USER'S MANUAL

POS-6510 Series

POS System Powered by Intel[®] Atom[®] Platform

POS-6510 Series M6

POS-6510 Series POS System With LCD / Touchscreen

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DISCLAIMER

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

CE NOTICE

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

FCC NOTICE

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

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

CAUTION! Danger of explosion 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

1-1	About This Manual	1-2
1-2	POS System Illustration	1-3
1-3	System Specifications	1-5
1-4	Safety Precautions	1-7

CHAPTER 2 SYSTEM CONFIGURATION

2-1	Jumper & Connector Quick Reference Table	2-2
2-2	Component Locations	2-3
2-3	How to Set the Jumpers	2-4
2-4	COM Port Connector	2-6
2-5	COM Port RI and Voltage Selection	2-8
2-6	VGA Connector	2-9
2-7	I-Button Connector	2-9
2-8	I-Button Function Selection	2-10
2-9	LAN & USB Connector	2-11
2-10	USB Connector	2-12
2-11	PS/2 Keyboard & Mouse Connector	2-13
2-12	Reset/ NMI Watchdog Selection	2-13
2-13	Cash Drawer Connector	2-14
2-14	Cash Drawer Power Selection	2-14
2-15	LED Connector	2-15
2-16	Fan Connector	2-16
2-17	Power Connector	2-16
2-18	Power Switch Connector	2-16
2-19	Reset Switch Connector	2-17
2-20	Power for Thermal Printer Connector	2-17
2-21	External Speaker Connector	2-17
2-22	Inverter Connector	2-18
2-23	Backlight Type Selection	2-18
2-24	MSR/ Card Reader Connector	2-19
2-25	LVDS Connector	2-19
2-26	SATA & SATA Power Connector	2-20
2-27	Touch Panel Connector	2-22
2-28	Touch Panel Interface Type Selection	2-23

2-29	Clear CMOS Data Selection	2-24
2-30	Compact Flash Connector	2-25
2-31	Printer Connector	2-26

CHAPTER 3 SOFTWARE UTILITIES

3-1	Introduction	3-2
3-2	Intel [®] Chipset Software Installation Utility	3-3
3-3	VGA Driver Utility	3-4
3-4	LAN Driver Utility	3-5
3-5	Sound Driver Utility	3-6
3-6	Touch Screen Driver Utility	3-7
3-7	Wireless Driver Utility (Optional)	3-8

CHAPTER 4 AMI BIOS SETUP

4-1	Introduction	4-2
4-2	Entering Setup	4-3
4-3	Main	4-5
4-4	Advanced	4-6
4-5	Boot	4-18
4-6	Security	4-22
4-7	Chipset	4-23
4-8	Exit	4-28

APPENDIX A SYSTEM ASSEMBLY

Exploded Diagram for POS-6510 System with Stand	A-2
Exploded Diagram for POS-6510 System Assembly	A-3
Exploded Diagram for POS-6510 Headset Assembly	A-5
Exploded Diagram for POS-6510 Back Cover Assembly	A-8
Exploded Diagram for POS-6510 Top Cover Assembly	A-9
Exploded Diagram for POS-6510 Mainboard Assembly	A-13
Exploded Diagram for POS-6510 Touch Panel Assembly	A-15
Exploded Diagram for POS-6510 Case Assembly	A-17
Exploded Diagram for POS-6510 HDD Assembly	A-19
Exploded Diagram for POS-6510 Heatsink Assembly	A-24
Exploded Diagram for POS-6510 Stand Assembly	A-26
Exploded Diagram for POS-6510 Power Assembly	A-32
Exploded Diagram for POS-6510 VFD Assembly	A-34

APPENDIX B TECHNICAL SUMMARY

Block Diagram	B-2
Interrupt Map	B-3
DMA Channels Map	B-4
I/O Map	B-5
Watchdog Timer Configuration	B-8
Flash BIOS Update	B-10

APPENDIX C QUICK MANUAL

Assembly Procedure of Back VFD – Model 1	C-2
Assembly Procedure of Back VFD – Model 2	C-4
i-Button Decoder API	C-6

chapter I

INTRODUCTION

This chapter gives you the information for the POS-6510. 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-6510 Series System. The POS-6510 is an updated system designed to be comparable with the highest performance of IBM AT personal computers. The POS-6510 provides faster processing speed, greater expandability and can handle more tasks than before. This manual is designed to assist you how to install and set up the whole system. It contains four chapters and three appendixes. Users can configure the system according to their own needs.

Chapter 1 Introduction

This chapter introduces you to the background of this manual. It also includes 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 jumper 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. It also describes the Wireless 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-6510.

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.

Appendix C Quick Manual

This appendix gives you the information about the pole VFD assembly procedures and the i-Button decoder API.

1-2. POS SYSTEM ILLUSTRATION

POS-6510 with Stand





1-3. SYSTEM SPECIFICATIONS

MAINBOARD (PROX-A6510LF)

- **CPU Type (with North Bridge):** Intel[®] ATOM Pineview D525
- Chipset: Intel[®] ICH8M
- Memory: One 204-pin DDRIII SO-DIMM socket on board, up to 4GB
- Cache: Depended on CPU
- Real-Time Clock / Calendar: Embedded in Intel[®] ICH8M South Bridge
- BIOS: AMI SPI BIOS 8Mbits with VGA BIOS
- Keyboard & Mouse Connector: PS/2 Keyboard, combined with mini DIN connecter on rear panel.
- Serial Port: 1 x RJ45 (COM1), 2 x DB-9(COM 2/3) 1 x Wafer (COM4, Wafer or DB-9 optional) +5/12V Selectable (COM 1~4)
- Universal Serial Bus Port: 4 x USB2.0 ports 1 x USB2.0 on side bezel
- LAN Function: 1 x 10/100/1000 Mbps

POS-6510 SERIES USER'S MANUAL

• Audio Function:

1 x 2W Speaker

- VGA Function: 1 x DB-15 VGA Interface
- **Dimension (W x H x D):** 365mm x 363mm x 303mm

• System Weight:

11 kg

LCD Panel:Type	XGA
Max. Resolution	1024 x 768
Size/Type	15" / TFT
Viewing Angel (degree)	0~65 degrees
Pixel Pitch	0.297(H) x 0.297(V)
Brightness	$250 \text{ cd} / \text{m}^2$
Signal Interface (bit)	TTL (24-bit)

• Touch Panel:

15" 5wire Analog resistive.

• WIRELESS LAN (Optional):

Mini PCI-e Wireless LAN Module (802.11b/g)

- MSR / Fingerprint (Optional): External vertical module, MSR, Read only, ISO Tracker 1+2+3 (PS/2 KB Interface) + Fingerprint (USB Interface)
- MSR / i-Button / RFID (Optional): External vertical module, MSR, Read only, JIS-I or II, ISO Tracker 1+2+3; Ibutton, Read only; RFID, Read / Write, ISO 14443A 13.56MHz (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-6510 on a sturdy, level surface. Be sure to allow enough space around the system to have easy access needs.
- b. Avoid installing your POS-6510 Series POS system in extremely hot or cold places.
- 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-6510 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-6510 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 operating 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 no 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



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 Connector	COM1, COM2, COM2-1,	2-6
	COM3, COM4_1	
COM Port RI and Voltage	JP_COM1, JP_COM2,	2-8
Selection	JP_COM3, JP_COM4	
VGA Connector	VGA1	2-9
I-Button Connector	JI-BUTTON1	2-9
I-Button Function Selection	JP8, JP9, JP10	2-10
LAN & USB Connector	JRJ45USB1, LAN1	2-11
USB Connector	USB1, USB3, USB5	2-12
PS/2 Keyboard & Mouse	DIN1	2-13
Connector		
RESET/NMI Watchdog Selection	JP4	2-13
Cash Drawer Connector	DRW1	2-14
Cash Drawer Power Selection	JP13	2-14
LED Connector	LED_1, LED_2, JUSBLED1	2-15
Fan Connector	FAN1	2-16
Power Connector	J3	2-16
Power Switch Connector	SW1, SW2, SW3	2-16
Reset Switch Connector	RST_SW1	2-17
Power for Thermal Printer	PRT_PWR1	2-17
Connector		
External Speaker Connector	SPK1	2-17
Inverter Connector	JINV1, JINV2	2-18
Backlight Type Selection	JP3	2-18
MSR / Card Reader Connector	PS1, PS2	2-19
LVDS Connector	LVDS1	2-19
SATA & SATA Power Connector	SATA1, JPWR_4P1, SATA2	2-20
Touch Panel Connector	TOUCH1, TOUCH2	2-22
Touch Panel Interface Type	JP38, JP39, JP40, JP41	2-23
Selection		
Clear CMOS Data Selection	JP1	2-24
Compact Flash Connector	CF1	2-25
Printer Connector	LPT1	2-26

2-2. COMPONENT LOCATIONS

JINVDRV1 uologooo da USB5 20 10 10 20 ~___ 3 ED 8 ň M_PCIE1 JUSBLED1 CH2 usbe 600 200 5COM4 1 ٩ ٢ CF1 JP_COM4 SATA2 1002 7002 JP6 sw2 '..... LVDS1 JP41 🛱 JP11 Batterv 3Z1 тоисни D525 ICH8M DIMM1 BS. 品 LPT1 sio SATA JP7 28 SW1 i an að a JINV PRT_PWR1 COM2_1 LED : PS JPWR_4P1 сом JP_COM2 P10 JRJ45USB1 USE JP13 JP 00 00000° JP38³BB3JP39 LAN1 COM2 ٩ BUTTON1 00000 sw USB 100000 60002 50001 PWR IN1 B10 00 0B4 A10 00 0A4 DIN1 SPK1 JP COM 40 03 20 01 900000 စိုစ္ စုစို ö ä 00000 C LINE-OUT COM1 ſШ VGA1

M/B: PB-6055RB

POS-6510 Mainboard 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

1



POS-6510 SERIES USER'S MANUAL

2-4. COM PORT CONNECTOR

There are four COM ports enhanced in this board namely: COM1, COM2, COM2_1, COM3 and COM4_1.

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



COM2 / COM3 / COM4: COM2/ COM3/ COM4 Connector

The pin assignments are as follows:

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



Note: The COM4 connector can be optional Wafer or DB-9 as request.

COM2_1/ COM3: COM2_1/ COM3 Wafer

The pin assignments are as follows:

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



COM₃

Note: The COM3 connector will not function when the jumpers are set as "i-Button". Refer to the section **2-8 i-Button Function Selection**.

COM4_1: COM4_1 Wafer

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



Note: The COM4_1 connector will not function when the VFD cable is plugged in. Refer to the Pole VFD assembly procedures in Appendix C Quick Manual.

All COM ports are selectable for RI, +5V and +12V. Refer to the section 2-5 COM Port RI & Voltage Selection.

2-5. COM PORT RI & VOLTAGE SELECTION

JP_COM1, JP_COM2, JP_COM3, JP_COM4: COM Port RI & Voltage Selection The jumper settings are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION			
RI	1-2	6 - 5 2 - 1 JP_COM1	50001 60002 JP_COM2	2000 1000 JP_COM3	6005 2001 JP_COM4
DC 12V	3-4	6005 2001 JP_COM1	50001 60002 JP_COM2	2006 1005 JP_COM3	6005 2001 JP_COM4
DC 5V	5-6	6 - 5 2 - 1 JP_COM1	50001 60002 JP_COM2	2006 1005 JP_COM3	6 5 2 1 JP_COM4

Note: Manufacturing Default – DC 5V for JP_COM1; RI for JP_COM2, JP_COM3 & JP_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.

2-6. VGA CONNECTOR

VGA1: VGA Connector

The pin 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



2-7. I-BUTTON CONNECTOR

JI-BUTTON1: I-Button Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	COM3_DTR_R_I
2	COM3_RXD_R_I



POS-6510 SERIES USER'S MANUAL

Page: 2-9

2-8. I-BUTTON FUNCTION SELECTION

JP8, JP9, JP10: i-Button Function Selection

The jumper settings are as follows:

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
i-Button*	2-3	¹ JP8 ¹ JP9 ¹ JP10
COM 3	1-2	¹ D JP8 1 D JP9 1 D JP10

Note: Manufacturing Default – COM3

*When the jumpers are set as 'i-Button', the COM3 connector is not functional.

2-9. 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
A1	VCC5
A2	USB0-
A3	USB0+
A4	GND
B1	VCC5
B2	USB1-
B3	USB1+
B4	GND



LAN1: LAN 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



POS-6510 SERIES USER'S MANUAL

Page: 2-11

2-10. USB CONNECTOR

USB1: USB Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	5V
2	USB2-
3	USB2+
4	GND
5	5V
6	USB3-
7	USB3+
8	GND



USB3: Internal USB Connector

The pin assignments are as follows:

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

USB5: USB Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	USB8-
2	USB8+
3	GND
4	VCC5
5	GND





Page: 2-12

POS-6510 SERIES USER'S MANUAL

2-11. PS/2 KEYBOARD & MOUSE CONNECTOR

DIN1: Keyboard or PS/2 Mouse Connector

DIN connector can support keyboard, Y-cable, or PS/2 Mouse, user may select the right device to use on "Keyboard or PS/2 Mouse Selection".

The pin assignments are as follows:

PIN	ASSIGNMENT
1	KDAT
2	MDAT
3	GND
4	V5SB
5	KCLK
6	MCLK



2-12. RESET/NMI WATCHDOG SELECTION

JP4: Reset/NMI Watchdog Selection The jumper settings are as follows:

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
Reset	1-2	3 4 JP4
NMI	3-4	3001 4002 JP4

Note: Manufacturing Default – Reset

2-13. CASH DRAWER CONNECTOR

DRW1: 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



PROX-A6510LF cash drawer control in GPIO port

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

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

2-14. CASH DRAWER POWER SELECTION

JP13: Cash Drawer Power Selection The jumper settings are as follows:

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
12V	2-3	3 100 1 JP13
24V	1-2	₃□ □□ ₁ JP13

Note: Manufacturing Default – 12V

POS-6510 SERIES USER'S MANUAL

2-15. LED CONNECTOR

LED_1: Power indication LED Connector The pin assignments are as follows:

PIN	ASSIGNMENT
1	GND
2	PWR_LED

LED_2: Power, HDD, LAN indication LED Connector The pin assignments are as follows:

PIN	ASSIGNMENT
1	PWR_LED
2	GND
3	HDD_LED
4	GND
5	LAN_Link
6	GND





JUSBLED1: Power, HDD, LAN indication LED Connector The pin assignments are as follows:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	NC	11	GND
2	NC	12	GND
3	NC	13	PWR_LED
4	NC	14	GND
5	NC	15	HDD_LED
6	NC	16	GND
7	NC	17	LAN_Link
8	NC	18	GND
9	GND	19	LAN_State
10	GND	20	GND



POS-6510 SERIES USER'S MANUAL

Page: 2-15

2-16. FAN CONNECTOR

FAN1: Fan Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	GND
2	12V
3	CPUFAN



2-17. POWER CONNECTOR

J3: Provide 12 Voltage Connector The pin assignments are as follows:

PIN	ASSIGNMENT
1	VCC12
2	GND
3	VCC12



2-18. POWER SWITCH CONNECTOR

SW1, SW2, SW3: Power Switch Connector The pin assignments are as follows:

PIN	ASSIGNMENT
1	PWR_SW
2	GND



2-19. RESET SWITCH CONNECTOR

RST_SW1: Reset Switch Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	RST_SW
2	GND



2-20. 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



2-21. EXTERNAL SPEAKER CONNECTOR

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

PIN	ASSIGNMENT
1	SPK_GND
2	SPK_OUT



2-22. INVERTER CONNECTOR

JINV1: Inverter Connector

The pin assignments are as follows:

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



JINV2: Inverter Connector The pin assignments are as follows:

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



2-23. BACKLIGHT TYPE SELECTION

JP3: Backlight type Selection

The jumper settings are as follows:

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
CCFL	2-3	JP3
LED	1-2	1 ⊡⊡ 3 JP3

Note: Manufacturing Default - CCFL

POS-6510 SERIES USER'S MANUAL

2-24. MSR/ CARD READER CONNECTOR

PS1 & 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



2-25. LVDS CONNECTOR

LVDS1: LVDS connector

The pin assignments are as follows:

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	RINO3+	28	RINO3-
29	LVDS_VCC	30	LVDS_VCC



POS-6510 SERIES USER'S MANUAL

Page: 2-19

2-26. SATA & SATA POWER 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



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

PIN	ASSIGNMENT
1	VCC
2	GND
3	GND
4	VCC12



PIN	ASSIGNMENT
1	G1
2	TX+
3	TX-
4	G2
5	RX-
6	RX+
7	G3
8	N/A
9	N/A
10	N/A
11	GND
12	GND
13	GND
14	VCC5
15	VCC5
16	VCC5
17	GND
18	N/A
19	GND
20	VCC12
21	VCC12
22	VCC12

SATA2: Serial ATA and Serial ATA Power Connector The pin assignments are as follows:



2-27. 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)



TOUCH2: 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)


2-28. TOUCH PANEL INTERFACE TYPE SELECTION

JP38, JP39: USB or RS-232 interface for touch panel The jumper settings are as follows:

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
RS-232	1-2	JP38 / JP39
USB	2-3	JP38/ JP39

Note: Manufacturing Default – USB

JP40 JP41: USB or RS-232 interface for touch panel

The jumper settings are as follows:

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
		1 🗆 🗆
RS-232	Open	JP40 /
		JP41
USB	Close	1
055	Close	JP40/
		JP41

Note: Manufacturing Default – USB

POS-6510 SERIES USER'S MANUAL

2-29. CLEAR CMOS DATA SELECTION

JP1: Clear CMOS Data Selection

The jumper settings are as follows:

SELECTION	JUMPER SETTING (PIN CLOSED)	JUMPER ILLUSTRATION
Clear CMOS*	2-3	¹ D ³ JP1
Normal	1-2	¹ DO ³ JP1

Note: Manufacturing Default – Normal

*To clear CMOS data, users 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.

2-30. 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

2-31. PRINTER CONNECTOR

LPT1: Printer Connector



The pin 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

SOFTWARE UTILITIES



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-6510 Series package is our driver utilities, which comes in a CD ROM format. Refer to the following table for driver locations.

FILE NAME	PURPOSE	
(Assume that CD ROM drive is D:)	IUNIUSE	
D:\Driver\Plaform\XP,POSReady2009(3 2-bit)\Main Chip	Intel [®] Chipset Software Installation Utility	
 D:\Driver\Plaform\Win7,POSReady7(32 -bit)\Main Chip 		
 D:\Driver\Plaform\Win7,POSReady7(64 -bit)\Main Chip 		
• D:\Driver\Plaform\XP,POSReady2009(3	Intel [®] Graphics Media Accelerator	
2-bit)\VGA	3150 for VGA driver installation	
 D:\Driver\Plaform\Win7,POSReady7(32 -bit)\VGA 		
 D:\Driver\Plaform\Win7,POSReady7(64 -bit)\VGA 		
 D:\Driver\Plaform\XP,POSReady2009(3 2-bit)\LAN 	 For mainboard RB version: Realtek[®] 8119CG for LAN driver 	
D:\Driver\Plaform\Win7,POSReady7(32	installation	
-bit)\LAN	• For mainboard RA version:	
 D:\Driver\Plaform\Win7,POSReady7(64 -bit)\LAN 	installation	
• D:\Driver\Plaform\XP,POSReady2009(3	Realtek [®] ALC888S for Sound driver	
2-bit)\Sound	installation	
• D:\Driver\Plaform\Win7,POSReady7(32		
-bit)\Sound		
D:\Driver\Plaform\Win7,POSReady7(64		
-bit)\Sound		
D:\Driver\Device	Driver installation for touchscreen, embedded printer, wireless, MSR, etc.	
D:\Driver\FLASH	For BIOS update utility(AMI)	

Note: You 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-6510 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-6510 for the changes to take effect.

3-3. VGA DRIVER UTILITY

The VGA interface embedded with the POS-6510 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-6510 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-6510 for the changes to take effect.

3-4. LAN DRIVER UTILITY

The POS-6510 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 the 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-6510 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-6510 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-6510 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-6510 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-6510 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-6510 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-6510 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-6510 for the changes to take effect.

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 illustrate functions of the BIOS (Basic Input/Output System) in managing the features of your system. The 6510LF motherboard is equipped with the BIOS from AMI (American Megatrends Inc). Following pages describe how to use the BIOS in order to configure system hardware by BIOS setup menu.

When the PC starts up, its first job for the BIOS is to initialize and identify all system devices such as the video display card, keyboard and mouse, hard disk, CD/DVD drive and other hardware. The BIOS then locates operating system(s) saved on storage device (designated as a 'boot device'), be it a hard disk, USB flash disk or a CD/DVD, and loads and executes that operating system, giving it control over 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. That includes having understanding of principles for each devices included in the PC.

BIOS also provides an user interface—in this document referent to as setup menu in a form of a menu system accessed by pressing a certain key on the keyboard when the PC starts. In the BIOS setup menu, 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. It is also possible to set various password prompts, for instance a password for securing access to the BIOS setup menu functions itself and preventing unauthorized users from booting undesirable operating systems from peripheral devices.

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



Page: 4-2

POS-6510 USER'S MANUAL

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 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:

BIOS SETUP UTILITY					
Main Advan	ced Boot S	Security	y Chipset	Exit	
System Over	rview				Use [ENTER], [TAB] or [SHIFT-TAB] to
AMIBIOS Version Build Date Processor Intel(R) Ator	:65100P03 :10/04/11 n(TM) CPU D	1525 @	@1.80GHz		select a field. Use [+] or [-] to configure system Time.
Speed Count	:1800MHz :1				
System Men	nory				
Size System Time System Date	:1014MB		[23:15:49] [Mon 09/26/	2011]	 ←→ Select Screen ↓↑ Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit ESC Exit
v02.68 (C)Copyright 1985-2009, American Megatrends, Inc.					

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

BIOS SETUP UTILITY					
Main Advan	Main Advanced Boot Security Chipset Exit				
System Over	view		Use [ENTER], [TAB] or [SHIFT-TAB] to		
AMIBIOS Version Build Date	:65100P03 :10/04/11		Use [+] or [-] to configure system Time.		
Processor Intel(R) Ator Speed Count	n(TM) CPU D525 :1800MHz :1	@1.80GHz			
System Men Size System Time System Date	югу :1014MB	[23:15:49] [Mon 09/26/2011]	 ↔ Select Screen ↓↑ Select Item +- Change Field Tab Select Field F1 General Help F10 Save and Exit ESC Exit 		
v02.68 (C)Copyright 1985-2009, American Megatrends, Inc.					
Main Screen					

Use $< \uparrow >$ or $< \downarrow >$ 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

BIOS SETUP UTILITY			
Main Advanced Boot Security Chipset Exit			
Advanced Settings	Configure CPU.		
WARNING: Setting wrong values in below sections may cause system to malfunction.			
 CPU Configuration IDE Configuration SuperIO Configuration Hardware Health Configuration APM Configuration USB Configuration 			
	 Select Screen ↓↑ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit 		
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Advanced Screen

This menu provides advanced configurations such as CPU Configuration, IDE Configuration, Super I/O Configuration, etc.

4-4-1. CPU Configuration

BIOS SETUP UTILITY			
Advanced			
Configure advanced CPU settings Module Version: 3F.1C	Enabled for Windows XP and Linux4 (OS optimiz- ed for Hyper Threading		
Manufacturer :Intel Intel(R) Atom(TM) CPU D525 @ 1.80GHz Frequency :1.80GHz FSB Speed :800MHz Cache L1 :48 KB Cache L2 :1024 KB Ratio Actual Value :9	Technology) and disab- led for other OS (OS not optimized for Hyper-Threading Techn- ology)		
Hyper Threading Technology [Enabled]	 ←→ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit 		
v02.68 (C)Copyright 1985-2009, American	Megatrends, Inc.		

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

BIOS SETUP UTILITY			
Advanced			
IDE Configuration	While entering setup, BIOS auto detects the presence of IDE devices. This displays the status of auto detection of IDE devices.		
 SATA : [WDC WD1600BEVT-00A23T] Solid State Drive : [SanDisk SSD P4 8GB] Compact Flash Card : [TRANSCEND] 			
	 ↔ Select Screen ↓↑ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit 		
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IDE Configuration Screen

This menu provides advanced IDE configuration for hard drive. The control items of SATA / Solid State Drive (SSD)/Compact Flash (CF) Card are all the same and describe in next section.

SATA / Solid State Drive (SSD)/Compact Flash (CF) Card

This setting displays the status of storages.

4-4-2.1 SATA / Solid State Drive (SSD)/Compact Flash (CF) Card

BIOS SETUP UTILITY			
Advanced			
Advanced SATA 1 Device :Hard Disk Vendor :FUJITSU MHY2040BH ESW Size :40.0GB LBA Mode :Supported Block Mode :16Sectors PIO Mode :4 Async DMA :MultiWord DMA-2 Ultra DMA :Ultra DMA-5 S.M.A.R.T. :Supported		Select the type of device connected to the system.	
Type LBA/Large Mode Block (Multi-Sector Transfer) PIO Mode DMA Mode S.M.A.R.T. 32Bit Data Transfer	[Auto] [Auto] [Auto] [Auto] [Auto] [Enabled]	 ↔ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit 	
v02.68 (C)Copyright 1985-2009, American Megatrends, Inc.			
	SATA Sereen		

SATA Screen

Туре

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.

POS-6510 USER'S MANUAL

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. Super I/O Configuration

BIOS SETUP UTILITY		
Advanced		
Configure Win627UHG Supe	r IO Chipset	Allows BIOS to set WDTO function.
Watchdog Function Serial Port1 Address Serial Port2 Address Serial Port2 IRQ Serial Port3 Address Serial Port3 IRQ Serial Port4 Address Serial Port4 IRQ Parallel Port Address Parallel Port Mode Parallel Port IRQ	[Disabled] [3F8] [IRQ4] [2F8] [IRQ3] [3E8] [IRQ11] [2E8] [IRQ10] [378] [Normal] [IRQ7]	 ←→ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
v02.68 (C)Copyright 1985-20	009, American Megatren	ds, Inc.

Super I/O 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.

Chapter 4 AMI BIOS Setup

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

BIC	S SETUP UTILITY	<i>l</i>
Advanced		
Hardware Health Configuratio	n	
System Temperature CPU Temperature Vcore 12V 5V 1.05V VSB	: 43°C/109°F : 51°C/123°F :1.104 V :11.776 V :5.024 V :1.080 V	
VSD	:5.049 V	 ↔ Select Screen ↓↑ Select Item F1 General Help F10 Save and Exit ESC Exit
v02.68 (C)Copyright	1985-2009, America	an Megatrends, Inc.

Hardware Health Configuration Screen

System Temperature / CPU Temperature

Both section show System and CPU current temperature.

VCORE / 12V / 5V / 1.05V / VSB

These items provide hardware health information.

4-4-5. APM Configuration

BIOS SETUP UTILITY		
Advanced		
APM Configuration		Go into On/Off or Delay 4 sec
Power Button Mode Restore on AC Power Loss	[On/Off] [Last State]	When Power button is pressed.
Resume On LAN Resume On RTC Alarm	[Disabled] [Disabled]	
		 ←→ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
v02.68 (C)Copyright 1985-2009, American Megatrends, Inc.		

APM Configuration Screen

Power Management/APM

This is the main control item for enable/disable below APM functions.

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 LAN

When user set this option to [Enable], System can be wake up from sleep state and boot into OS once received an incoming message from LAN device.

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

BIOS SETUP UTILITY		
Advanced		
USB Configuration	Enables support for legacy USB AUTO	
Module Version – 2.24.5-14.4	option disables	
USB Devices Enabled : 1 Drive	no USB devices are connected.	
Legacy USB Support[Enabled]USB 2.0 Controller Mode[HiSpeed]USB Beep Message[Enabled]		
► USB Mass Storage Device Configuration	 ←→ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit 	
v02.68 (C)Copyright 1985-2009, American Megatrends, Inc.		

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

BIOS SETUP UTILITY		
Advanced		
USB Mass Storage Device Configuration		If Auto, USB devices, less than 530MB will
Device #1 Emulation Type	USB2.0 USB Flash Disk [Auto]	be emulated as Floppy and remaining as hard drive. Forced FDD option can be used to force a HDD formatted drive to boot as FDD (Ex. ZIP drive).
		 ↔ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
v02.68 (C)Copyright 1985-2009, American Megatrends, Inc.		

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.

4-5-1 Boot Settings Configuration

BIOS SETUP UTILITY		
Boot		
Boot Settings Configuration		Allows BIOS to skip certain tests while
Quick Boot Quiet Boot Parity Check	[Enabled] [Disabled] [Disabled]	 contain to so while booting. This will decrease the time needed to boot the system. ↔ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit
		ESC Exit
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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.

POS-6510 USER'S MANUAL

4-5-2 Boot Device Priority

BIOS SETUP UTILITY		
Boo	t	
Boot Device Priority Ist Boot Device 2nd Boot Device	[USB:JetFlash TS256] [SATA:PM-WDC WD1600]	Specifies the boot sequence from the available devices. A device enclosed in parenthesis has been disabled in the corresponding type menu. ←→ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Evit
v02.68 (C)C	Copyright 1985-2009, American	Megatrends, Inc.

Boot Device Priority Screen

1st / 2nd / 3rd ...Boot Device

Choose the boot sequence from the available devices.

4-5-3 Hard Disk Drives

BIOS SETUP UTILITY		
	Boot	
Hard Disk Drives	[SATA: PM-WDC WD1600] [SATA: SM-SanDisk SS]	Specifies the boot sequence from the available devices.
3rd Drive	[HDD: 3M-TRANSCEND]	
		 ←→ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
v02.68 (C)Copyright 1985-2009, American Megatrends, Inc.		

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 < \uparrow > or < \downarrow > 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

BIOS SETUP UTILITY		
Main Advanced Boot Security Chipset Exit		
Advanced Chipset Settings	Configure North Bridge features.	
WARNING: Setting wrong values in below sections may cause system to malfunction.		
 North Bridge Configuration South Bridge Configuration 		
	←→ Select Screen	
	↓↑ Select Item Enter Go to Sub Screen	
	F1 General Help F10 Save and Exit	
	ESC EXIL	
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Advanced Chipset Settings Screen

4-7-1 North Bridge Chipset Configuration



North Bridge Chipset Configuration
4-7-1.1 Video Function Configuration

BIOS SETUP UTILITY		
	Chipset	
Video Function Configuration		Options
DVMT Mode Select DVMT/FIXED Memory	[DVMT Mode] [256MB]	Fixed Mode DVMT Mode
Boot Display Device Flat Panel Type	[CRT+LVDS] [1024x768]	 ←→ Select Screen ↓↑ Select Item +- Change Option F1 General Help
		F10 Save and Exit ESC Exit
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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 Chipset Configuration

	BIOS SETUP UTILITY	
	Chipset	
South Bridge Chips	set Configuration	Options
USB 2.0 Controller HDA Controller	[Enabled] [Enabled]	Enabled Disabled
		 ↔ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
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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

BIOS SETUP UTILITY			
Main Advanced Boot Security Chipset Exit			
Exit Options	Exit system setup after saving the		
Save Changes and Exit	changes.		
Discard Changes and Exit Discard Changes	F10 key can be used for this operation.		
Load Optimal Defaults Load Failsafe Defaults			
	 ↔ Select Screen ↓↑ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit 		
v02.68 (C)Copyright 1985-2009, American	Megatrends, Inc.		

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



This appendix contains exploded diagrams and part numbers of the POS-6510 system.

Sections included:

- Exploded Diagram for POS-6510 System with Stand
- Exploded Diagram for POS-6510 System Assembly
- Exploded Diagram for POS-6510 Back Cover Assembly
- Exploded Diagram for POS-6510 Top Cover Assembly
- Exploded Diagram for POS-6510 Mainboard Assembly
- Exploded Diagram for POS-6510 Touch Panel Assembly
- Exploded Diagram for POS-6510 Case Assembly
- Exploded Diagram for POS-6510 HDD Assembly
- Exploded Diagram for POS-6510 Heatsink Assembly
- Exploded Diagram for POS-6510 Stand Assembly
- Exploded Diagram for POS-6510 Power Assembly
- Exploded Diagram for POS-6510 VFD Assembly

EXPLODED DIAGRAM FOR POS-6510 SYSTEM WITH STAND



04	Stand Assembly	refer to A-21	1
03	M4x0.7Px4	22-272-40004911	4
02	6510 SYS Assembly	refer to A-3	1
01	M3_L12_I_Ni	22-272-30012011	4
01	M3_L12_I_Black	22-275-30010011	
No.	Name	P/N No.	Qť'y

Page: A-2

POS-6510 SERIES USER'S MANUAL

EXPLODED DIAGRAM FOR POS-6510 SYSTEM ASSEMBLY



10	6510 Heatsink Assembly	refer to A-19 or A-20	1
	M3_L12_I_Ni	22-272-30012011	0
09	M3_L12_I_Black	22-275-30010011	9
00	M3_L10_#2_F_Ni	22-212-30010311	0
08	M3_L10_#2_F_B	22-215-30010311	
07	M3_L12_F_Ni	22-212-30012011	4
07	M3_L12_F_B	22-215-30012011	
	Cable Cover White	30-002-28320010	
06	Cable cover Black	30-002-08500010	1
	Cable cover Red	90-002-28310167	
05	M3_L12_I_Ni	22-272-30012011	
	M3_L12_I_Black	22-275-30010011	2
No.	Name	P/N No.	Qť'y

EXPLODED DIAGRAM FOR POS-6510 HEADSET ASSEMBLY



	-		-
00	Checker Front cover	30-002-38110010	
20	Checker back cover	30-002-38510010	
19	HOLE PLUG	30-067-04100012	1
18	STRAIN RELIEF	30-026-04100010	1
17	EARPHONE CABLE	20-006-03111010	1
16	M3_L6_S_W_NI	22-232-30060211	1
4.5	Scanner cover (White)	30-002-38410010	
15	Scanner cover (Black)	30-002-38710010	
14	PROWER BASE	20-006-03113010	1
13	M3_L6_S_W_NI	22-232-30060211	4
12	Omni Scanner	52-820-50000101	1
11	Omni scaner bracket	20-006-03112010	1
10	M3_L6_S_W_NI	22-232-30060211	3
09	TP3_L10_Black	22-145-30010011	2
08	Adapter	Based on order	1
07	Power Holder A	20-029-03003128	1
06	Power holder B	20-029-03002128	1
05	M3_L6_S_W_NI	22-232-30060211	2
0.4	Checker back cover	30-002-38210010	4
04	Checker back cover)	30-002-38610010]
No.	Name	P/N No.	Qt'y

Page: A-6

POS-6510 SERIES USER'S MANUAL

Appendix A System Assembly

03	M3_L8_S_W_Ni	22-232-30008211	2
00	EAR HOOK (True white)	20-011-03061010	
02	EAR HOOK (Black)	20-011-03062010	
01	M3_L8_S_W_Ni	22-232-30008211	2
No.	Name	P/N No.	Qt'y

EXPLODED DIAGRAM FOR POS-6510 BACK COVER ASSEMBLY



	Back Cover(White)	90-002-28110167	
16	Back Cover(Black)	30-002-28110167	1
	Back Cover(Red)	90-002-28210167	
	Side Door(White)	30-002-28720010	
15	Side Door(Black)	30-002-08600010	1
	Side Door(Red)	90-002-28410167	
14	T3_L10_R_B	22-145-30010011	14
13	Hdd cover EVA	90-013-15200167	1
	HDD Cover(White)	30-002-28310167	
12	HDD Cover(Black)	30-002-28210167	1
	HDD Cover(Red)	30-002-28410167	
	M3_L7_H4_I_NO2_NI	22-232-30007015	0
	M3_L7_H4_I_NO2_B	22-235-30007015	2
No.	Name	P/N No.	Qť'y

Page: A-8

POS-6510 SERIES USER'S MANUAL

EXPLODED DIAGRAM FOR POS-6510 TOP COVER ASSEMBLY



22	USB Cable	27-006-16703111	1
21	No.4_L8_F_B	22-315-40008019	2
20	Speaker	13-500-08280018	1
19	T2_L6_R_Ni	22-412-20060011	2
18	6510 inside top case	20-001-03001217	1
17	M3_L6_S+R-Ni	22-232-30060211	3
No.	Name	P/N No.	Qt'y



Cover Open White	30-002-08140128	
Cover Close White	30-002-28610128	
Cover Open Black	30-002-08120128	1
Cover Close Black	30-002-08110128	
Cover Open (Black Stone)	90-002-28610167	
Cover Close (Black Stone)	90-002-28510167	
LOGO	20-005-16001000	1
LED Lens	30-021-10200010	1
I-BUTTON + I-BUTTON Cable	with SYSKING module: 52-551-00100002+ 27-022-16503071	1
	with AP decode: 52-551-00100002+ 27-022-18109071	
MSR + MSR Cable	SYSKING: 52-551-00883000+ 27-014-18103112	1
	IDTECH: 52-151-08333416 27-014-18103113	
MSR_Holder	20-029-03006010	1
MSR cable(Extend)	27-014-21706112	1
M3_L6_F_B	22-215-30060011	2
LED cable	27-018-12805111	1
switch cable	27-019-12804071	1
Name	P/N No.	Qťy
	Cover Open White Cover Close White Cover Open Black Cover Open (Black Stone) Cover Close (Black Stone) LOGO LED Lens I-BUTTON + I-BUTTON Cable MSR + MSR Cable MSR Cable MSR_Holder MSR_cable(Extend) M3_L6_F_B LED cable switch cable	Cover Open White 30-002-08140128 Cover Close White 30-002-28610128 Cover Open Black 30-002-08120128 Cover Close Black 30-002-08110128 Cover Open (Black Stone) 90-002-28610167 LOGO 20-005-16001000 LED Lens 30-021-10200010 I-BUTTON + with SYSKING module: I-BUTTON cable 52-551-00100002+ Z7-022-16503071 with AP decode: S2-551-00100002+ 27-012-18109071 MSR + SYSKING: MSR Cable SYSKING: S2-151-00883000+ 27-014-18103112 IDTECH: 52-151-08333416 Z7-014-18103113 MSR_cable(Extend) MSR cable(Extend) 27-014-21706112 M3_L6_F_B 22-215-30060011 LED cable 27-018-12805111 switch cable 27-019-12804071 Name P/N No.



39	2'DISPLAY POWER CABLE	27-012-21703071	1
38	COM Cable	27-024-16502031	1
37	Printer Cable	27-004-16702031	1
36	No.4 Hex Boss	22-692-40048051	8
35	INVERTER CABLE	27-015-33202071	1
34	INVERTER	52-101-15020303	1
33	M3_L6_F_B	22-215-30060011	2
No.	Name	P/N No.	Qťy

EXPLODED DIAGRAM FOR POS-6510 MAINBOARD ASSEMBLY



42,43,44,45,46 for Capacitive Touch			
49	LVDS Cable	27-020-16702111	
48	Prox-6510		Ι
47	M3_L5_W_Ni	22-242-30005311	9
46	M3_BOSS_L5	22-298-30005051	Ι
45	M3_BOSS_L12	22-258-30012051	Ι
44	Capacitive Touch PCB	52-370-01700004	
43	Capacitive Touch Cable	27-016-12803161	I
42	M3_L5_W_Ni	22-242-30005311	
41	SB Pad(30x30x1)	81-006-03030001	I
40	CPU Pad(IOxIOxI.3)	21-006-81313002	I
No.	Name	P/N No.	Qt′y

EXPLODED DIAGRAM FOR POS-6510 TOUCH PANEL ASSEMBLY



	Front Case(White)	30-002-28410128	
57	Front Case(Black)	30-003-08110128	1
	Front Case(Red)	90-003-28110167	
FC	LCD Rubber (Capacitive Touch)	30-013-01100010	4
50	LCD Rubber	30-013-01100086	
FF	ELO Capaitive Touch Panel	52-380-00791701	4
55	ELO Touch Panel	52-351-00555514	
54	6510 Case ASM	refer to A-14	1
53	T3_L8_B	22-122-30080011	13
No.	Name	P/N No.	Qť'y

EXPLODED DIAGRAM FOR POS-6510 CASE ASSEMBLY



63	6510 inside box	20-040-03001217	1
62	LCD Holder	20-029-03002167	1
61	M3_L4_F_Ni	22-215-30004311	10
60	LCD Pron	30-013-24100000	4
59	15" Panel	52-351-03150128	1
58	M3_L6_S+W_Ni	22-232-30060211	4
No.	Name	P/N No.	Qťy

EXPLODED DIAGRAM FOR POS-6510 HDD ASSEMBLY

Type 1



-			
75	27X27X31.5_BLOCK	21-002-12727005	1
74	40X40_31.5_BLOCK	21-002-14040001	1
70	M3-L6-I-Ni	22-272-30006018	4
73	M3-L6-I-B	82-275-30006018	4
70	6510 Heatsink (Silver)	21-002-19514005	4
12	6510 Heatsink (black)	21-002-19514000	
71	HDD thermal Pad	21-006-84535001	2
70	2.5" hdd	See order	1
69	Hdd holder	20-029-03001217	2
68	Rubber	23-680-39580963	4
67	rubber screw	82-272-30005013	4
66	M3_L4_F_Ni	22-215-30004311	4
65	Sata Cable	27-012-16504081	1
64	M4 screw	82-289-40010003	1
No.	Name	P/N No.	Q'ty

Type 2



75	27X27X31.5_BLOCK	21-002-12727005	1
74	40X40_31.5_BLOCK	21-002-14040001	1
70	M3-L6-I-Ni	22-272-30006018	
/3	M3-L6-I-B	82-275-30006018	4
72	Heatsink-asm	refer to A-19	1
71	HDD thermal Pad	21-006-84535001	2
70	2.5" hdd	see order	1
69	Hdd holder	20-029-03001217	2
68	Rubber	23-680-39580963	4
67	rubber screw	82-272-30005013	4
66	M3_L4_F_Ni	22-215-30004311	4
65	Sata Cable	27-012-16504081	1
64	M4 screw	82-289-40010003	1
No.	Name	P/N No.	Qťy



16	6510_hdd_heatsink_for_PU	21-002-15092001	1
15	HDD thermal Pad	81-006-84535001	2
14	2.5" hdd	see order	1
13	Hdd holder	20-029-03002217	2
12	Rubber	23-680-39580963	4
11	rubber screw	82-272-30005013	4
10	M3_L4_F_Ni	22-215-30004311	4
09	Sata Cable	27-012-16504081	1
No.	Name	P/N No.	Qťy

EXPLODED DIAGRAM FOR POS-6510 HEATSINK ASSEMBLY



	Heatsink without VFD(Silver)	21-002-19514005	
80	Heatsink without VFD(Black)	21-002-19514000	1
	Heatsink without VFD(Red)	21-002-19514007	
70	POS-6510 Heatsink(Silver)	21-002-19514004	-
/9	POS-6510 Heatsink(Black)	21-002-19514002	
78	VFD-Cover-EVA	90-013-15100217	1
	VFD-COVER-Heatsink(Silver)	21-002-18065002	-
	VFD-COVER-Heatsink(Black)	21-002-18065001	
70	M3_L6_F_Ni	22-212-3000601 1	-
/6	M3_L6_F_B	22-215-3006001 1	
No.	Name	P/N No.	Qť'y



08	6510_heatsink_for_PU	21-002-19514006	1
07	27X27X31.5_BLOCK	21-002-12727005	1
06	40X40_31.5_BLOCK	21-002-14040001	1
05	M3-L6-I-B	82-275-30006018	4
04	HDD assembly	Refer to A-16	1
03	VFD-Cover-EVA	90-013-15100217	1
02	VFD-Cover-Heatsink(Black)	21-002-18065001	1
01	M3_L6_F_B	22-215-30060011	4
No.	Name	P/N No.	Qťy

POS-6510 SERIES USER'S MANUAL

Page: A-25

EXPLODED DIAGRAM FOR POS-6510 STAND ASSEMBLY



S5	PS-6506 STAND BASE	20-032-03061086	1
S4	M3_L6_S+W_Ni	22-232-30060211	2
S3	Rubber Foot	30-004-06100000	4
S2	T3_L12_Ni	22-122-30012061	4
S1	Power Assembly	refer to A-27	1
No.	Name	P/N No.	Qť'y



S8	PS-6509 BRACKET A	20-015-03003167	1
S7	M4_L8_S+W_Ni	22-232-40008211	4
S6	T4_L8_R_Ni	22-122-40008011	9
No.	Name	P/N No.	Qt'y

Page: A-28

POS-6510 SERIES USER'S MANUAL



	CAP FOR STAND(White)	30-002-28810128	
S14	CAP FOR STAND(Black)	30-062-08110086	2
	CAP FOR STAND(Red)	30-002-28610167	
	ROTATE COVER(White)	30-002-08120010	
S13	ROTATE COVER(Black)	30-001-08200010	1
	ROTATE COVER(Red)	30-002-28810010	
S12	PS-8850 Slip block	30-061-02100012	2
S11	OD=16mm,ID=5.8mmx1.8T	23-605-58040161	2
S10	OD=12mm,ID=4.1mmx1T	23-312-40010121	2
S9	M4_L25_S+W_Ni	22-232-40025011	2
No.	Name	P/N No.	Qť'y



	STAND COVER(White)	30-002-28910128	
S18	STAND COVER(Black)	30-002-08110086	1
	STAND COVER(Red)	30-002-28510167	
S17	PS-6506 LEFT HINGE	20-012-03001086	1
S16	PS-6506 RIHGT HINGE	20-012-03002086	1
S15	T3_L12_Ni	22-122-30012061	4
No.	Name	P/N No.	Qt'y
EXPLODED DIAGRAM FOR POS-6510 POWER ASSEMBLY

Type 1



S22	POWER Tray	20-054-03001128	1
S21	Adapter	52-002-02861001	1
S20	Power Holder	20-029-03001128	1
S19	M3_L6_S+W_Ni	22-232-30060211	2
No.	Name	P/N No.	Qť'y

Page: A-32

Type 2



05	Power Tray	20-054-03001128	1
04	Rubber	30-004-01100154	4
03	Small Power (72W)	52-002-11072302	1
02	Small Power Holder	80-029-03001217	1
01	M3_L6_S+W_Ni	22-232-30060211	2
No.	Name	P/N No.	Q'ty

POS-6510 SERIES USER'S MANUAL

Page: A-33

EXPLODED DIAGRAM FOR POS-6510 VFD ASSEMBLY

Type 1



03	VFD_SCREW (M4_L6_F_B)	22-215-40006011	4
02	VFD_ASSEMBLY		1
01	M3_L12_I_Black	22-275-30010011	1
No.	Name	P/N No.	Q'ty





05	VFD_SCREW(M4_L6_F_B)	22-215-40006011	4
04	VFD_ASSEMBLY		1
03	M3_L6_F_B	22-215-30060011	1
02	M3_L12_F_B	22-215-30012011	1
01	VFD ADD SHEET(Black)	20-004-02061217	1
No.	Name	P/N No.	Qť'y

TECHNICAL SUMMARY



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
0x00000040-0x00000043	System timer
0x0000061-0x0000061	System speaker
0x0000070-0x00000071	System CMOS/real time clock
0x0000060-0x0000060	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
0x00000064-0x00000064	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard
0x0000E800-0x0000E8FF	Realtek PCIe GBE Family Controller
0x0000020-0x00000021	Programmable interrupt controller
0x000000A0-0x000000A1	Programmable interrupt controller
0x00000378-0x0000037F	Printer Port (LPT1)
0x000001F0-0x000001F7	Primary IDE Channel
0x000003F6-0x000003F6	Primary IDE Channel
0x00000000-0x00000CF7	PCI bus
0x00000D00-0x0000FFFF	PCI bus
0x00000F0-0x000000FF	Numeric data processor
0x00000010-0x0000001F	Motherboard resources
0x00000022-0x0000003F	Motherboard resources
0x00000044-0x0000005F	Motherboard resources
0x00000062-0x00000063	Motherboard resources
0x00000065-0x0000006F	Motherboard resources
0x00000072-0x0000007F	Motherboard resources
0x0000080-0x0000080	Motherboard resources
0x00000084-0x00000086	Motherboard resources
0x00000088-0x00000088	Motherboard resources
0x0000008C-0x000008E	Motherboard resources
0x00000090-0x0000009F	Motherboard resources
0x000000A2-0x000000BF	Motherboard resources
0x000000E0-0x000000EF	Motherboard resources
0x000000F0-0x000000FF	Numeric data processor
0x000004D0-0x000004D1	Motherboard resources

POS-6510 SERIES USER'S MANUAL

Page: B-5

Appendix B Technical Summary

I/O MAP	ASSIGNMENT
0x00000500-0x0000053F	Motherboard resources
0x00000800-0x0000087F	Motherboard resources
0x00000A00-0x00000A0F	Motherboard resources
0x0000FFA0-0x0000FFAF	Intel(R) ICH8M Ultra ATA Storage Controllers - 2850
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
0x0000D800-0x0000D807	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000D880-0x0000D883	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
0x0000DC00-0x0000DC07	Intel(R) ICH8M 3 port Serial ATA Storage Controller - 2828
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
0x00000400-0x0000041F	Intel(R) ICH8 Family SMBus Controller - 283E
0x0000E000-0x0000EFFF	Intel(R) ICH8 Family PCI Express Root Port 6 - 2849
0x000003B0-0x000003BB	Intel(R) Graphics Media Accelerator 3150
0x000003C0-0x000003DF	Intel(R) Graphics Media Accelerator 3150
0x0000C080-0x0000C087	Intel(R) Graphics Media Accelerator 3150
0x00000274-0x00000277	ISAPNP Read Data Port
0x00000279-0x00000279	ISAPNP Read Data Port
0x0000000-0x00000CF7	Direct memory access controller

I/O MAP	ASSIGNMENT
0x00000081-0x00000083	Direct memory access controller
0x0000087-0x0000087	Direct memory access controller
0x00000089-0x0000008B	Direct memory access controller
0x000008F-0x000008F	Direct memory access controller
0x000000C0-0x000000DF	Direct memory access controller
0x000002E8-0x000002EF	Communications Port (COM4)
0x000003E8-0x000003EF	Communications Port (COM3)
0x000002F8-0x000002FF	Communications Port (COM2)
0x000003F8-0x000003FF	Communications Port (COM1)

Appendix B Technical Summary

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 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 ex	stended function mode
mov	dx,	2Eh
mov	al,	87h
out	dx,	al
out	dx,	al
; ;	Select Log	cial Device 8 of watchdog timer
mov	al,	07h
out	dx,	al
inc	dx	
mov	al,	08h
out	dx,	al
;]	Logic devi	ice activation for watch dog timer
dec	dx	
mov	al,	030h
out	dx,	al
inc	dx	
mov	al,	01h
out	dx,	al
; ;	Set second	l as counting unit
dec	dx	
mov	al,	0F5h
out	dx,	al
inc	dx	
in	al,	dx
and	al,	not 08h
out	dx,	al
; ;	Set timeou	it interval as 30seconds and start counting
dec	dx	
mov	al,	0F6h
out	dx,	al
inc	dx	
mov	al,	30
out	dx,	al
;]	Exit the ex	tended function mode
dec	dx	
mov	al,	0AAh
out	dx,	al

Flash BIOS Update

I. Before System BIOS Update

- 1. Prepare a bootable media (ex. USB storage device) which can boot system to DOS prompt DOS prompt.
- 2. Get flash utility (AFUDOS.exe) and BIOS file (ex. 65100P03.ROM) from CD then save them to a bootable device.
- 3. Make sure the target system can first boot to the bootable device.
 - a Connect the bootable USB device.
 - b Turn on the system and press key during BIOS POST procedure.
 - c System will go into the BIOS setup menu.
 - d Select [Boot] menu.
 - e Select [Boot Devices Priority] sub-menu, set the USB bootable device to be the 1st boot device.
 - f Press <F10> key to save configuration and exit the BIOS setup menu.

BIOS SETUP UTILITY		
	Boot	
Boot Device Priority Ist Boot Device 2nd Boot Device	[USB: JetFlash TS512] [SATA: PM-WDC WD1600]	Specifies the boot sequence from the available devices. A device enclosed in parenthesis has been disabled in the corresponding type menu.
		 ←→ Select Screen ↓↑ Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit
v02.68 (C)C	Copyright 1985-2009, American Me	gatrends, Inc.

II. 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

III. BIOS Update Procedure

- 1. Use the bootable USB storage to boot up system into the DOS command prompt.
- 2. Type "AFUDOS 65100P03.ROM /p /b /n /c /x " and press enter to start the flash procedure.

(Note that xxxx means the BIOS revision part, ex. 0P03...)

- 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.

```
A:\AFUDOS>afudos 65100P03.ROM /p /b /n /c /x
                      AMI Firmware Update Utility v4.38
       Copyright (C)2010 American Megatrends Inc. All Rights Reserved.
 Bootblock checksum .... ok
 Module checksums ..... ok
 Erasing flash ..... done
 Writing flash ..... done
 Verifying flash ..... done
 Erasing NVRAM ..... done
 Writing NVRAM ..... done
 Verifying NVRAM ..... done
 Erasing Bootblock ..... done
 Writing Bootblock ..... done
 Verifying Bootblock ... done
 CMOS checksum destroyed
 Program ended normally.
 :\AFUDOS>
```

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





This appendix contains the assembly procedure of the pole VFD and the i-Button Decoder API function guide.

Sections included:

- Assembly Procedure of Pole VFD
- i-Button Decoder API

Assembly Procdure of Back VFD – Model 1

Packing Checklist:

- VFD Panel	x 1
- Pole Bracket	x 1

- Screw x 4

STEP 1: Prepare VFD





Thread the cable from module through the hold of pole bracket.

Insert the module into the pole bracket until it clicks into place.

STEP 2: Install VFD First, separate the Panel PC and the stand. VFD module VFD module to the rear Panel PC with 4 screws. (The attached Panel PC & VFD are not mounted to the stand at this stage.)

Page: C-2



Plug the VFD cable stretched through the rear cover of the Panel PC into COM1 port (RJ45 connector).

Then put back the cable cover (refer to "EXPLODED DIAGRAM FOR POS-6510 SYSTEM ASSEMBLY" section in Appendix page A-3).

Assembly Procdure of Back VFD – Model 2

Packing Checklist:

- VFD Panel	x 1
- VFD Cable	x 1
- Pole Bracket	x 1
- VFD-addsheet	x 1
- Screw	x 10

STEP 1: Prepare POS



Unscrew the two screws and take off the backing plate on the top of LCD back panel.



Plug the VFD cable into the COM4 connector.

Refer to COM4 RI & Voltage Selection table as shown and set the COM4 jumper to "VCC12" (12V DC).



COM4 RI & Voltage Selection

Selection	Jumper Settings	Jumper Illustration
RI	1-2	
VCC12	3-4	
VCC	5-6	

STEP 2: Prepare VFD



Thread the cable from module through the hole of pole bracket.

Insert the module into the pole bracket until it clicks into place.

Page: C-4

STEP 3: Install VFD



Secure the VFD-addsheet to LCD back panel with six screws.



Connect the VFD cable to the cable from VFD pole display,



Secure the VFD pole display to the VFD-addsheet with four screws.

Finished View of Back VFD for both Model 1 & Model 2:





POS-6510 SERIES USER'S MANUAL

Page: C-5

I-BUTTON DECODER API

I. FUNCTION DESCRIPTION

The i-Button Decoder API must run on a Windows platform, XP or 7. Users can get the i-Button key serial number of the POS-6510 system through the application programming interface.



II. FUNCTION DEMO

STEP 1: Hardware (Motherboard) Setup

1-1. Refer to the **i-Button Function Selection** table as shown below and set the jumpers to "i-Button".

SELECTION	JUMPER SETTINGS	JUMPER ILLUSTRATION
i-Button	2-3	¹ 000 JP8 1000 JP9 1000 JP10
COM 3 (default)	1-2	¹ 000 JP8 1000 JP9 1000 JP10

*** Manufacturing Default - COM3

1-2. Refer to the **JI_BUTTON1 Pin Assignment** table as shown and connect the i-Button cables to the JI_BUTTON1 connector.

	PIN	ASSIGNMENT
	1	COM3_DTR_R_I
JI_BUTTON1	2	COM3_RXD_R_I

Illustration:



POS-6510 SERIES USER'S MANUAL

Page: C-7

1-3. Place the i-Button key on the POS-6510 as shown below.



STEP 2: Run Demo Program

2-1. Enter the "ProxAPI standard" folder and double-click the file "ProxAP.exe" to execute the demo AP.



Note: ".Net Framework" must be installed on the system before running the Demo AP, and do not remove any file under the "ProxAPI standard" folder.

STEP 3: API Setting

Protech API Package (Demo)	
Mechine Type Load	System SMBUS Cash Drawer Hardware Monitor Battery IButton About
6505 6508 6509 6510 752X 8070 811LF 822LF 8590LF 8831 8852 8853 8930 9611LF BPC-8072 C587 E581 ISA588 L586 2 V	4 5 Com Port: 3 Start IBUTTON DATA CRC 48-Bit Serial Number Family Code 00 000000000000000000000000000000000000

- 3-1. Choose "6510" from the Machine Type Load list on the left pane.
- 3-2. Click [Load XML].
- 3-3. Switch to the "IButton" tab on the right pane.
- 3-4. Enter "3" in the "Com Port" text field.
- 3-5. Click [Start].
- 3-6. The i-button serial number is displayed in the "IBUTTON DATA" field.

III. API INFORMATION

Function Files:

DIRECTORY	FILE NAME	DESCRIPTION
ProxAPI standard\	IbuttonAPI.dll	For i-Button API
	IBFS32.DLL	
	multilangXML.dll	For loading XML file
ProxAPI standard\	Model Name*\Initial.xml	The initial XML file
XML Files		

Note: Model Name depends on your machine type.

Function Parameters:

ComPortSetting

bool Ibutton_ComPortSetting (int ComportNum)

Value	ComportNum = IButton Com
Returned	True(1) success, (0) failed

Decode_Ibutton_Process

bool Decode_Ibutton_Process(short[] buffer)

Value buffer = ibutton read will sent to this buffer Returned True(1) success, (0) failed