USER MANUAL

Version **0.**1

PL-80320

Fanless Box PC with VIA Nano/EDEN Processor, VGA, Dual GbE, COM, USB, Audio,

SATA, CF

MB-80320

VIA VX900 based EPIC board with VGA, Dual GbE, COM, USB, Audio,

SATA, CF

Table of Contents

Chapter 1. General Information

1.1 Introduction

WIN announces a new embedded system the EPIC form factor embedded board, MB-80320. MB-80320 takes advantage of VIA Nano/EDE technologies to support Nano 1.6G (U3100), EDEN 1GHz and EDEN 500MHz processors.

MB-80320 and PL-80320 support SODIMM memory slot for DDR3 up to 4GB, and comes with 4 x COM ports, one mini PCIe & one CompactFlash. Dual display by VGA + LVDS ; HDMI + LVDS ; VGA + HDMI (HDMI via optional R211).

Key features:

- Fanless operation
- Onboard VIA Eden/NanoE processor
- Support HDMI via optional R211
- PCI 104 connectors supported
- Dual GbE and four USB 2.0 ports
- High definition audio interface
- One mini PCIe & one CompactFlash supported

For more product information, please visit our website www.win-enterprises.com or contact our sales representative at sales@win-ent.com.

1.3 Precautions

Please make sure you properly ground yourself before handling the PL-80320 board or other system components. Electrostatic discharge can be easily damage the PL-80320 board.

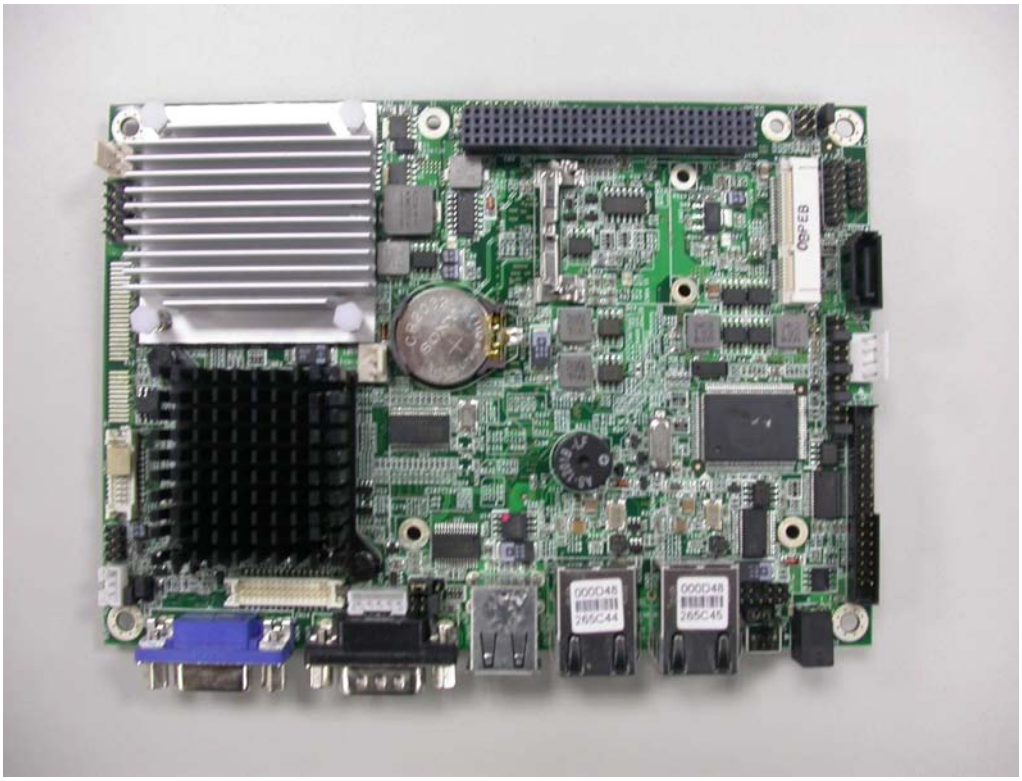
Do not remove the antistatic packing until you are ready to install the PL-80320 board.

Ground yourself before removing any system component from it protective antistatic packaging. To ground yourself, grasp the expansion slot covers or other unpainted parts of the computer chassis.

Handle the PL-80320 board by its edges and avoid touching its component.

1.4 Layout

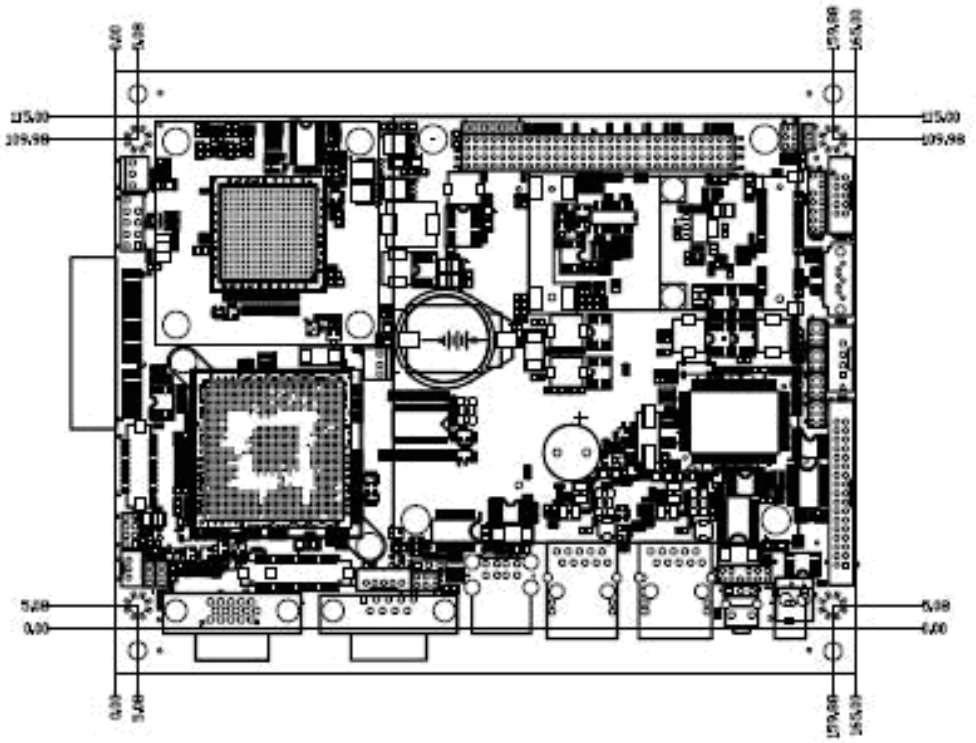
MB-80320

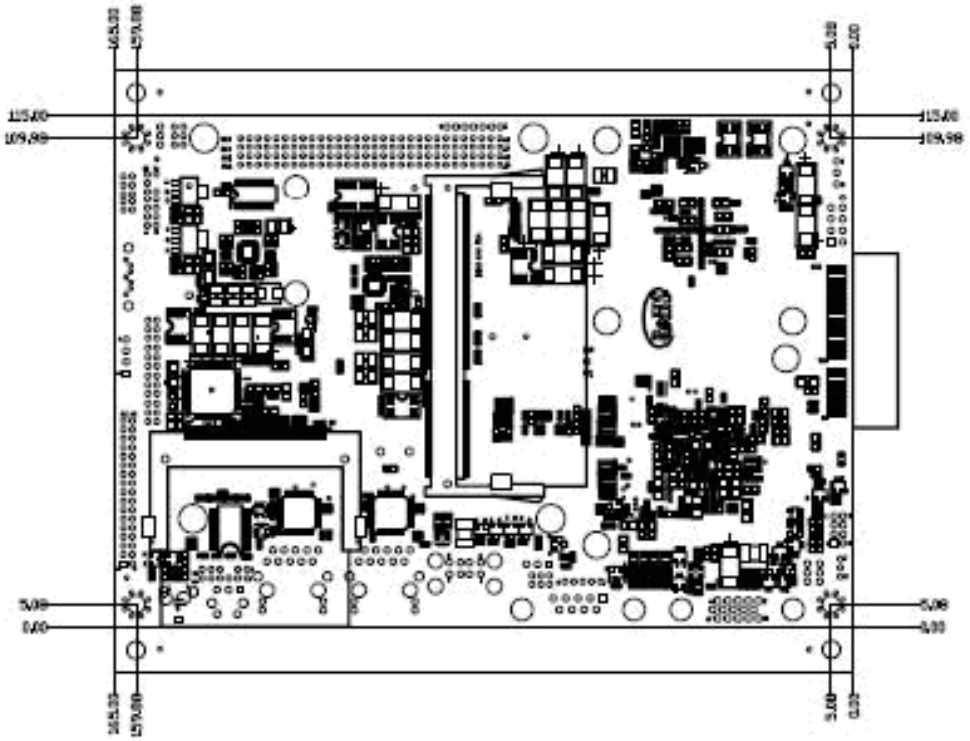


PL-80320 (Appliance)

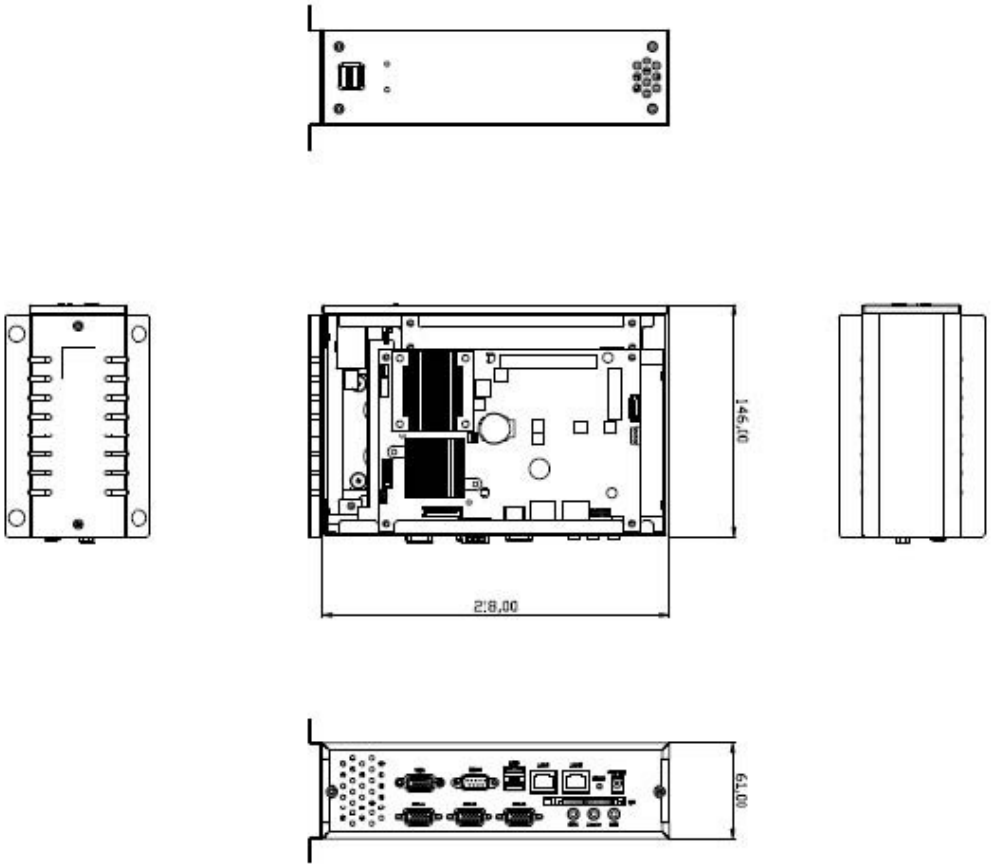
1.5 Dimensions

MB-80320





PL-80320



A28	GND	C28	+5V
A29	+12V	C29	INTB#
A30	NC	C30	NC
B1	NC	D1	AD00
B2	AD02	D2	+5V
B3	GND	D3	AD03
B4	AD07	D4	AD06
B5	AD09	D5	GND
B6	+VI/O	D6	NC
B7	AD13	D7	AD12
B8	C/BE1#	D8	+3.3V
B9	GND	D9	PAR
B10	PERR#	D10	SDONE
B11	+3.3V	D11	GND
B12	TRDY#	D12	DEVSEL#
B13	GND	D13	+3.3V

B14	AD16	D14	C/BE2#
B15	+3.3V	D15	GND
B16	AD20	D16	AD19
B17	AD23	D17	+3.3V
B18	GND	D18	IDSEL2
B19	C/BE3#	D19	IDSEL3
B20	AD26	D20	GND
B21	+5V	D21	AD27
B22	AD30	D22	AD31
B23	GND	D23	+VI/O
B24	REQ2#	D24	GNT0#
B25	+VI/O	D25	GND
B26	CLK0	D26	CLK1
B27	+5V	D27	GND
B28	INTD#	D28	RST#
B29	INTA#	D29	INTC#
B30	NC	D30	GND

CN4 : FAN Connector

Pin	Pin define	Pin	Pin define
1	GND	2	+12V
3	SENSE		

CN5 : GPIO Connector

Pin	Pin define	Pin	Pin define
1	+3.3V	2	GND
3	GPIO50	4	GPIO51
5	GPIO52	6	GPIO53
7	GPIO54	8	GPIO55
9	GPIO56	10	GPIO57

CN6 : LPC Connector

Pin	Pin define	Pin	Pin define
1	+3.3V	2	LAD0
3	LAD1	4	LAD2
5	LAD3	6	LFRAME#
7	RST#	8	+5V
9	CLK	10	PME#
11	GND		
13	SERIRQ	14	LDRQ#

CN7 : USB 2/3 Connector

Pin	Pin define	Pin	Pin define
1	+5V	2	+5V
3	USBDATA	4	USBDATA
5	USBDATA+	6	USBDATA+
7	GND	8	GND
9	Reserved	10	GND

CN8 : Mini PCIE Connector

Pin	Pin define	Pin	Pin define
1	WAKE#	2	+3.3V
3	Reserved	4	GND
5	Reserved	6	+1.5V
7	CLKREQ#	8	Reserved
9	GND	10	Reserved
11	REF CLK	12	Reserved
13	REF CLK+	14	Reserved
15	GND	16	Reserved
17	Reserved	18	GND
19	Reserved	20	Reserved
21	GND	22	PERST#
23	PERN0	24	+3.3VAUX
25	PERP0	26	GND
27	GND	28	+1.5V
29	GND	30	SMB_CLK
31	PETN0	32	SMB_DATA
33	PETP0	34	GND
35	GND	36	USB_D
37	Reserved	38	USB_D+
39	Reserved	40	GND
41	Reserved	42	LED_WWAN#
43	Reserved	44	LED_WLAN#
45	Reserved	46	LED_WPAN#
47	Reserved	48	+1.5V
49	Reserved	50	GND
51	Reserved	52	+3.3V

CN9 : SATA Connector

Pin	Pin define	Pin	Pin define
1	GND	2	TXP
3	TXN	4	GND
5	RXN	6	RXP
7	GND		

CN10 : HD Power Connector

Pin	Pin define	Pin	Pin define
1	+12V	2	GND
3	GND	4	+5V

CN11 : FAN Connector

Pin	Pin define	Pin	Pin define
1	GND	2	+12V
3	SENSE		

CN12 : LVDS Connector

Pin	Pin define	Pin	Pin define
1	LVDS_D0P	2	LVDS_D0N
3	GND	4	GND
5	LVDS_D1P	6	LVDS_D1N
7	GND	8	+VCC_LCD
9	LVDS_D2P	10	LVDS_D2N
11	LVDS_CLKP	12	LVDS_CLKN
13	GND	14	GND
15	LVDS_D3P	16	LVDS_D3N
17	LVDS_BLON	18	+VCC_LCD
19	LVDS_SPDATA	20	LVDS_SPCLK

CN13 : COM2 – 4 Connector

Pin	Pin define	Pin	Pin define
1	COM4_DCD_N_CON	2	COM4_DSR_N_CON
3	COM4_SIN_CON	4	COM4_RTS_N_CON
5	COM4_SOUT_CON	6	COM4_CTS_N_CON

7	COM4_DTR_N_CON	8	COM4_RI_N_CON
9	GND	10	NC
11	COM3_DCD_N_CON	12	COM3_DSR_N_CON
13	COM3_SIN_CON	14	COM3_RTS_N_CON
15	COM3_SOUT_CON	16	COM3_CTS_N_CON
17	COM3_DTR_N_CON	18	COM3_RI_N_CON
19	GND	20	NC
21	COM2_DCD_N_CON	22	COM2_DSR_N_CON
23	COM2_SIN_CON	24	COM2_RTS_N_CON
25	COM2_SOUT_CON	26	COM2_CTS_N_CON
27	COM2_DTR_N_CON	28	COM2_RI_N_CON
29	GND	30	NC
31	485TXD+	32	485TXD
33	485RXD+	34	485RXD

CN14 : Front panel Connector

Pin	Pin define	Pin	Pin define
1	PWRLED_P	2	GND
3	SATA_LED_P	4	SATALED_N
5	PWRBTN_IN_R	6	PWRBTN_IN
7	RSTBTN_IN	8	RSTBTN_IN_R

CN16 : HDMI+USB 4/5 Connector

Pin	Pin define	Pin	Pin define
1	HDMI_TX2P	2	GND
3	HDMI_TX2N	4	HDMI_TX1P
5	GND	6	HDMI_TX1N
7	HDMI_TX0P	8	GND
9	HDMI_TX0N	10	HDMI_TCLKP
11	GND	12	HDMI_TCLKN
13	HDMI_CEC	14	GND
15	HDMI_SPD_CLK	16	HDMI_SPD_DAT
17	GND	18	+V5P0_HDMI
19	HDMI_DET_N	20	+V5P0_HDMI
21	+V5P0_USB45_IN_FB	22	+V5P0_USB45_IN_FB
23	USB4_L_N	24	USB5_L_N
25	USB4_L_P	26	USB5_L_P
27	GND	28	GND
29	GND	30	GND

CN17 : HD Audio Connector

Pin	Pin define	Pin	Pin define
1	+V5P0	2	GND

Chapter 3. BIOS Setup

The BIOS is a set of permanently recorded program routines that give the system its fundamental operational characteristics. It also tests the computer and determines how the computer reacts to instructions that are part of programs.

The BIOS is made up of code and programs that provide the device level control for the major I/O devices in the system. It contains a set of routines (called POST, for PowerOn Self Test) that check out the system when you turn it on. The BIOS also includes CMOS Setup program, so no disk-based setup program is required CMOS RAM stores information for:

Date and time
Memory capacity of the main board
Type of display adapter installed
Number and type of disk drives

The CMOS memory is maintained by battery. By using the battery, all memory in CMOS can be retained when the system power switch is turned off. The system BIOS also supports easy way to reload the CMOS data when you replace the battery of the battery power lose.

3.1 Quick Setup

In most cases, you can quickly configure the system by choosing the following main menu options:

1 Choose “Load Optimized Defaults” from the main menu. This loads the setup default values from the BIOS Features Setup and Chipset Features Setup screens.
2 Choose “Standard COS Features” from the main menu. This option lets you configure the date and time, hard disk type, floppy disk drive type, primary display and more.
3 In the main menu, press F10 (“Save & Exit Setup”) to save your changes and reboot the system.

3.2 Entering the CMOS Setup Program

Use the CMOS Setup program to modify the system parameters to reflect the options installed in your system and to customize your system. For example, you should run the Setup program after you:

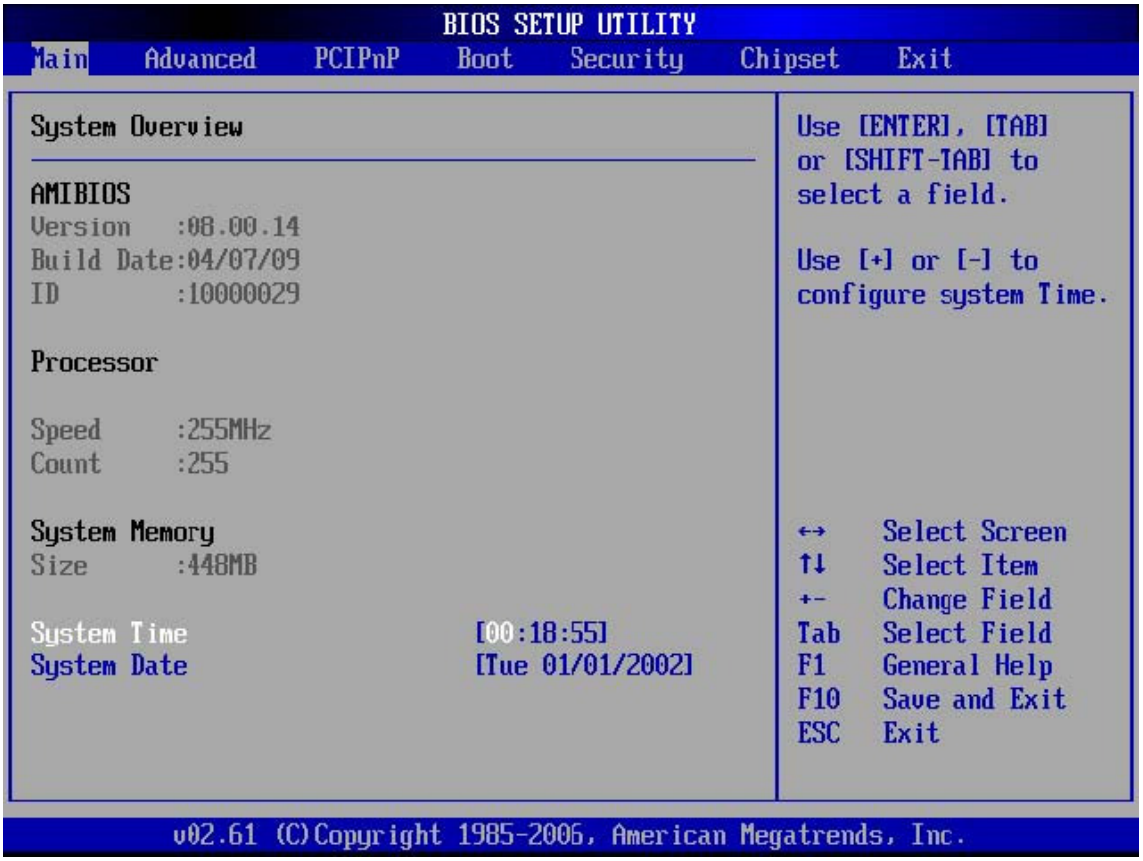
Received an error code at startup
Install another disk drive
Use your system after not having used it for a long time

Find the original setup missing
Replace the battery
Change to a different type of CPU
Run the PhoenixAward Flash program to update the system BIOS

Run the CMOS Setup program after you turn on the system. Onscreen instructions explain how to use the program.

⇩ **Enter the CMOS Setup program's main menu as follows**:

1 Turn on or reboot the system. After the BIOS performs a series of diagnostic checks, the following message appears: "Press DEL to enter SETUP"
2 Press the <DEL> key to enter CMOS Setup program. The main menu appears:
3 Choose a setup option with the arrow keys and press <Enter>. See the following sections for a brief description of each setup option.



In the main menu, press F10 ("Save & Exit Setup) to save your changes and reboot the system. Choosing "EXIT WITHOUT SAVING" ignores your changes and exits the program. Pressing <ESC> anywhere in the program returns you to the main menu.

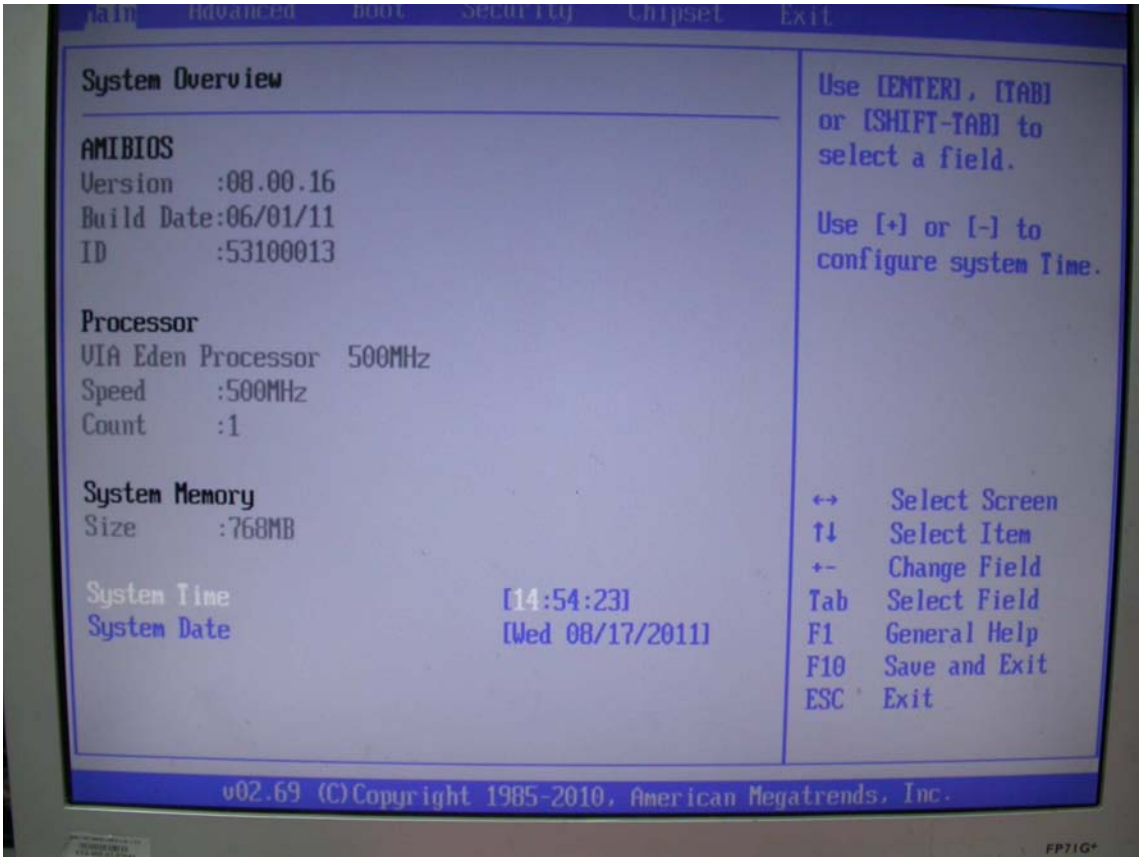
3.3 Main

⇩**Use the Main Setup option as follows**:

1 Choose “Main” from the main menu. The following screen appears:

2 Use the arrow keys to move between fields. Modify the selected field using the PgUP/PgDN/+/keys. Some fields let you enter numeric values directly.

3 After you have finished with the Standard CMOS Features program, press the <ESC> key to return to the main menu.



Option	Description
Date (mm:dd:yy)	Type the current date
Time (hour:min:sec)	Type the current time 4hour clock) (2

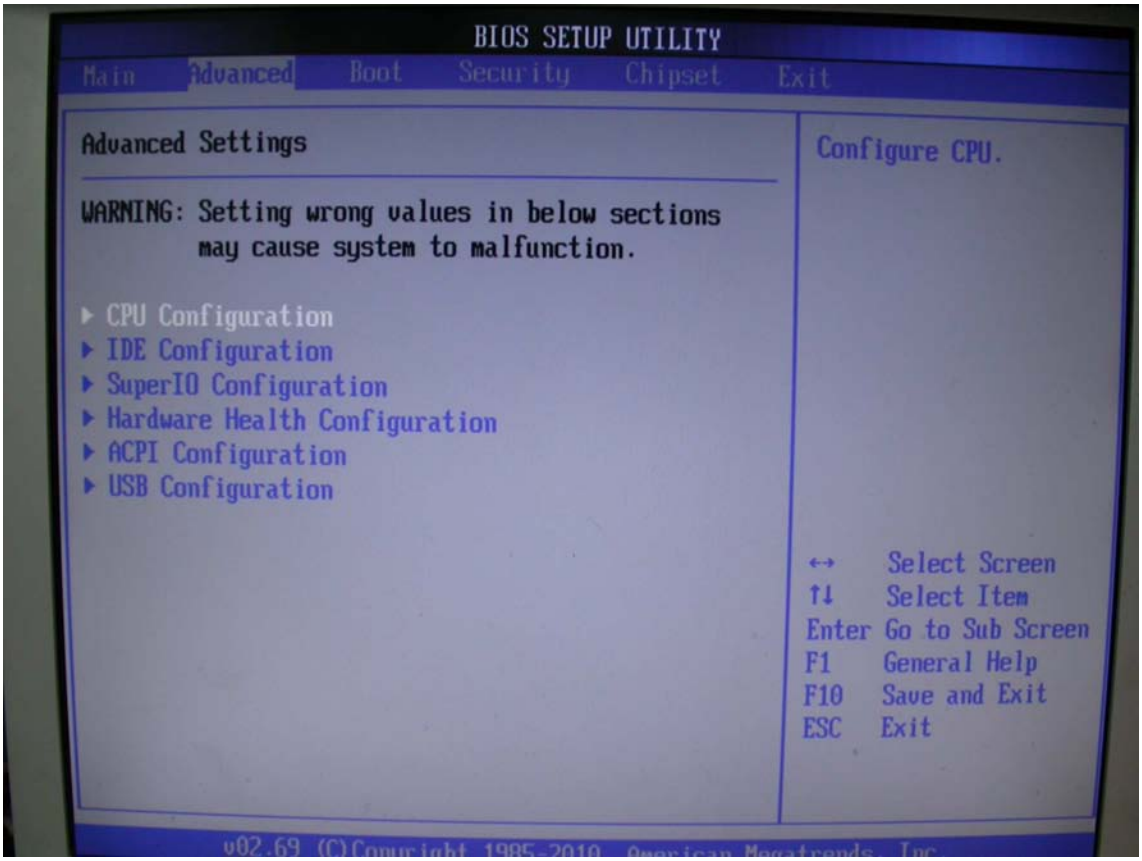
3.4 Advanced

⇩**Use the Advanced option as follows:**

1 Choose “Advanced ” from the main menu. The following screen appears:

2 Use the arrow keys to move between items and to select values. Modify the selected fields using the PgUP/PgDN keys. Press the <F1> “Help” key for information on

the available options:

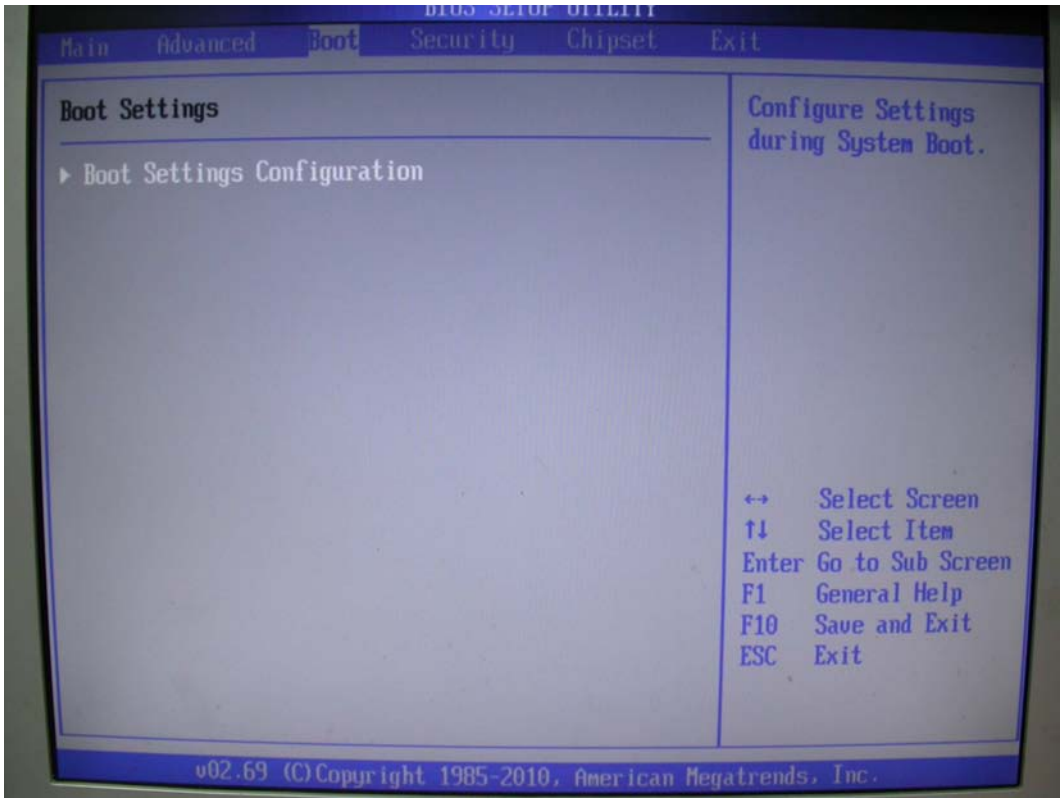


Option	Description
CPU Configuration	It allows you to configure the parameter of CPU.
IDE Configuration	It allows you to configure the parameter of IDE, includes PIO mode, DMA mode, LBA, SMART and etc...
SuperIO Configuration	It allows you to configure the parameter of SuperIO, includes serial ports and watchdog.
ACPI Configuration	It allows you to configure the parameter of ACPI, includes suspend, USB wakeup and etc...
USB Configuration	It allows you to configure the parameter of USB.

3.5 Boot

⇩**Use the Boot option as follows**:

1. Choose “Boot” from the main menu. The following screen appears:



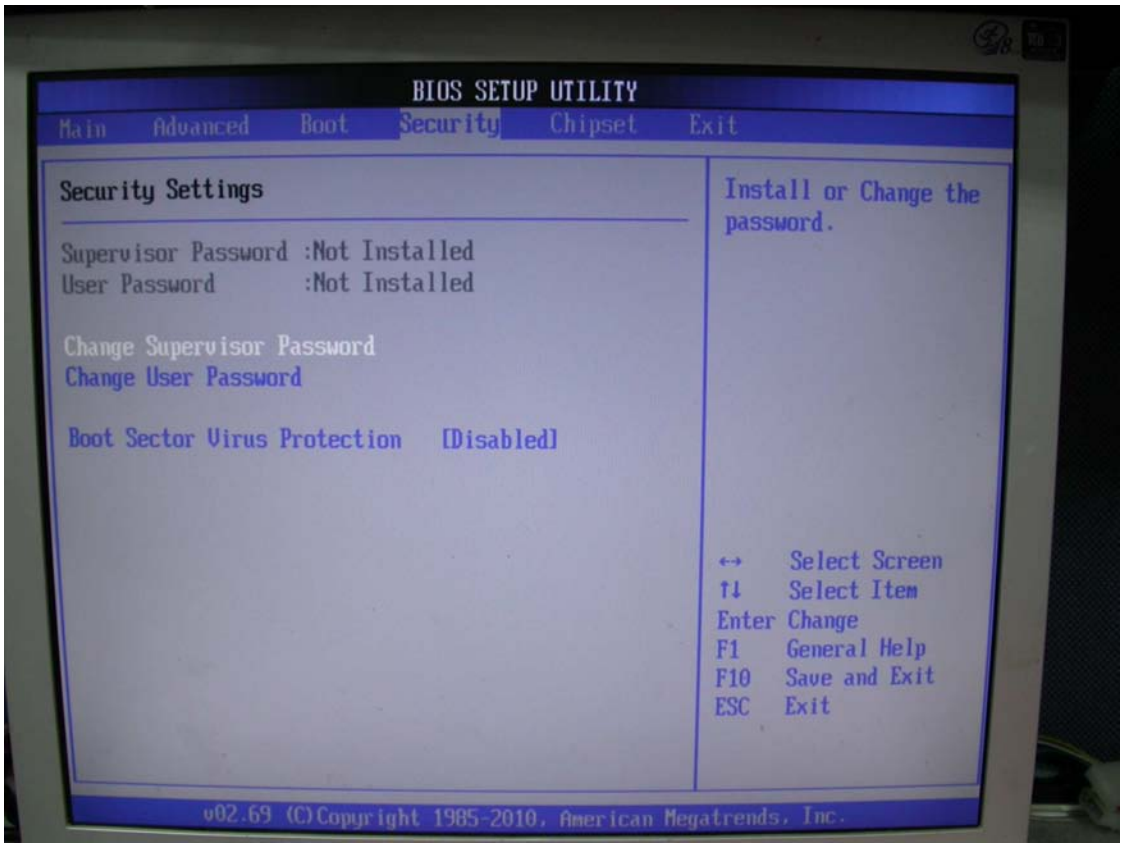
Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. Please press the <F1> key for information on the various options.

Option	Description
Boot Setting Configuration	It allows you to configure the parameter of Boot, includes Bootup NumLock, Wait for “F1” if error and etc...

3.6 Security

⇩**Use the Security option as follows**:

1. Choose “Security” from the main menu. The following screen appears.



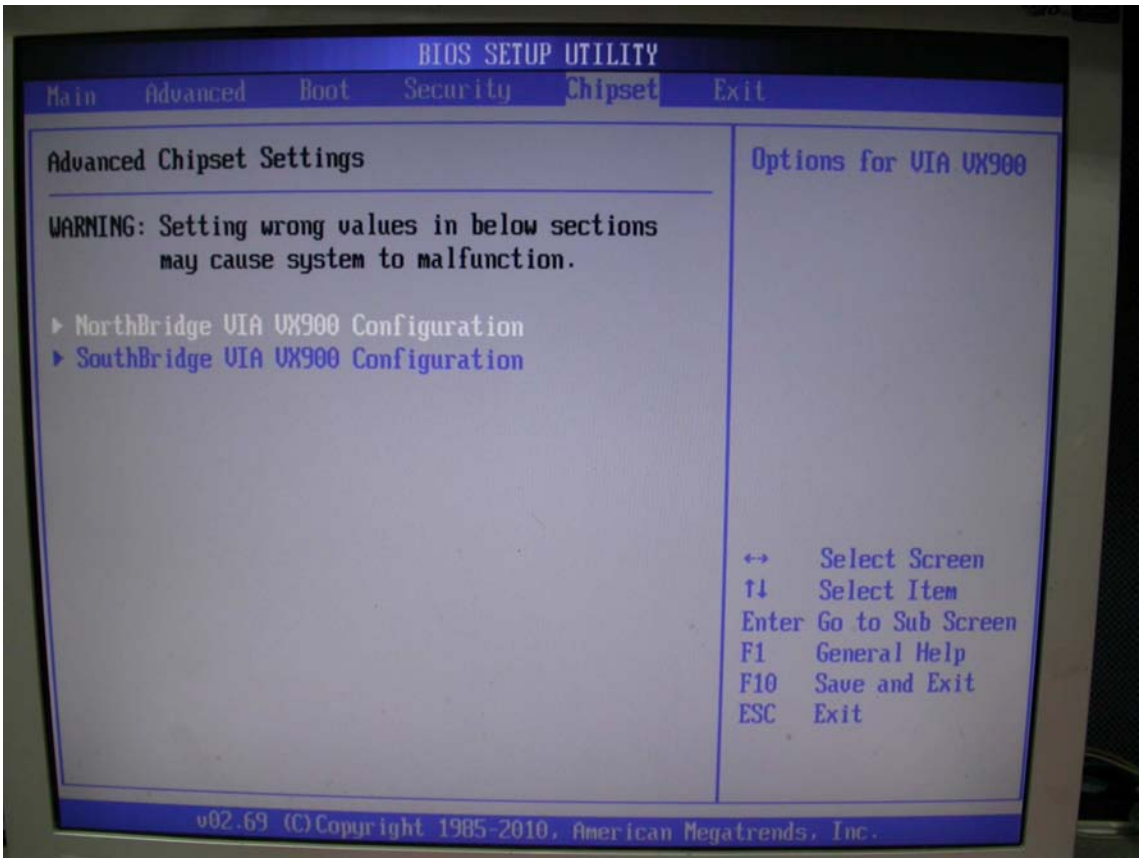
This section allows change the password of the supervisor and user.

2. Move between items and select values by using the arrow keys. Modify the selected field the PgUP/PgDN keys. For information on the various options, press <F1> key.

3.7 Chipset

⇩ **Use the Chipset option as follows**:

1. Choose “Chipset” from the main menu, the following screen appears.

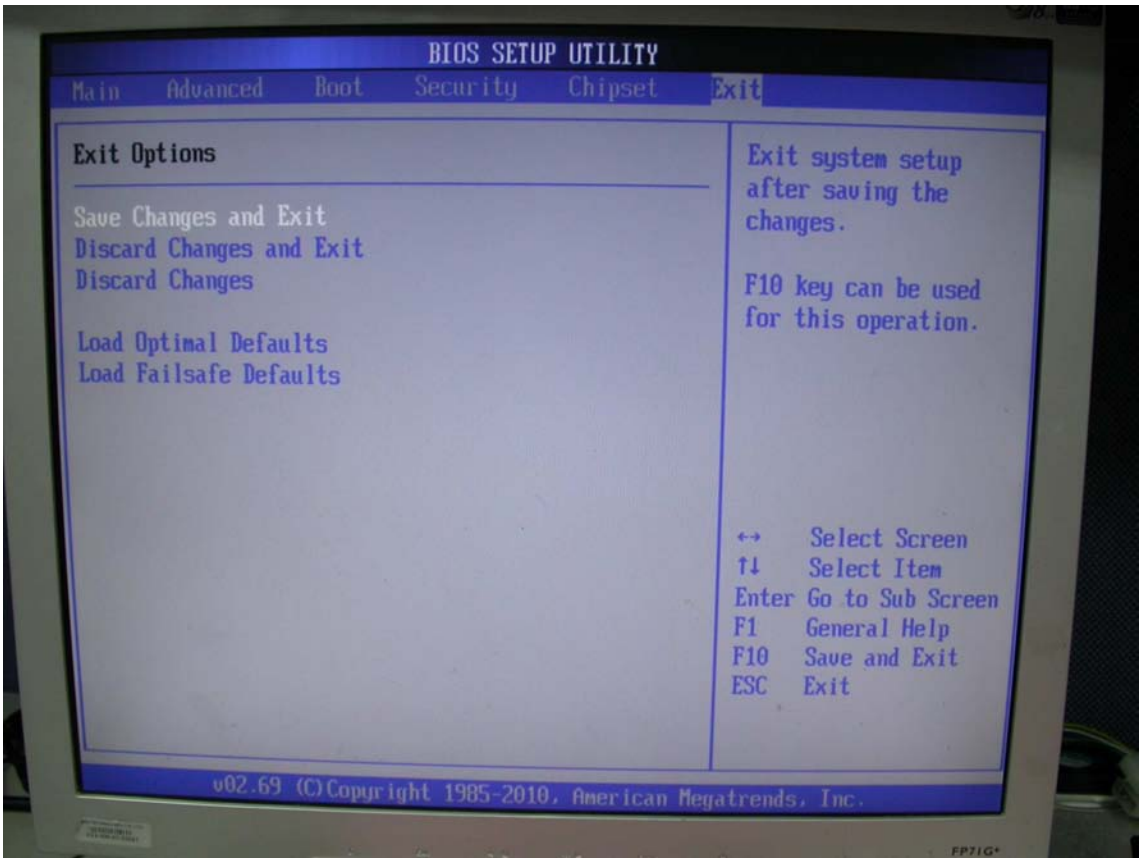


2. Move between items and select values by using the arrow keys. Modify the selected fields using the PgUP/PgDN keys. For information on the various options, please press <F1> key.

Option	Description
NorthBridge	It allows you to configure the parameter of NorthBridge, includes clock, timing, VGA frame buffer and etc...
SouthBridge	It allows you to configure the parameter of SoughBridge, includes LAN, Audio and etc…

3.8 Save and Exit Setup

This function automatically saves all CMOS values before exiting Setup.


BIOS SETUP UTILITY
Main Advanced Boot Security Chipset Exit
Exit Options
Save Changes and Exit
Discard Changes and Exit
Discard Changes
Load Optimal Defaults
Load Failsafe Defaults
Exit system setup after saving the changes.
F10 key can be used for this operation.
↔ Select Screen
↑↓ Select Item
Enter Go to Sub Screen
F1 General Help
F10 Save and Exit
ESC Exit
v02.69 (C)Copyright 1985-2010, American Megatrends, Inc.