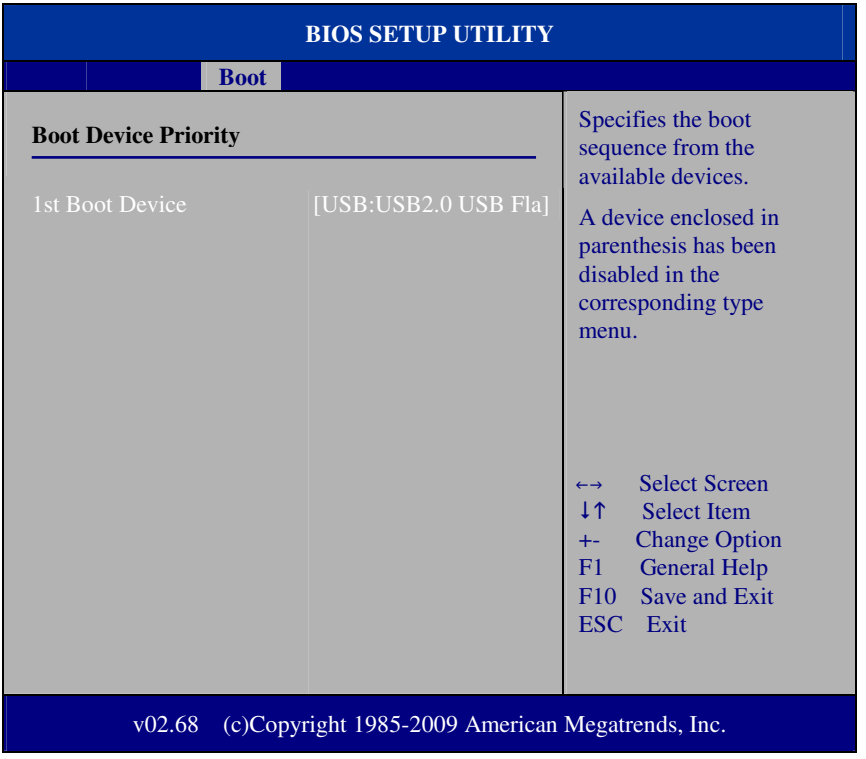
Boot Settings Configuration Screen

Quick Boot
Enable this item allows BIOS POST to skip some tests during boot-up for saving boot time.

Quiet Boot
When set this option to [disabled], BIOS will display normal POST messages.

Parity Check
This setting enables or disables memory or parity error check.

4-5.2 Boot Device Priority

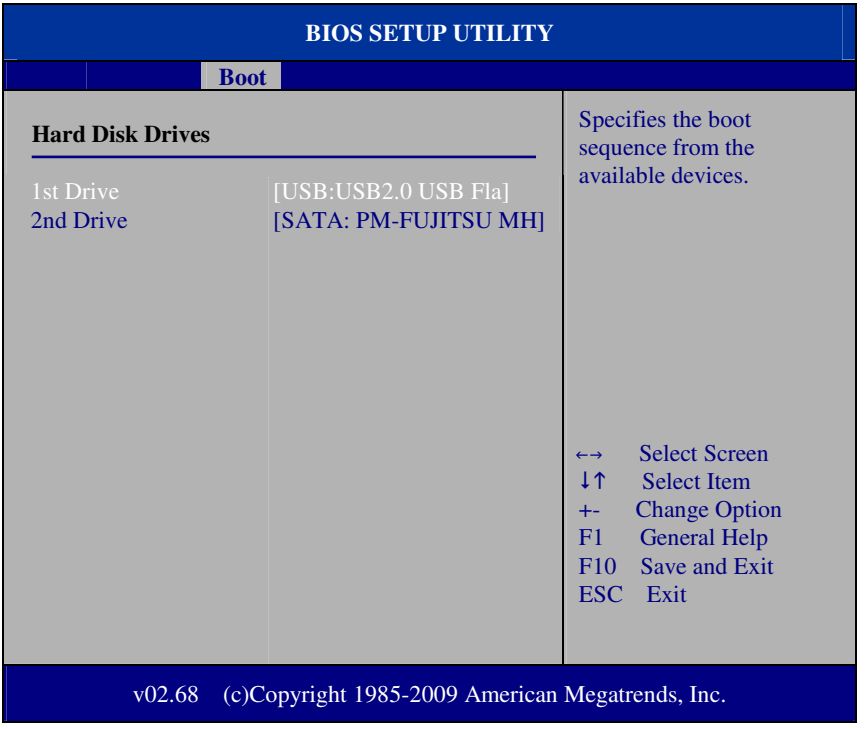


Boot Device Priority Screen

1st / 2nd / 3rd …Boot Device

Choose the boot sequence from the available devices.

4-5.3 Hard Disk Drives

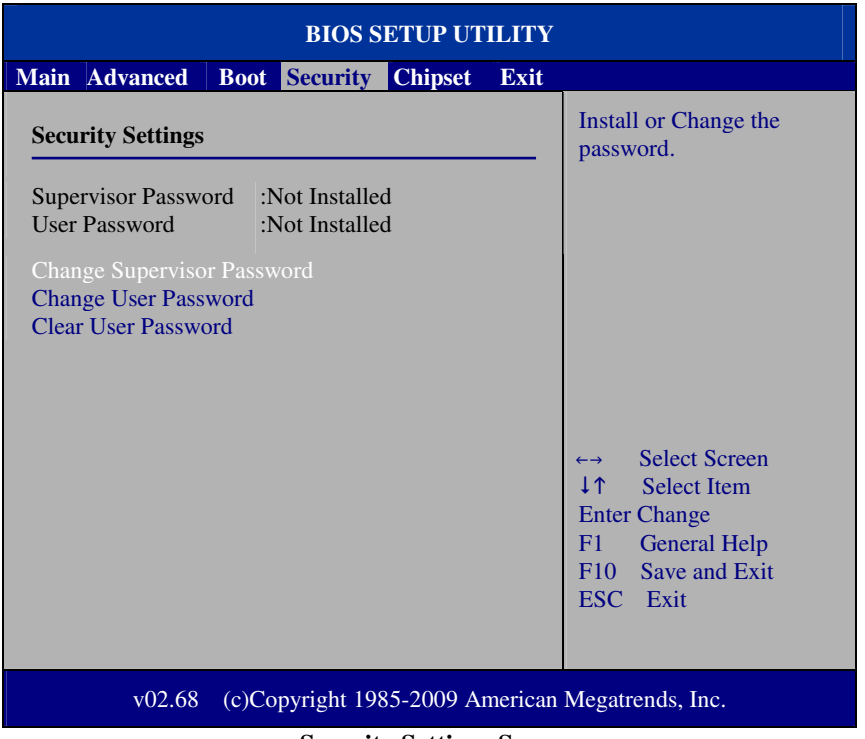


Hard Disk Drives Screen

1st / 2nd …Drive

This setting allows user to set the priority of hard drive or another bootable USB storages. Press <Enter> to enter the sub-menu and press < ↑ > or < ↓ > arrow keys to select the device. Another way is to press <+> or <-> to move it up/down in the priority list.

4-6. Security



Security Settings Screen

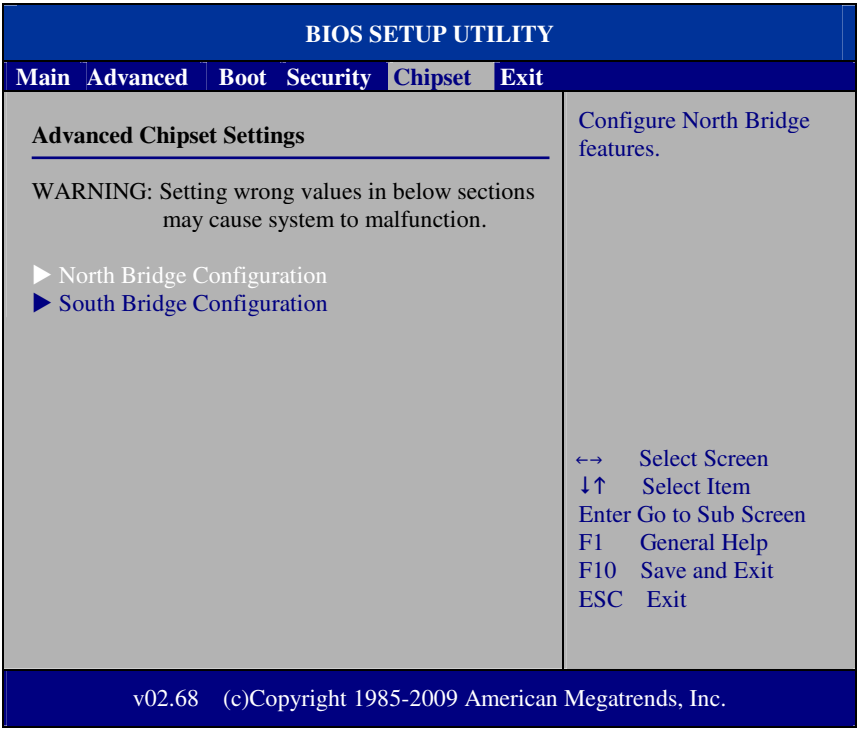
Change Supervisor Password

Supervisor Password controls the access right to the BIOS Setup utility. These settings allow user to set or change the supervisor password.

Change User Password

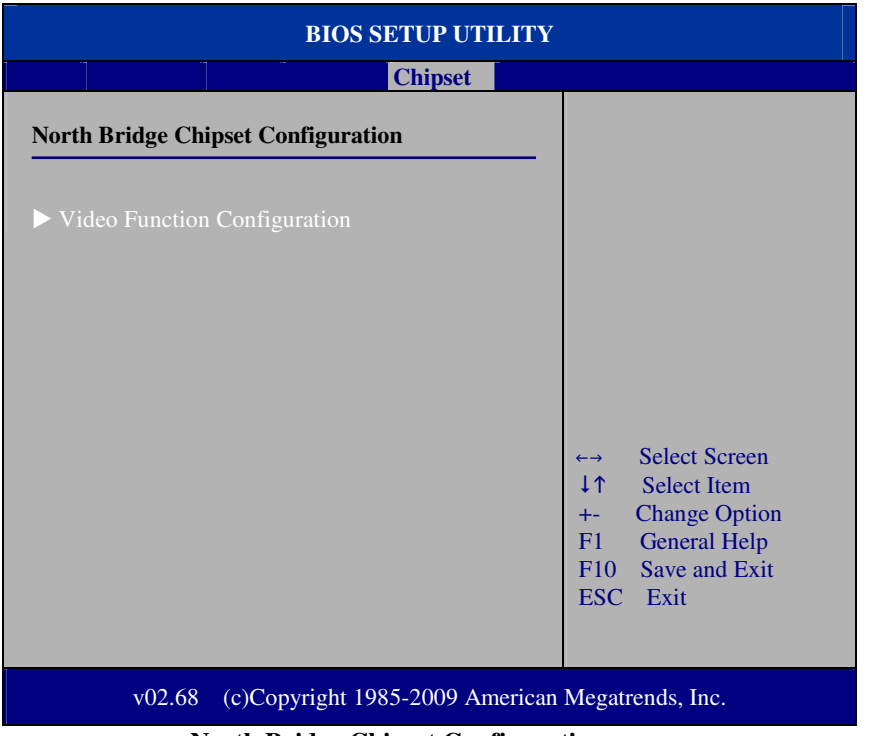
User Password controls system access right when power on. These settings allow user to set or change the user password.

4.7 Chipset



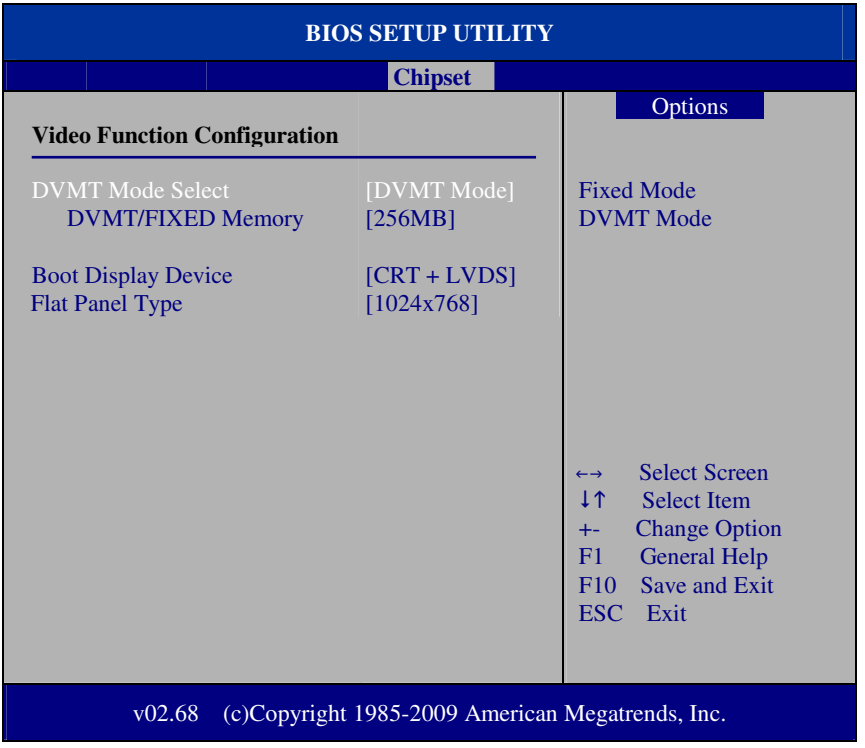
Advanced Chipset Settings Screen

4-7.1 North Bridge Chipset Configuration



North Bridge Chipset Configuration

4-7.1.1 Video Function Configuration



Video Function Configuration Screen

DVMT Mode Select / DVMT/FIXED Memory

Intel's Dynamic Video Memory Technology (DVMT) allows the system to dynamically allocated memory resources according to the demands of the system at any point in time. The key idea in DVMT is to improve the efficiency of the memory allocated to either system or graphics processor. It is recommended that user select this option to DVMT Mode that system memory is dynamically allocated for optimal balance between graphics and system performance.

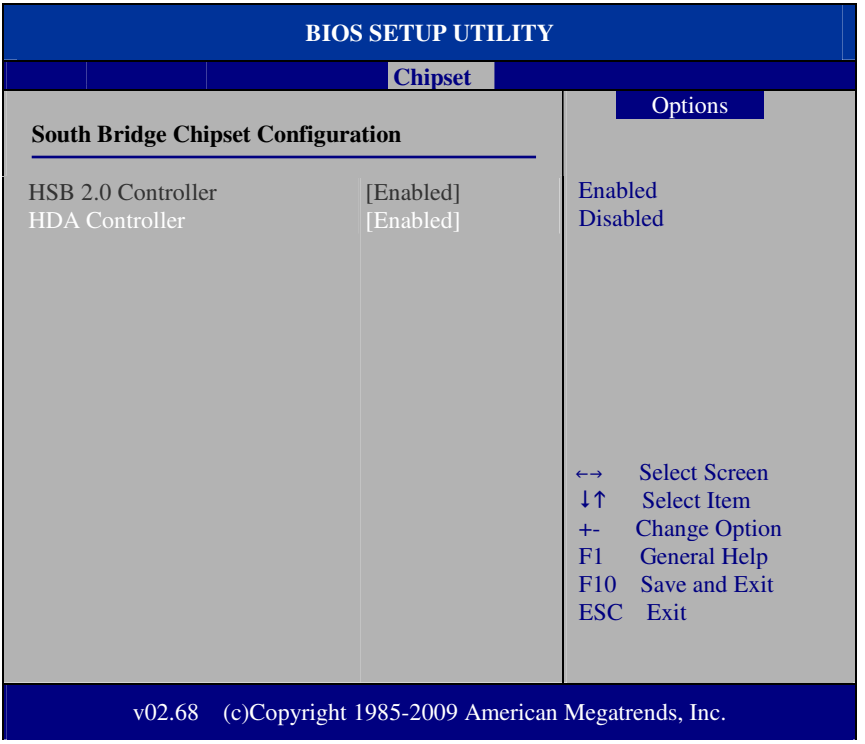
Boot Display Device

Choose the default boot display device by user requirement such as [CRT], [LVDS] and [CRT+LVDS]

Flat Panel Type

Select the resolution for the connected LVDS panel such as [800x600] and [1024x768].

4-7.2 South Bridge Configuration

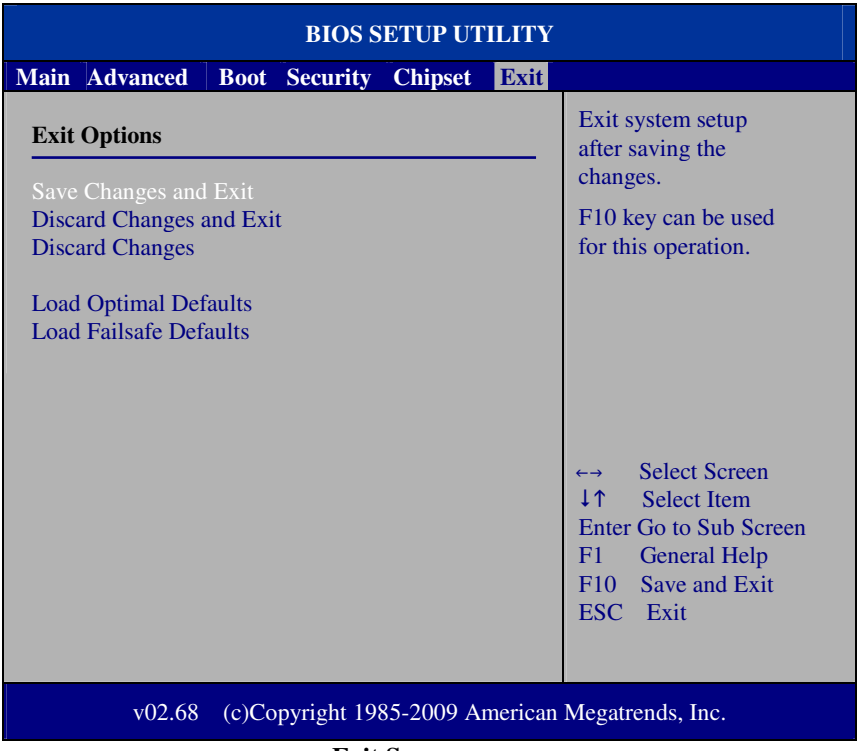


South Bridge Chipset Configuration Screen

USB 2.0 Controller
Enable the USB 2.0 Controller.

HDA Controller
Enable or disable the onboard High-definition Audio controller.

4.8 Exit



Exit Screen

Save Changes and Exit
Save changes to CMOS and then exit the BIOS setup screen. User can also press the [F10] key for this operation.

Discard Changes and Exit

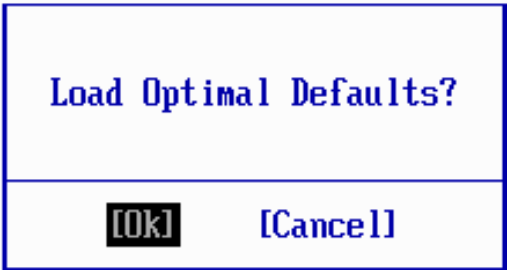
Abandon all changes and exit the BIOS setup screen. User can also press the [ESC] key for this operation.

Discard Changes

Discard all changes done so far to the setup items. User can press the [F7] key for this operation.

Load Optimal Defaults

Press <Enter> on this item, it will show a confirmation dialog box with a message like below:



Pressing "Ok" to loads the factory recommended optimal setting for system operations. User can also press the [F9] key for this operation.

Load Failsafe Defaults

Press <Enter> on this item, it will show a confirmation dialog box with a message like below:

To use the BIOS failsafe default values, change the prompt to "Ok" and press the <Enter > key. User can also press the [F8] key for this operation.

SYSTEM ASSEMBLY

APPENDIX

A

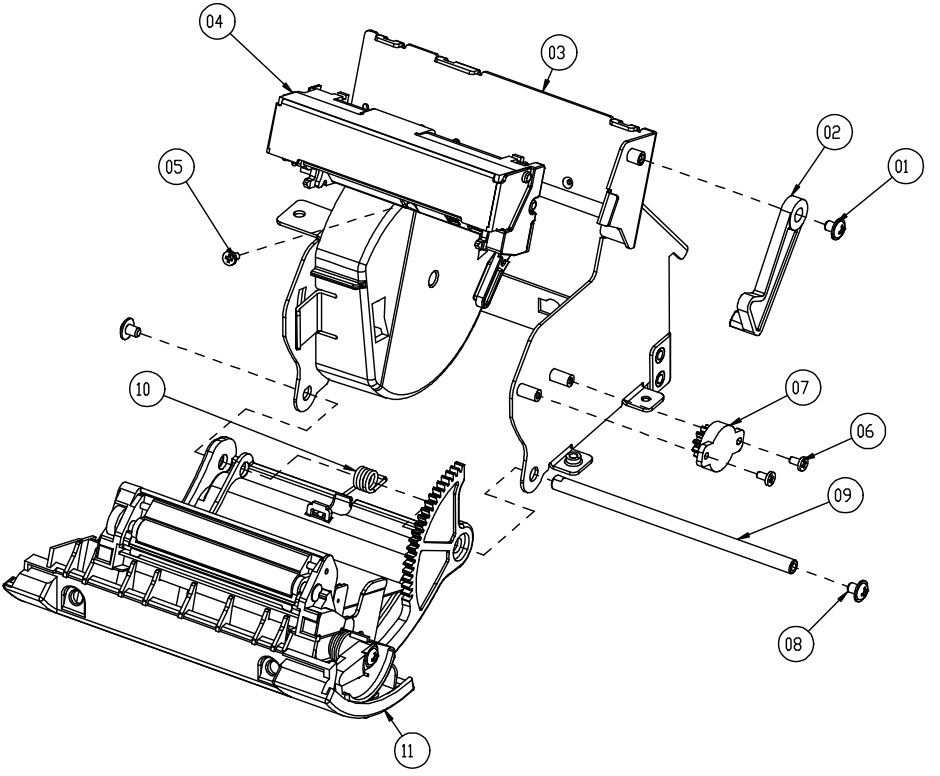
This appendix contains exploded diagrams and part numbers of the POS-3120 system.

Sections included:

- Exploded Diagram for 2 Inch Thermal Printer Assembly
- Exploded Diagram for 3 Inch Thermal Printer Assembly
- Exploded Diagram for Printer Paper Holder Assembly
- Exploded Diagram for Fan Assembly
- Exploded Diagram for Empty Top Case Assembly
- Exploded Diagram for Fingerprint Module
- Exploded Diagram for POS-3120 Hard Disk Drive Assembly
- Exploded Diagram for I-Button Assembly
- Exploded Diagram for POS-3120 CPT LCD Assembly
- Exploded Diagram for POS-3120 Data Image LCD Assembly
- Exploded Diagram for POS-3120 Mini-PCIE Installation
- Exploded Diagram for POS-3120 Motherboard
- Exploded Diagram for POS-3120 MSR Assembly
- Exploded Diagram for POS-3120 MSR Module
- Exploded Diagram for POS-3120 Printer Assembly
- Exploded Diagram for POS-3120 Top Cover Assembly
- Exploded Diagram for VFD Module Assembly

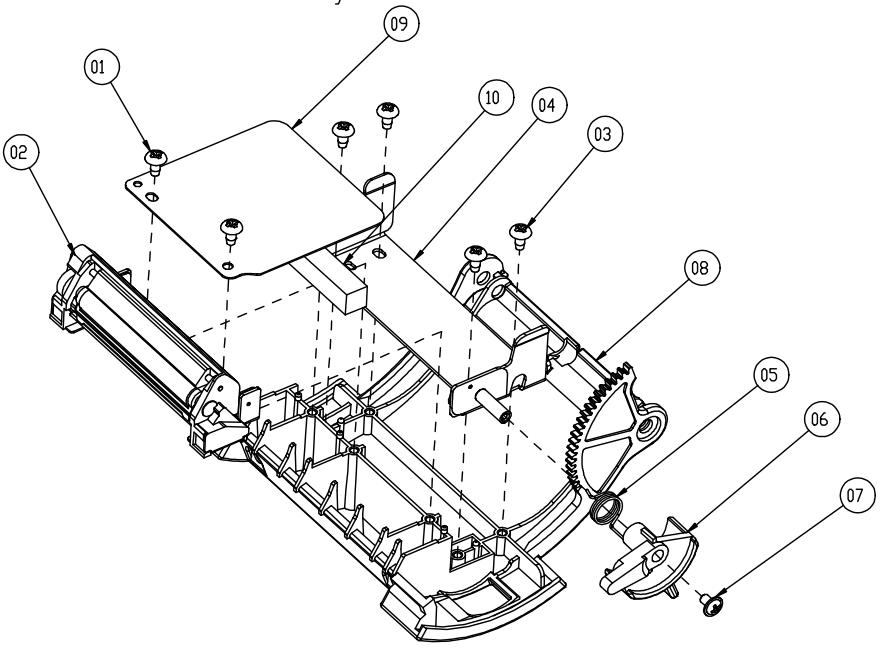
EXPLODED DIAGRAM FOR 2 INCH THERMAL PRINTER ASSEMBLY

2" Printer Assembly



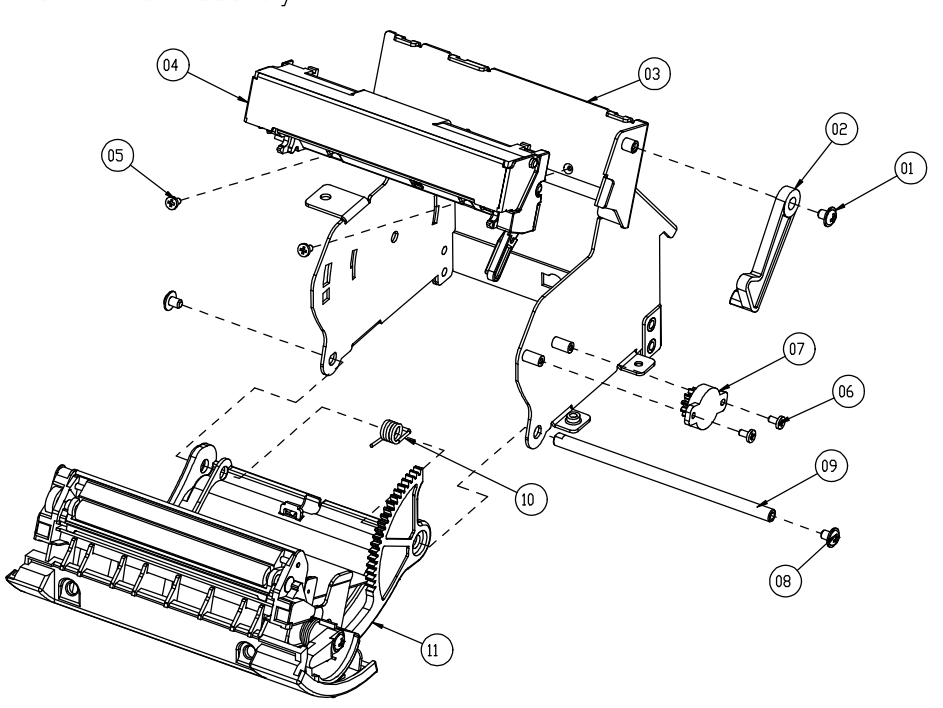
12	ADD_PAPER_WALL	30-002-28310165	1
11	Paper_cover_Assembly	--	1
10	PS3100-SPRING-1	23-002-00000701	1
9	Paper_cover_pin	20-004-10011165	1
8	M3_Washer_L5_Ni	22-242-30005311	2
7	ROTARY DAMPER	30-022-09110000	1
6	M2_I_L4_Ni	22-272-20004011	2
5	M2_I_L4_Ni	22-272-20004011	1
4	CAPD24X_A_03 (2")	52-701-00020003	1/2
3	PS3100_PRINTER_BOX_V2	20-040-03004165	1
2	Printer_add_arm(white)	30-002-09410165	1
	Printer_add_arm(black)	30-002-09110165	
1	M3_I_L4_Black	22-272-30004318	1
No.	Name	P/N No.	Qt'y

2″ Printer Cover Assembly



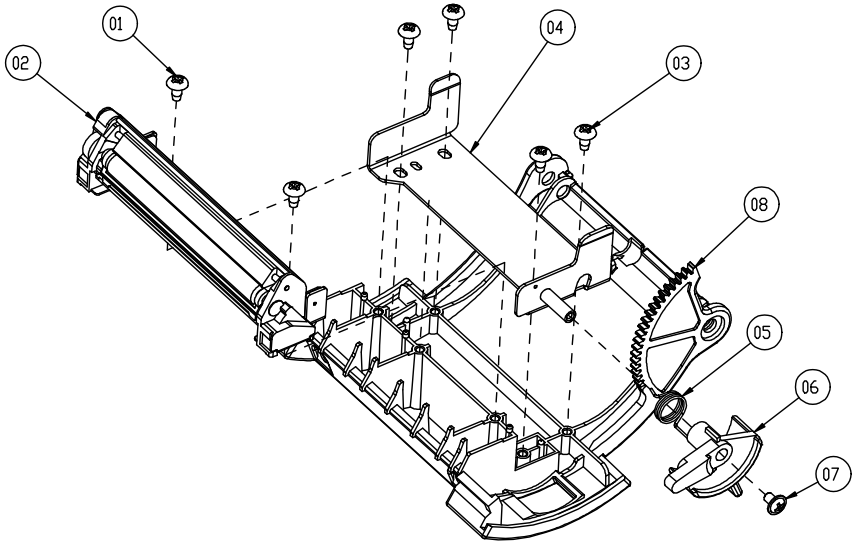
10	2intch_add_EVA	90-013-15200165	1
9	2INCH_ADD_MYLAR2	90-056-02300165	1
8	PS3100_PAPER_COVER_V2(White)	30-002-02630165	1
	PS3100_PAPER_COVER_V2(Black)	30-002-02530165	
7	M3_I_L4_Black	22-272-30004318	1
6	PRINTER_COVER_EJECTOR(White)	30-002-09310165	1
	PRINTER_COVER_EJECTOR(Black)	30-002-09210165	
5	PS3100-SPRING-FOR_EJECTOR	23-002-00001021	1
4	PS-3100 INCLUDE HOLDER	20-029-03006165	1
3	T3_R_L6_Ni	22-132-30060011	4
2	CAPD24X_A_03 (2")	52-701-00020003	1/2
1	T3_R_L8_Black	22-122-30080011	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR 3 INCH THERMAL PRINTER ASSEMBLY



11	Paper_cover_Assembly	--	1
10	PS3100-SPRING-1	23-002-00000701	1
9	Paper_cover_pin	20-004-10011165	1
8	M3_Washer_L5_Ni	22-242-30005311	2
7	R□TARY DAMPER	30-022-09110000	1
6	M2_I_L4_Ni	22-272-20004011	2
5	M2_I_L4_Ni	22-272-20004011	2
4	CAPD34X_A_01 (3")	52-701-00017003	1/2
3	PS3100_PRINTER_B□X_V2	20-040-03004165	1
2	Printer_add_arm(White)	30-002-09410165	1
	Printer_add_arm(black)	30-002-09110165	
1	M3_I_L4_Black	22-272-30004318	1
No.	Name	P/N No.	Qt'y

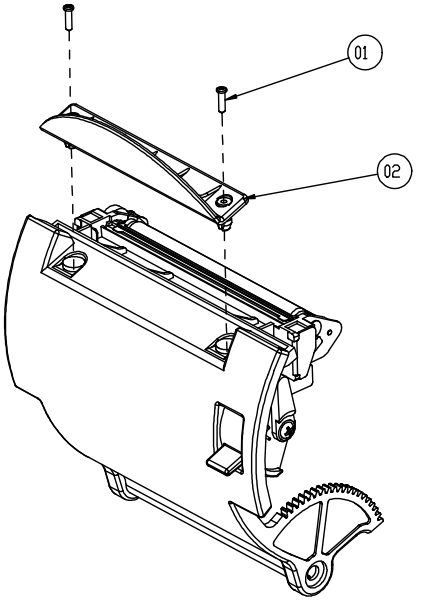
3″ Printer Cover Assembly



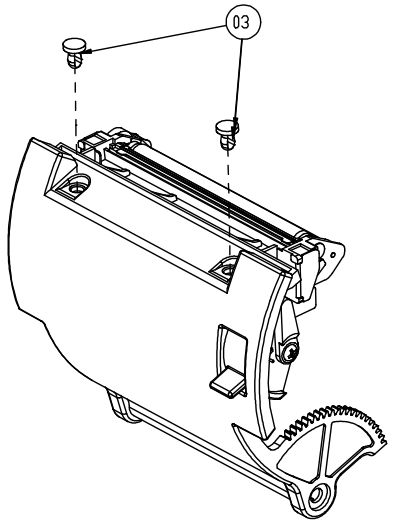
8	PS3100_PAPER_COVER_V2(White)	30-002-02630165	1
	PS3100_PAPER_COVER_V2(Black)	30-002-02530165	
7	M3_I_L4_Black	22-272-30004318	1
6	PRINTER_COVER_EJECTOR(White)	30-002-09310165	1
	PRINTER_COVER_EJECTOR(Black)	30-002-09210165	
5	PS3100-SPRING-FOR_EJECTOR	23-002-00001021	1
4	PS-3100 INCLUDE HOLDER	20-029-03006165	1
3	T3_R_L6_Ni	22-132-30060011	4
2	CAPD34X_A_01 (3″)	52-701-00017003	1/2
1	T3_R_L8_Black	22-122-30080011	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR PRINTER PAPER HOLDER ASSEMBLY

WITH PAPER HOLDER

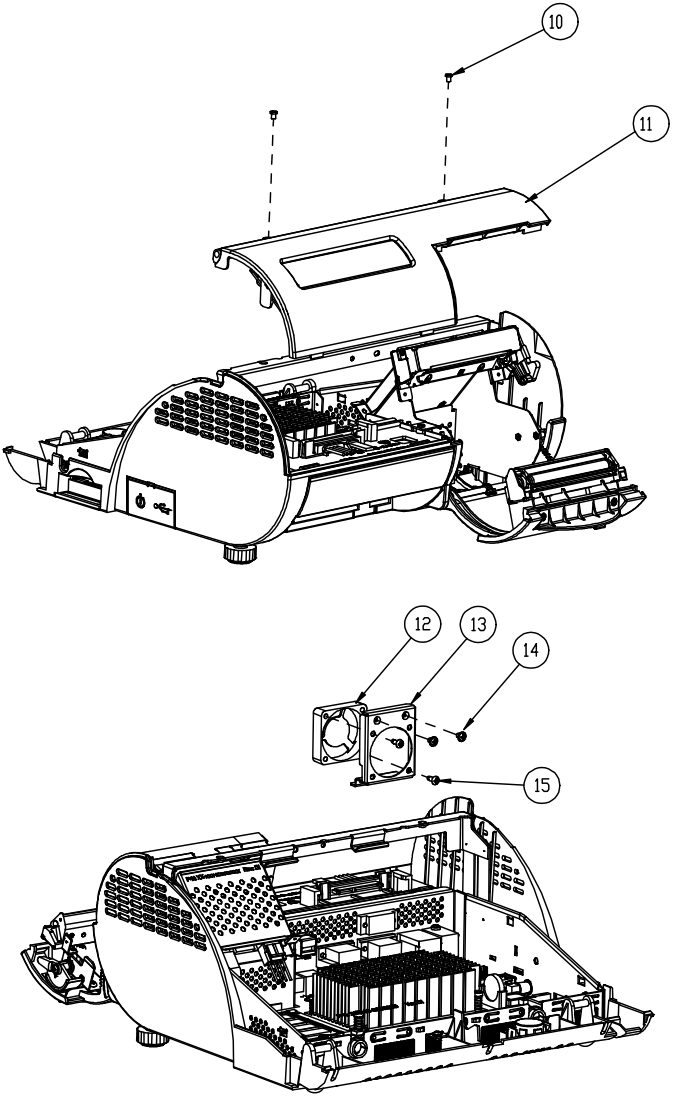


WITHOUT PAPER HOLDER



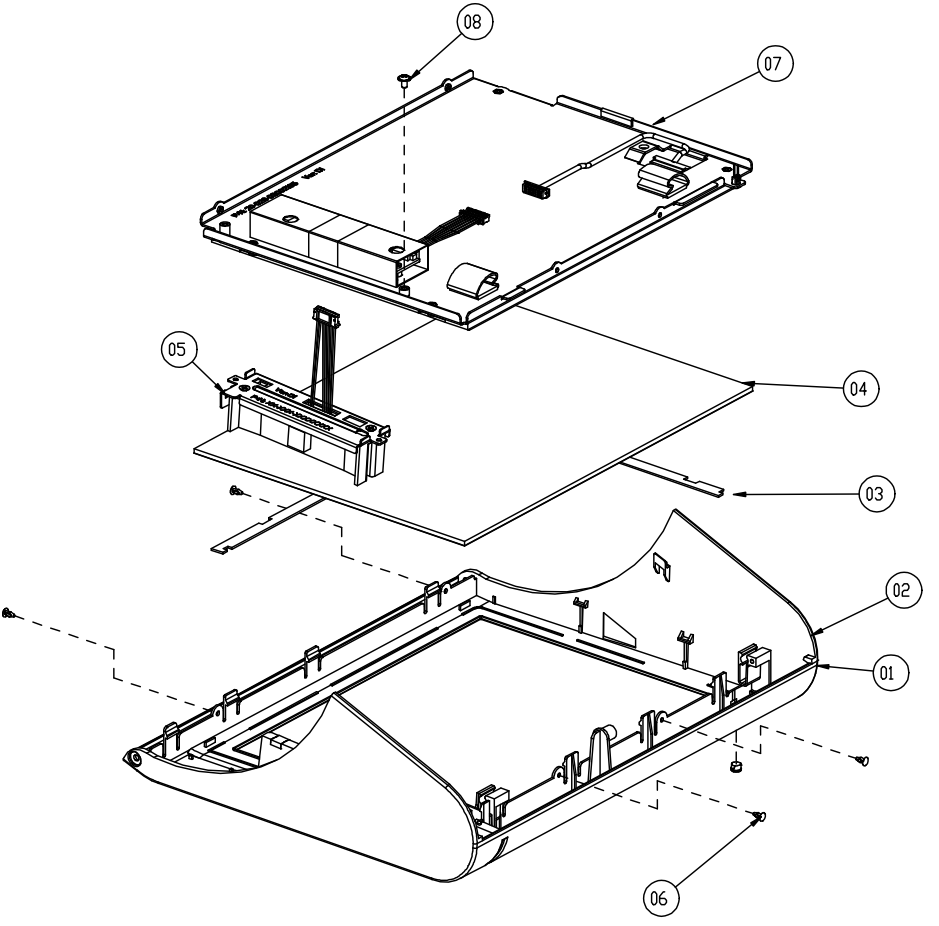
3	∅4 Plastic rivet	90-076-04110000	2
2	PAPER HOLDER(Transparent)	30-012-02210165	1
	PAPER HOLDER(Black)	30-012-02110165	
1	T2_L8_Black	22-125-20008011	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR FAN ASSEMBLY



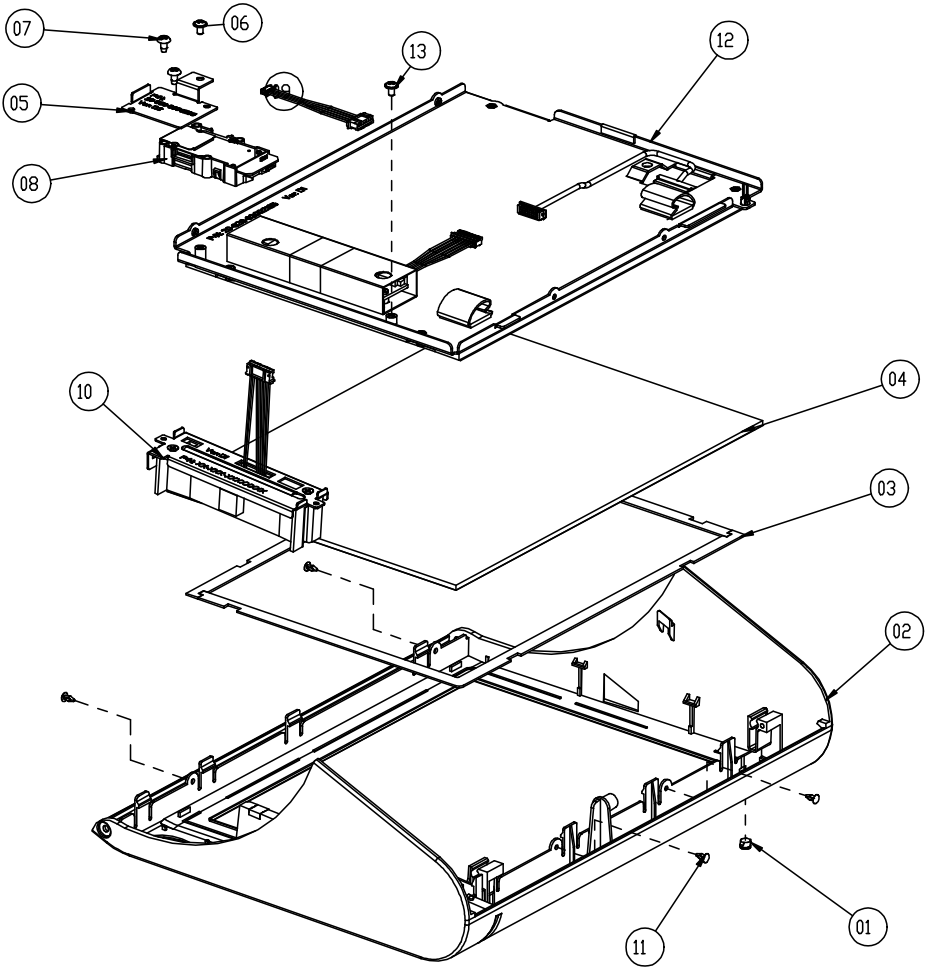
15	T3.5 L10 SCREW	22-712-35010811	4
14	M3_L4_I_B	22-272-30004318	2
13	Fan Holder	20-029-03001210	1
12	FAN	30-007-28210165	1
11	VFD Assembly	--	1
10	M3_L4_I_B	22-272-30004318	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR EMPTY TOP CASE ASSEMBLY



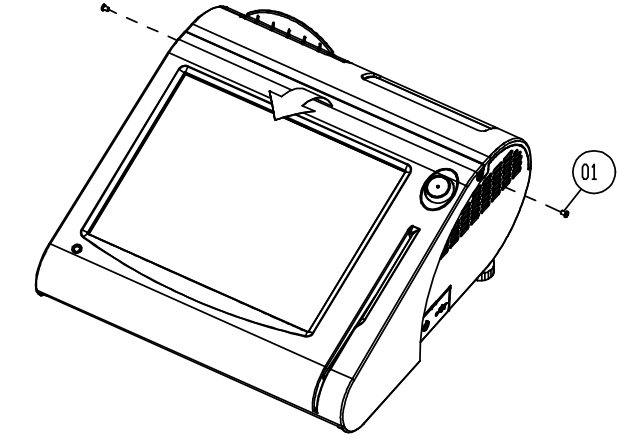
8	M3_L5_Washer_Ni (MSR GND screw)	22-242-30005311	1
7	LCD Assembly	--	1
6	Plastic rivet	90-042-04100000	4
5	MSR Assembly	--	1
4	ELO 10.4" Touch	52-380-01510401	1
3	Touch_EVA	30-013-15100166	2
2	Empty TOP CASSE(Blue)	30-003-28110165	1
	Empty TOP CASSE(Red)	30-003-28410165	
	Empty TOP CASSE(White)	30-003-28710165	
	FINGER-PRINTER TOP CASE((Black)	30-003-28810165	
1	LED CAP	30-012-02100000	1
No.	Name	P/N No.	Qt'y

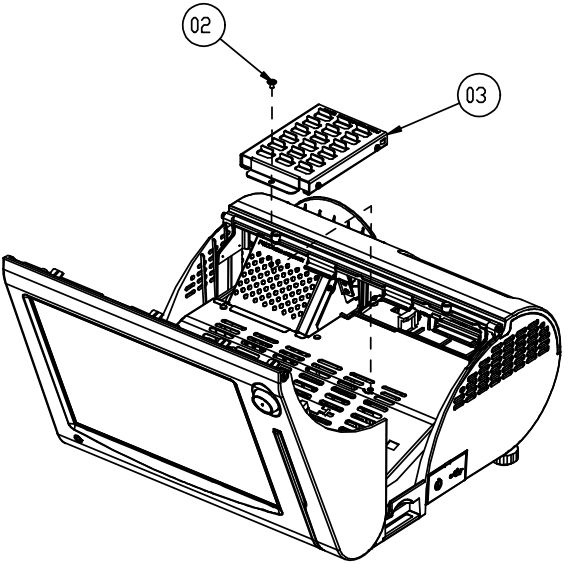
EXPLODED DIAGRAM FOR FINGERPRINT MODULE

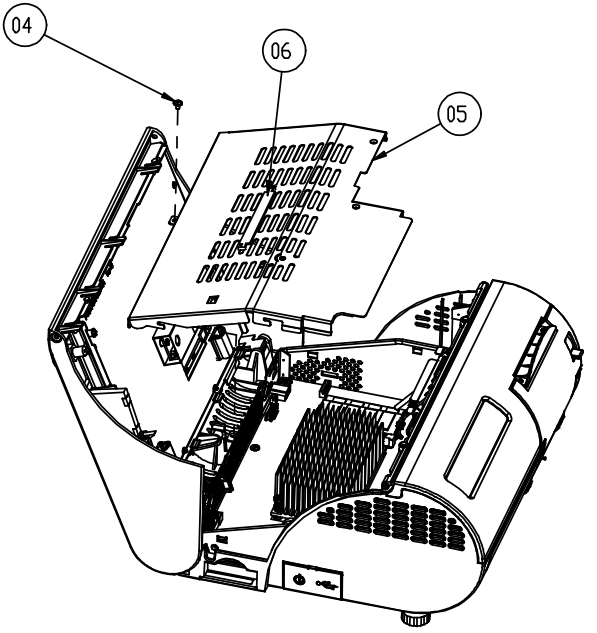


13	M3_L5_Washer_Ni (MSR GND screw)	22-242-30005311	1
12	LCD Assembly	--	1
11	Plastic rivet	90-042-04100000	4
10	MSR Assembly	--	1
9	Finger-Printr cable	27-006-16506111	1
8	Finger-Printr	52-551-00501205	1
7	T3_L8_R_Ni	22-122-30080011	1
6	M3_L5_Washer_Ni	22-242-30005311	1
5	Finger-printer holder	20-006-03001165	1
4	ELO 10.4" Touch	52-380-01510401	1
3	Touch_EVA	30-013-15100166	2
2	FINGER-PRINTER TOP CASE(Blue)	30-003-28210165	1
	FINGER-PRINTER TOP CASE((Red)	30-003-28510165	
	FINGER-PRINTER TOP CASE((White)	30-003-28910165	
	FINGER-PRINTER TOP CASE((Black)	30-003-28111165	
1	LED CAP	30-012-02100000	1
No.	Name	P/N No.	Qt'y

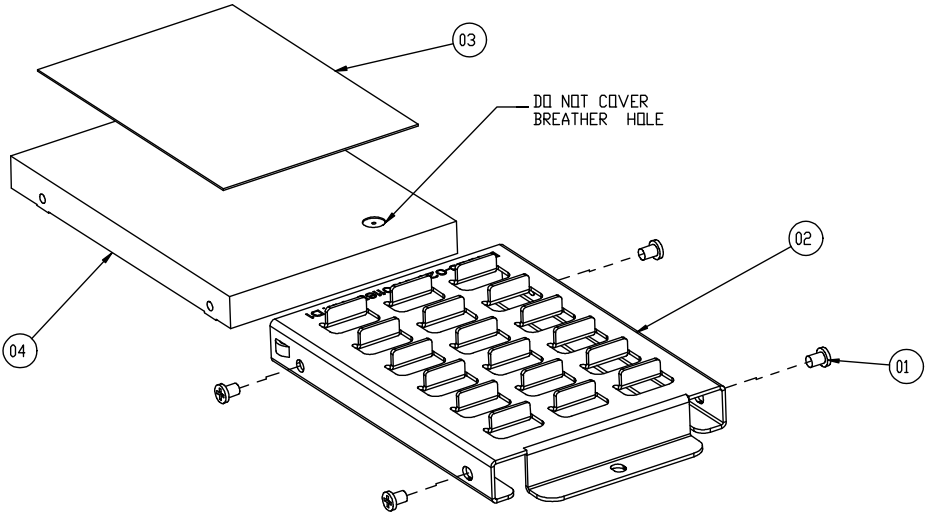
EXPLODED DIAGRAM FOR POS-3120 HARD DISK DRIVE ASSEMBLY





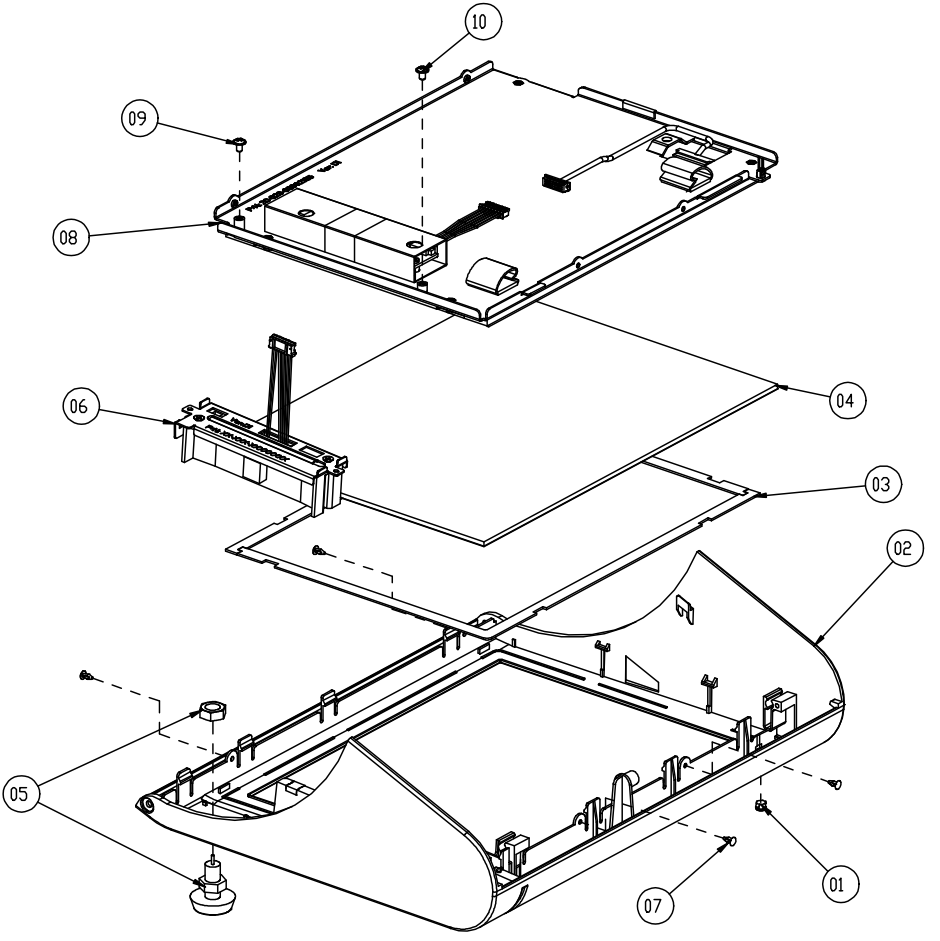


6	Inside_top_Assembly	30-080-04100000	1
5	Inside_top	20-040-03001165	1
4	M3_L5_Washer_Ni	22-242-30005311	1
3	HDD Assembly	--	1
2	M3_L5_Washer_Ni	22-242-30005311	1
1	M3_L4_I_B	22-272-30004318	2
No.	Name	P/N No.	Qt'y



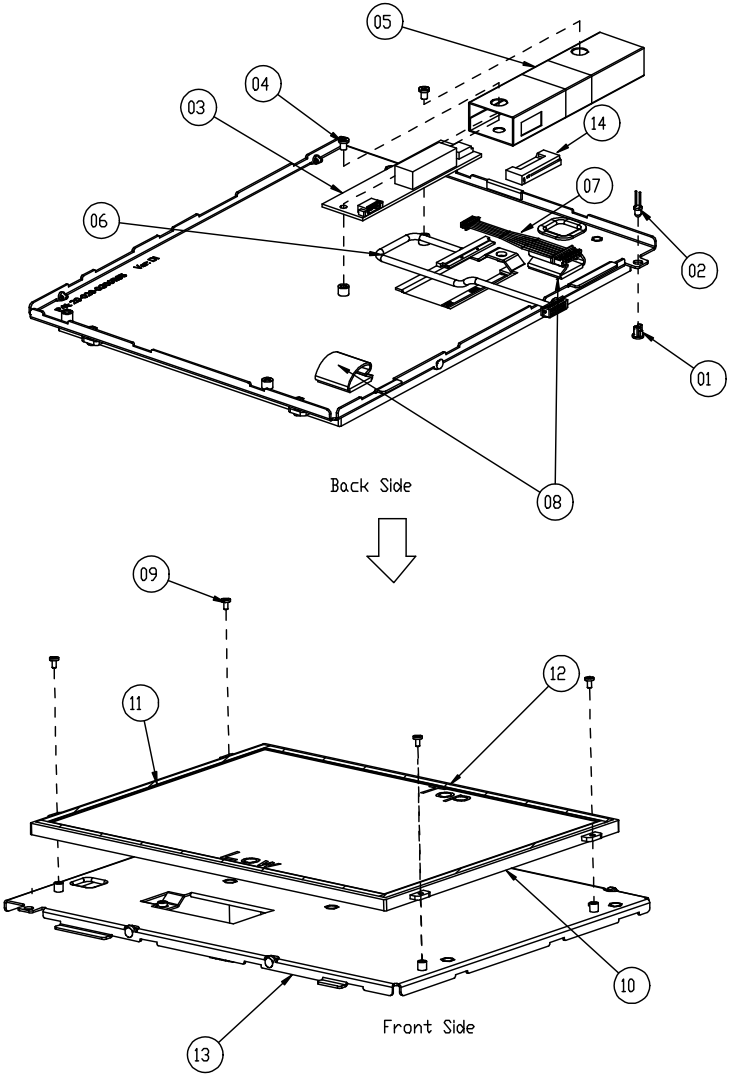
4	HDD	SEE ORDER	1
3	Thermal Pad	21-006-88560001	1
2	HDD_holder	20-029-01001165	1
1	M3_L4_I_B	22-272-30004318	4
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR I-BUTTON ASSEMBLY



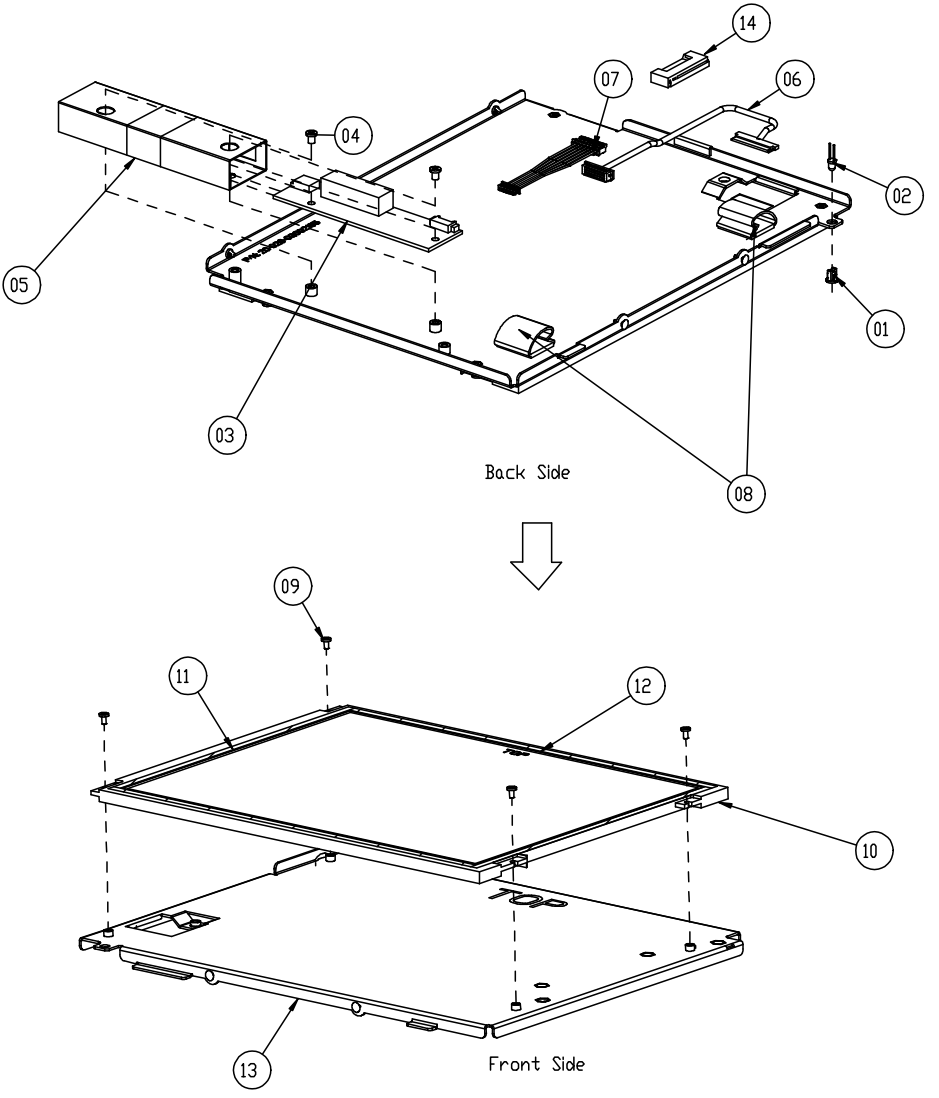
10	M3_L5_Washer_Ni (MSR GND screw)	22-242-30005311	1
9	M3_L5_Washer_Ni (I-Button GND screw)	22-242-30005311	1
8	LCD Assembly	--	1
7	Plastic rivet	90-042-04100000	4
6	MSR Assembly	--	1
5	I Button	52-551-00100002	1
4	ELO 10.4" Touch	52-380-01510401	1
3	Touch_EVA	30-013-15100166	2
2	I-BOUNT TOP CASE(Blue)	30-003-28310165	1
	I-BOUNT TOP CASE(Red)	30-003-28610165	
	I-BOUNT TOP CASE(Wwhite)	30-003-28112165	
	I-BOUNT TOP CASE(Black)	30-003-28113165	
1	LED CAP	30-012-02100000	1
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 CPT LCD ASSEMBLY



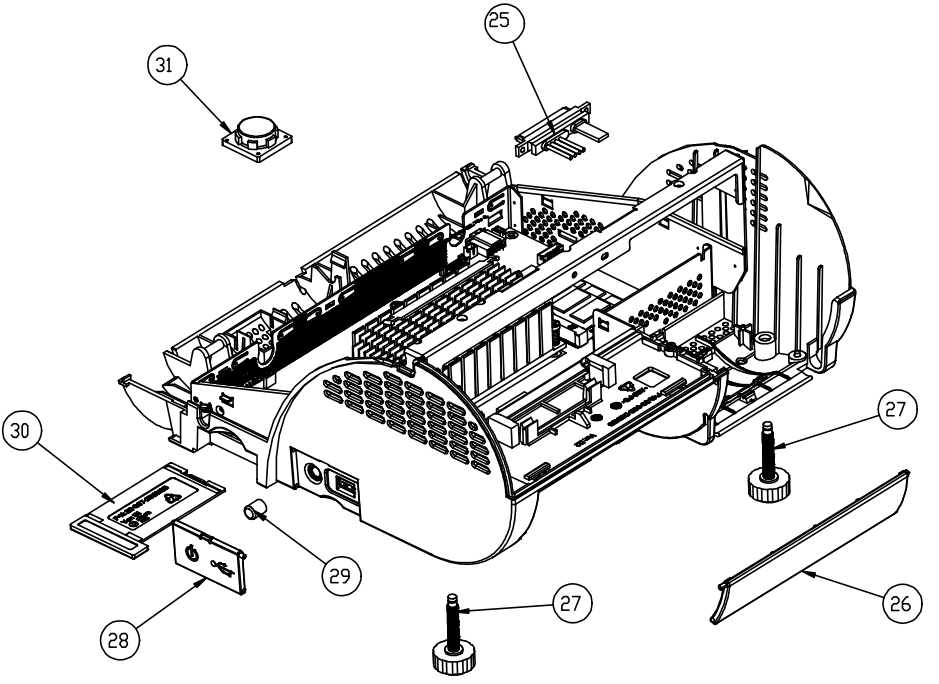
14	cable clip	90-042-04200000	1
13	CPT LCD Holder	20-029-03001165	1
12	220 X 4 X0.5T P□R□N	30-013-24600000	2
11	167 X 4 X0.5T P□R□N	30-013-24700000	2
10	CPT 10.4" LCD	52-351-01104019	1
9	M2_L4_I_Ni	22-272-20004011	4
8	cable_clamp	30-023-04300010	2
7	inverter cable	27-015-16506111	1
6	CPT LVDS cable	27-020-16505111	1
5	Inverter Mylar	30-056-02100165	1
4	M3_L4_I_B	22-272-30004318	2
3	Inverter	52-101-08010103	1
2	Led Cable(P□S3120)	27-018-21003071	1
1	LED Housing	30-014-04100165	1
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 DATA IMAGE LCD ASSEMBLY



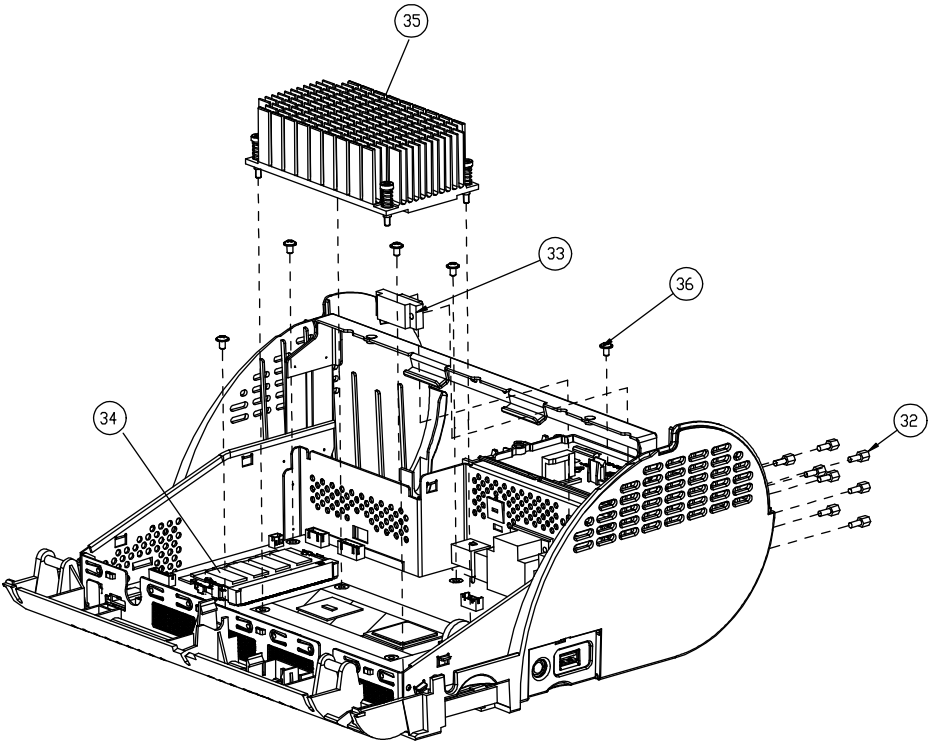
14	cable clip	90-042-04200000	1
13	DATA IMAGE LCD Holder	20-029-03002165	1
12	220 X 4 X0.5T P□R□N	30-013-24600000	2
11	167 X 4 X0.5T P□R□N	30-013-24700000	2
10	DATA IMAGE 10.4" LCD	52-351-01100424	1
9	M2_L4_I_Ni	22-272-20004011	4
8	cable_clamp	30-023-04300010	2
7	inverter cable	27-015-16506111	1
6	DATA image LVDS cable	27-020-16505112	1
5	Inverter Mylar	30-056-02100165	1
4	M3_L4_I_B	22-272-30004318	2
3	Inverter	52-101-08010103	1
2	Led Cable(P□S3120)	27-018-21003071	1
1	LED Housing	30-014-04100165	1
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 MINI-PCIE INSTALLATION

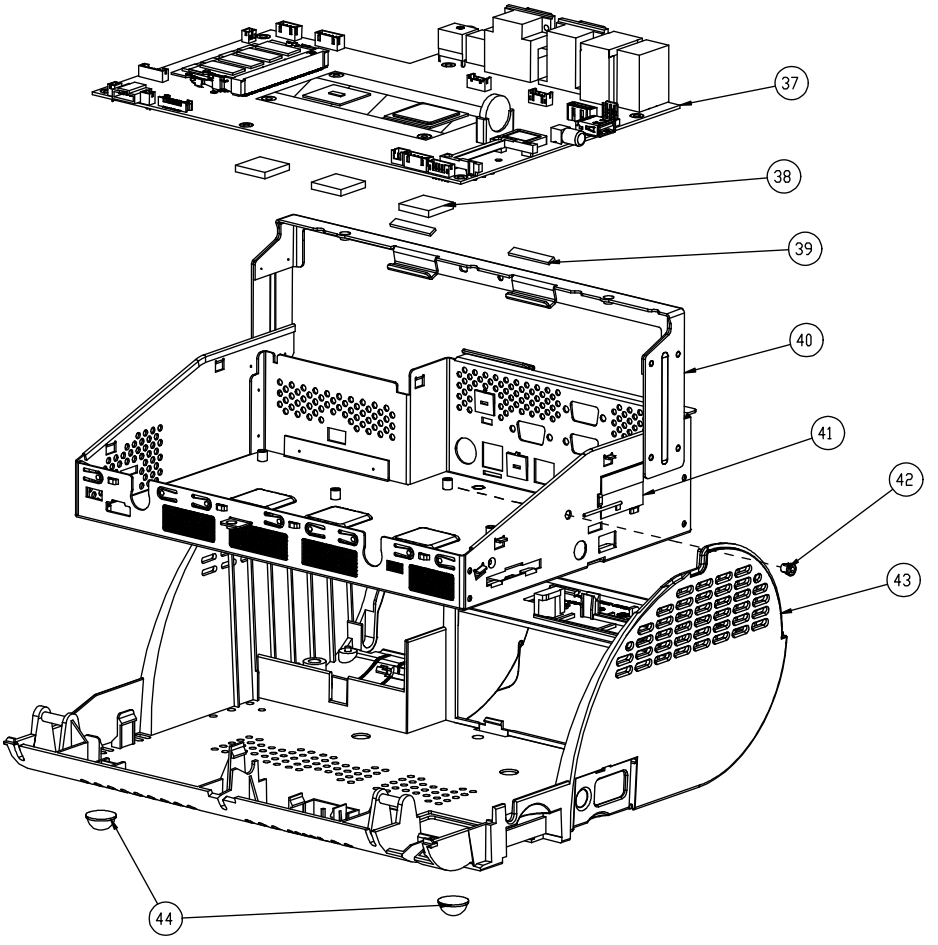


31	Speaker	13-500-08280018	1
30	MINI_PCIE_D□□R(White)	30-007-28310165	1
	MINI_PCIE_D□□R(Black)	30-007-28110165	
29	Switch Cap	30-001-28100099	1
28	Side Door(White)	30-007-28410165	1
	Side Door(Black)	30-007-28210165	
27	Foot	22-289-60035007	2
26	IO Cover(White)	30-002-28810165	1
	IO Cover(Black)	30-002-28110165	
25	Sata HDD Cable	27-012-16504081	1
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 MOTHERBOARD



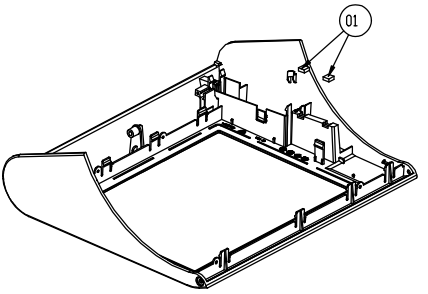
36	M3_L5_Washer_Ni	22-242-30005311	5
35	P□S6620 Heatsink	21-002-11564004	1
34	RAM	SEE □RDER	1
33	C□M 4 cable(P□S3120)	27-024-20804031	1
32	No.4 Boss	22-692-40048051	8
No.	Name	P/N No.	Qt'y


37
38
39
40
41
42
43
44

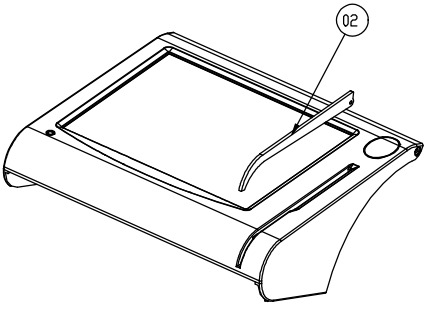
44	Rubber Foot	30-004-01500000	1
43	PS3100 BOT CASE(White)	30-002-12210165	1
	PS3100 BOT CASE(Black)	30-002-12110165	
42	SB-0305	30-026-04100008	1
41	WIRELESS_ANTENNA	27-029-00003072	1
40	inside box	20-040-03002165	1
39	EMI SPONGE	30-050-31200000	2
38	Thermal Pad	21-006-82020002	3
37	Prox3120	Prox-3120	1
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 MSR ASSEMBLY

WITH MSR

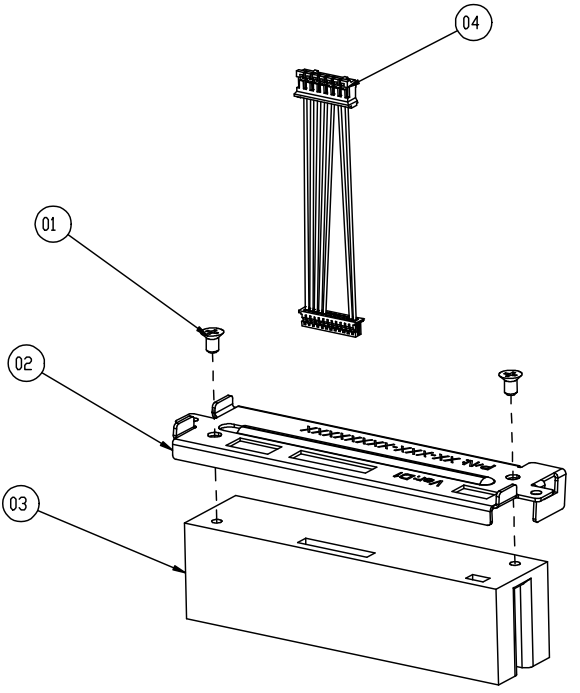


WITCHOUT MSR



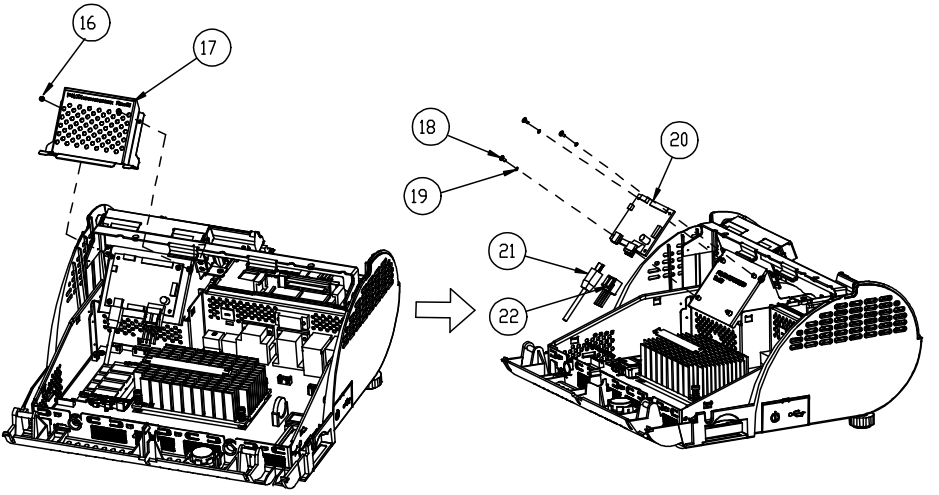
2	MSR EVA	30-013-15200165	1
1	EVA BLOCK	30-013-15100165	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 MSR MODULE

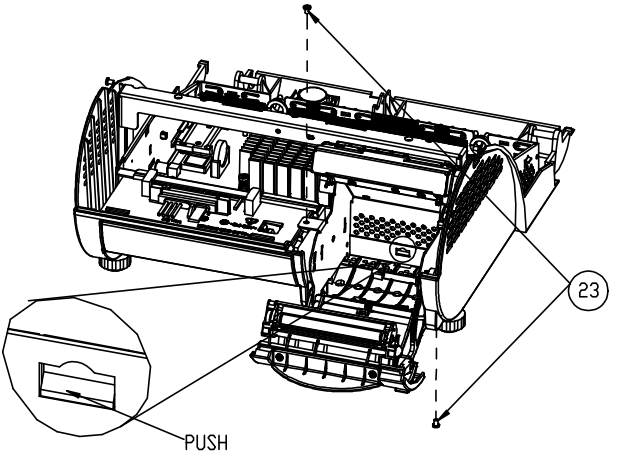


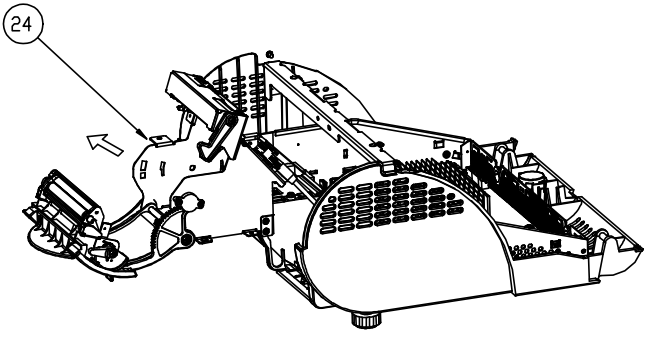
4	SKH300-061P-ISO cable	27-014-16504111	1
	SKH300-061P cable	27-014-16504111	
	IDMB-333433B-NC cable	27-014-16504031	
3	SKH300-061P-ISO	52-551-01300602	1
	SKH300-061P	52-551-00883000	
	IDMB-333433B-NC	52-151-08333416	
2	MSR HOLDER	20-029-03004165	1
1	M6_L6_F_B	22-215-30060011	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 PRINTER ASSEMBLY



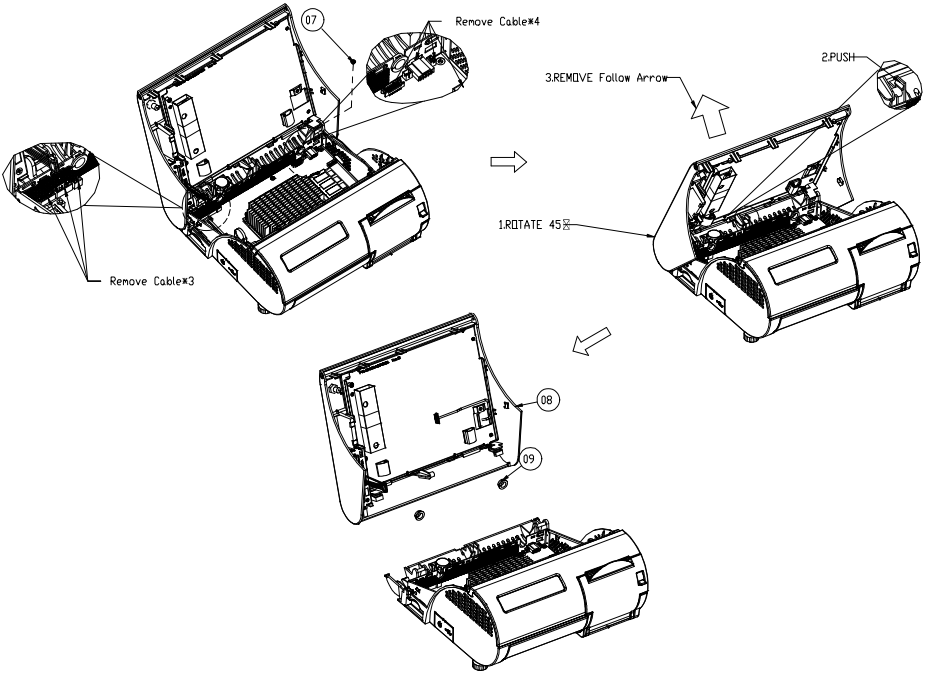
No.	Name	P/N No.	Qt'y
20	Printer PCB	52-701-00237003	1
19	D2_D6_Washer	23-202-20050061	3
18	M2_L4_I_Ni	22-272-20004011	3
17	PCB_COVER	20-004-03001165	1
16	M2_5_L4_R_Ni	22-232-25004011	2





24	Printer Assembly	--	1
23	M3_L4_I_B	22-272-30004318	2
22	Printer Power Cable	27-012-16502071	1
21	Printer USB cable	27-006-16503111	1
No.	Name	P/N No.	Qt'y

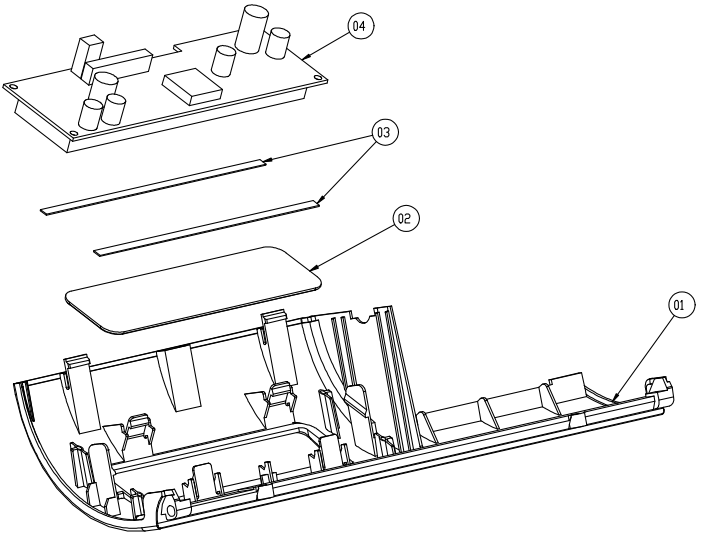
EXPLODED DIAGRAM FOR POS-3120 TOP COVER ASSEMBLY



9	Open Closed Bushing	30-026-04300000	2
8	TOP Assembly	--	1
7	M3_L5_Washer_Ni	22-242-30005311	1
No.	Name	P/N No.	Qt'y

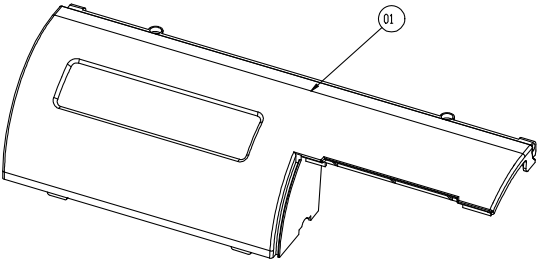
EXPLODED DIAGRAM FOR VFD MODULE ASSEMBLY

WITH
VFD



4	VFD_M□DULE	52-901-17001703	1
3	P□R□N	90-013-24100165	2
2	VFD_WIND□WS	30-002-02230165	1
1	VFD_C□VER(White)	30-002-28113165	1
	VFD_C□VER(Black)	30-002-28114165	
	VFD_C□VER(Blue)	30-002-28410165	
	VFD_C□VER(Red)	30-002-28610165	
No.	Name	P/N No.	Qt'y

WITHOUT
VFD



1	WITHOUT VFD_COVER(White)	30-002-28111165	1
	WITHOUT VFD_COVER(Black)	30-002-28112165	
	WITHOUT VFD_COVER(Blue)	30-002-28510165	
	WITHOUT VFD_COVER(Red)	30-002-28710165	
No.	Name	P/N No.	Qt'y

TECHNICAL SUMMARY

APPENDIX

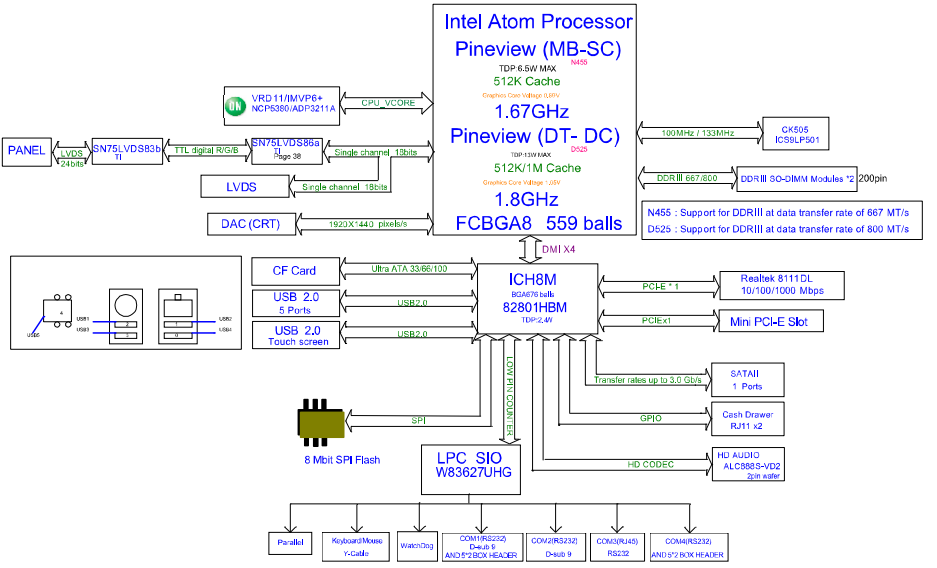
B

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

Sections included:

- Block Diagram
- Interrupt Map
- DMA Channels Map
- I / O Map
- Watchdog Timer Configuration
- Flash BIOS Update

BLOCK DIAGRAM



INTERRUPT MAP

IRQ	ASSIGNMENT
0	System Timer
1	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
3	Communications Port (COM2)
4	Communications Port (COM1)
5	Intel(R) ICH8 Family SMBus Controller - 283E
8	System CMOS/real time clock
9	Microsoft ACPI-Compliant System
10	Communications Port (COM4)
11	Communications Port (COM3)
12	Microsoft PS/2 Mouse
13	Numeric data processor
14	Primary IDE Channel
16	Intel(R) Graphics Media Accelerator 3150
16	Intel(R) ICH8 Family USB Universal Host Controller - 2834
17	Realtek PCIe GBE Family Controller
18	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 283A
18	Intel(R) ICH8 Family USB Universal Host Controller - 2832
18	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
19	Intel(R) ICH8 Family USB Universal Host Controller - 2831
21	Intel(R) ICH8 Family USB Universal Host Controller - 2835
21	Microsoft UAA Bus Driver for High Definition Audio
22	Intel(R) ICH8 Family PCI Express Root Port 1 - 283F
23	Intel(R) ICH8 Family PCI Express Root Port 6 - 2849
23	Intel(R) ICH8 Family USB Universal Host Controller – 2830
23	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 2836

DMA CHANNELS MAP

DMA Channel	Assignment
4	Direct memory access controller

I/O MAP

I/O MAP	ASSIGNMENT
0x00000000-0x00000CF7	PCI bus
0x00000000-0x00000CF7	Direct memory access controller
0x00000010-0x0000001F	Motherboard resources
0x00000020-0x00000021	Programmable interrupt controller
0x00000022-0x0000003F	Motherboard resources
0x00000040-0x00000043	System timer
0x00000044-0x0000005F	Motherboard resources
0x00000060-0x00000060	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
0x00000061-0x00000061	System speaker
0x00000062-0x00000063	Motherboard resources
0x00000064-0x00000064	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
0x00000065-0x0000006F	Motherboard resources
0x00000070-0x00000071	System CMOS/real time clock
0x00000072-0x0000007F	Motherboard resources
0x00000080-0x00000080	Motherboard resources
0x00000081-0x00000083	Direct memory access controller
0x00000084-0x00000086	Motherboard resources
0x00000087-0x00000087	Direct memory access controller
0x00000088-0x00000088	Motherboard resources
0x00000089-0x0000008B	Direct memory access controller
0x0000008C-0x0000008E	Motherboard resources
0x0000008F-0x0000008F	Direct memory access controller
0x00000090-0x0000009F	Motherboard resources
0x000000A0-0x000000A1	Programmable interrupt controller
0x000000A2-0x000000BF	Motherboard resources
0x000000C0-0x000000DF	Direct memory access controller
0x000000E0-0x000000EF	Motherboard resources
0x000000F0-0x000000FF	Numeric data processor
0x000001F0-0x000001F7	Primary IDE Channel
0x00000274-0x00000277	ISAPNP Read Data Port
0x00000279-0x00000279	ISAPNP Read Data Port
0x000002E8-0x000002EF	Communications Port (COM4)
0x000002F8-0x000002FF	Communications Port (COM2)
0x00000378-0x0000037F	Printer Port (LPT1)

I/O MAP	ASSIGNMENT
0x000003B0-0x000003BB	Intel(R) Graphics Media Accelerator 3150
0x000003C0-0x000003DF	Intel(R) Graphics Media Accelerator 3150
0x000003E8-0x000003EF	Communications Port (COM3)
0x000003F6-0x000003F6	Primary IDE Channel
0x000003F8-0x000003FF	Communications Port (COM1)
0x00000400-0x0000041F	Intel(R) ICH8 Family SMBus Controller - 283E
0x000004D0-0x000004D1	Motherboard resources
0x00000500-0x0000053F	Motherboard resources
0x00000800-0x0000087F	Motherboard resources
0x00000A00-0x00000A0F	Motherboard resources
0x00000D00-0x0000FFFF	PCI bus
0x0000C080-0x0000C087	Intel(R) Graphics Media Accelerator 3150
0x0000C400-0x0000C41F	Intel(R) ICH8 Family USB Universal Host Controller - 2835
0x0000C480-0x0000C49F	Intel(R) ICH8 Family USB Universal Host Controller - 2834
0x0000C800-0x0000C81F	Intel(R) ICH8 Family USB Universal Host Controller - 2832
0x0000C880-0x0000C89F	Intel(R) ICH8 Family USB Universal Host Controller - 2831
0x0000CC00-0x0000CC1F	Intel(R) ICH8 Family USB Universal Host Controller - 2830
0x0000D080-0x0000D08F	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000D400-0x0000D40F	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000D480-0x0000D483	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000D800-0x0000C807	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000D880-0x0000C883	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000DC00-0x0000DC07	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000E000-0x0000FFFF	Intel(R) ICH8 Family PCI Express Root Port 6 - 2849
0x0000E800-0x0000E8FF	Realtek PCIe GBE Family Controller
0x0000FFA0-0x0000FFAF	Intel(R) ICH8M Ultra ATA Storage Controllers - 2850

WATCHDOG TIMER CONFIGURATION

Watchdog timer can be configured via I/O port address 2E (hex) and 2F (hex). 2E (hex) is the address port. 2F (hex) is the data port. User can assign the target offset by writing value into address port 2E (hex) and then write/read data to/from the target offset by data port 2F (hex).

Configuration Sequence

Please follow the following steps to program W83627UHG configuration registers.
(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 W83627UHG 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

User must select to the desired Logical Device number 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 SuperIO exits the Extended Function Mode, it goes back to the normal running mode.

Code example for watch dog timer

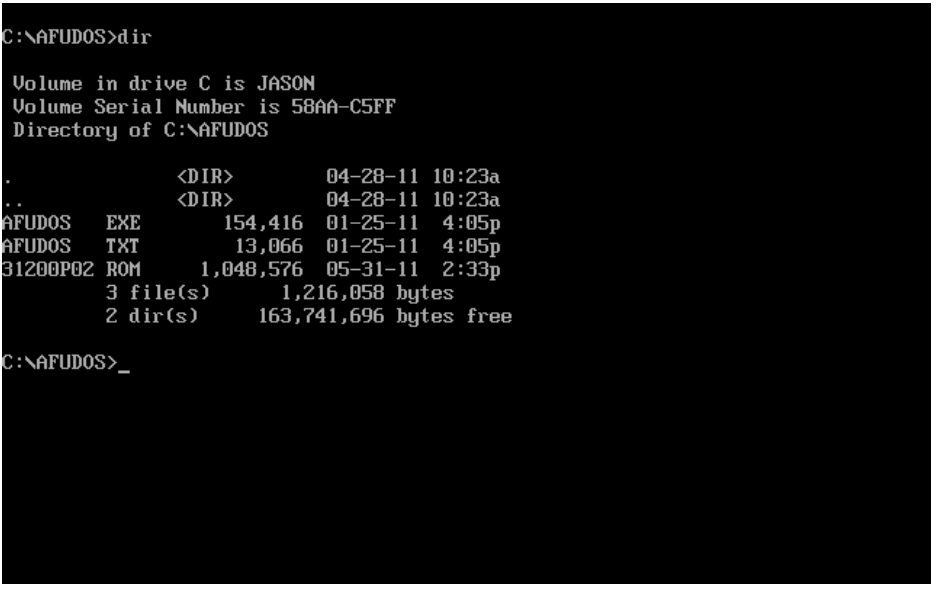
Enable watchdog timer and set timeout interval to 30 seconds.

```
;------ Enter to extended function mode ------------------------------------------------------
mov     dx,     2Eh
mov     al,     87h
out     dx,     al
out     dx,     al
;------ Select Logical Device 8 of watchdog timer ----------------------------------------
mov     al,     07h
out     dx,     al
inc     dx
mov     al,     08h
out     dx,     al
;------ Logic device activation for watch dog timer ----------------------------------------
dec     dx
mov     al,     030h
out     dx,     al
inc     dx
mov     al,     01h
out     dx,     al
;------ Set second as counting unit ----------------------------------------------------------
dec     dx
mov     al,     0F5h
out     dx,     al
inc     dx
in      al,     dx
and     al,     not 08h
out     dx,     al
;------ Set timeout interval as 30seconds and start counting ---------------------------------
dec     dx
mov     al,     0F6h
out     dx,     al
inc     dx
mov     al,     30
out     dx,     al
;------ Exit the extended function mode ------------------------------------------------------
dec     dx
mov     al,     0AAh
out     dx,     al
```

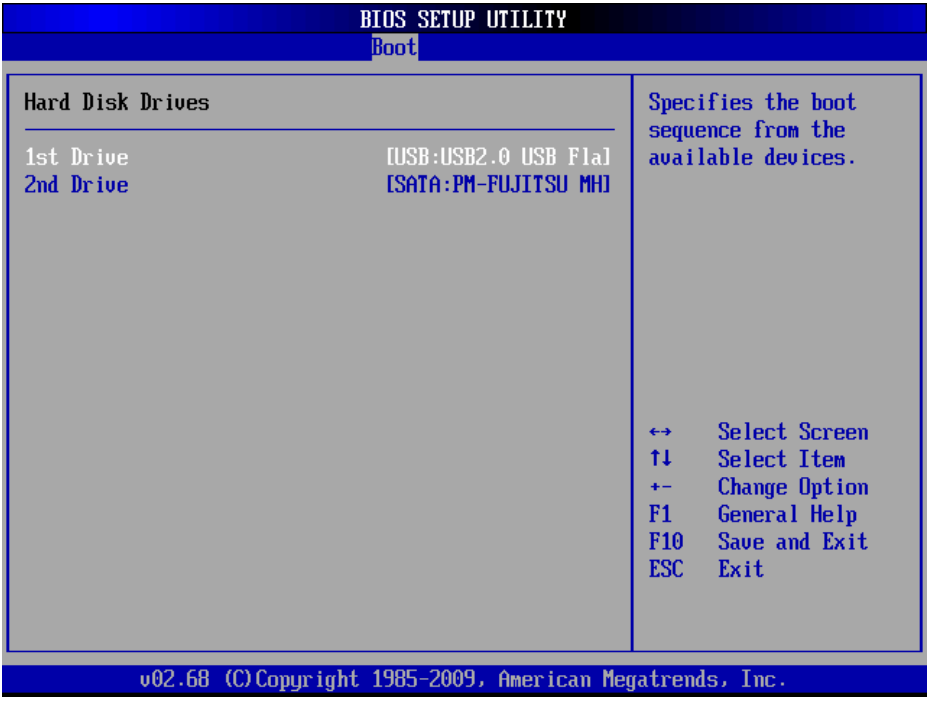
Flash BIOS Update

A. Before System BIOS update

1. Prepare a bootable media (ex. USB storage device) which can boot system to DOS prompt.
2. Download and save the BIOS (ex. 31200P01.rom) file to the bootable device.
3. Copy AMI flash utility – AFUDOS.exe (v4.38) 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 system and press <Del> key during BIOS POST procedure.
   (3) System will go into the BIOS setup menu.
   (4) Select [Boot] menu.
   (5) Select [Boot Devices Priority] sub-menu, set the USB bootable device to be the 1st boot device.
   (6) Press <F10> key to save configuration and exit the BIOS setup menu.



B. AFUDOS command for system BIOS update

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

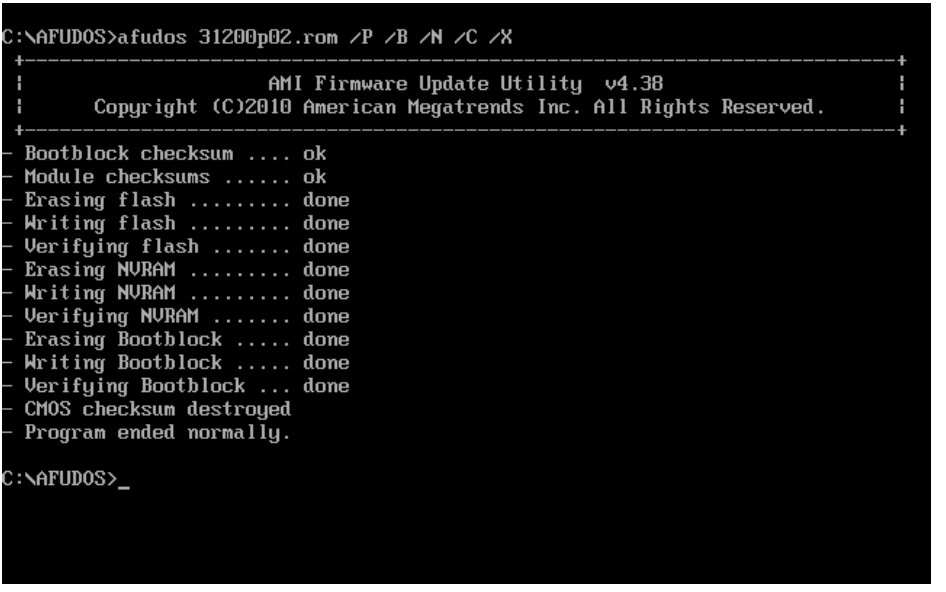
AFUDOS <ROM File Name> [option1] [option2]….

User 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.
/C: Destroy CMOS checksum
/X: Don't check ROM ID.

C. BIOS update procedure

1. Use the bootable USB storage to boot up system into the DOS command prompt.
2. Type "**AFUDOS 3120xxxx.ROM /P /B /N /C /X**" and press enter to start the flash procedure.
   (Note that xxxx means the BIOS revision part, ex. 0P01…)
3. During the update procedure, you will see the BIOS update process status and its percentage. Beware! Do not turn off system power or reset your computer if the whole procedure are not complete yet, or it may crash the BIOS ROM and make system unable to boot up next time.
4. After BIOS update procedures is complete, the messages should be like the figure shown below.



5. User can restart the system and boot up with new BIOS now.

USER'S MANUAL

POS-3120 Series

Mini POS System Powered by
Intel® Atom® Platform

POS-3120 Series M5

POS-3120 Series POS System
With LCD / Touchscreen

PREFACE

COPYRIGHT NOTICE

ACKNOWLEDGEMENTS

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 if battery is incorrectly replaced. Replace 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. And therefore we strongly recommend that qualified engineers can open and disassemble the system.
The LCD and Touchscreen are easily breakable, please handle them with extra care.

TABLE OF CONTENTS

CHAPTER 1 INTRODUCTION

CHAPTER 2 SYSTEM CONFIGURATION

CHAPTER 3 SOFTWARE UTILITIES

CHAPTER 4 AMI BIOS SETUP

APPENDIX A SYSTEM ASSEMBLY

APPENDIX B TECHNICAL SUMMARY

INTRODUCTION

CHAPTER

1

This chapter gives you the information for the POS-3120. It also outlines the system specifications.

Sections included:

- About This Manual
- POS System Illustration
- System Specifications
- Safety Precautions

Experienced users can jump to chapter 2 on page 2-1 for a quick start.

1-1. ABOUT THIS MANUAL

Thank you for purchasing our POS-3120 Series System. The POS-3120 is an updated system designed to be comparable with the highest performance of IBM AT personal computers. The POS-3120 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 two 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 illustrations and specifications for the whole system. The final section of this chapter indicates some safety reminders on how to take care of your system.

Chapter 2 System Configuration

This chapter outlines the location of motherboard components and their function. 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 Utility, VGA Utility, LAN Utility, Sound Utility, and Touch Screen Utility.

Chapter 4 AMI BIOS Setup

This chapter indicates you how to change the BIOS configurations.

Appendix A System Assembly

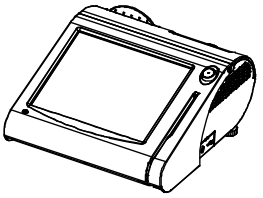
This appendix gives you the exploded diagrams and part numbers of the POS-3120.

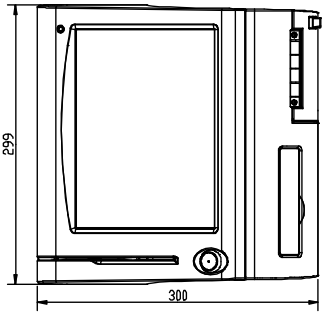
Appendix B Technical Summary

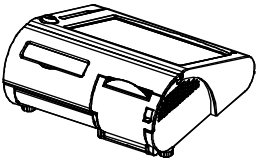
This appendix gives you the information about the allocation maps for the system resources, Watchdog Timer Configuration, and Flash BIOS Update.

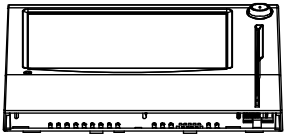
1-2. POS SYSTEM ILLUSTRATION

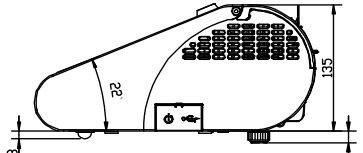
POS-3120 i-Button Type

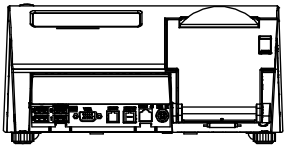


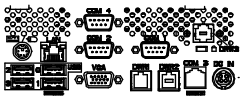


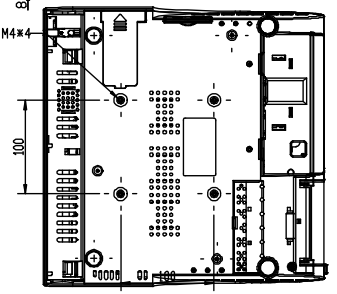




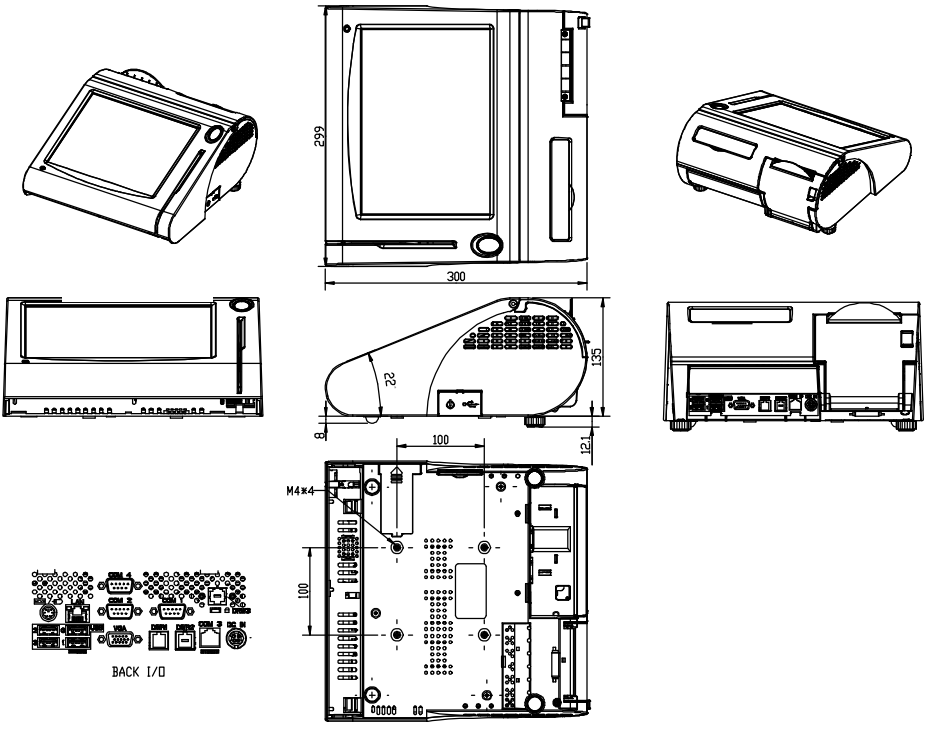




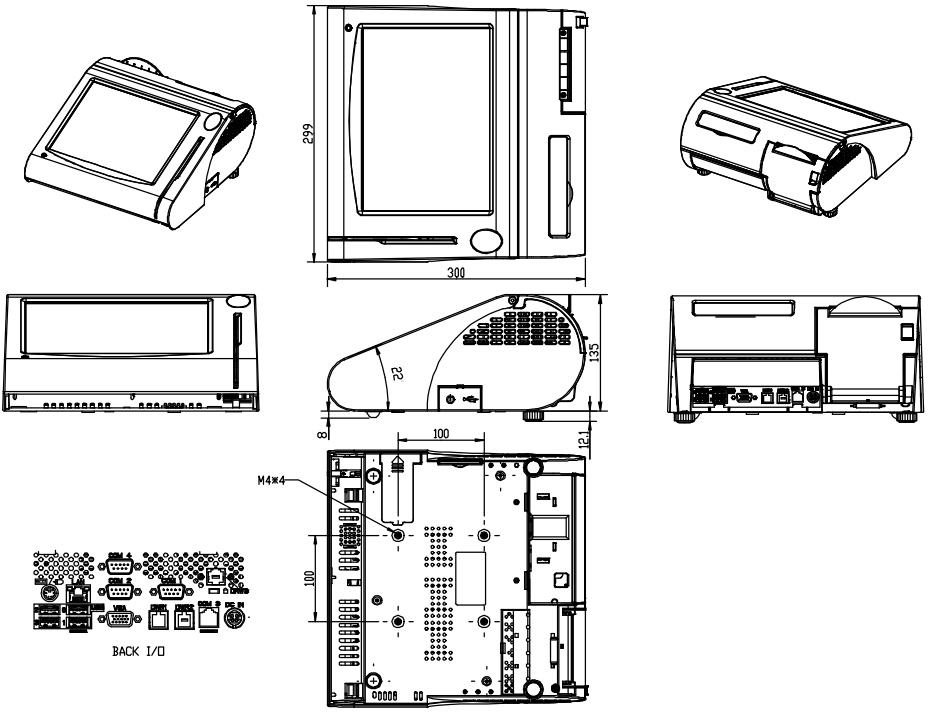




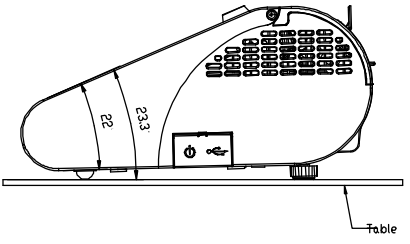
POS-3120 Finger Printer Type



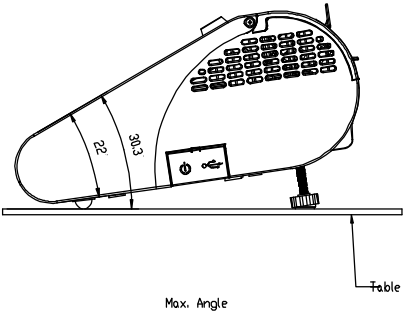
POS-3120 Empty Type



POS-3120 SIDE VIEW



Min. Angle



Max. Angle

1-3. SYSTEM SPECIFICATIONS

MAINBOARD (PB-3151RB)

- **CPU Type:**
  Intel® ATOM™ Pineview D525

- **Chipset:**
  Intel® ICH8M

- **Memory:**
  2 x DDR3 SO-DIMM Slot, 1G DDR3 SO-DIMM default (up to 4GB)

- **Cache:**
  Depended on CPU

- **Real-Time Clock / Calendar:**
  Embedded in Intel ICH8M South Bridge

- **BIOS:**
  AMI BIOS

- **Keyboard Connector:**
  PS/2 Keyboard, with mini DIN connecter on rear panel.

- **Mouse Connector:**
  PS/2 Mouse, with mini DIN connecter on rear panel.

- **Serial Port:**
  3 x DB-9, 1 x RJ45, +5V/ 12V selectable

- **Universal Serial BUS Port:**
  4 x USB2.0 ports
  1 x USB2.0 on side bezel

- **LAN Function:**
  1 x 10/100/1000 Mbps

- **Audio Function:**
  1 x 2W Speaker

- **VGA Function:**
  1 x DB-15 VGA Interface

- **Dimension (W x H x D):**
  300mm x 299mm x 135mm (11.81" x 11.77" x 5.31")

- **System Weight:**
  4.5kg

- **LCD Panel:**

Type	XGA/SVGA
Max. Resolution	1024 x 768 / 800 x 600
Size/Type	10.4" / TFT
Viewing Angel (degree)	+70°~-70° horizontal +60°~-60° vertical
Brightness	300 / 230 cd / m^2
Signal Interface (bit)	TTL (18-bit)
LCD MTBF	20,000
Back Light MTBF (Hrs)	20,000

- **Touch Panel:**
  10.4" 5wire Analog resistive

- **Printer:**
  2" or 3" easy loading thermal printer with Auto cutter
  (* Diameter of paper roll can not exceed 8 cm.)

- **I-Button (Optional):**
  Read only, output through PS/2 KB interface

- **MSR (Optional):**
  JIS-I or II, ISO Tracker 1+2+3 (PS/2 KB Interface)

- **Wireless LAN (Optional):**
  Mini PCIe Wireless LAN Module (802.11b/g/n, 1T1R)

- **Fingerprint (Optional):**
  Embedded Fingerprint module (USB interface)

1-4. SAFETY PRECAUTIONS

The following messages are safety reminders on how to protect your systems from damages, and extending the life cycle of the system.

1. Check the Line Voltage

a. 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

a. Place your POS-3120 on a sturdy, level surface. Be sure to allow enough space around the system to have easy access needs.

b. Avoid installing your POS-3120 system in extremely hot or cold places.

c. Avoid exposure to sunlight 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 the POS-3120 when it has been left outdoors in a cold winter day.

d. Bear in mind that the operating ambient temperature is between 0°C and 35°C (32°F and 95°F).

e. Avoid moving the system rapidly from a hot place to a cold place, and vice versa, because condensation may occur inside the system.

f. Protect your POS-3120 against strong vibrations, which may cause hard disk failure.

g. Do not place the system too close to any radio-active device. Radio-active device may cause signal interference.

h. Always shutdown the operation system before turning off the power.

3. Handling

a. Avoid placing heavy objects on the top of the system.

b. Do not turn the system upside down. This may cause the hard drive to malfunction.

c. Do not allow any objects to fall into this product.

d. If water or other liquid spills into the product, unplug the power cord immediately.

4. Good Care

a. When the outside case gets stained, remove the stains using neutral washing agent with a dry cloth.

b. Never use strong agents such as benzene and thinner to clean the surface of the case.

c. If heavy stains are present, moisten a cloth with diluted neutral washing agent or alcohol and then wipe thoroughly with a dry cloth.

d. If dust is accumulated on the case surface, remove it by using a special vacuum cleaner for computers.

SYSTEM CONFIGURATION

CHAPTER

2

Helpful information that describes the jumper and connector settings, and component locations.

Sections included:

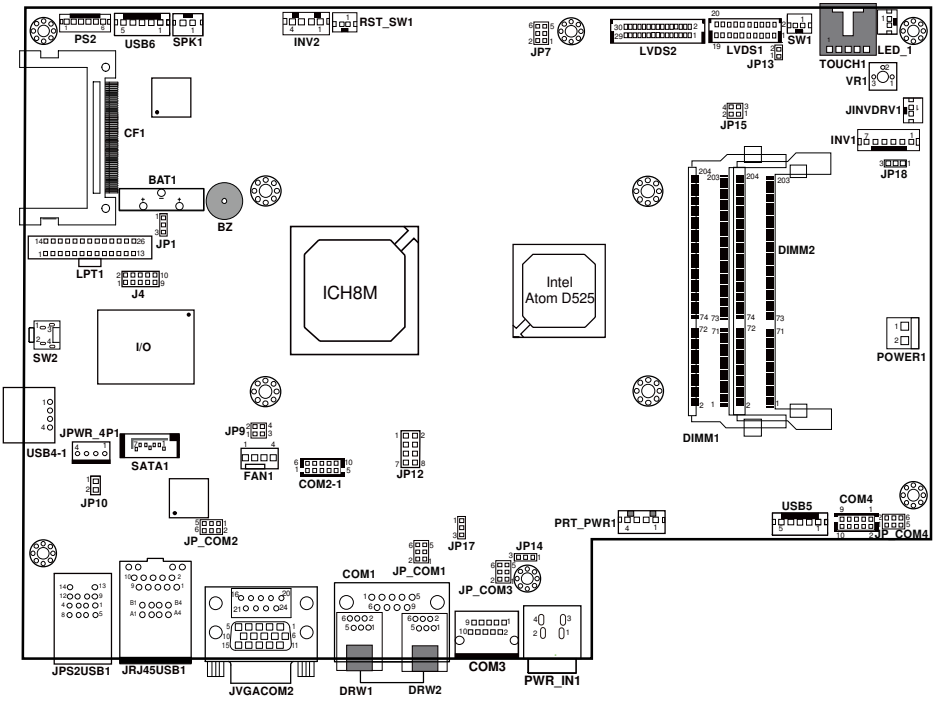
- Jumper & Connector Quick Reference Table
- Component Locations
- Configuration and Jumper settings
- Connector Pin Assignments

2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

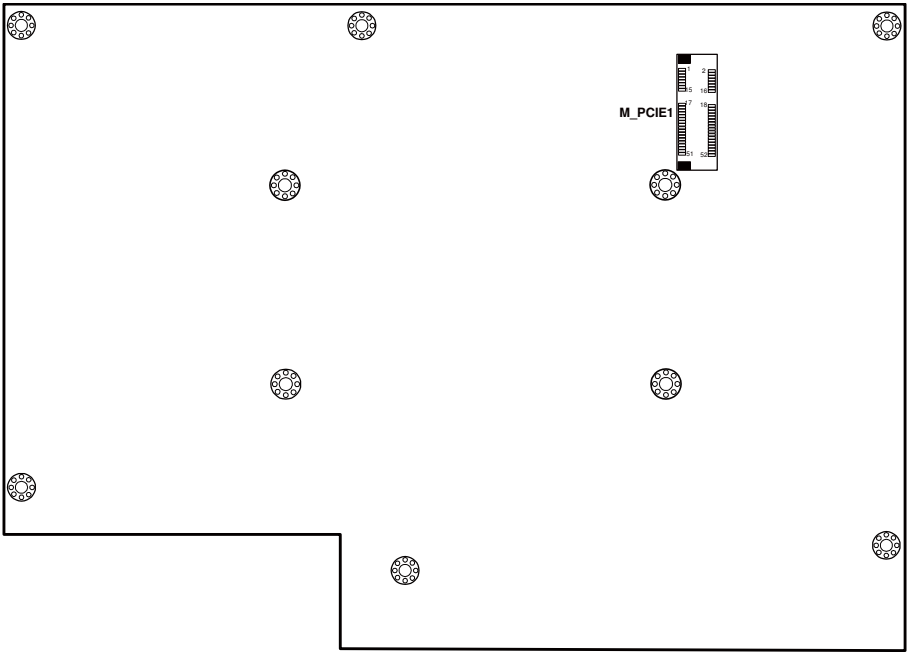
Connector & Jumper	Name	Page
COM Port & VGA Connector	COM1, COM3, COM4, COM2-1, JVGACOM2	2-7
COM Port RI and Voltage Selection	JP_COM1, JP_COM2, JP_COM3, JP_COM4	2-10
MINI-DIN and USB Connector	JPS2USB1, USB5, USB6	2-14
LAN & USB Connector	JRJ45USB1	2-15
Cash Drawer Connector	DRW1, DRW2	2-16
Cash Drawer Power Selection	JP14	2-17
Power LED Connector	LED_1	2-18
Smart Fan Connector	FAN1	2-18
Power Connector	POWER1	2-18
Reset Switch Connector	RST_SW1	2-19
Power for Thermal printer Connector	PRT_PWR1	2-19
External Speaker Connector	SPK1	2-19
Inverter Connector	INV1, INV2	2-20
MSR/ Card Reader Connector	PS2	2-21
Printer Connector	LPT1	2-21
LVDS Connector	LVDS1, LVDS2	2-22
SATA Connector	SATA1	2-24
SATA Power Connector	JPWR_4P1	2-24
Touch Panel Connector	TOUCH1	2-25
Clear CMOS Data Selection	JP1	2-25
Compact Flash Connector	CF1	2-26
LED Backlight Power Connector	JINVDRV1	2-27
Backlight Type Selection	JP18	2-27

2-2. COMPONENT LOCATIONS

M/B: PB-3120RB



POS-3120 Mainboard Front Connector, Jumper and Component locations



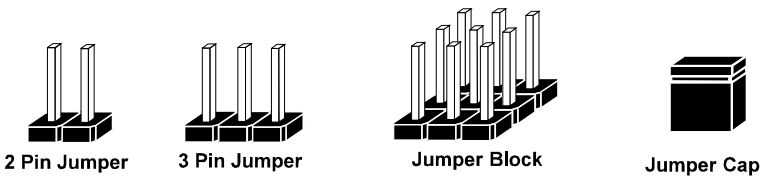
POS-3120 Mainboard Rear Connector, Jumper and Component locations

2-3. HOW TO SET THE JUMPERS

You can configure your board by setting the jumpers. Jumper is consists of two or three metal pins with a plastic base mounted on the card, and 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 set-up your hardware configuration by "opening" or "closing" pins.

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

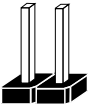
JUMPERS AND CAPS



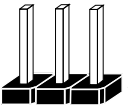
If a jumper has three pins for example, labelled PIN1, PIN2, and PIN3. You can connect PIN1 & PIN2 to create one setting and shorting. You can either connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figure below shows what the manual diagrams look and what they represent.

JUMPER DIAGRAMS

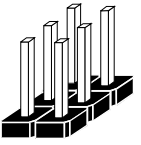
Jumper Cap looks like this



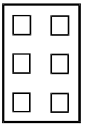
2 pin Jumper looks like this



3 pin Jumper looks like this

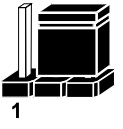


Jumper Block looks like this

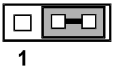


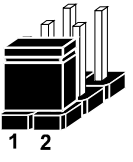
JUMPER SETTINGS

2 pin Jumper closed(enabled)
looks like this

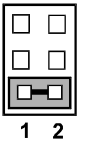


3 pin Jumper
2-3 pin closed(enabled)
looks like this





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



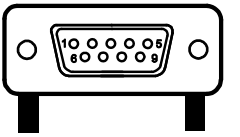
2-4. COM PORT & VGA CONNECTOR

There are four COM ports enhanced in this board namely: COM1, COM2, COM3 and COM4.

Caution: When using a 72W power adaptor, do not set the voltage at "12V" for three COM ports or above; otherwise, the system may shut down due to power deficiency.

COM1: COM1 Connector
The pin assignments are as follows:

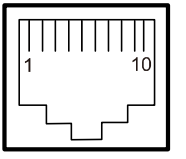
PIN	ASSIGNMENT
1	DCD2
2	RXD2
3	TXD2
4	DTR2
5	GND
6	DSR2
7	RTS2
8	CTS2
9	RI / +5V / +12V selectable



COM1

COM3: COM3 Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	DCD3
2	RXD3
3	TXD3
4	DTR3
5	GND
6	DSR3
7	RTS3
8	CTS3
9	RI / +5V / +12V selectable
10	NC



COM3

COM4: COM4 Connector
The pin assignments are as follows:

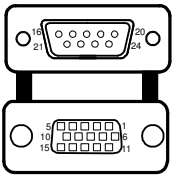
PIN	ASSIGNMENT
1	DCD4
2	RXD4
3	TXD4
4	DTR4
5	GND
6	DSR4
7	RTS4
8	CTS4
9	RI / +5V / +12V selectable
10	NC

COM2-1: COM2 External Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	DCD1
2	RXD1
3	TXD1
4	DTR1
5	GND
6	DSR1
7	RTS1
8	CTS1
9	RI / +5V / +12V selectable
10	NC

JVGACOM2: COM2 & VGA Connector
The COM2 & VGA Connector assignments are as follows:

PIN	ASSIGNMENT
1	RED
2	GREEN
3	BLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	+5V
10	GND
11	NC
12	DDCA DATA
13	HSYNC
14	VSYNC
15	DDCA CLK
16	DCD1
17	RXD1
18	TXD1
19	DTR1
20	GND
21	DSR1
22	RTS1
23	CTS1
24	RI / +5V / +12V selectable



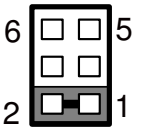
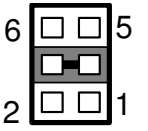
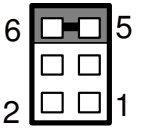
JVGACOM2

📖 All COM port is selectable for RI, +5V or +12V. For more information, please refer to our "COM RI and Voltage Selection".

2-5. COM PORT RI & VOLTAGE SELECTION

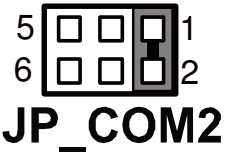
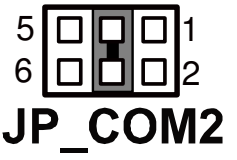
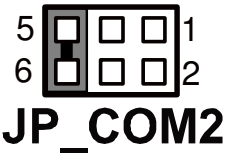
Caution: When using a 72W power adaptor, do not set the voltage at "12V" for three COM ports or above; otherwise, the system may shut down due to power deficiency.

JP_COM1: COM1 RI & Voltage Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
RI	1-2	 JP_COM1
VCC12	3-4	 JP_COM1
VCC	5-6	 JP_COM1

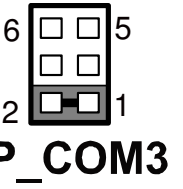
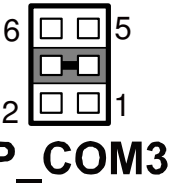
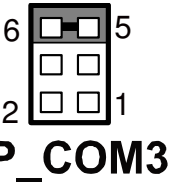
***Manufacturing Default – RI

JP_COM2: COM2 RI & Voltage Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
RI	1-2	
VCC12	3-4	
VCC	5-6	

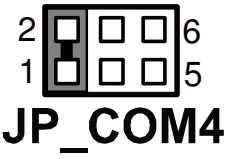
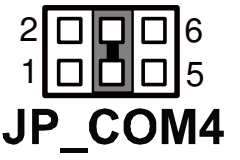
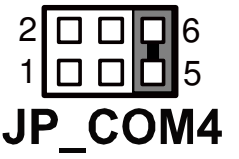
***Manufacturing Default – RI

JP_COM3: COM3 RI & Voltage Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
RI	1-2	
VCC12	3-4	
VCC	5-6	

***Manufacturing Default – RI

JP_COM4: COM4 RI & Voltage Selection
The selections are as follows:

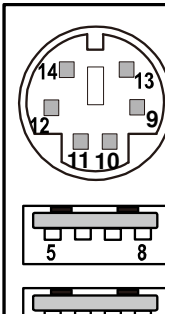
SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
RI	1-2	
VCC12	3-4	
VCC	5-6	

***Manufacturing Default – RI

2-6. MINI-DIN AND USB CONNECTOR

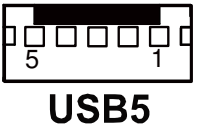
JPS2USB1: Two USB Ports Connector and MINI-DIM
MINI-DIN connector can support keyboard, Y-cable, or PS/2 Mouse
The pin assignments are as follows:

PIN	ASSIGNMENT
1	GND
2	USB2+
3	USB2-
4	VCC5
5	GND
6	USB3+
7	USB3-
8	VCC5
9	GND
10	KDAT
11	MDAT
12	V5SB
13	KCLK
14	MCLK



USB5: Internal USB Ports Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	USB5-
2	USB5+
3	GND
4	VCC5
5	GND



USB6: Internal USB Ports Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	USB6-
2	USB6+
3	GND
4	VCC5
5	GND

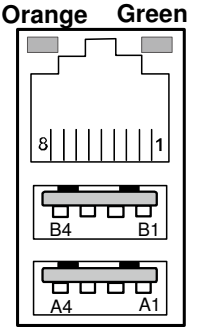
USB6

2-7. LAN & USB CONNECTOR

JRJ45USB1: LAN & USB Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	LAN1_MDIP0
2	LAN1_MDIN0
3	LAN1_MDIP1
4	LAN1_MDIN1
5	LAN1_MDIP2
6	LAN1_MDIN2
7	LAN1_MDIP3
8	LAN1_MDIN3

PIN	ASSIGNMENT
A1	VCC5
A2	USB0-
A3	USB0+
A4	GND
B1	VCC5
B2	USB1-
B3	USB1+
B4	GND

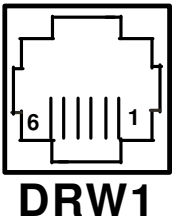


JRJ45USB1

2-8. CASH DRAWER CONNECTOR

DRW1, DRW2: Cash Drawer Connector
The pin assignments are as follows:

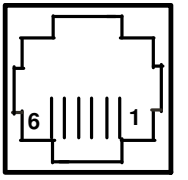
PIN	ASSIGNMENT
1	GND
2	Drawer Open
3	Drawer Sense
4	+12V
5	NC
6	GND



DRW1

PROX-A3120 cash drawer control in GPIO port

To Open Drawer1 (GPIO 7)
Write "0"h to I/O space register "50C"h Bit 7
To Close Drawer1
Write "1"h to I/O space register "50C"h Bit 7



DRW2

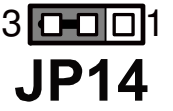
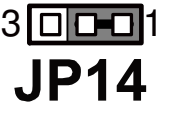
Detect Drawer1 Status
Read I/O space register "50E"h (GPIO 20)
Definition (bit4)

To Open Drawer2 (GPIO 6)
Write "0"h to I/O space register "50C"h Bit 6
To Close Drawer2
Write "1"h to I/O space register "50C"h Bit 6

Detect Drawer2 Status
Read I/O space register "538"h (GPIO 37)
Definition (bit5)

2-9. CASH DRAWER POWER SELECTION

JP14: Cash Drawer Power Selection
The pin assignments are as follows:

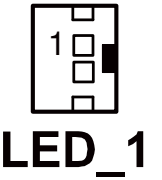
SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
+12V	2-3	
+24V (default)	1-2	

*** Manufactory default – +24V

2-10. POWER LED CONNECTOR

LED_1: LED Connector
The pin assignments are as follows:

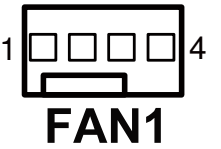
PIN	ASSIGNMENT
1	GND
2	VCC_PWR_LED



2-11. SMART FAN CONNECTOR

FAN1: CPU Smart Fan Connector
The pin assignments are as follows:

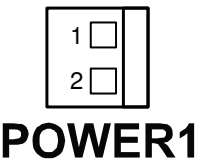
PIN	ASSIGNMENT
1	GND
2	12V
3	CPUFANIN
4	CPUFANOUT



2-12. POWER CONNECTOR

POWER1: Provide 12 Voltage Connector
The pin assignments are as follows:

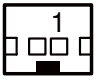
PIN	ASSIGNMENT
1	VCC12
2	GND



2-13. RESET SWITCH CONNECTOR

RST_SW1: Power Switch Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	RST_SW
2	GND

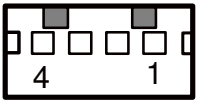


RST_SW1

2-14. POWER FOR THERMAL PRINTER CONNECTOR

PRT_PWR1: Power for Thermal printer Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	VCC24SB
2	VCC24SB
3	GND
4	GND

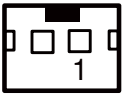


PRT_PWR1

2-15. EXTERNAL SPEAKER CONNECTOR

SPK1: External Speaker Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	SPK_GND
2	SPK_OUT

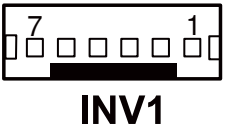


SPK1

2-16. INVERTER CONNECTOR

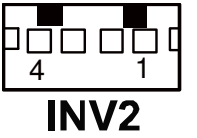
INV1: Inverter Connector
The pin assignments are as follows:

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



INV2: Inverter Connector
The pin assignments are as follows:

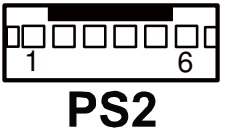
PIN	ASSIGNMENT
1	+12V
2	GND
3	LVDS_BKLTEN
4	BRCTR



2-17. MSR/ CARD READER CONNECTOR

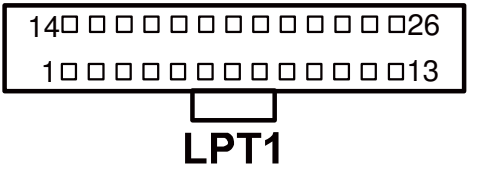
PS2: MSR/ Card Reader Connector
The pin assignments are as follows:

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



2-18. PRINTER CONNECTOR

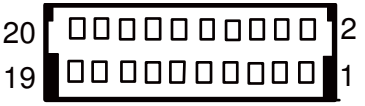
LPT1: LPT Connector. The assignments are as follows:



PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	STBJ	14	ALFJ
2	PDR0	15	ERRJ
3	PDR1	16	PAR_INITJ
4	PDR2	17	SLCTINJ
5	PDR3	18	GND
6	PDR4	19	GND
7	PDR5	20	GND
8	PDR6	21	GND
9	PDR7	22	GND
10	ACKJ	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCTJ	26	NC

2-19. LVDS Connector

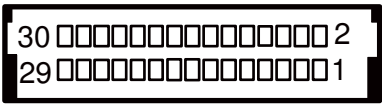
LVDS1: LVDS Connector. The pin assignments are as follows:



LVDS1

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	2	LVDS_VCC
3	LVDS_YAP2	4	LVDS_VCC
5	LVDS_YAM2	6	GND
7	GND	8	GND
9	LVDS_YAP1	10	LVDS_CLKAP
11	LVDS_YAM1	12	LVDS_CLKAM
13	GND	14	GND
15	LVDS_YAP0	16	GND
17	LVDS_YAM0	18	LVDS_VCC
19	GND	20	LVDS_VCC

LVDS2: LVDS Connector. The pin assignments are as follows:



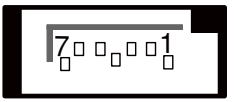
LVDS2

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	LVDS_VCC	2	GND
3	NC	4	NC
5	GND	6	NC
7	NC	8	GND
9	NC	10	NC
11	NC	12	NC
13	NC	14	NC
15	GND	16	CLKO+
17	CLKO-	18	GND
19	RINO2+	20	RINO2-
21	GND	22	RINO1+
23	RINO1-	24	GND
25	RINO0+	26	RINO0-
27	NC	28	NC
29	LVDS_VCC	30	LVDS_VCC

2-20. SATA CONNECTOR

SATA1: Serial ATA Connector
The pin assignments are as follows:

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

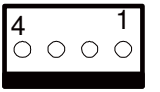


SATA1

2-21. SATA POWER CONNECTOR

JPWR_4P1: Serial ATA Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	VCC
2	GND
3	GND
4	VCC12

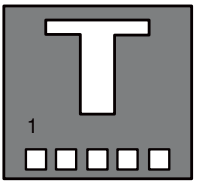


JPWR_4P1

2-22. TOUCH PANEL CONNECTOR

TOUCH1: Touch Panel Connector
The pin assignments are as follows:

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



TOUCH1

2-23. CLEAR CMOS DATA SELECTION

JP1: Clear CMOS Data Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
Clear CMOS	2-3	
Nornal	1-2	

*** Manufacturing Default – Normal

🕮 To clear CMOS data, user must power-off the computer and set the jumper to “Clear CMOS” as illustrated above. After five to six seconds, set the jumper back to “Normal” and power-on the computer.

2-24. COMPACT FLASH CONNECTOR

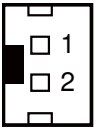
CF1: Compact Flash Connector
The pin assignments are as follows:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	26	GND
2	D03	27	D11
3	D04	28	D12
4	D05	29	D13
5	D06	30	D14
6	D07	31	D15
7	CSJ1	32	CSJ3
8	GND	33	GND
9	GND	34	SDIORDJ
10	GND	35	SDIOWRJ
11	GND	36	+5V
12	GND	37	IRQ14
13	+5V	38	+5V
14	GND	39	-CSEL
15	GND	40	NC
16	GND	41	RESETJ
17	GND	42	IORDJ
18	A02	43	REQ
19	A01	44	ACKJ
20	A00	45	CF_LEDJ
21	D00	46	-PDIAG
22	D01	47	D08
23	D02	48	D09
24	NC	49	D10
25	GND	50	GND

2-25. LED BACKLIGHT POWER CONNECTOR

JINVDRV1: LED Backlight Power Connector
The pin assignments are as follows:

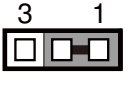
PIN	ASSIGNMENT
1	VCC
2	GND



JINVDRV1

2-26. BACKLIGHT TYPE SELECTION

JP18: Backlight Type Selection
The selections are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
LED	1-2	 **JP18**
CCFL	2-3	 **JP18**

*** Manufactory default – LED

SOFTWARE UTILITIES

CHAPTER

3

This chapter provides the detailed information users need to install driver utilities for the system.

Sections included:

- Intel® Chipset Software Installation Utility
- VGA Driver Utility
- LAN Driver Utility
- Sound Driver Utility
- Touch Screen Driver Utility
- Wireless Driver Utility (Optional)

3-1. INTRODUCTION

Enclosed with the POS-3120 Series package is our driver utilities, which comes in a CD ROM format. Refer to the following table for driver locations.

Filename (Assume that CD ROM drive is D:)	**Purpose**
D:\Driver\Plaform\XP,POSReady2009 (32-bit)\Main Chip or D:\Driver\Plaform\Win7,POSReady7(32-bit)\Main Chip	Intel® Chipset Software Installation Utility
D:\Driver\Plaform\XP,POSReady2009 (32-bit)\VGA or D:\Driver\Plaform\Win7,POSReady7(32-bit)\VGA	Intel® Graphics Media Accelerator 3150 for VGA driver installation
D:\Driver\Plaform\XP,POSReady2009 (32-bit)\LAN or D:\Driver\Plaform\Win7,POSReady7(32-bit)\LAN	Realtek® 8119CG for LAN driver installation
D:\Driver\Plaform\XP,POSReady2009 (32-bit)\Sound or D:\Driver\Plaform\Win7,POSReady7(32-bit)\Sound	Realtek® ALC888 for sound driver installation
D:\Driver\Device	Driver installation for touchscreen, embedded printer, wireless, MSR, etc.

🔔 Users must install the driver utilities right after the OS is fully installed.

3-2. INTEL® CHIPSET SOFTWARE INSTALLATION UTILITY

3-2-1. Introduction

The Intel® Chipset Software Installation Utility installs to the target system the Windows* INF files that outline to the operating system how the chipset components will be configured. This is needed for the proper functioning of the following features:

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

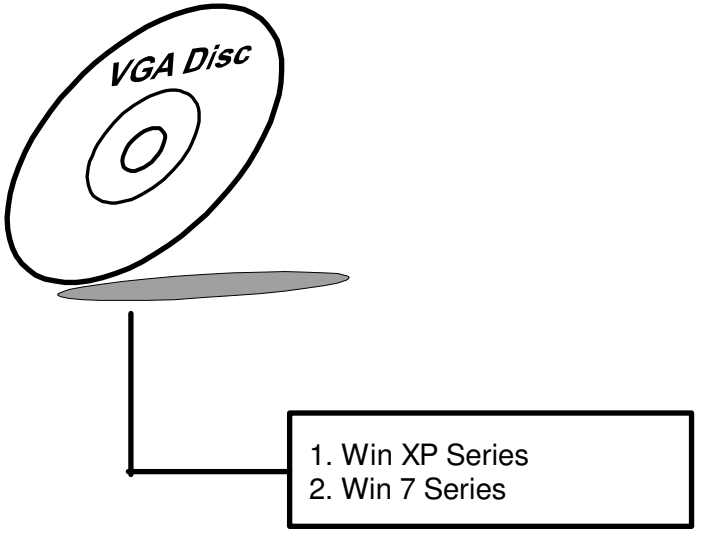
3-2-2. Installation of Intel® Chipset Driver

The utility pack is to be installed only for Windows XP/ 7 series, and it should be installed right after the OS installation. Please follow the steps below:

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
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 complete the installation.
5. Once installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

3-3. VGA DRIVER UTILITY

The VGA interface embedded with the POS-3120 series can support a wide range of display types. You can have dual displays via CRT and LVDS interfaces work simultaneously.



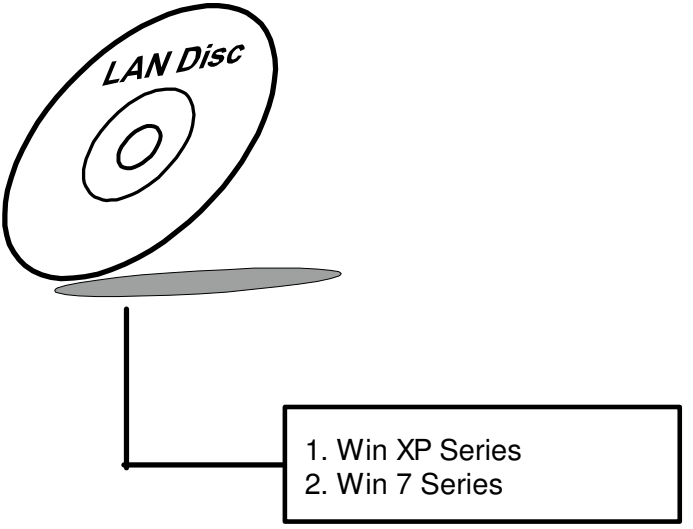
3-3-1. Installation of VGA Driver

To install the VGA Driver, follow the steps below:

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
2. Enter the "VGA" folder where the VGA 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 installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

3-4. LAN DRIVER UTILITY

The POS-3120 Series is enhanced with LAN function that can support various network adapters. Installation platform for the LAN driver is listed as follows:



For more details on Installation procedure, please refer to the Readme.txt file found on LAN Driver Utility.

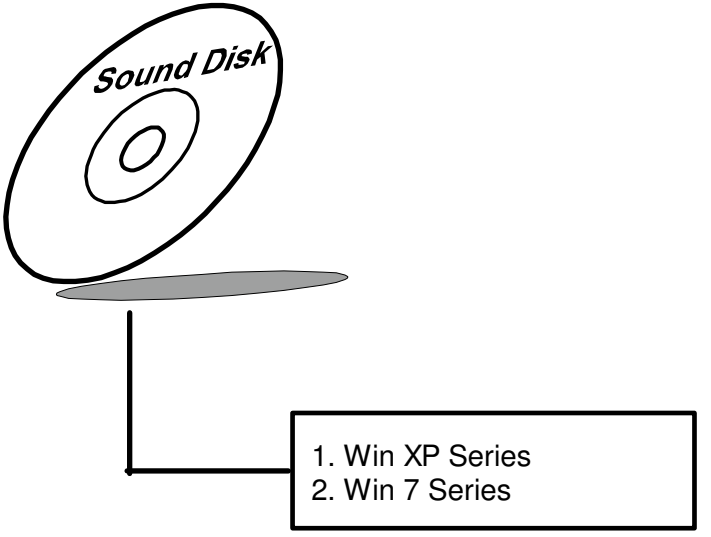
3-4-1. Installation of LAN Driver

To install the LAN Driver, follow the steps below:

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
2. Enter the "LAN" folder where the LAN 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 installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

3-5. SOUND DRIVER UTILITY

The sound function enhanced in this system is fully compatible with Windows XP/ 7 series. Below, you will find the content of the Sound driver.



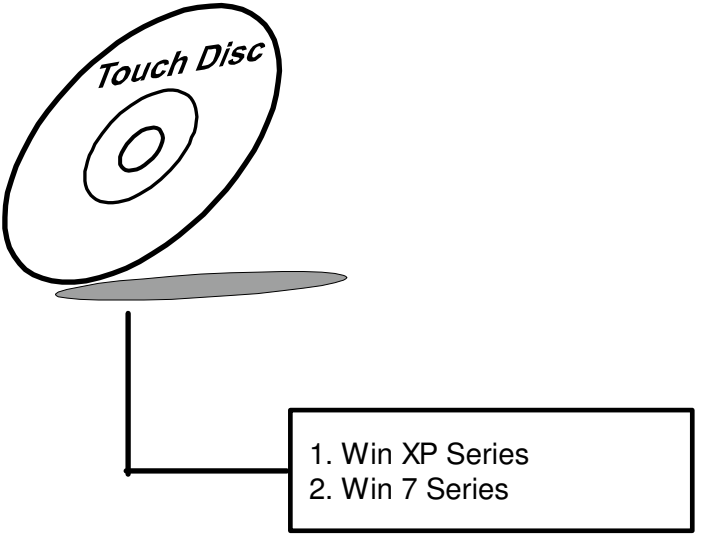
3-5-1. Installation of Sound Driver

To install the Sound Driver, refer to the readme.txt file on the driver disc (:\Sound\Realtek\Readme.txt).

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
2. Enter the "Sound" folder where the Sound 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 installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

3-6. TOUCHSCREEN DRIVER UTILITY

The touchscreen driver utility can only be installed on a Windows platform (XP/ 7 series), and it should be installed right after the OS installation.



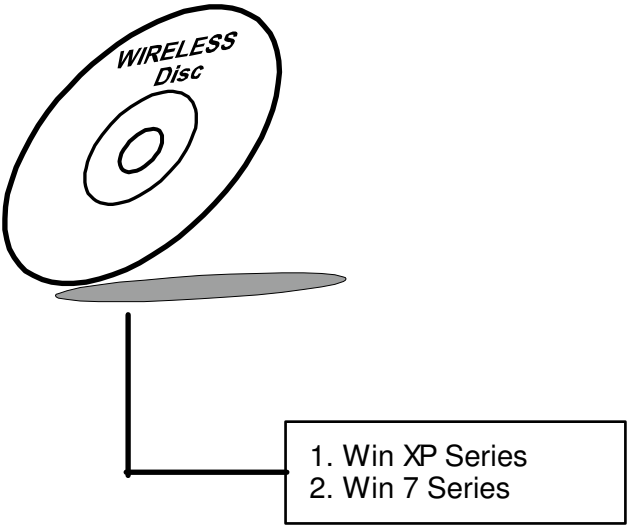
3-6-1. Installation of Touchscreen Driver

To install the Touchscreen Driver, follow the steps below:

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
2. Enter the "Device\Touchscreen" folder where the Touchscreen driver is located.
3. Click **Setup.exe** file for driver installation.
4. Follow the on-screen instructions to complete the installation.
5. Once installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

3-7. WIRELESS DRIVER UTILITY (OPTIONAL)

The wireless driver utility can only be installed on a Windows platform (XP/ 7 series), and it should be installed right after the OS installation.



3-7-1. Installation of Wireless Driver

To install the Wireless Driver, follow the steps below:

1. Connect the USB-CD ROM device to the POS-3120 and insert the driver disk inside.
2. Enter the "Device\Embedded Wireless Module" folder where the Wireless driver is located.
3. Click **Setup.exe** file for driver installation.
4. Follow the on-screen instructions to complete the installation.
5. Once installation is completed, shut down the system and restart the POS-3120 for the changes to take effect.

CHAPTER

4

AMI BIOS SETUP

This chapter shows how to configure the AMI BIOS settings.

Sections included:

- Introduction
- Entering Setup
- Main
- Advanced
- Boot
- Security
- Chipset
- Exit

4-1. INTRODUCTION

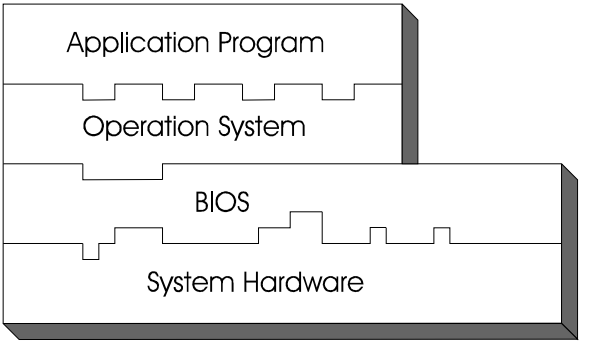
This chapter will show you the function of the BIOS (Basic Input and Output System) in managing the features of your system. The A3120LF motherboard is equipped with the BIOS from AMI (American Megatrends Inc). The following pages describe how to use the BIOS for configure system hardware by BIOS Setup menu.

When the PC starts up, the first job for the BIOS is to initialize and identify system devices such as the video display card, keyboard and mouse, hard disk, CD/DVD drive and other hardware. The BIOS then locates software held on a peripheral device (designated as a 'boot device'), such as a hard disk or a CD, and loads and executes that software, giving it control of the PC.

BIOS code is stored on a non-volatile, ROM chip built into the system, on the mother board and the BIOS software is specifically designed to work with the particular type of system in question including having a knowledge of the workings of various devices that make up the complementary chipset of the system

BIOS also provide a user interface, this is a menu system accessed by pressing a certain key on the keyboard when the PC starts. In the BIOS UI, a user can configure hardware, set the system clock, enable or disable system components, and most importantly, select which devices are eligible to be a potential boot device and set various password prompts, most importantly a password for securing access to the BIOS UI functions itself and preventing malicious users from booting the system from unauthorized peripheral devices.

The following diagram illustrates the relationships between system hardware, BIOS, operating system, and application program:

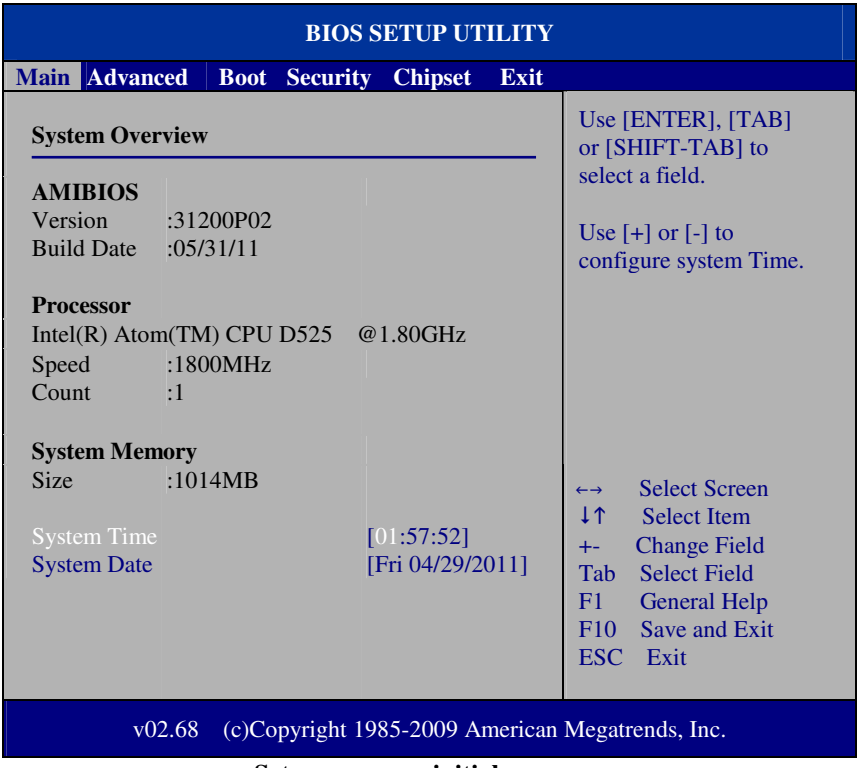


4-2 ENTERING SETUP

When system powered on, BIOS will enter the Power-On Self Test (POST) routines and displays below message on the screen:

POST Screen

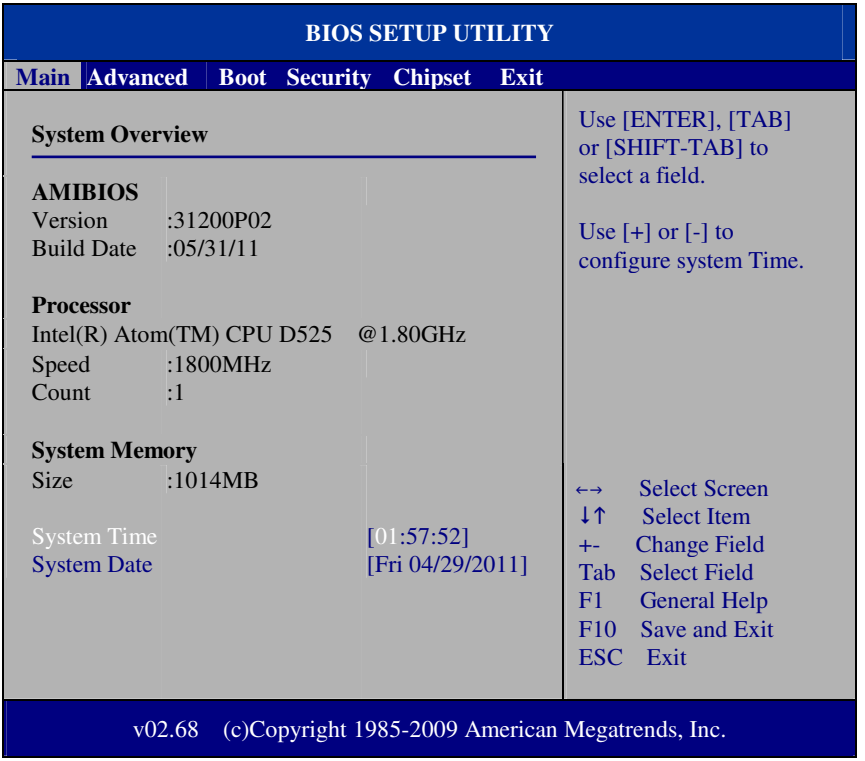
As long as this logo is present on the screen you may press the <Del> key (the one that shares the decimal point at the bottom of the number keypad) to enter the BIOS setup program. In a moment, the main menu of the AMI SETUP program will be shown on the screen:



Setup program initial screen

You may move the cursor by up/down keys to highlight the individual menu items. As you highlight each item, a brief description of the highlighted selection will appear at the right side of the screen.

4-3. Main



Main Screen

use < ↑ > or < ↓ > arrow keys to highlight the item and key in the value you want in each item. This menu provides basic system configurations, such as time and date.

AMI BIOS, Processor, System Memory

This items show the BIOS version, BIOS build up date, processor and system memory information of your system.

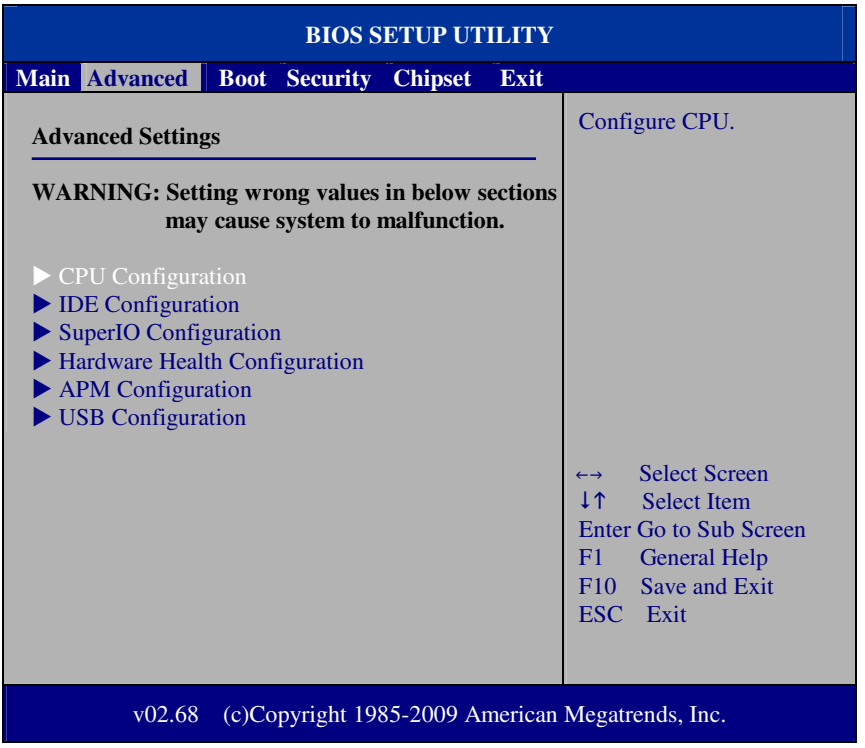
System Time

This setting allows you to set the system time. The format is [Hour: Minute: Second]. User can directly key-in value or use <+> or <-> arrow keys to increase/decrease it.

System Date

This setting allows you to set the system date. The format is [Day Month/ Date/ Year]. User can directly key-in value or use <+> or <-> arrow keys to increase/decrease it.

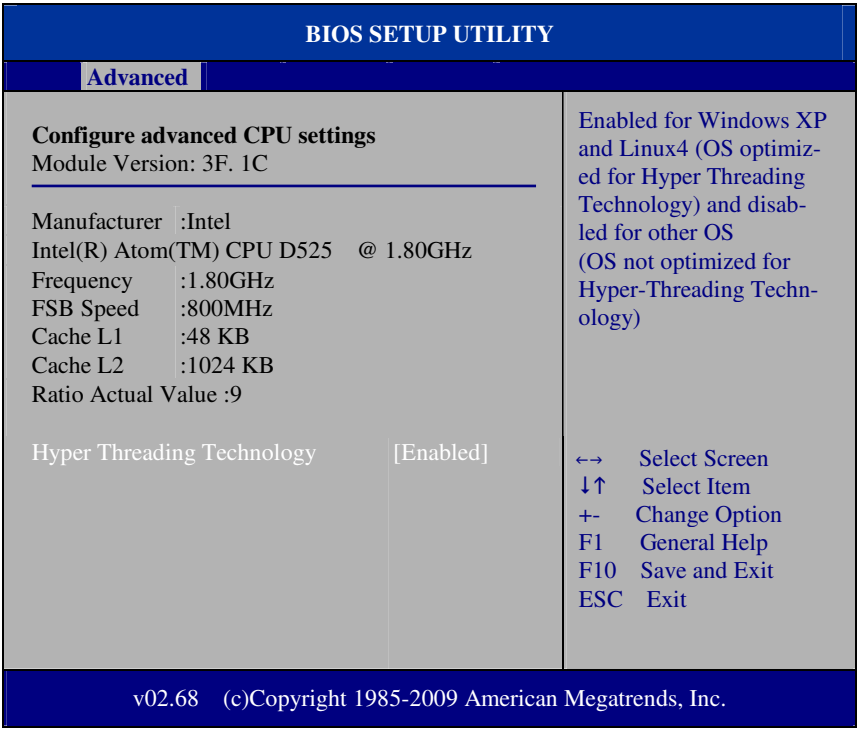
4-4. Advanced



Advanced Screen

This menu provides advanced configurations such as CPU Configuration, IDE Configuration, SuperIO Configuration…etc.

4-4.1. CPU Configuration



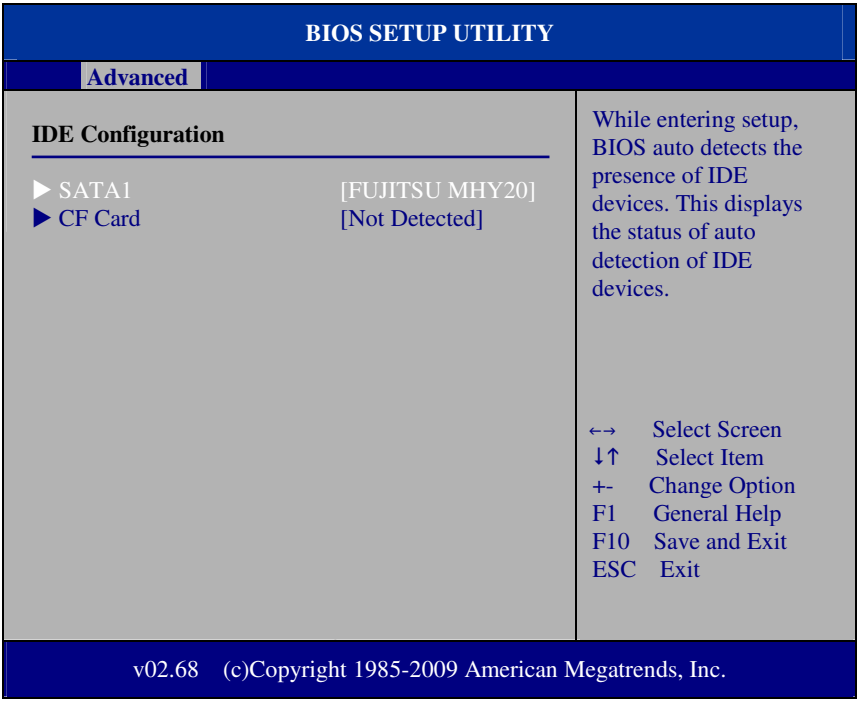
CPU Configuration Screen

This menu provides advanced CPU settings and some information about CPU.

Hyper Threading Technology

Hyper Threading is Intel's term for its simultaneous multithreading implementation in their CPUs. Enable this function will improve parallelization of computation performed on PC microprocessor. For each processor core that is physically present, the operation system addresses two virtual processors, and shares the workload between them when possible.

4-4.2. IDE Configuration



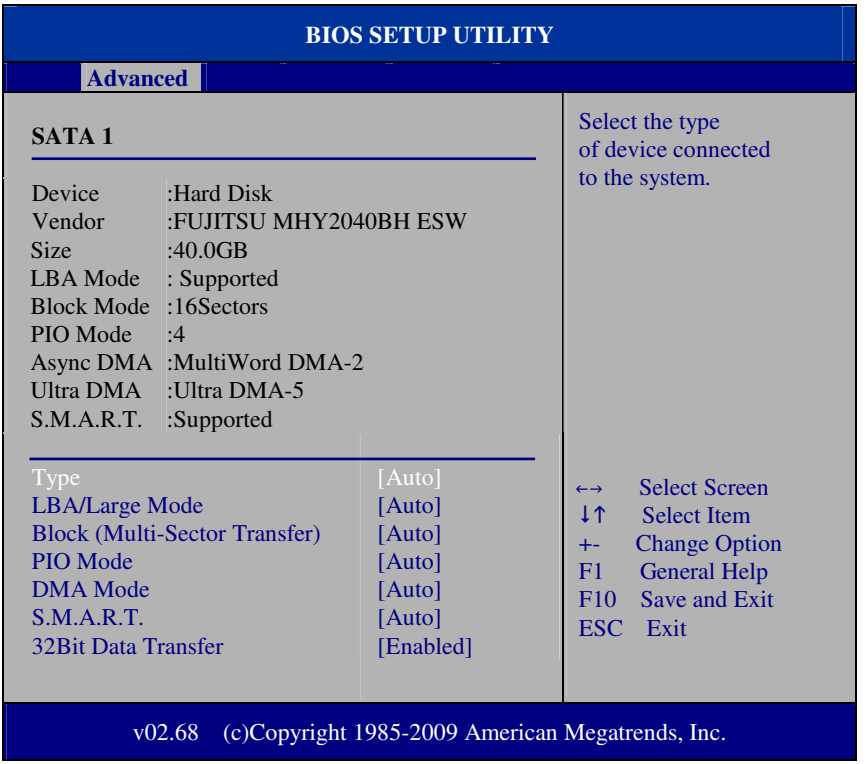
IDE Configuration Screen

This menu provides advanced IDE configuration for hard drive. The control items of SATA 1 / CF Card are all the same and describe in next section.

SATA 1/ CF Card

This setting displays the status of storages.

4-4.2.1 SATA 1 and CF Card



SATA 1 Screen

Type
Select the type of device connected to the system.

LBA/Large Mode
Enabling LBA causes Logical Block Addressing to be used in place of Cylinders, Heads and Sectors.

Block (Multi-Sector Transfer)

Any selection except Disabled determines the number of sectors transferred per block.

PIO Mode

Configure the type of PIO (Programmed Input/Output) mode 0-4 for IDE device. Mode 0 through 4 provides successively increased performance.

DMA Mode

Select the type of Ultra DMA mode on a hard drive.

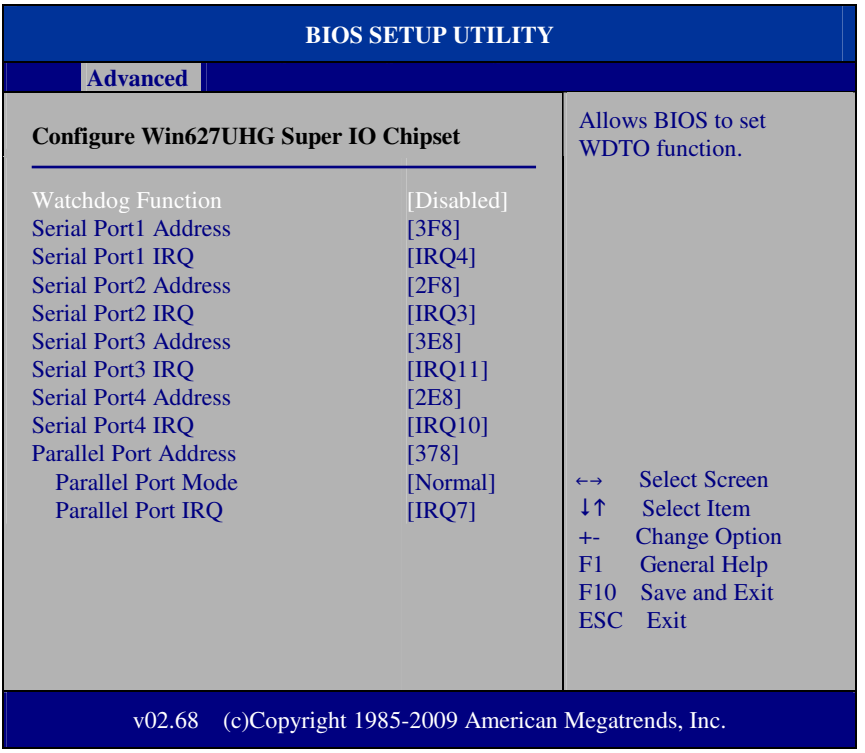
S.M.A.R.T

This allows you to activate the S.M.A.R.T. (Self-Monitoring Analysis & Reporting Technology) capability for the hard disks. S.M.A.R.T is a utility that monitors your disk status to predict hard disk failure. This gives you an opportunity to move data from a hard disk that is going to fail to a safe place before the hard disk becomes offline.

32Bit Data Transfer

Enables/Disable 32-bit data transfer.

4-4.3. SuperIO Configuration



SuperIO Configuration Screen

* WatchDog function

If system hang or not respond for user, enable watchdog function can triggers a system reset by an user given value count down to zero.

Serial Port1~4 Address

Select IO address as serial ports default resource.

Serial Port1~4 IRQ

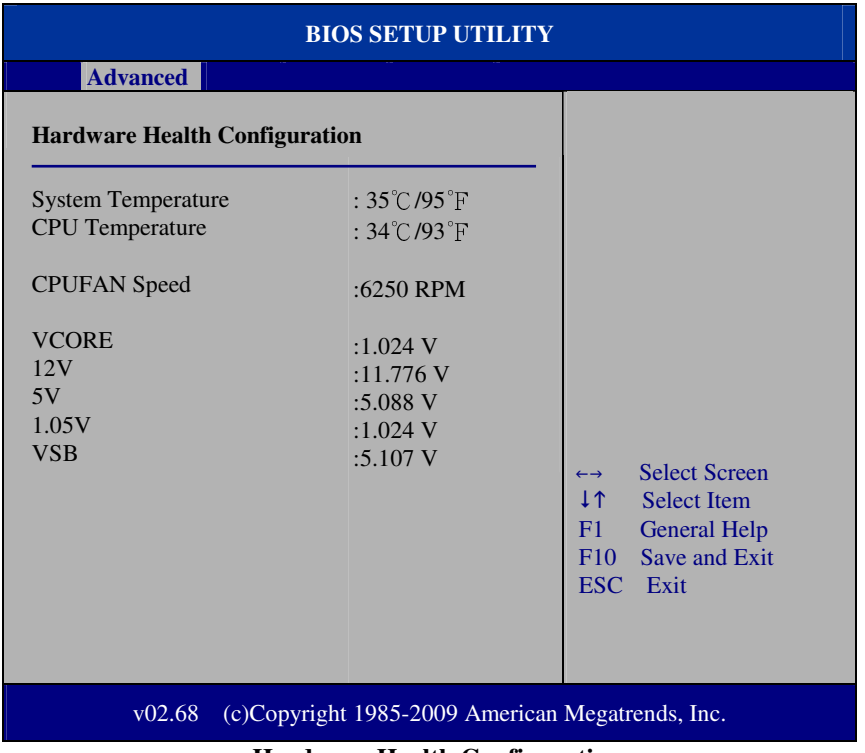
Select IO IRQ as serial ports default resource.

Parallel Port Address
Select IO address for parallel ports resource allocation.

Parallel Port Mode
Select the operation mode for parallel port.

Parallel Port IRQ
Select IRQ for parallel ports resource allocation.

4-4.4. Hardware Health Configuration



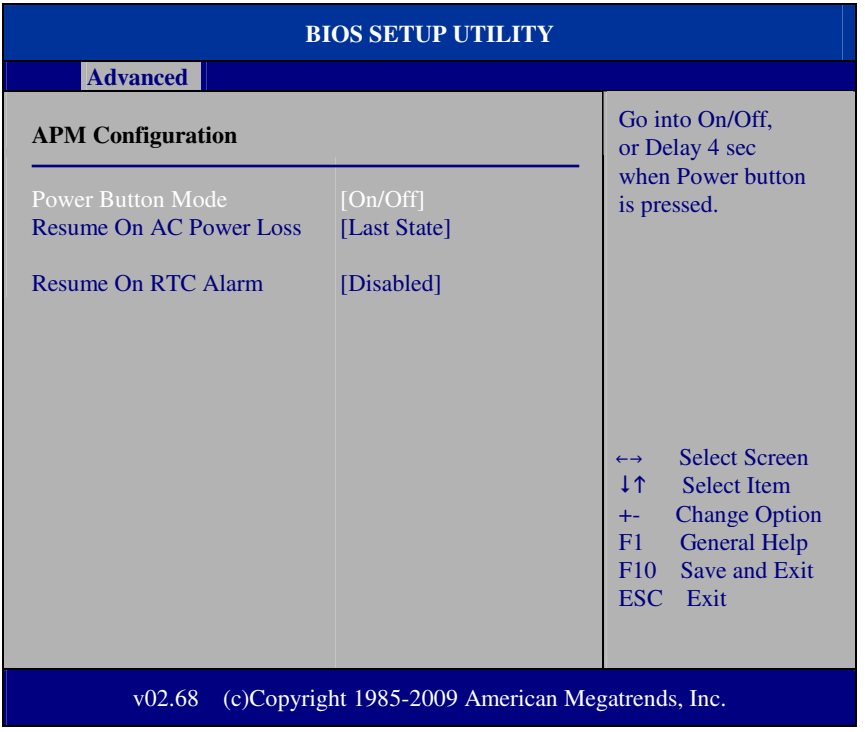
Hardware Health Configuration

System Temperature / CPU Temperature
Both section show System and CPU current temperature.

CPUFAN Speed
This item shows CPU fan speed.

VCORE / 12V / 5V / 1.05V / VSB
These items provide hardware health information.

4-4.5. APM Configuration



APM Configuration Screen

Power Button Mode

This setting controls shutdown action by pressing power button. The system will be shutdown immediately after pressing power button when set to "On/Off". If set the power button mode to "Delay 4 seconds", system will be shutdown after pressing and hold the power button over 4 seconds.

Restore on AC/Power Loss

Once a power failure situation happens, this item decides the system power state after AC power restore back.

Resume On RTC Alarm

When user set this option to [Enable], it allows system to be wake up at specific date/time.

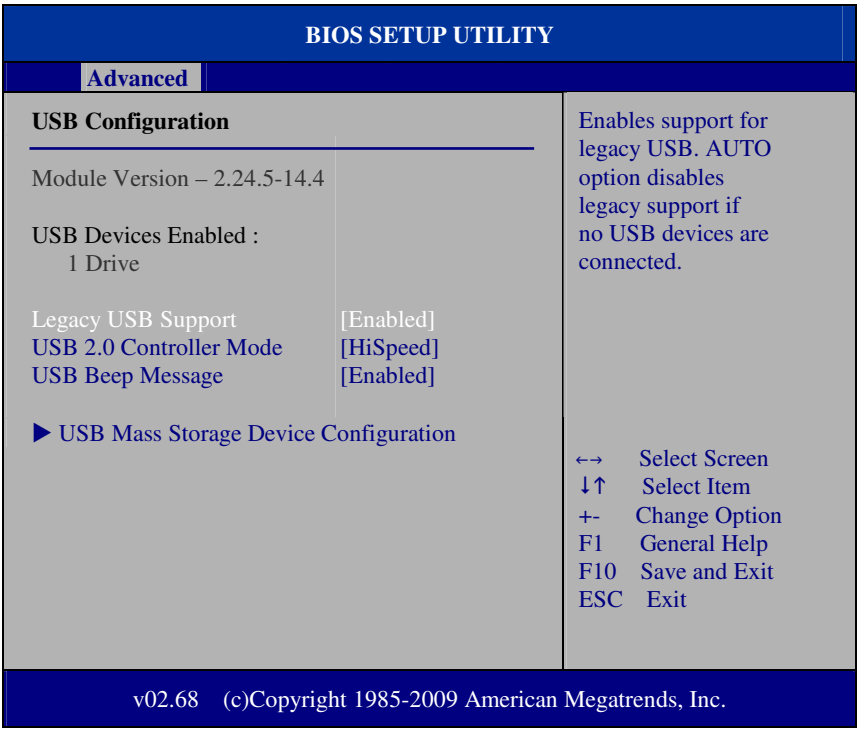
RTC Alarm Date (Days)

Set a specific date value for RTC alarm function to wakeup system from soft off state.

System Time

Set a specific time value for RTC alarm function to wakeup system from soft off state.

4-4.6.USB Configuration



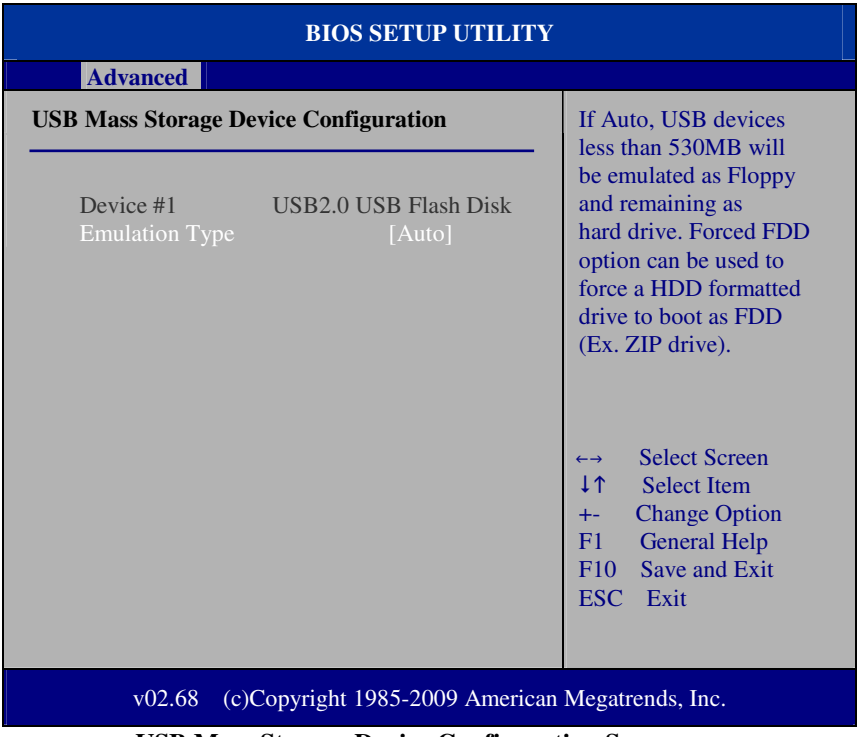
USB Configuration Screen

Legacy USB Support
Set to [Enabled] if you want to use USB device in the legacy operating system, such as MS-DOS or SCO Unix.

USB 2.0 Controller Mode
Configure the onboard USB 2.0 controller operation mode to high Speed or full speed mode.

USB Beep Message
System will generate beep sound during USB device enumeration.

4-4.6.1 USB Mass Storage Device Configuration

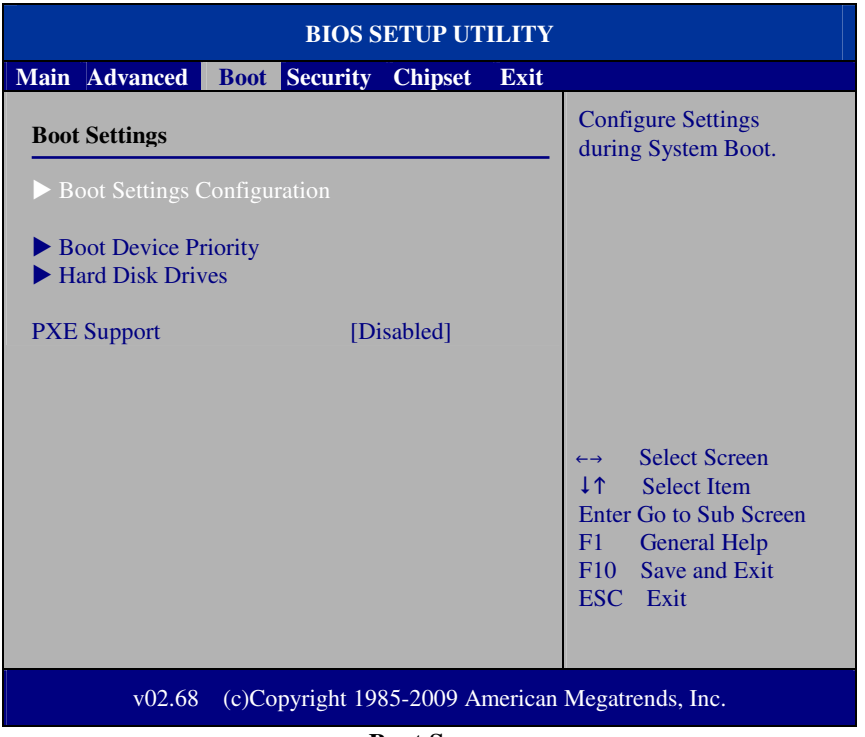


USB Mass Storage Device Configuration Screen

Emulation Type

Select which type of device that USB mass storage emulation. When user select to [Auto], the USB storage size less than 530MB will be emulated as floppy drive and remaining as hard drive.

4-5. Boot



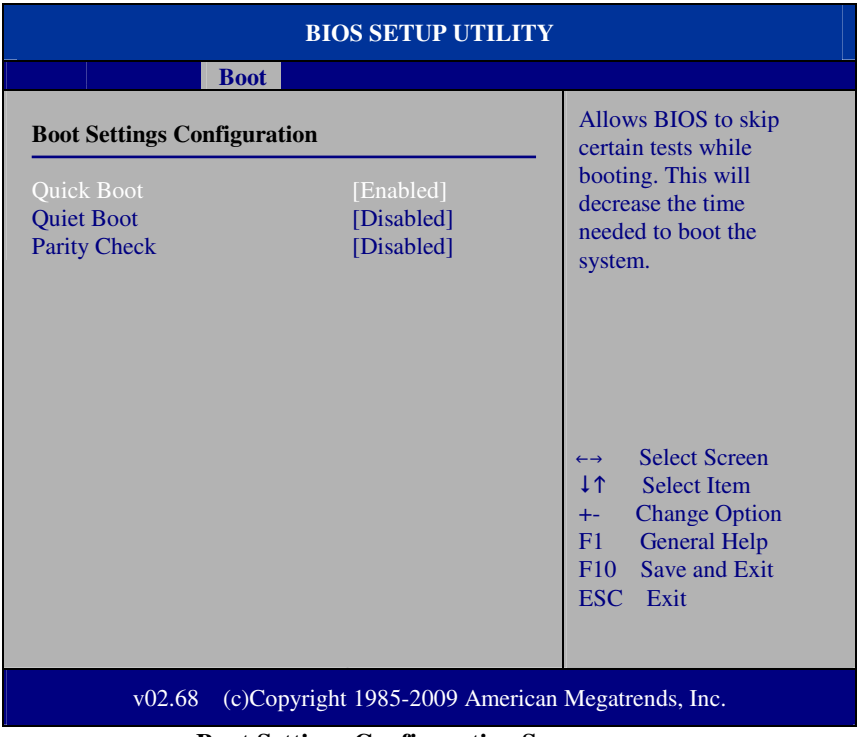
Boot Screen

This menu provides control items for system boot configuration.

PXE Support

This is the main control item for enable/disable PXE (Preboot Execution Environment) support.

4-5.1 Boot Settings Configuration



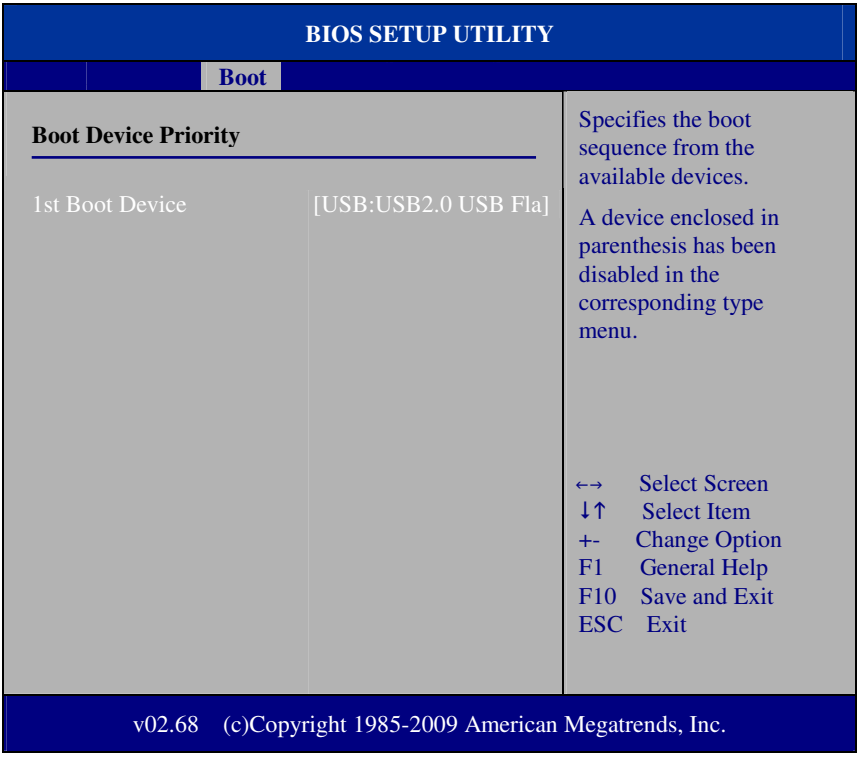
Boot Settings Configuration Screen

Quick Boot
Enable this item allows BIOS POST to skip some tests during boot-up for saving boot time.

Quiet Boot
When set this option to [disabled], BIOS will display normal POST messages.

Parity Check
This setting enables or disables memory or parity error check.

4-5.2 Boot Device Priority

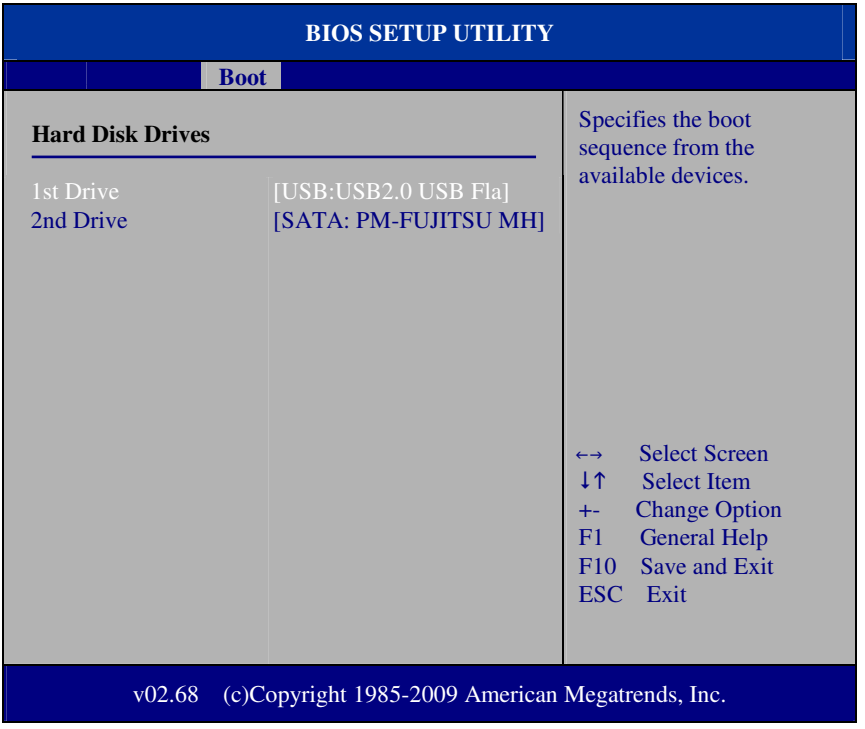


Boot Device Priority Screen

1st / 2nd / 3rd …Boot Device

Choose the boot sequence from the available devices.

4-5.3 Hard Disk Drives

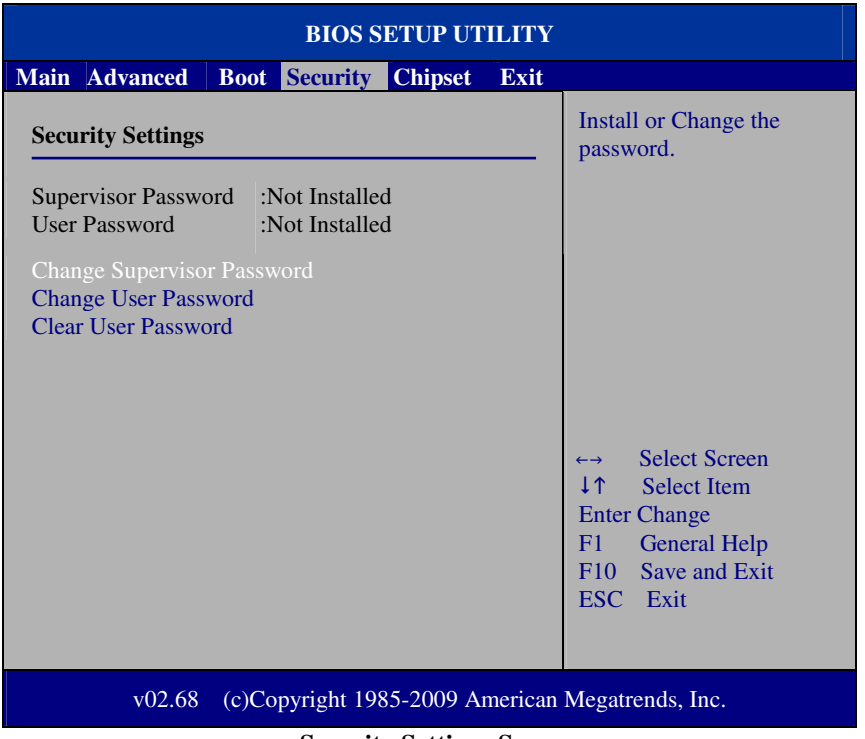


Hard Disk Drives Screen

1st / 2nd …Drive

This setting allows user to set the priority of hard drive or another bootable USB storages. Press <Enter> to enter the sub-menu and press < ↑ > or < ↓ > arrow keys to select the device. Another way is to press <+> or <-> to move it up/down in the priority list.

4-6. Security



Security Settings Screen

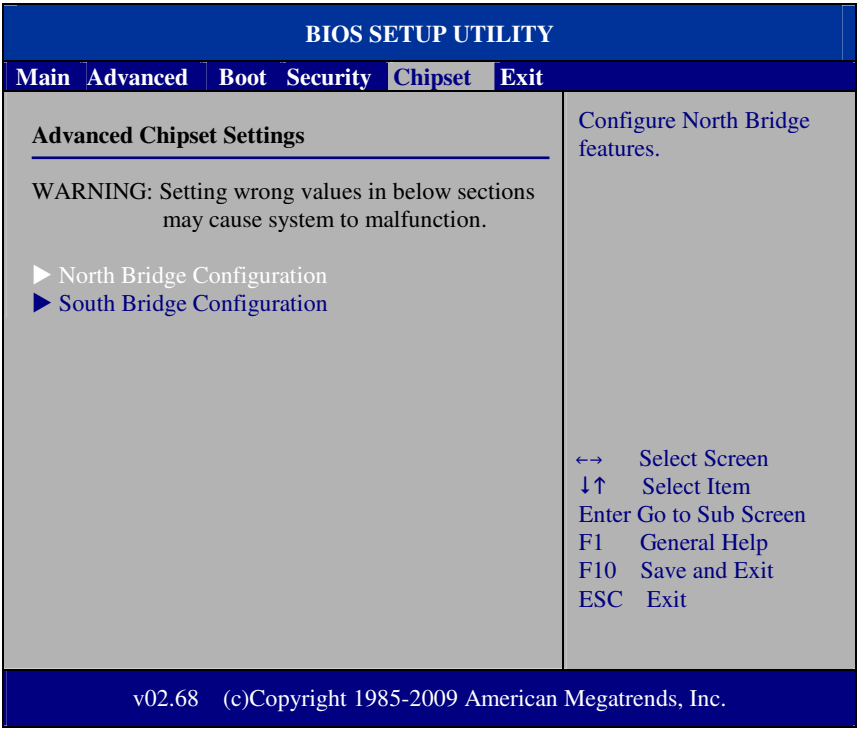
Change Supervisor Password

Supervisor Password controls the access right to the BIOS Setup utility. These settings allow user to set or change the supervisor password.

Change User Password

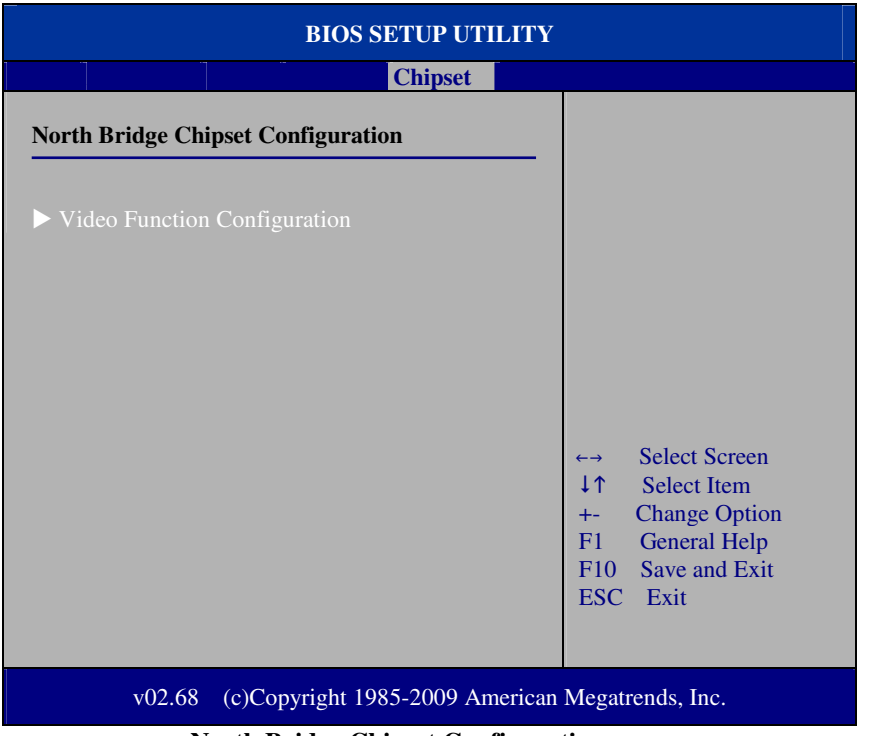
User Password controls system access right when power on. These settings allow user to set or change the user password.

4.7 Chipset



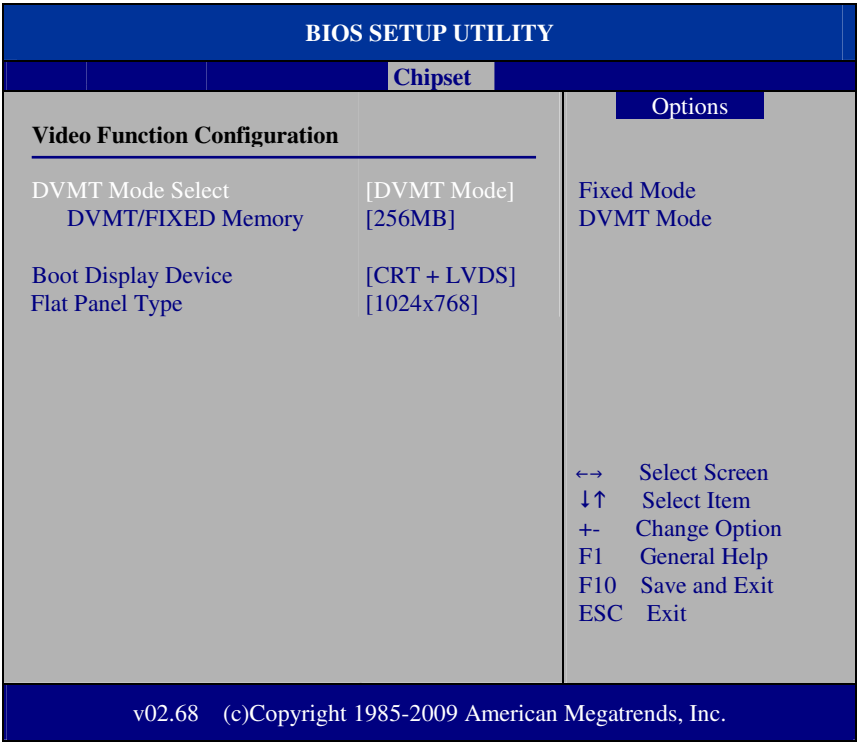
Advanced Chipset Settings Screen

4-7.1 North Bridge Chipset Configuration



North Bridge Chipset Configuration

4-7.1.1 Video Function Configuration



Video Function Configuration Screen

DVMT Mode Select / DVMT/FIXED Memory

Intel's Dynamic Video Memory Technology (DVMT) allows the system to dynamically allocated memory resources according to the demands of the system at any point in time. The key idea in DVMT is to improve the efficiency of the memory allocated to either system or graphics processor. It is recommended that user select this option to DVMT Mode that system memory is dynamically allocated for optimal balance between graphics and system performance.

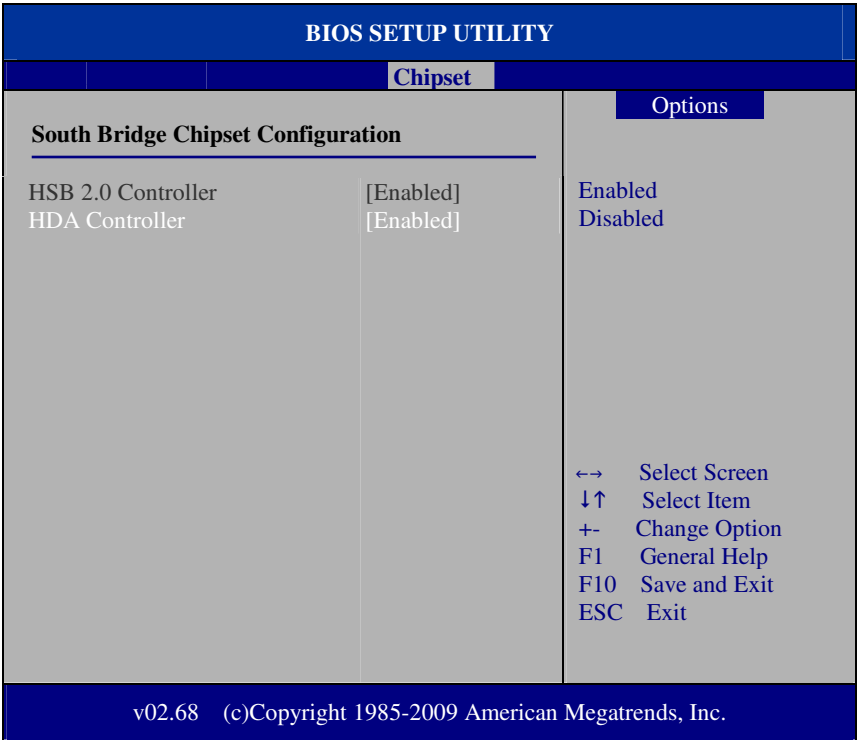
Boot Display Device

Choose the default boot display device by user requirement such as [CRT], [LVDS] and [CRT+LVDS]

Flat Panel Type

Select the resolution for the connected LVDS panel such as [800x600] and [1024x768].

4-7.2 South Bridge Configuration

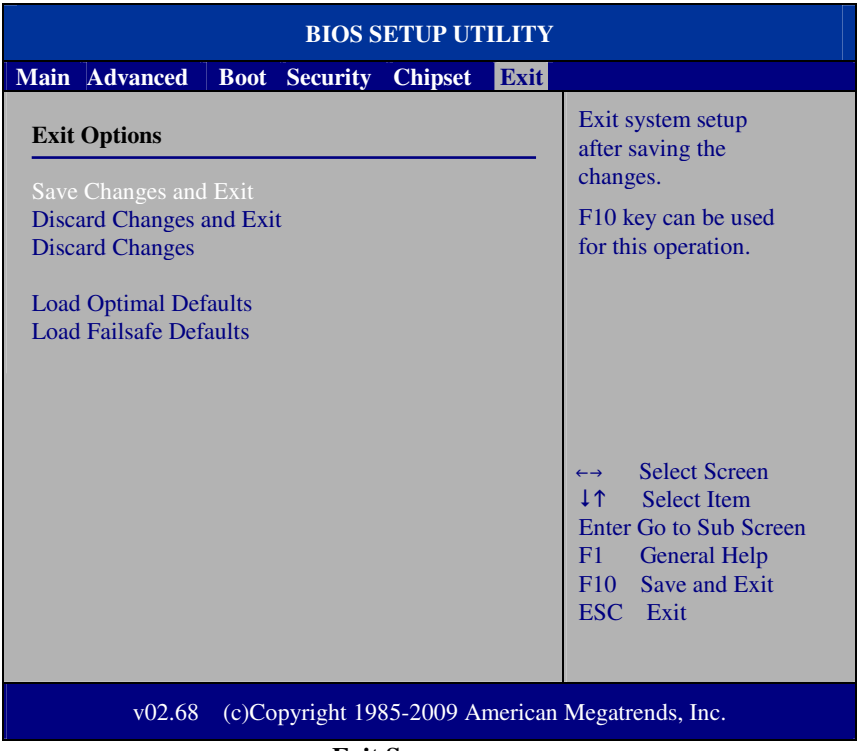


South Bridge Chipset Configuration Screen

USB 2.0 Controller
Enable the USB 2.0 Controller.

HDA Controller
Enable or disable the onboard High-definition Audio controller.

4.8 Exit



Exit Screen

Save Changes and Exit
Save changes to CMOS and then exit the BIOS setup screen. User can also press the [F10] key for this operation.

Discard Changes and Exit

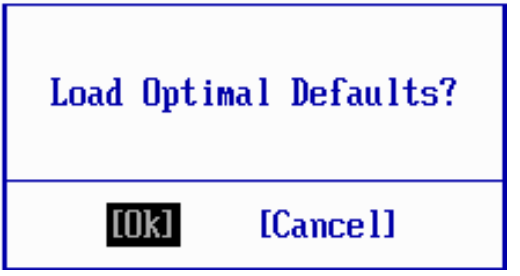
Abandon all changes and exit the BIOS setup screen. User can also press the [ESC] key for this operation.

Discard Changes

Discard all changes done so far to the setup items. User can press the [F7] key for this operation.

Load Optimal Defaults

Press <Enter> on this item, it will show a confirmation dialog box with a message like below:



Pressing "Ok" to loads the factory recommended optimal setting for system operations. User can also press the [F9] key for this operation.

Load Failsafe Defaults

Press <Enter> on this item, it will show a confirmation dialog box with a message like below:

To use the BIOS failsafe default values, change the prompt to "Ok" and press the <Enter > key. User can also press the [F8] key for this operation.

SYSTEM ASSEMBLY

APPENDIX

A

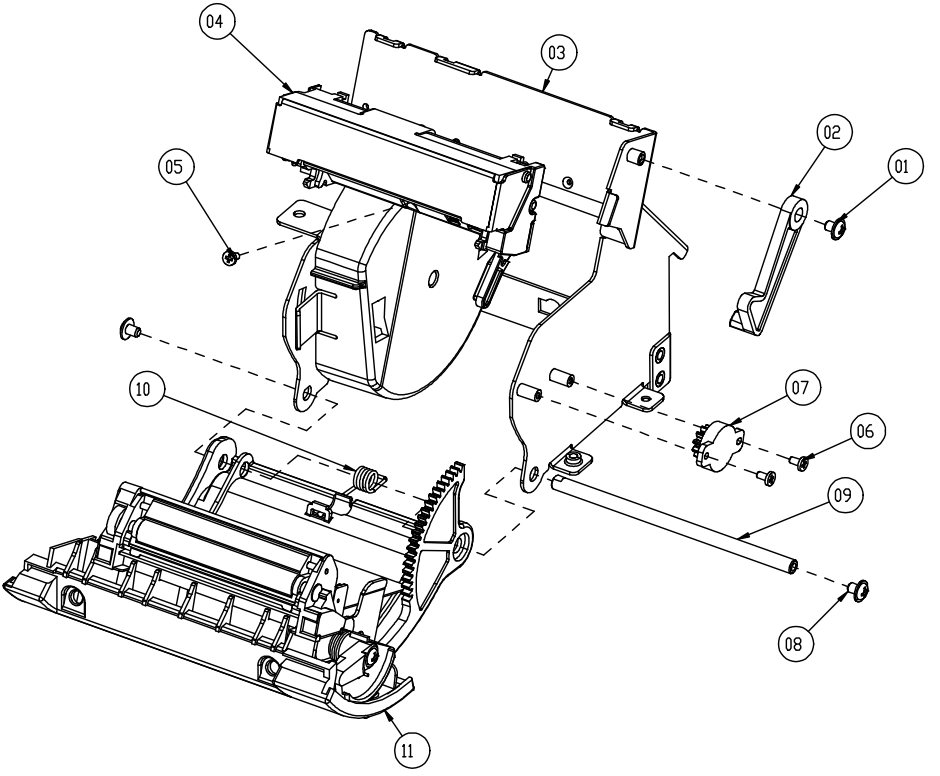
This appendix contains exploded diagrams and part numbers of the POS-3120 system.

Sections included:

- Exploded Diagram for 2 Inch Thermal Printer Assembly
- Exploded Diagram for 3 Inch Thermal Printer Assembly
- Exploded Diagram for Printer Paper Holder Assembly
- Exploded Diagram for Fan Assembly
- Exploded Diagram for Empty Top Case Assembly
- Exploded Diagram for Fingerprint Module
- Exploded Diagram for POS-3120 Hard Disk Drive Assembly
- Exploded Diagram for I-Button Assembly
- Exploded Diagram for POS-3120 CPT LCD Assembly
- Exploded Diagram for POS-3120 Data Image LCD Assembly
- Exploded Diagram for POS-3120 Mini-PCIE Installation
- Exploded Diagram for POS-3120 Motherboard
- Exploded Diagram for POS-3120 MSR Assembly
- Exploded Diagram for POS-3120 MSR Module
- Exploded Diagram for POS-3120 Printer Assembly
- Exploded Diagram for POS-3120 Top Cover Assembly
- Exploded Diagram for VFD Module Assembly

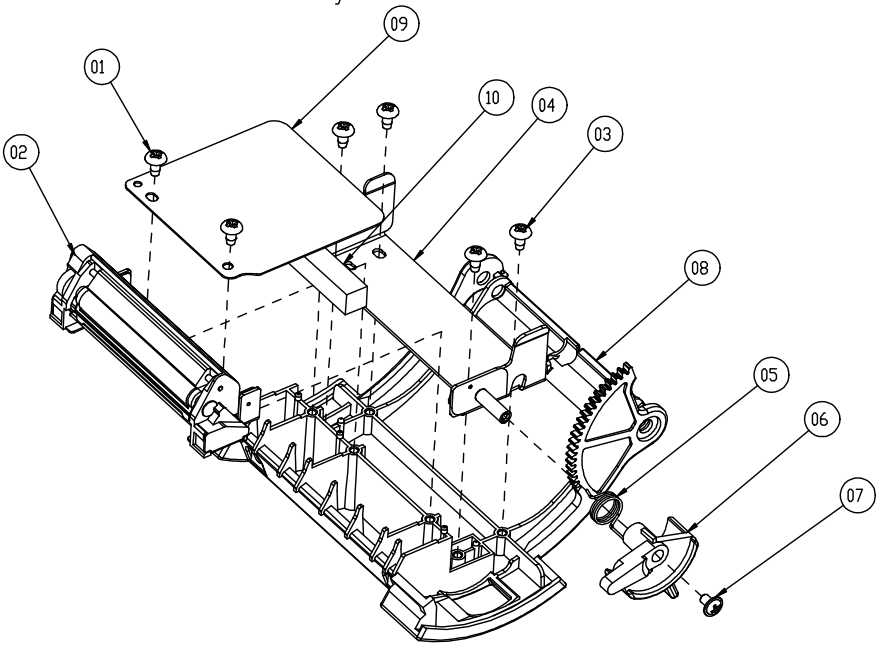
EXPLODED DIAGRAM FOR 2 INCH THERMAL PRINTER ASSEMBLY

2" Printer Assembly



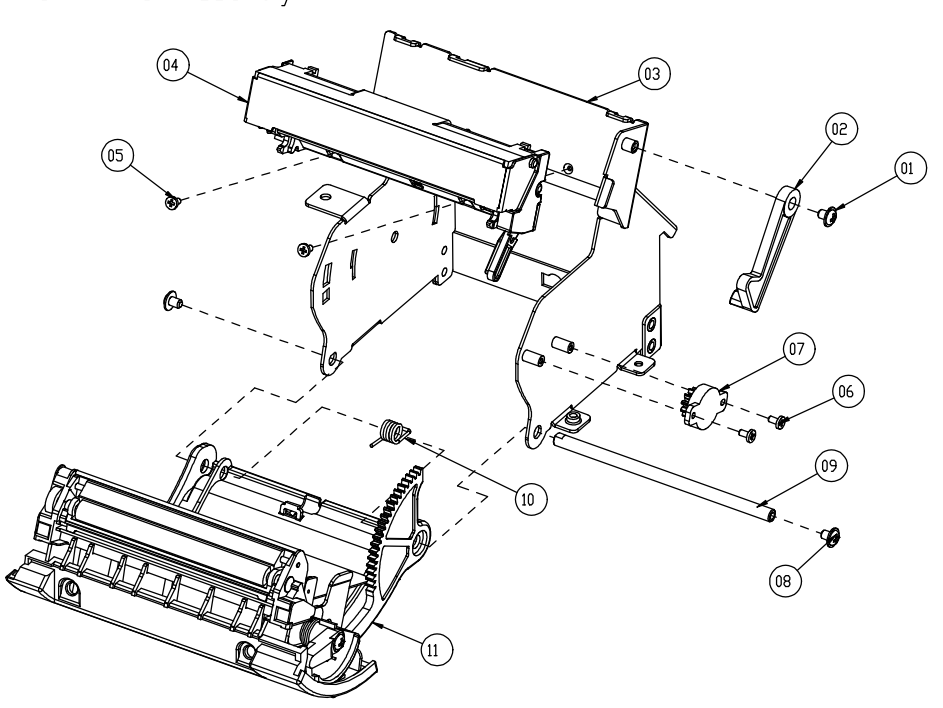
12	ADD_PAPER_WALL	30-002-28310165	1
11	Paper_cover_Assembly	--	1
10	PS3100-SPRING-1	23-002-00000701	1
9	Paper_cover_pin	20-004-10011165	1
8	M3_Washer_L5_Ni	22-242-30005311	2
7	ROTARY DAMPER	30-022-09110000	1
6	M2_I_L4_Ni	22-272-20004011	2
5	M2_I_L4_Ni	22-272-20004011	1
4	CAPD24X_A_03 (2")	52-701-00020003	1/2
3	PS3100_PRINTER_BOX_V2	20-040-03004165	1
2	Printer_add_arm(white)	30-002-09410165	1
	Printer_add_arm(black)	30-002-09110165	
1	M3_I_L4_Black	22-272-30004318	1
No.	Name	P/N No.	Qt'y

2″ Printer Cover Assembly



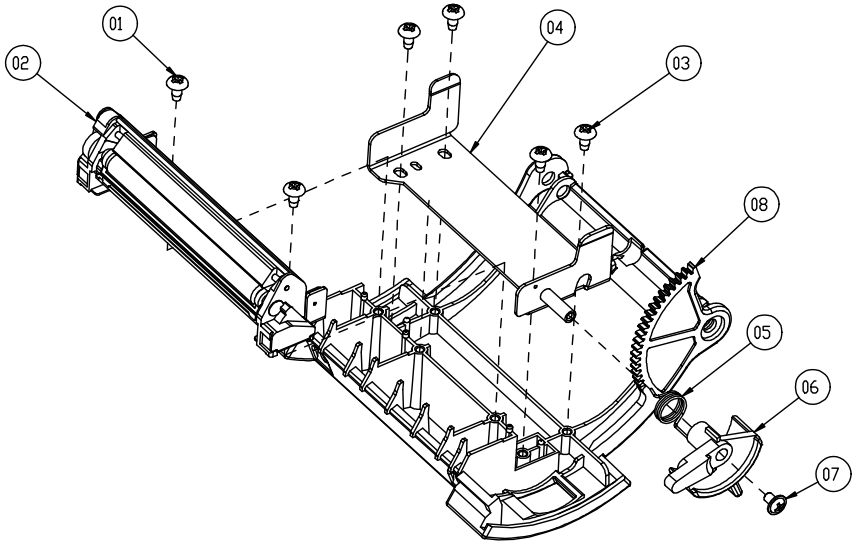
10	2intch_add_EVA	90-013-15200165	1
9	2INCH_ADD_MYLAR2	90-056-02300165	1
8	PS3100_PAPER_COVER_V2(White)	30-002-02630165	1
	PS3100_PAPER_COVER_V2(Black)	30-002-02530165	
7	M3_I_L4_Black	22-272-30004318	1
6	PRINTER_COVER_EJECTOR(White)	30-002-09310165	1
	PRINTER_COVER_EJECTOR(Black)	30-002-09210165	
5	PS3100-SPRING-FOR_EJECTOR	23-002-00001021	1
4	PS-3100 INCLUDE HOLDER	20-029-03006165	1
3	T3_R_L6_Ni	22-132-30060011	4
2	CAPD24X_A_03 (2")	52-701-00020003	1/2
1	T3_R_L8_Black	22-122-30080011	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR 3 INCH THERMAL PRINTER ASSEMBLY



11	Paper_cover_Assembly	--	1
10	PS3100-SPRING-1	23-002-00000701	1
9	Paper_cover_pin	20-004-10011165	1
8	M3_Washer_L5_Ni	22-242-30005311	2
7	R□TARY DAMPER	30-022-09110000	1
6	M2_I_L4_Ni	22-272-20004011	2
5	M2_I_L4_Ni	22-272-20004011	2
4	CAPD34X_A_01 (3")	52-701-00017003	1/2
3	PS3100_PRINTER_B□X_V2	20-040-03004165	1
2	Printer_add_arm(White)	30-002-09410165	1
	Printer_add_arm(black)	30-002-09110165	
1	M3_I_L4_Black	22-272-30004318	1
No.	Name	P/N No.	Qt'y

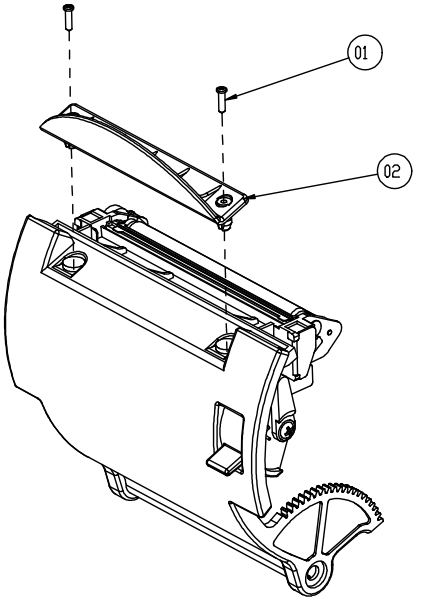
3″ Printer Cover Assembly



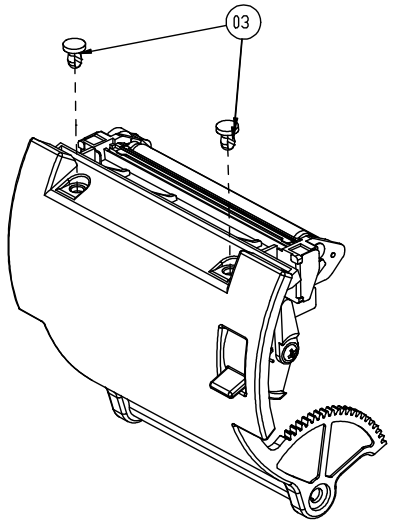
8	PS3100_PAPER_COVER_V2(White)	30-002-02630165	1
	PS3100_PAPER_COVER_V2(Black)	30-002-02530165	
7	M3_I_L4_Black	22-272-30004318	1
6	PRINTER_COVER_EJECTOR(White)	30-002-09310165	1
	PRINTER_COVER_EJECTOR(Black)	30-002-09210165	
5	PS3100-SPRING-FOR_EJECTOR	23-002-00001021	1
4	PS-3100 INCLUDE HOLDER	20-029-03006165	1
3	T3_R_L6_Ni	22-132-30060011	4
2	CAPD34X_A_01 (3″)	52-701-00017003	1/2
1	T3_R_L8_Black	22-122-30080011	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR PRINTER PAPER HOLDER ASSEMBLY

WITH PAPER HOLDER

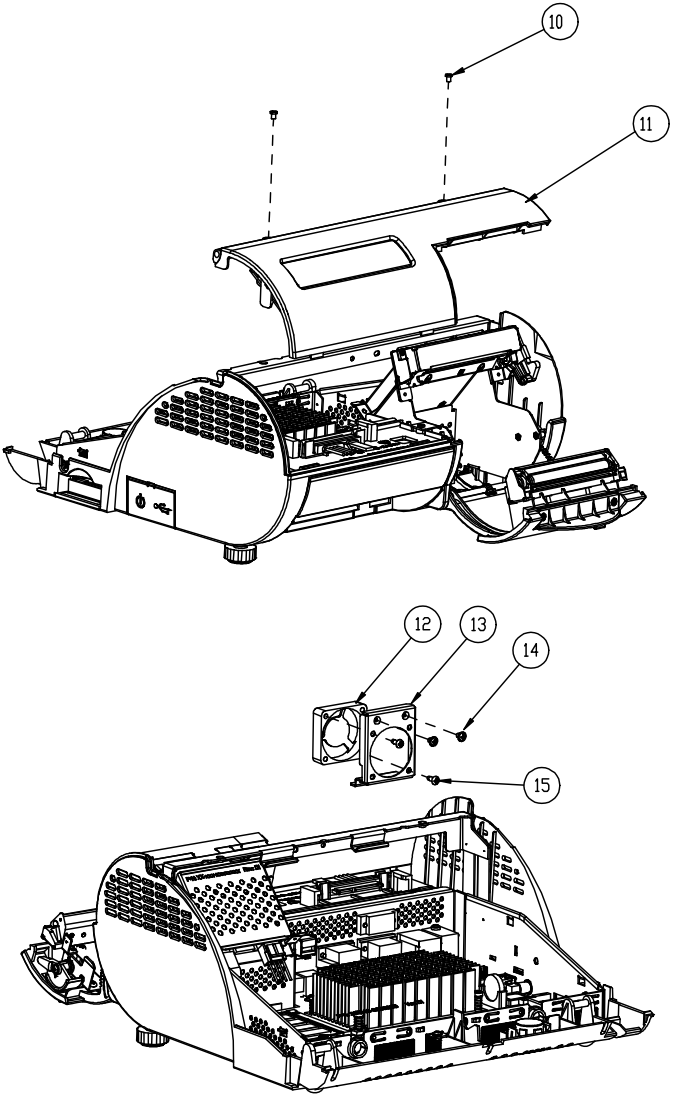


WITHOUT PAPER HOLDER



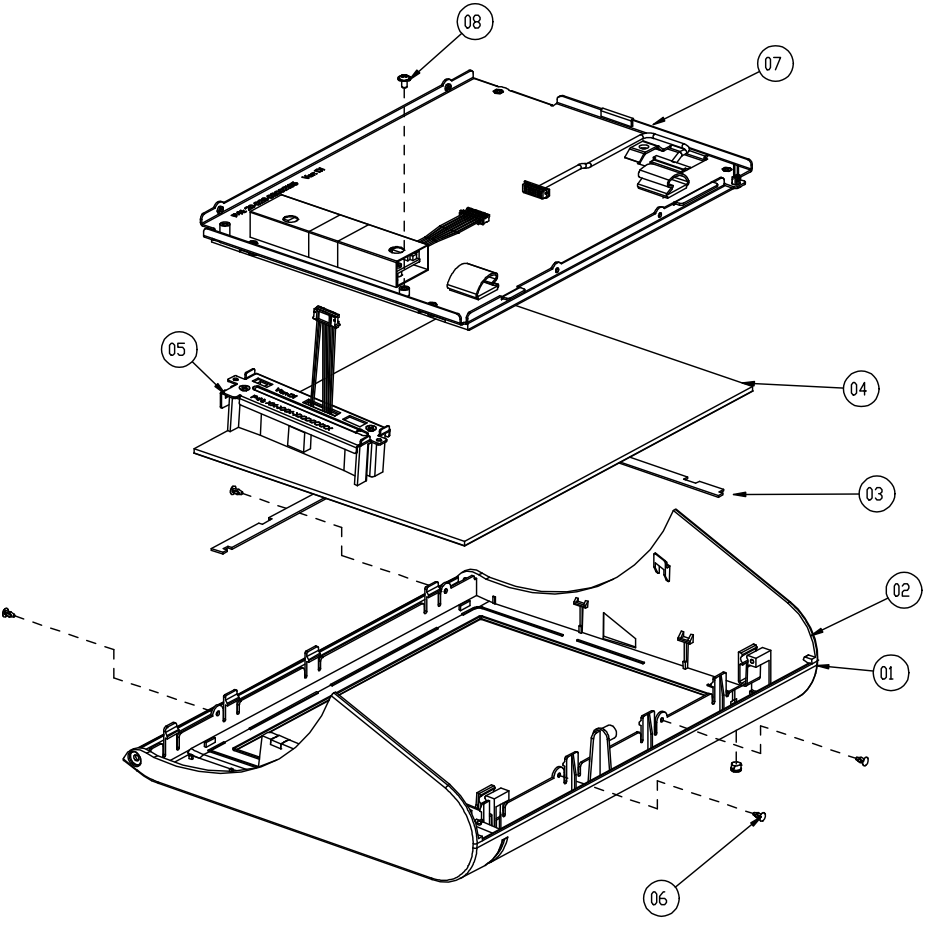
3	∅4 Plastic rivet	90-076-04110000	2
2	PAPER HOLDER(Transparent)	30-012-02210165	1
	PAPER HOLDER(Black)	30-012-02110165	
1	T2_L8_Black	22-125-20008011	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR FAN ASSEMBLY



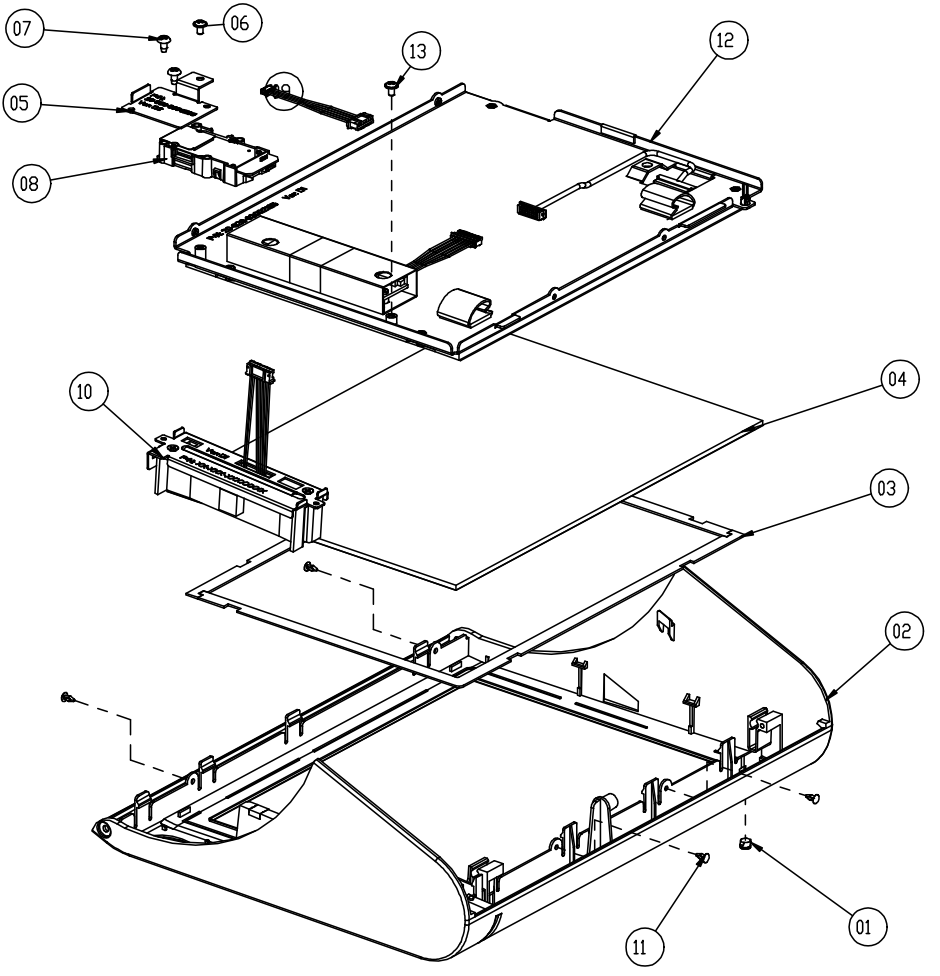
15	T3.5 L10 SCREW	22-712-35010811	4
14	M3_L4_I_B	22-272-30004318	2
13	Fan Holder	20-029-03001210	1
12	FAN	30-007-28210165	1
11	VFD Assembly	--	1
10	M3_L4_I_B	22-272-30004318	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR EMPTY TOP CASE ASSEMBLY



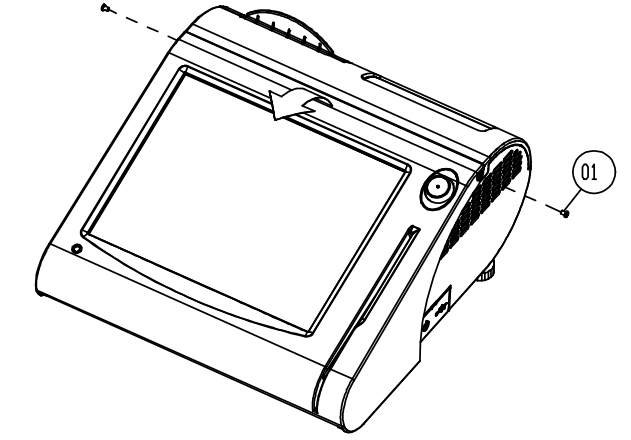
8	M3_L5_Washer_Ni (MSR GND screw)	22-242-30005311	1
7	LCD Assembly	--	1
6	Plastic rivet	90-042-04100000	4
5	MSR Assembly	--	1
4	ELO 10.4" Touch	52-380-01510401	1
3	Touch_EVA	30-013-15100166	2
2	Empty TOP CASSE(Blue)	30-003-28110165	1
	Empty TOP CASSE(Red)	30-003-28410165	
	Empty TOP CASSE(White)	30-003-28710165	
	FINGER-PRINTER TOP CASE((Black)	30-003-28810165	
1	LED CAP	30-012-02100000	1
No.	Name	P/N No.	Qt'y

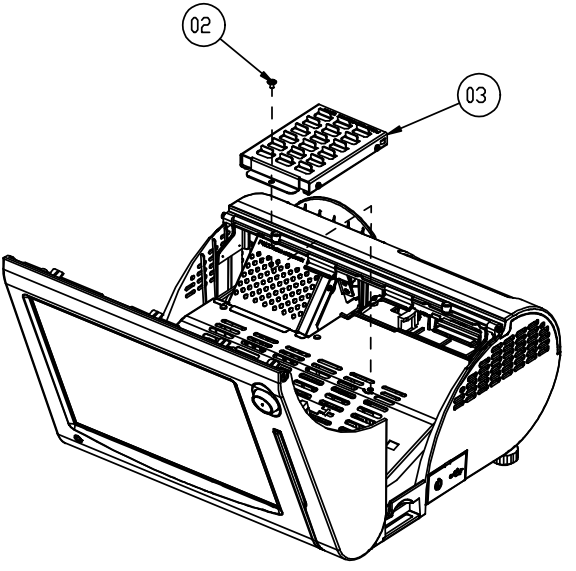
EXPLODED DIAGRAM FOR FINGERPRINT MODULE

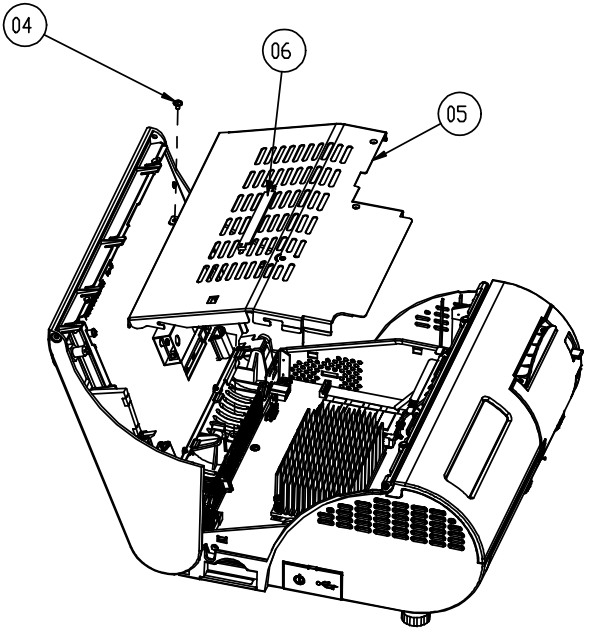


13	M3_L5_Washer_Ni (MSR GND screw)	22-242-30005311	1
12	LCD Assembly	--	1
11	Plastic rivet	90-042-04100000	4
10	MSR Assembly	--	1
9	Finger-Printr cable	27-006-16506111	1
8	Finger-Printr	52-551-00501205	1
7	T3_L8_R_Ni	22-122-30080011	1
6	M3_L5_Washer_Ni	22-242-30005311	1
5	Finger-printer holder	20-006-03001165	1
4	ELO 10.4" Touch	52-380-01510401	1
3	Touch_EVA	30-013-15100166	2
2	FINGER-PRINTER TOP CASE(Blue)	30-003-28210165	1
	FINGER-PRINTER TOP CASE((Red)	30-003-28510165	
	FINGER-PRINTER TOP CASE((White)	30-003-28910165	
	FINGER-PRINTER TOP CASE((Black)	30-003-28111165	
1	LED CAP	30-012-02100000	1
No.	Name	P/N No.	Qt'y

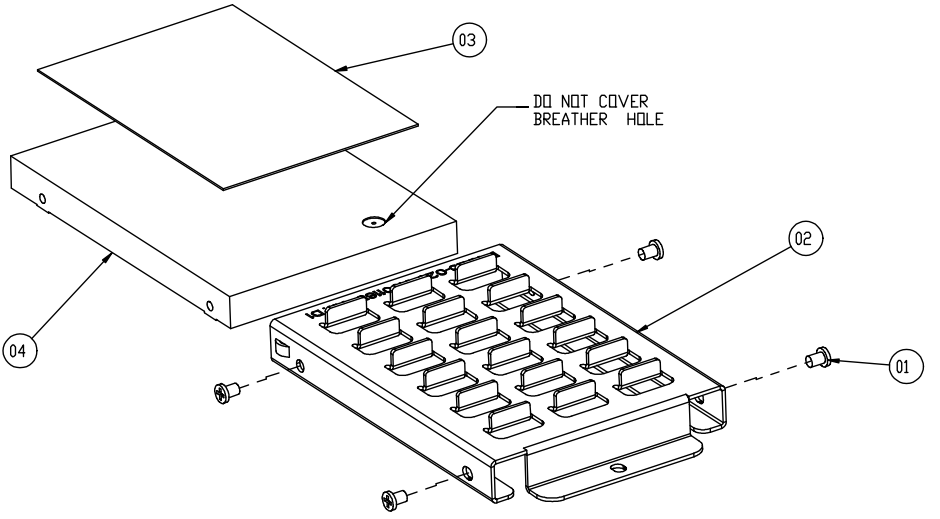
EXPLODED DIAGRAM FOR POS-3120 HARD DISK DRIVE ASSEMBLY





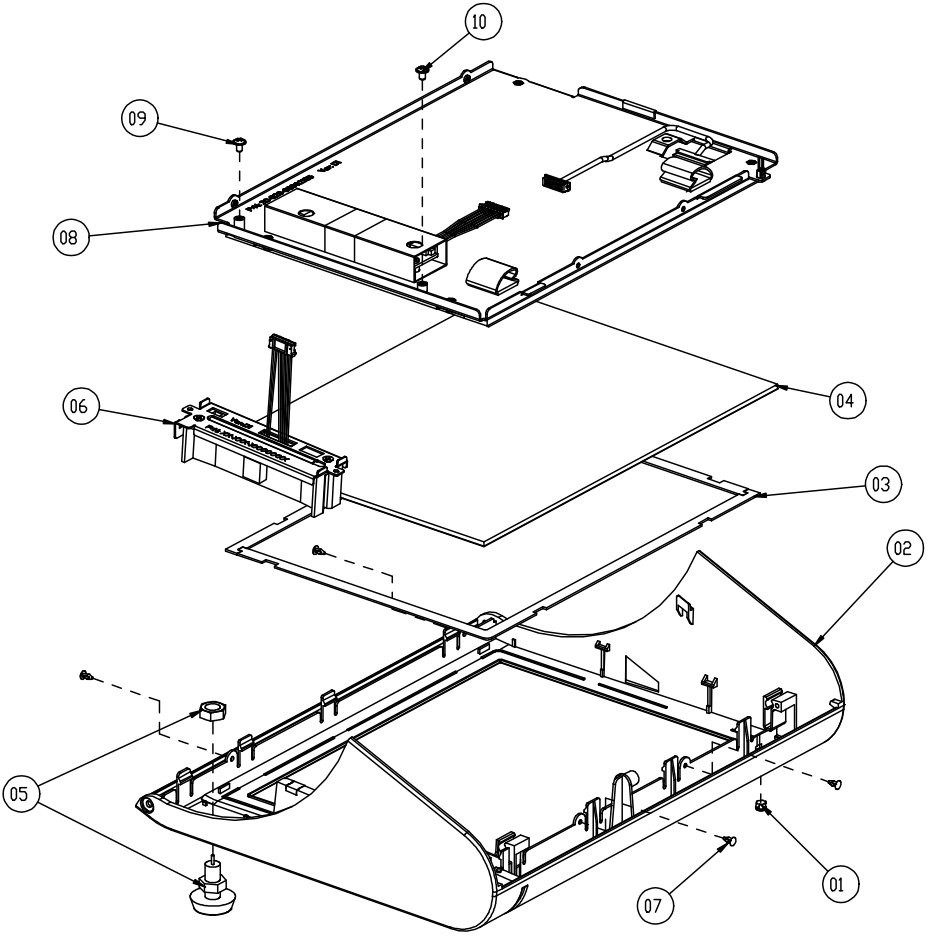


6	Inside_top_Assembly	30-080-04100000	1
5	Inside_top	20-040-03001165	1
4	M3_L5_Washer_Ni	22-242-30005311	1
3	HDD Assembly	--	1
2	M3_L5_Washer_Ni	22-242-30005311	1
1	M3_L4_I_B	22-272-30004318	2
No.	Name	P/N No.	Qt'y



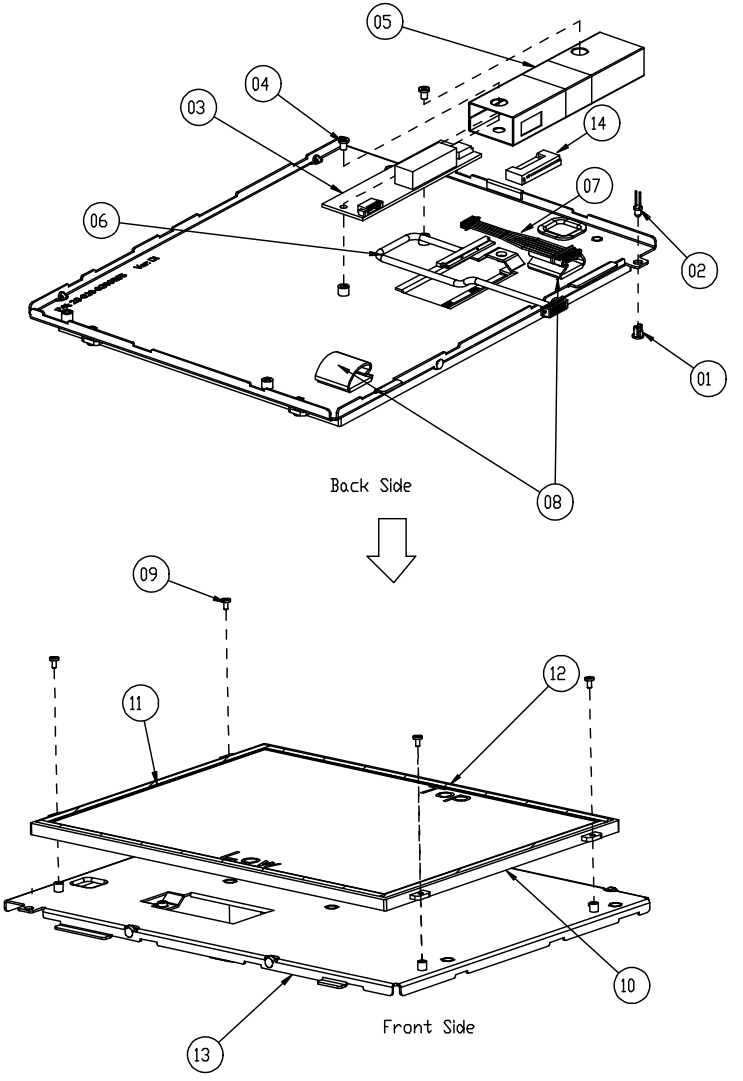
4	HDD	SEE ORDER	1
3	Thermal Pad	21-006-88560001	1
2	HDD_holder	20-029-01001165	1
1	M3_L4_I_B	22-272-30004318	4
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR I-BUTTON ASSEMBLY



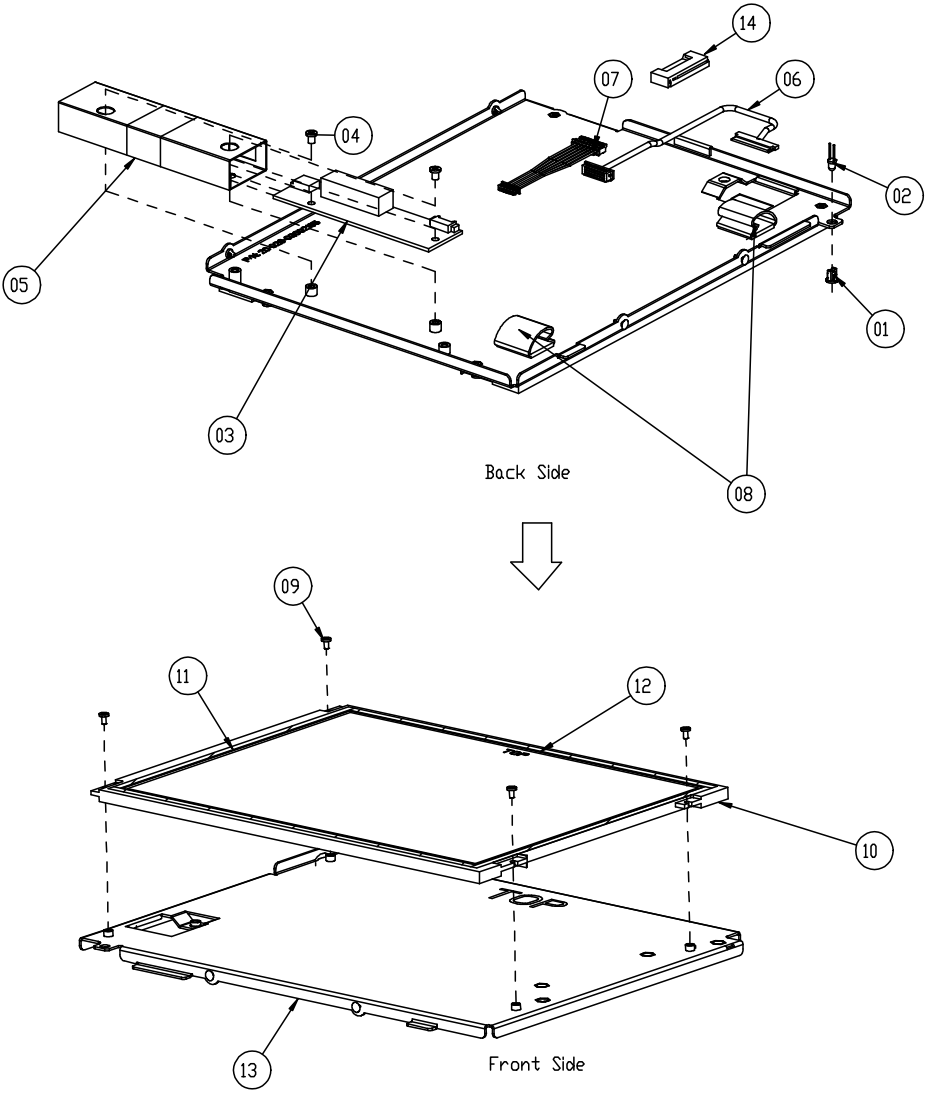
10	M3_L5_Washer_Ni (MSR GND screw)	22-242-30005311	1
9	M3_L5_Washer_Ni (I-Button GND screw)	22-242-30005311	1
8	LCD Assembly	--	1
7	Plastic rivet	90-042-04100000	4
6	MSR Assembly	--	1
5	I Button	52-551-00100002	1
4	ELO 10.4" Touch	52-380-01510401	1
3	Touch_EVA	30-013-15100166	2
2	I-BOUNT TOP CASE(Blue)	30-003-28310165	1
	I-BOUNT TOP CASE(Red)	30-003-28610165	
	I-BOUNT TOP CASE(Wwhite)	30-003-28112165	
	I-BOUNT TOP CASE(Black)	30-003-28113165	
1	LED CAP	30-012-02100000	1
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 CPT LCD ASSEMBLY



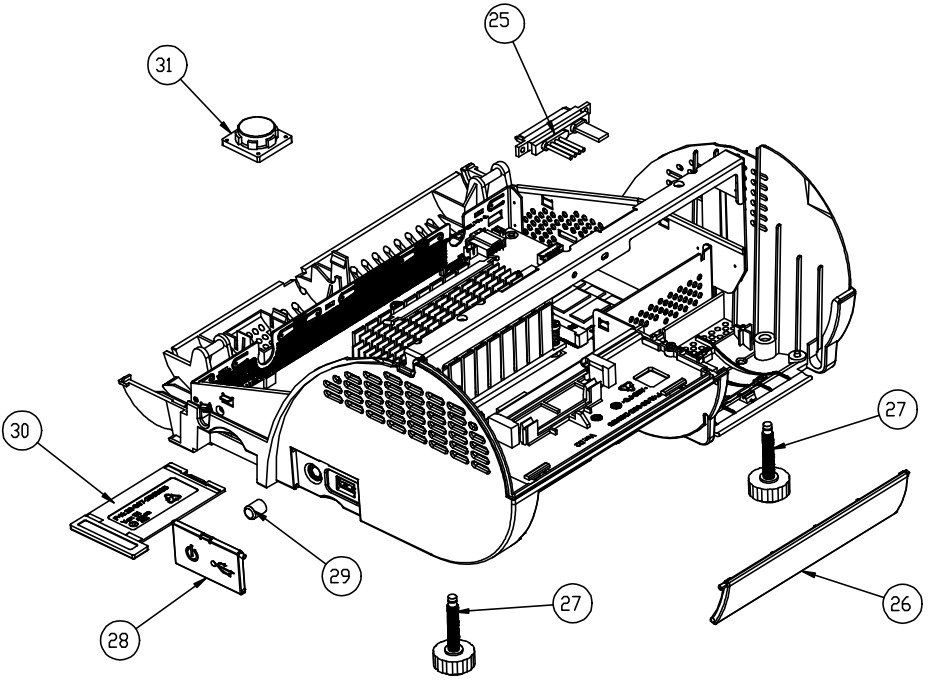
14	cable clip	90-042-04200000	1
13	CPT LCD Holder	20-029-03001165	1
12	220 X 4 X0.5T P□R□N	30-013-24600000	2
11	167 X 4 X0.5T P□R□N	30-013-24700000	2
10	CPT 10.4" LCD	52-351-01104019	1
9	M2_L4_I_Ni	22-272-20004011	4
8	cable_clamp	30-023-04300010	2
7	inverter cable	27-015-16506111	1
6	CPT LVDS cable	27-020-16505111	1
5	Inverter Mylar	30-056-02100165	1
4	M3_L4_I_B	22-272-30004318	2
3	Inverter	52-101-08010103	1
2	Led Cable(P□S3120)	27-018-21003071	1
1	LED Housing	30-014-04100165	1
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 DATA IMAGE LCD ASSEMBLY



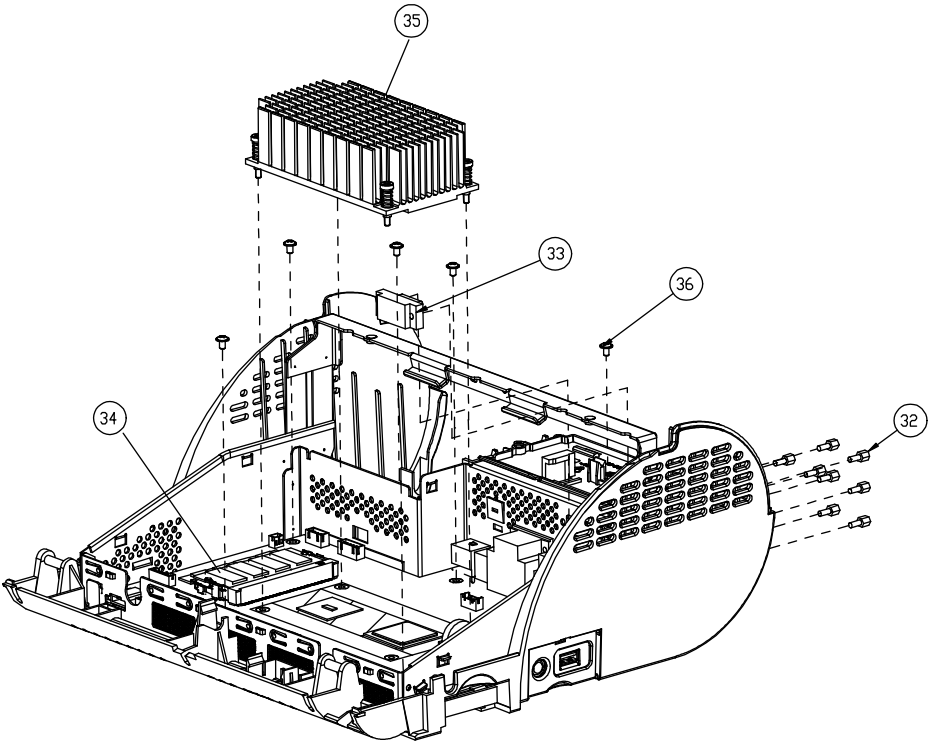
14	cable clip	90-042-04200000	1
13	DATA IMAGE LCD Holder	20-029-03002165	1
12	220 X 4 X0.5T P□R□N	30-013-24600000	2
11	167 X 4 X0.5T P□R□N	30-013-24700000	2
10	DATA IMAGE 10.4" LCD	52-351-01100424	1
9	M2_L4_I_Ni	22-272-20004011	4
8	cable_clamp	30-023-04300010	2
7	inverter cable	27-015-16506111	1
6	DATA image LVDS cable	27-020-16505112	1
5	Inverter Mylar	30-056-02100165	1
4	M3_L4_I_B	22-272-30004318	2
3	Inverter	52-101-08010103	1
2	Led Cable(P□S3120)	27-018-21003071	1
1	LED Housing	30-014-04100165	1
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 MINI-PCIE INSTALLATION

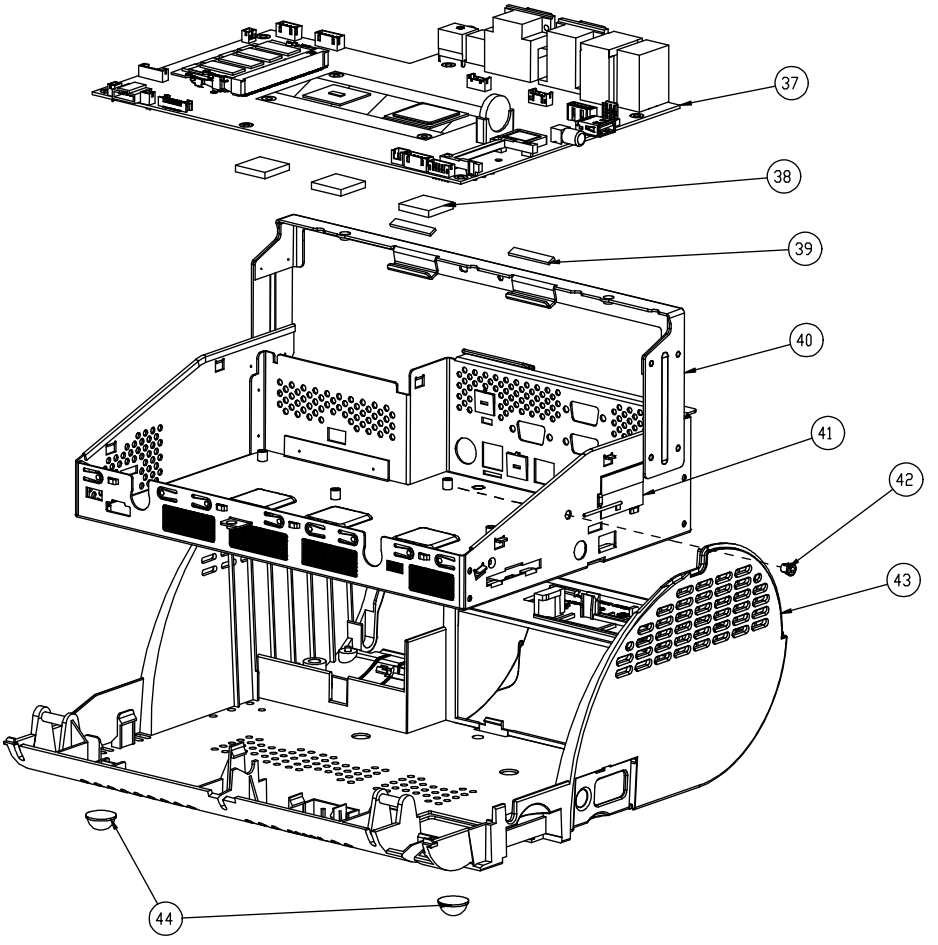


31	Speaker	13-500-08280018	1
30	MINI_PCIE_D□□R(White)	30-007-28310165	1
	MINI_PCIE_D□□R(Black)	30-007-28110165	
29	Switch Cap	30-001-28100099	1
28	Side Door(White)	30-007-28410165	1
	Side Door(Black)	30-007-28210165	
27	Foot	22-289-60035007	2
26	IO Cover(White)	30-002-28810165	1
	IO Cover(Black)	30-002-28110165	
25	Sata HDD Cable	27-012-16504081	1
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 MOTHERBOARD



36	M3_L5_Washer_Ni	22-242-30005311	5
35	P□S6620 Heatsink	21-002-11564004	1
34	RAM	SEE □RDER	1
33	C□M 4 cable(P□S3120)	27-024-20804031	1
32	No.4 Boss	22-692-40048051	8
No.	Name	P/N No.	Qt'y


37
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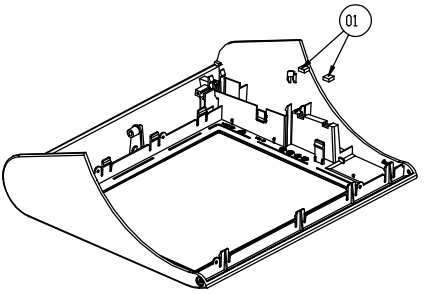
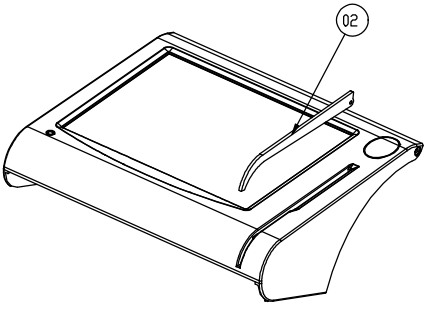
44	Rubber Foot	30-004-01500000	1
43	PS3100 BOT CASE(White)	30-002-12210165	1
	PS3100 BOT CASE(Black)	30-002-12110165	
42	SB-0305	30-026-04100008	1
41	WIRELESS_ANTENNA	27-029-00003072	1
40	inside box	20-040-03002165	1
39	EMI SPONGE	30-050-31200000	2
38	Thermal Pad	21-006-82020002	3
37	Prox3120	Prox-3120	1
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 MSR ASSEMBLY

WITH MSR

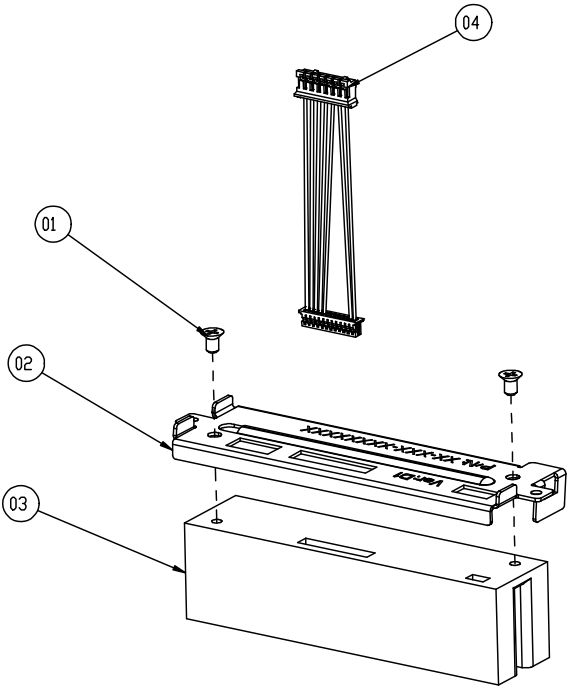


WITCHOUT MSR



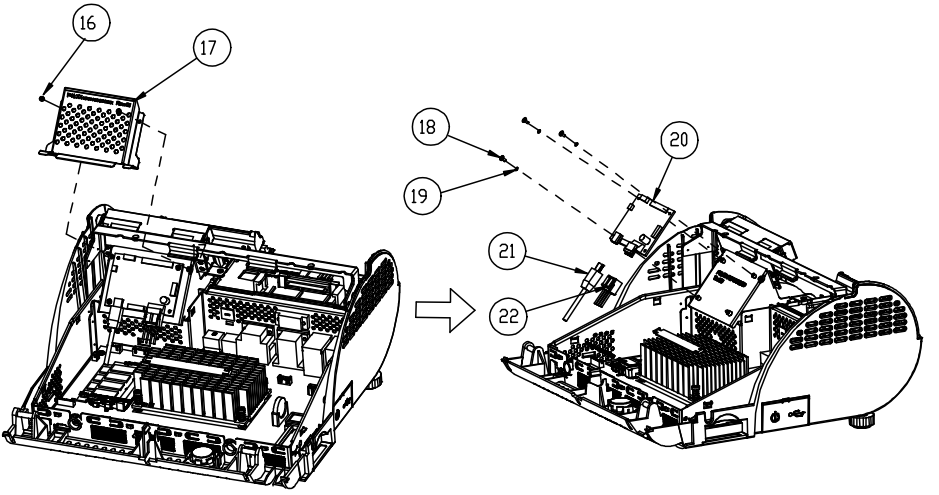
2	MSR EVA	30-013-15200165	1
1	EVA BLOCK	30-013-15100165	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 MSR MODULE

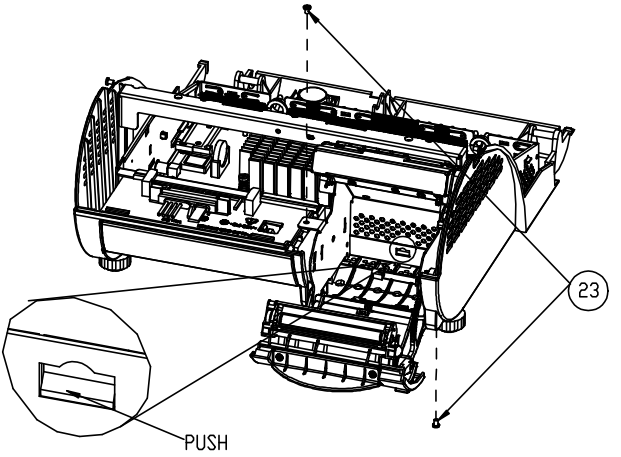


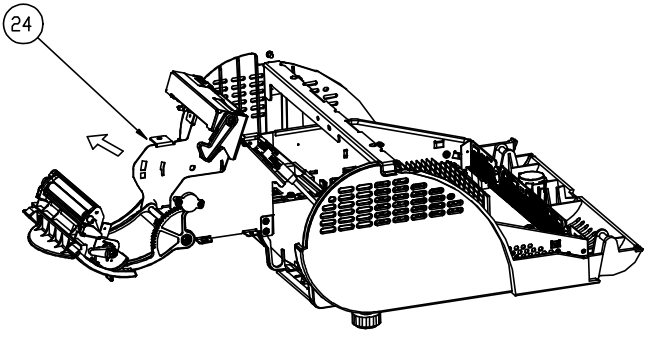
4	SKH300-061P-ISO cable	27-014-16504111	1
	SKH300-061P cable	27-014-16504111	
	IDMB-333433B-NC cable	27-014-16504031	
3	SKH300-061P-ISO	52-551-01300602	1
	SKH300-061P	52-551-00883000	
	IDMB-333433B-NC	52-151-08333416	
2	MSR HOLDER	20-029-03004165	1
1	M6_L6_F_B	22-215-30060011	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-3120 PRINTER ASSEMBLY



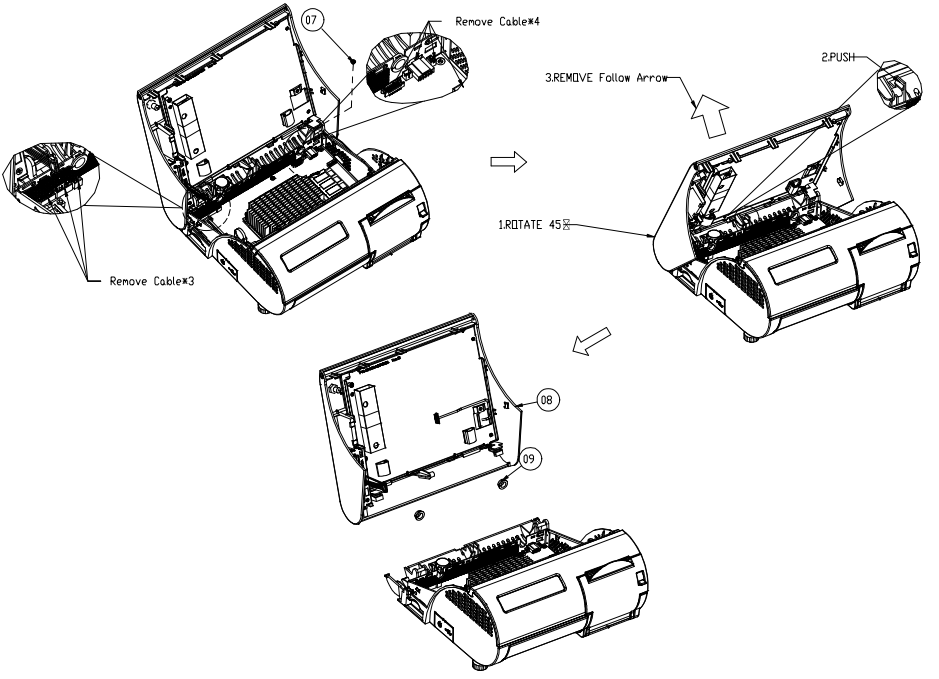
No.	Name	P/N No.	Qt'y
20	Printer PCB	52-701-00237003	1
19	D2_D6_Washer	23-202-20050061	3
18	M2_L4_I_Ni	22-272-20004011	3
17	PCB_COVER	20-004-03001165	1
16	M2_5_L4_R_Ni	22-232-25004011	2





24	Printer Assembly	--	1
23	M3_L4_I_B	22-272-30004318	2
22	Printer Power Cable	27-012-16502071	1
21	Printer USB cable	27-006-16503111	1
No.	Name	P/N No.	Qt'y

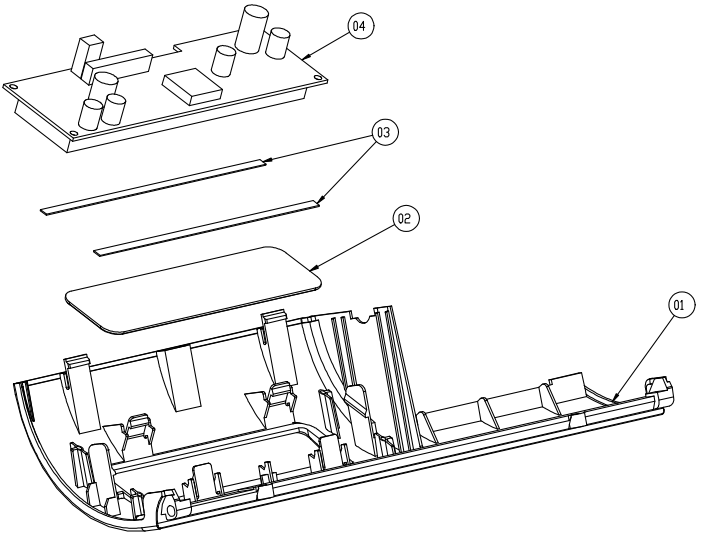
EXPLODED DIAGRAM FOR POS-3120 TOP COVER ASSEMBLY



9	Open Closed Bushing	30-026-04300000	2
8	TOP Assembly	--	1
7	M3_L5_Washer_Ni	22-242-30005311	1
No.	Name	P/N No.	Qt'y

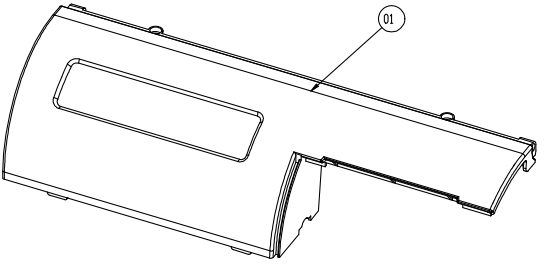
EXPLODED DIAGRAM FOR VFD MODULE ASSEMBLY

WITH
VFD



4	VFD_M□DULE	52-901-17001703	1
3	P□R□N	90-013-24100165	2
2	VFD_WIND□WS	30-002-02230165	1
1	VFD_C□VER(White)	30-002-28113165	1
	VFD_C□VER(Black)	30-002-28114165	
	VFD_C□VER(Blue)	30-002-28410165	
	VFD_C□VER(Red)	30-002-28610165	
No.	Name	P/N No.	Qt'y

WITHOUT
VFD



1	WITHOUT VFD_COVER(White)	30-002-28111165	1
	WITHOUT VFD_COVER(Black)	30-002-28112165	
	WITHOUT VFD_COVER(Blue)	30-002-28510165	
	WITHOUT VFD_COVER(Red)	30-002-28710165	
No.	Name	P/N No.	Qt'y

TECHNICAL SUMMARY

APPENDIX

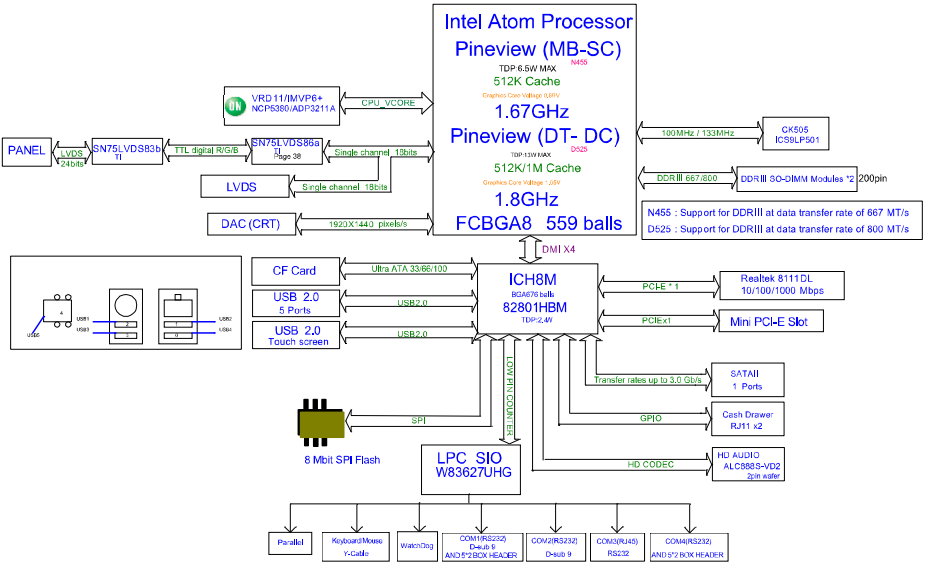
B

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

Sections included:

- Block Diagram
- Interrupt Map
- DMA Channels Map
- I / O Map
- Watchdog Timer Configuration
- Flash BIOS Update

BLOCK DIAGRAM



INTERRUPT MAP

IRQ	ASSIGNMENT
0	System Timer
1	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
3	Communications Port (COM2)
4	Communications Port (COM1)
5	Intel(R) ICH8 Family SMBus Controller - 283E
8	System CMOS/real time clock
9	Microsoft ACPI-Compliant System
10	Communications Port (COM4)
11	Communications Port (COM3)
12	Microsoft PS/2 Mouse
13	Numeric data processor
14	Primary IDE Channel
16	Intel(R) Graphics Media Accelerator 3150
16	Intel(R) ICH8 Family USB Universal Host Controller - 2834
17	Realtek PCIe GBE Family Controller
18	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 283A
18	Intel(R) ICH8 Family USB Universal Host Controller - 2832
18	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
19	Intel(R) ICH8 Family USB Universal Host Controller - 2831
21	Intel(R) ICH8 Family USB Universal Host Controller - 2835
21	Microsoft UAA Bus Driver for High Definition Audio
22	Intel(R) ICH8 Family PCI Express Root Port 1 - 283F
23	Intel(R) ICH8 Family PCI Express Root Port 6 - 2849
23	Intel(R) ICH8 Family USB Universal Host Controller – 2830
23	Intel(R) ICH8 Family USB2 Enhanced Host Controller - 2836

DMA CHANNELS MAP

DMA Channel	Assignment
4	Direct memory access controller

I/O MAP

I/O MAP	ASSIGNMENT
0x00000000-0x00000CF7	PCI bus
0x00000000-0x00000CF7	Direct memory access controller
0x00000010-0x0000001F	Motherboard resources
0x00000020-0x00000021	Programmable interrupt controller
0x00000022-0x0000003F	Motherboard resources
0x00000040-0x00000043	System timer
0x00000044-0x0000005F	Motherboard resources
0x00000060-0x00000060	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
0x00000061-0x00000061	System speaker
0x00000062-0x00000063	Motherboard resources
0x00000064-0x00000064	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
0x00000065-0x0000006F	Motherboard resources
0x00000070-0x00000071	System CMOS/real time clock
0x00000072-0x0000007F	Motherboard resources
0x00000080-0x00000080	Motherboard resources
0x00000081-0x00000083	Direct memory access controller
0x00000084-0x00000086	Motherboard resources
0x00000087-0x00000087	Direct memory access controller
0x00000088-0x00000088	Motherboard resources
0x00000089-0x0000008B	Direct memory access controller
0x0000008C-0x0000008E	Motherboard resources
0x0000008F-0x0000008F	Direct memory access controller
0x00000090-0x0000009F	Motherboard resources
0x000000A0-0x000000A1	Programmable interrupt controller
0x000000A2-0x000000BF	Motherboard resources
0x000000C0-0x000000DF	Direct memory access controller
0x000000E0-0x000000EF	Motherboard resources
0x000000F0-0x000000FF	Numeric data processor
0x000001F0-0x000001F7	Primary IDE Channel
0x00000274-0x00000277	ISAPNP Read Data Port
0x00000279-0x00000279	ISAPNP Read Data Port
0x000002E8-0x000002EF	Communications Port (COM4)
0x000002F8-0x000002FF	Communications Port (COM2)
0x00000378-0x0000037F	Printer Port (LPT1)

I/O MAP	ASSIGNMENT
0x000003B0-0x000003BB	Intel(R) Graphics Media Accelerator 3150
0x000003C0-0x000003DF	Intel(R) Graphics Media Accelerator 3150
0x000003E8-0x000003EF	Communications Port (COM3)
0x000003F6-0x000003F6	Primary IDE Channel
0x000003F8-0x000003FF	Communications Port (COM1)
0x00000400-0x0000041F	Intel(R) ICH8 Family SMBus Controller - 283E
0x000004D0-0x000004D1	Motherboard resources
0x00000500-0x0000053F	Motherboard resources
0x00000800-0x0000087F	Motherboard resources
0x00000A00-0x00000A0F	Motherboard resources
0x00000D00-0x0000FFFF	PCI bus
0x0000C080-0x0000C087	Intel(R) Graphics Media Accelerator 3150
0x0000C400-0x0000C41F	Intel(R) ICH8 Family USB Universal Host Controller - 2835
0x0000C480-0x0000C49F	Intel(R) ICH8 Family USB Universal Host Controller - 2834
0x0000C800-0x0000C81F	Intel(R) ICH8 Family USB Universal Host Controller - 2832
0x0000C880-0x0000C89F	Intel(R) ICH8 Family USB Universal Host Controller - 2831
0x0000CC00-0x0000CC1F	Intel(R) ICH8 Family USB Universal Host Controller - 2830
0x0000D080-0x0000D08F	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000D400-0x0000D40F	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000D480-0x0000D483	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000D800-0x0000C807	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000D880-0x0000C883	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000DC00-0x0000DC07	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000E000-0x0000FFFF	Intel(R) ICH8 Family PCI Express Root Port 6 - 2849
0x0000E800-0x0000E8FF	Realtek PCIe GBE Family Controller
0x0000FFA0-0x0000FFAF	Intel(R) ICH8M Ultra ATA Storage Controllers - 2850

WATCHDOG TIMER CONFIGURATION

Watchdog timer can be configured via I/O port address 2E (hex) and 2F (hex). 2E (hex) is the address port. 2F (hex) is the data port. User can assign the target offset by writing value into address port 2E (hex) and then write/read data to/from the target offset by data port 2F (hex).

Configuration Sequence

Please follow the following steps to program W83627UHG configuration registers.
(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 W83627UHG 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

User must select to the desired Logical Device number 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 SuperIO exits the Extended Function Mode, it goes back to the normal running mode.

Code example for watch dog timer

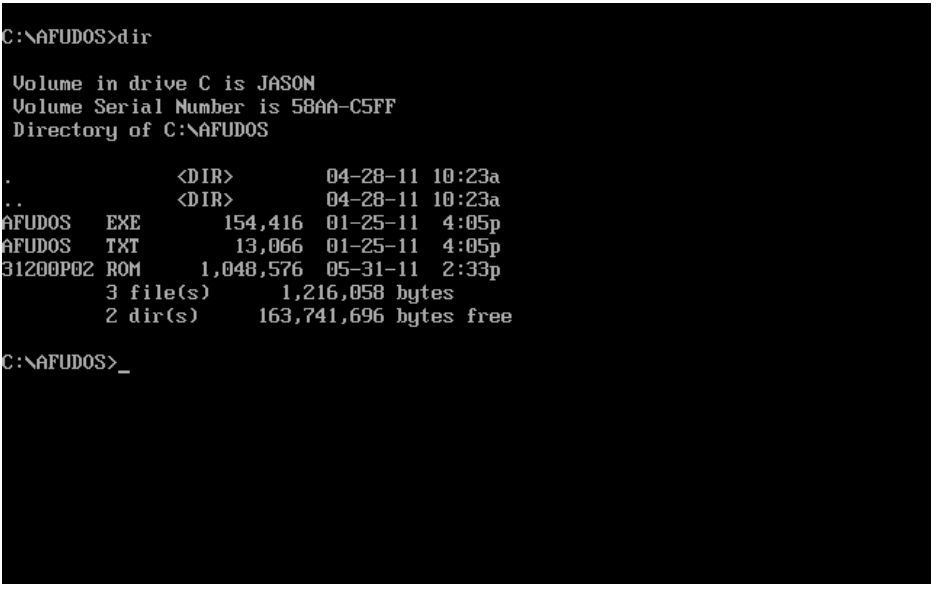
Enable watchdog timer and set timeout interval to 30 seconds.

```
;------ Enter to extended function mode ------------------------------------------------------
mov     dx,     2Eh
mov     al,     87h
out     dx,     al
out     dx,     al
;------ Select Logical Device 8 of watchdog timer ----------------------------------------
mov     al,     07h
out     dx,     al
inc     dx
mov     al,     08h
out     dx,     al
;------ Logic device activation for watch dog timer ----------------------------------------
dec     dx
mov     al,     030h
out     dx,     al
inc     dx
mov     al,     01h
out     dx,     al
;------ Set second as counting unit ----------------------------------------------------------
dec     dx
mov     al,     0F5h
out     dx,     al
inc     dx
in      al,     dx
and     al,     not 08h
out     dx,     al
;------ Set timeout interval as 30seconds and start counting ---------------------------------
dec     dx
mov     al,     0F6h
out     dx,     al
inc     dx
mov     al,     30
out     dx,     al
;------ Exit the extended function mode ------------------------------------------------------
dec     dx
mov     al,     0AAh
out     dx,     al
```

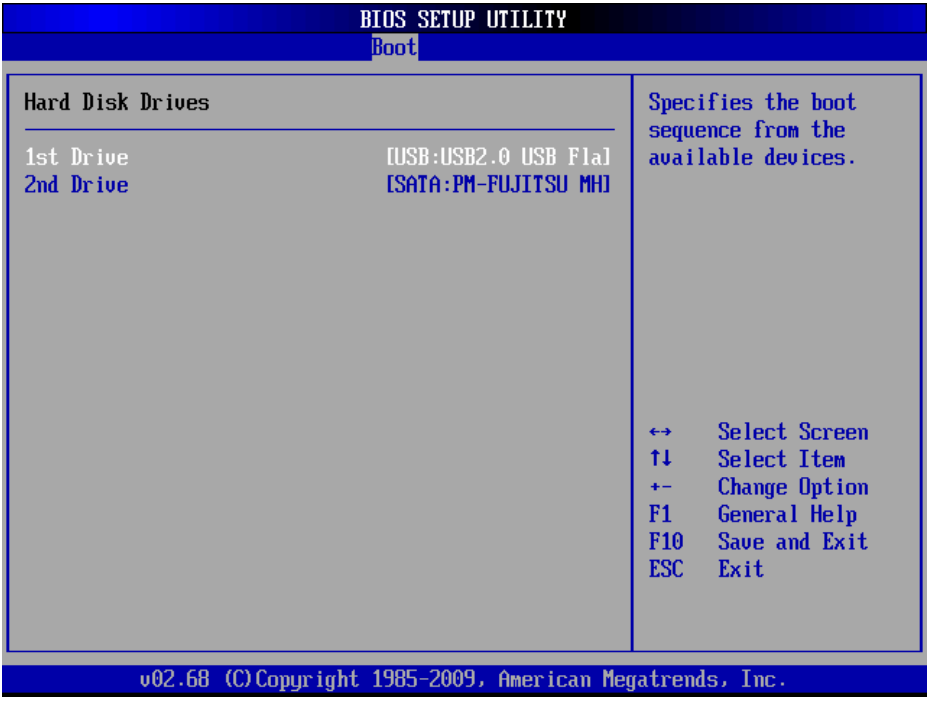
Flash BIOS Update

A. Before System BIOS update

1. Prepare a bootable media (ex. USB storage device) which can boot system to DOS prompt.
2. Download and save the BIOS (ex. 31200P01.rom) file to the bootable device.
3. Copy AMI flash utility – AFUDOS.exe (v4.38) 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 system and press <Del> key during BIOS POST procedure.
   (3) System will go into the BIOS setup menu.
   (4) Select [Boot] menu.
   (5) Select [Boot Devices Priority] sub-menu, set the USB bootable device to be the 1st boot device.
   (6) Press <F10> key to save configuration and exit the BIOS setup menu.



B. AFUDOS command for system BIOS update

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

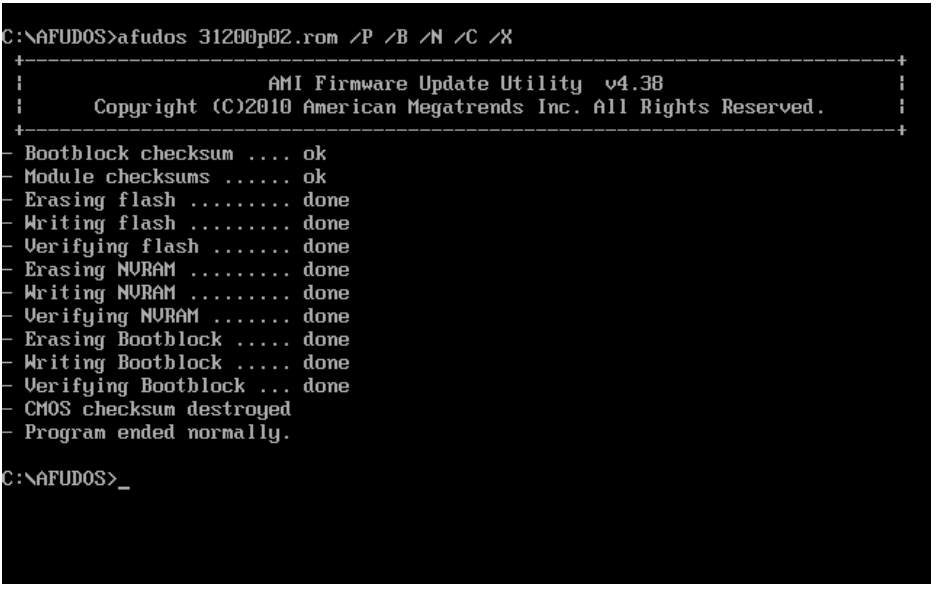
AFUDOS <ROM File Name> [option1] [option2]….

User 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.
/C: Destroy CMOS checksum
/X: Don't check ROM ID.

C. BIOS update procedure

1. Use the bootable USB storage to boot up system into the DOS command prompt.
2. Type "**AFUDOS 3120xxxx.ROM /P /B /N /C /X**" and press enter to start the flash procedure.
   (Note that xxxx means the BIOS revision part, ex. 0P01…)
3. During the update procedure, you will see the BIOS update process status and its percentage. Beware! Do not turn off system power or reset your computer if the whole procedure are not complete yet, or it may crash the BIOS ROM and make system unable to boot up next time.
4. After BIOS update procedures is complete, the messages should be like the figure shown below.



5. User can restart the system and boot up with new BIOS now.