# Minix 785G Series Socket AM2+/AM3Processor Mainboard

# User's Manual

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# Motherboard

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# **Chapter 1 Introduction**

# 1.1 Package Checklist

Thank you for choosing our product. Please check the following packing and accessories, if there is any broken or part missing, please contact with your franchiser.

- HDD Cable X 1
- Rear I/O Panel X 1
- User's Manual X 1
- Driver/Utility CD X 1
- Serial ATA Signal Cable X 2
- Serial ATA Power Cable X 1

The items listed above are for reference only, and are subject to change without notice.

# 1.2 Specifications

CPU	<ul> <li>Supports AMD<sup>®</sup> Socket AM2+/AM3 processors:</li> <li>AMD Phenom<sup>™</sup> II/ Athlon<sup>™</sup> II/ Athlon<sup>™</sup> 64 x2 Dual Core/ Sempron<sup>™</sup> processors;</li> <li>Note: This board supports up to maximum 65W TDP processors. For details, please refer to the CPU support list on our website.</li> </ul>
Main Chipset	<ul> <li>- AMD 785G + SB710</li> <li>- Built in Radeon™ HD 4200 Graphics, DirectX<sup>®</sup> 10.1 and UVD 2 ready;</li> </ul>
Main Memory	<ul> <li>Supports 2 x 1.8V DDR2 SODIMM sockets supporting up to 8 GB memory</li> <li>Supports Dual channel memory architecture</li> <li>Onboard side-port 128M DDR2 memory</li> <li>Supports for DDR2 1066MHz(o.c)/800MHz/667MHz/533MHz memory</li> </ul>
BIOS	<ul> <li>AMI BIOS, supports Plug&amp;Play</li> <li>Supports Advanced Power Management ACPI,STR</li> <li>CPU temperature, Fan speed, System Voltage monitoring</li> </ul>
Integrated Ports	<ul> <li>1 x PS/2 Keyboard port</li> <li>1 x DVI port</li> <li>1 x HDMI port</li> <li>1 x VGA port</li> <li>1 x RJ45 port</li> <li>1 x sSATA port</li> <li>1 x SPDIF_IN port</li> <li>1 x SPDIF_OUT port</li> <li>1 x CPU Fan header</li> <li>2 x System Fan headers</li> <li>1 x F_AUDIO header</li> <li>1 x IR header</li> <li>1 x R J4E</li> <li>1 x IR header</li> <li>1 x RAUTO header</li> <li>1 x IR header</li> <li>1 x IR header</li> <li>1 x IR header</li> <li>1 x SATA ports, USB 1.1 is compliant</li> <li>4 x SATA ports, VSB 1.1 is compliant</li> <li>1 x IDE connector, 2 x IDE devices could be connected.</li> </ul>
Sound	<ul> <li>Onboard 6-channel/8-channel HD Audio Codec (Optional)</li> <li>Front Panel Jumper, provides stereo MIC port on front panel</li> </ul>
Onboard LAN	- Onboard 10/100/1000Mbps compatible LAN (Optional)
Expansion Slots	- 1 x PCI-Express x16 Gen. 2 slot (running at x4)
Form Factor	Mini ITX (170mm*170mm)

# 1.3 Mainboard Layout



(This picture is only for reference)

# 1.4 Connecting Rear Panel I/O Devices

The rear I/O part of these mainboard provides the following I/O ports:



- PS/2 Keyboard: Connect to a PS/2 keyboard.
- HDMI:Connect to multimedia devices of HDMI protocol.
- SPDIF IN: This connector provides an S/PDIF-IN connection.
- SPDIF OUT: Connect to digital audio device.
- DVI: Connect to monitor input.
- VGA: Connect to a monitor's VGA input.
- eSATA: Connect to peripherial SATA devices.
- LAN: The LAN port allows the motherboard to connect to a local area network by means of a network hub.
- USB: The USB ports are used to connect USB 2.0/1.1 devices such as scanner, speakers, keyboard, mouse, hub, digital camera, joystick, etc.
- AUDIO(Rear Panel Audio):

Center/Subwoofer (Orange): This jack is used to connect to the center and the subwoofer speakers of the multi-channel audio system.

Rear Left/Right (Black): This jack is used to connect to the rear left and rear right speakers of the multi-channel audio system.

- Side Left/Right (Gray): This jack is used to connect to the side left and side right speakers of the multi-channel audio system.
- Line-in (Light Blue): This jack is used to connect to the line out from any external audio sources such as MP3 player, CD player, AM/FM radio tuner, etc.
- ine-out (Front Left/Right Jack, Lime): This jack is used to connect to the front left and right channel speakers of the audio system.

Mic-in (Pink): This jack is used to connect an external microphone.

# **Chapter 2 Hardware Setup**

# 2.1 Choosing a Computer Chassis

- Choose a chassis big enough to install this mainboard.
- As some features for this mainboard are implemented by cabling connectors on the mainboard to indicators and switches or buttons on the chassis, make sure your chassis supports all the features required.
- If there is possibility of adopting some more hard drives, make sure your chassis has sufficient power and space for them.
- Most chassis have alternatives for I/O shield located at the rear panel. Make sure the I/O shield
  of the chassis matches the I/O port configuration of this mainboard. You can find an I/O shield
  specifically designed for this mainboard in its package.

# 2.2 Installing Mainboard

Most computer chassis have a base with many mounting holes to allow the mainboard to be

securely attached, and at the same time, prevent the system from short circuits. There are two ways to attach the mainboard to the chassis base:

(1) with studs, or (2) with spacers.

Basically, the best way to attach the board is with studs. Only if you are unable to do this should you attach the board with spacers. Line up the holes on the board with the mounting holes on the chassis. If the holes line up and there are screw holes, you can attach the board with studs. If the holes line up and there are only slots, you can only attach with



spacers. Take the tip of the spacers and insert them into the slots. After doing this to all the slots, you can slide the board into position aligned with slots. After the board has been positioned, check to make sure everything is OK before putting the chassis back on.

To install this mainboard:

- 1. Locate all the screw holes on the mainboard and the chassis base.
- 2. Place all the studs or spacers needed on the chassis base and have them tightened.
- 3. Face the mainboard's I/O ports toward the chassis's rear panel.
- 4. Line up all the mainboard's screw holes with those studs or spacers on the chassis.
- 5. Install the mainboard with screws and have them tightened.

# 2.3 Installation of the CPU and CPU Cooler

Before installing the CPU, please comply with the following conditions:

- 1. Please make sure that the mainboard supports the CPU.
- Please take note of the one indented corner of the CPU. If you install the CPU in the wrong direction, the CPU will not insert properly. If this occurs, please change the insert direction of the CPU.
- 3. Please add an even layer of heat sink paste between the CPU and CPU cooler.
- 4. Please make sure the CPU cooler is installed on the CPU prior to system use, otherwise overheating and permanent damage of the CPU may occur.
- 5. Please set the CPU host frequency in accordance with the processor specifications. It is not recommended that the system bus frequency be set beyond hardware specifications since it does not meet the required standards for the peripherals. If you wish to set the frequency beyond the proper specifications, please do so according to your hardware specifications including the CPU, graphics card, memory, hard drive, etc.



# 2.3.2 Installation of the CPU Cooler

For proper installation, please kindly refer to the instruction manuals of your CPU Cooler.

We suggest there should be active cooling to the chipset area in order to let the motherboard function properly, completely enclosed system environment without adequate air flow will result in chipset overheat, which is not recommended.

# 2.4 Installation of Memory Modules

This mainboard provides two 200-pin DDRII (Double Data Rate) SODIMM slots and supports Dual Channel Memory Technology. For dual channel configuration, you always need to install two identical (the same brand, speed, size and chip-type) memory modules in the DDRII DIMM slots to activate Dual Channel Memory Technology. Otherwise, it will operate at single channel mode.

To install system memory:

- Power off the computer and unplug the AC power cord before installing or removing memory modules.
- 2. Locate the DIMM slot on the board.
- 3. Insert the SODIMM module at a 45 degree angle.
- 4. Push the SODIMM module back towards the board until the clips lock the module in place.
- To remove the DIMM modules, push the two ejector tabs on the slot outward simultaneously, and then pull out the DIMM module.
- Static electricity can damage the electronic components of the computer or optional boards. Before starting these procedures, ensure that you are discharged of static electricity by touching a grounded metal object briefly.



# 2.5 Connecting Peripheral Devices 2.5.1 IDE Disk Drive Connectors



2.5.2 Serial ATA Connectors

Each of the IDE port connects up to two IDE drives at Ultra ATA 133/100/66/33 mode by one 40-pin, 80-conductor, and 3-connector Ultra ATA/66 ribbon cables.

Connect the single end (blue connector) at the longer length of ribbon cable to the IDE port of this board, the other two ends (gray and black connector) at the shorter length of the ribbon cable to the connectors of your hard drives.

Make sure to configure the "Master" and "Slave" relation before connecting two drives by one single ribbon cable. The red line on the ribbon cable must be aligned with pin-1 on both the IDE port and the hard-drive connector.

Each SATA connector serves as one single channel to connect one SATA device by SATA cable.



# 2.5.3 PCI Express slots

PCI-Express x16 Gen. 2 slot (running at x4).

# **Chapter 3 Jumpers & Headers Setup**



NO.	Layout	Page NO.	No.	Layout	Page NO.
1	JBAT	13	9	FUSB1/FUSB2	15
2	JDVI_HDMI	13	10	SPEAKER1	15
3	J5VDUAL	14	11	FPANEL	15
4	CFAN	14	12	IR1	15
5	SFAN1	14	13	JCOM1	16
6	SFAN2	14	14	J1(optional)	16
7	CD_IN(optioanal)	14	15	PWR12V	16
8	F_AUDIO	14	16	ATXPWR	16

#### **Checking Jumper Settings**

- For a 2-pin jumper, plug the jumper cap on both pins will make it CLOSE (SHORT). Remove the jumper cap, or plug it on either pin (reserved for future use) will leave it at OPEN position.
- For 3-pin jumper, pin 1~2 or pin 2~3 can be shorted by plugging the jumper cap in.





# How to identify the PIN1 jumpers?

Please check the mainboard carefully, the PIN1 is marked by "1" or white thick line.

# 1-JBAT(CMOS Memory Clearing Header)

The time to clear the CMOS memory occurs when (a) the CMOS data becomes corrupted, (b) you forgot the supervisor or user password preset in the BIOS menu, (c) you are unable to boot-up the system because the CPU ratio/clock was incorrectly set in the BIOS menu, or (d) whenever

there is modification on the CPU or memory modules. This header uses a jumper cap to clear the CMOS memory and have it reconfigured to the default values stored in BIOS.

- Pins 1 and 2 shorted (Default): Normal operation.
- Pins 2 and 3 shorted: Clear CMOS memory.



# 2-JDVI\_HDMI(DVI/HDMI Setting Header)

1-2 (Default)	Auto	While JDVI_HDMI jumper be shorted #pin 1-2, it will auto detect HDMI or DVI devise but if some DVI or HDMI
2-3	DVI/HDMI EN	device cann't be detected, please be shorted #pin 2-3.

#### 3-J5VDUAL(5VDUAL Setting Header)

1-2 (Default)	Enable	2-3 pin can not support the
2-3	Disable	set $1 \sim 2$ pin enable the function.

#### 4/5/6-CFAN/SFAN1/SFAN2(Fan Power Connectors)

CFAN:

Pin No.	Definition
1	GND
2	+12V
3	RPM
4	Control

Pin No.	Definition
1	GND
2	+12V
3	RPM

These fan connectors are not jumpers. DO NOT place jumper caps on these connectors.

# 7-CD\_IN(Internal Audio Connectors) (optional)

Pin No.	Definition
1	CD-L
2	GND
3	GND
4	CD-R

#### 8-F\_AUDIO(Front Panel Audio Connection Header)

Pin No.	Header	HD Audio Definition	AC97 Audio Definition
1	PORT1L	Microphone_Left	Microphone
2	AGND	Ground	Ground
3	PORT1R	Microphone_Right	MIC Power
4	PRESENCE#	-ACZ_DET	N/A
5	PORT2R	Line2_Right	Line out (R)
6	SENSE1_RETURN	AuD_R_Return	N/A
7	SENSE_SEND	FAUDIO_JD	N/A
8	No Pin	N/A	N/A
9	PORT2L	Line2_Left	Line Out(L)
10	SENSE2_RETURN	AuD_L_Return	N/A



9-FUSB1/	FUSB2	(Additional	USB	Port Headers)	1
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Pin No.	Definition	Pin No.	Definition
1	VCC	2	VCC
3	Data 0-	4	Data 1-
5	Data 0+	6	Data 1+
7	Ground	8	Ground
9	NO Pin	10	NC

# 10/11-SPEAKER1/FPANEL(Speaker Headers & Front Panel Switches)

HD\_LED (Red): Hard Driver LED connector

This connector connects to the case-mounted HD LED cable, and the LED will light when the hard drive(s) is/are being accessed.

#### RST (Blue): Reset Switch

This connector connects to the case-mounted reset switch which allows you to reboot without having to power-off the system and thus prolonging the life of the power supply or system.

#### PWR\_ON (Black): Power Switch

Depending on the setting in the BIOS setup, this switch serves two functions which will allow you to power-on/off the system or to enter the suspend mode.

# PWR\_LED (Green): Power/Standby LED

When the system's power is on, this LED will light. When the system is in the S1 (POS - Power on Suspend) or S3 (STR - Suspend to RAM, optional) state, it will blink every second.

SPEAKER (Yellow or Black): Speaker Connector

This 4-pin connector connects to the case-mounted speaker.

# 12-IR1(IR Connection Header)

Connect the IrDA cable (if available) to this IR connector.

PIT NO. Definition	۱
1 VCC	
2 NC	
3 IRRX	
4 GND	
5 IRTX	

Ξ	

#### SPEAKER1:

Pin No.	Definition	
1	SPK +	
2	NC	
3	NC	
4	SPK -	



## 13-JCOM1(Serial Port Header)

This JCOM1 header supports a serial port module.

Pin No.	Definition	Pin No.	Definition	
1	DCD	2	RXD	
3	TXD	4	DTR	
5	GND	6	DSR	
7	RTS	8	CTS	
9	RI			

# 15/16-PWR12V/ATXPWR(4-pin 12V Power Connector/ATX 24-pin Power Connector)

ATXPWR (ATX Power) connector We recommend to use our motherboard with a power supply that complies with the ATX12V Power Supply Design Guide Version 1.1. Every ATX12V power supply unit has a standard 24-pin ATX main power connector that must be plugged into this connector. If you would like to use an old power supply with only a 20-pin ATX main power connector, then please plug the 20-pin ATX main power connector along with pin 1 and pin 13.





PWR12V (+12V Power) connector Your power supply unit may come with a 4-pin or 8-pin +12V power connector. The +12V power enables the delivery of more +12VDC current to the CPU's Voltage Regulator Module (VRM). please connect the 4-pin power to this connector.

# **Chapter 4 BIOS Setup Utility**

BIOS stands for Basic Input and Output System. It was once called ROM BIOS when it was stored in a Read-Only Memory (ROM) chip. Now manufacturers would like to store BIOS in EEPROM which means Electrically Erasable Programmable Memory. BIOS used in this series of mainboard is stored in EEPROM, and is the first program to run when you turn on your computer.

BIOS performs the following functions:

- 1. Initializing and testing hardware in your computer (a process called "POST", for Power On Self Test).
- 2. Loading and running your operating system.
- 3. Helping your operating system and application programs manage your PC hardware by means of a set of routines called BIOS Run-Time Service.

# 4.1 About BIOS Setup

BIOS Setup is an interactive BIOS program that you need to run when:

- 1. Changing the hardware of your system. (For example: installing a new Hard Disk etc.)
- Modifying the behavior of your computer. (For example: changing the system time or date, or turning special features on or off etc.)
- 3. Enhancing your computer's behavior. (For example: speeding up performance by turning on shadowing or cache)

# 4.2 To Run BIOS Setup

First access BIOS setup menu by pressing <F1> key after "POST" is complete (before OS is loaded). After the first BIOS be setupped(or loaded default values) and save, the <DEL> key will be pressed if you will enter BIOS setup menu.

# 4.3 About CMOS

CMOS is the memory maintained by a battery. CMOS is used to store the BIOS settings you have selected in BIOS Setup. CMOS also maintains the internal clock. Every time you turn on your computer, the BIOS Looks into CMOS for the settings you have selected and configures your computer accordingly. If the battery runs out of power, the CMOS data will be lost and POST will issue a "CMOS invalid" or "CMOS checksum invalid" message. If this happens, you have to replace the battery and check and configure the BIOS Setup for the new start.

# 4.4 The POST (Power On Self Test)

POST is an acronym for Power On Self Test. This program will test all things the BIOS does

before the operating system is started. Each of POST routines is assigned a POST code, a unique number which is sent to I/O port 080h before the routine is executed.

# 4.5 BIOS Setup — CMOS Setup Utility

- In order to increase system stability and performance, our engineering staff is constantly improving the PIOS
  - improving the BIOS menu. The BIOS setup screens and descriptions illustrated in this manual are for your reference only, and may not completely match with what you see on your screen.
    - Do not change the BIOS parameters unless you fully understand its function.

# 4.5.1 CMOS Setup Utility

After powering up the system, the BIOS message appears on the screen when the first time or when CMOS setting wrong, there is following message appears on the screen, but if the first first BIOS be setuped(or loaded default values) and save, the <DEL> key will be pressed if you will enter BIOS setup menu.

#### Press F1 to Bun SETUP

If this message disappears before you respond, restart the system by pressing  $\langle Ctrl \rangle + \langle Alt \rangle +$ <Del> keys, or by pressing the reset button on computer chassis. Only when these two methods should be fail that you restart the system by powering it off and then back on. After pressing  $\langle F1 \rangle$  or  $\langle Del \rangle$  key, the main menu appears.

BIOS SETUP UTILITY						
Main Advanced	Boot	Security	JUST	woot!	Power	Exit
System Overview  System Information  System Time  System Date Language Floppy A	[22:15:32] [Thu 06/19 [English] [1.44 MB 3	0/20081				LAT
<pre>&gt; Primary IDE Master &gt; Primary IDE Slave &gt; SATA 1 &gt; SATA 2 &gt; SATA 3 &gt; SATA 4 &gt; ESATA</pre>	: [No : [No : [Ha : [No : [No : [No : [No	t Detected] t Detected] rd Disk1 t Detected] t Detected] t Detected] t Detected]		← ↑↓ Enter F1 F10 ESC	Select Sc Select It Go to Sub General H Save and Exit	reen em Screen elp Exit
v02.61 (C)Copy	right 1985-2	2006, American	Megat	rends,	Inc.	

This is the System Overview, The System Time, System Date, Primary IDE information, SATA port information.

## System Information

Please Enter this submenu, this will be display BIOS verison, build date, ID number, also will display CPU type, Speed, count, and Memory Size and so on.

BIOS SETUP UTILITY		
Main		
System Overview		
AMIBIOS Version :08.00.14 Build Date:05/29/08 ID :RS88C011		
Processor AMD Sempron(tm) Processor LE-1100 Speed :1912MHz Count :1	← ↑↓ F1 F10	Select Screen Select Item General Help Saue and Evit
System Memory Size :1792MB	ESC	Exit

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#### • Back to Main Setup Menu

#### System time

This item sets the time you specify(usually the current time)in the format of [Hour],[Minute]and [Second].

System date

This item sets the date you specify(usually the current date in the format of [Month],[Date],and [Year].

• Floppy A

Allows you to selects the type of floppy disk drive installed in your system. If you do not install a floppy disk drive, set this item to None.

• Language

Allows you to selects the current default language used by the BIOS.

Primary IDE Master/Slave

This item sets the status of auto detection of IDE devices while enterting setup, and BIOS will auto detects the presence of IDE devices.

# SATA Port 1 /2/3/4/ESATA

This item sets the status of auto detection of SATA devices while enterting setup, and BIOS will auto detects the presence of SATA devices.

# 4.5.2 Control Keys

Press F1 to pop up a small help window that describes the appropriate keys to use and the possible selections for the highlighted item.

Please check the following table for the function description of each control key.

Control Key(s)	Function Description
$\leftarrow \prime \rightarrow$	Move cursor left or right to select Screens
↑ ∕ ↓	Move cursor up or down to select items
+/ -/PU/PD	To Change option for the selected items
<enter></enter>	To bring up the selected screen
<esc></esc>	Main Menu - Quit and not save changes into CMOS Status Page Setup Menu and Option Page Setup Menu - Exit current page and return to Main Menu
<f1></f1>	General help
<f2 f3=""></f2>	Change Colors
<f5></f5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<f7></f7>	Discard Changes
<f8></f8>	Load Failsafe Defaults
<f9></f9>	Load Optimal Defaults
<f10></f10>	Save configuration changes and exit setup

# 4.5.3 Advanced Setting

BIOS SETUP UTILITY							
Main	Advanced	Boot	Security	Powe	r ı	JUSTwoot!	Exit
Advan	ced Settings				Conf	igure CPU	
<ul> <li>WARNING: Setting wrong values in below sections may cause system to malfunction.</li> <li>CPU Configuration</li> <li>NorthBridge Configuration</li> <li>SouthBridge Configuration</li> <li>Onboard Device Configuration</li> <li>PCIPnP</li> </ul>					← t↓ Ente: F1 F10 ESC	Select S Select I r Go to Su General Save and Exit	creen tem db Screen Help LExit
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This submenu including these configurations, such as CPU, Northbridge, Southbridge, Onboard Device, only CPU Configuration submenu dispay diallog box as follwoing.

BIOS SETUP UTILITY				
Advanced				
CPU Configuration Module Version: 13.29 AGESA Version : 3.1.8.0 Physical Count: 1 Logical Count: 1	This option should remain disabled for the normal operation. The driver developer may enable it for testime represent			
AMD Sempron(tn) Processor LE-1100 Revision: G1 Cache L1: 128KB Cache L2: 256KB Cache L3: N/A Speed : 1912MHz, NB Clk: N/A Current FSB Multiplier: 9.5x Maxinum FSB Multiplier: 9.5x Able to Change Freq. : Yes uCode Patch Level : None Required	<ul> <li>Select Screen</li> </ul>			
GART Error Reporting     [Disabled]       Microcode Update     [Enabled]       Secure Virtual Machine Mode     [Enabled]       Cool N Quiet     [Disabled]       ACPI SRAT Table     [Enabled]	↑↓ Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit			
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This is CPU related parameter and CPU setting.

#### CPU Configuration

Click <Enter> key to enter its submenu, it will be display configureted CPU information, including Module Version, Manufacturer , CPU type, Frequency, FSB Speed, Cache L1 , Cache L2 and so on.

#### • Cool N Quiet

Enabled :Lets the AMD Cool N Quiet driver dynamically adjust the CPU clock and VIA to reduce heat output from your computer and its power consumption.

Disabled: Disables this function(Default).

#### North Bridge Configuration

Click <Enter> key to enter its submenu, it will be display north bridge chipset configuration.

В	IOS SETUP UTILITY	
Advanced		
NorthBridge Chipset Configura	ıtion	
NB CIMx Version:4.5.0		Options
Internal Graphics configurati	ion	Disable UMA
Internal Graphics Mode UMA Frame Buffer Size GFX Engine Clock Override	[UMA] [AUTO] [Disable]	UMA+SIDEPORT
Surround View FB Location	[Disable] [Above 4G]	
HDMI Audio GPPSB Core Configuration	[Enable] [Auto]	← Select Screen ↑↓ Select Item Enter Go to Sub Screen
Primary Video Controller	[PCI-GFX0-GPP]	F10 Save and Exit
PCIE GEN2 Setting		LOU LXIU
PCIE1 Gen2 High Speed Mode	[Disabled]	
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#### South Bridge Configuration

Click <Enter> key to enter its submenu, it will be dispay south bridge chipset configuration, this item sets USB functions, audio controller, PCIE ports selection.

I	IOS SETUP UTILITY	
Advanced		
SouthBridge Chipset Configura	ation	
nSureBoot Feature	[Disable]	Options
SB Azalia Configuration		AUTO Disabled
HD Audio Azalia Device HD Onboard PIM Config Azalia Snoop	[Enable] [Enable] [Disable]	Enabled
OnChip SATA Channel OnChip SATA Type SATA IDE Combined Mode PATA Channel Config	[Enable] [Native IDE] [Enable] [SATA as primary]	+ Select Screen 14 Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit Ence Encide
SB CIMX Version:4.7.0		ESC Exit
102.61 (C)Comuniatit	199E 2006 Amonioan Mo	ratmondo Ino

• SB Azalia Audio Configuration

Click <Enter> key to enter its submenu.

HD Audio Azalia Device
 Sate the HD Audio has Enchlad as D

Sets the HD Audio has Enabled or Disabled state.

• HD Onboard PIN Config Enabled : Display the option for Azalia Front Panel in BIOS. Disabled: Disabled the option for Azalia Front Panel in BIOS.

# • Azalia Front Panel

Sets the sound function for front panel Enabled or Disabled.

# Onboard Device Configuration

Click <Enter> key to enter its submenu.

В	IOS SETUP UTILITY	
Advanced		
Onboard Device Configuration         Omboard PCI IDE Controller         Hard Disk Write Protect         IDE Detect Time Out (Sec)         ATA(PI) 80Pin Cable Detection         Onboard Floppy Controller         Serial Port1 Address         Serial Port2 Address         Serial Port2 Mode         Parallel Port Address         Lan Controller         Onboard Lan Boot Rom         > USB Device	[Both] [Disabled] [35] [Host & Device] [Enabled] [378/IRQ4] [278/IRQ4] [IPDA] [Disabled] [Enabled] [Disabled]	DISABLED: disables the integrated IDE Controller. PRIMARY: enables only the Primary IDE Controller. SECONDARY: enables only the Secondary IDE Controller. BOTH: enables both IDE Controllers. - Select Screen N Select Item - Change Option F1 General Help F10 Save and Exit ESC Exit
uA2.61 (C)Comuniant	1985-2006, American	Meratrends. Inc

#### Onboard PCI IDE Controller

This option allows you to Select PCI IDE training mode

#### • Hard disk write protect

Disable/enable device write protection.this will be effictive only if device is accessed through BIOS

#### • IDE Detect Time Out

Select the time out value for detecting ATA/ATAPI device(s)

• ATA(PI) 80Pin Cable Detection

Select the mechanism for detecting 88pin ATA(PI) Cable.

- Onboard Floppy Controller
   Allows BIOS to Enable or Disable FLOPPY Controller
- Serial Port1 Address Allows BIOS to Select Serial Port1 base Addresses.
- Serial Port2 Address Allows BIOS to Select Serial Port2 base Addresses.

#### • Parallel Port Address

Allows BIOS to Parallel Port base Addresses.

- Lan Controller Enable:turn on the lan Disabled:shut the lan
- Onboard 8056 Lan Boot ROM
   Available options:Disabled, Enabled

#### • USB Configuration

Click <Enter> key to enter its submenu.

	BIOS SETUP UTILITY	
Advanced		
USB Configuration		Enables support for
Module Version -2.24.3-13.4		option disables
USB Devices Enabled : None		no USB devices are connected.
Legacy USB Support USB 2.0 Controller Mode BIOS EHCI Hand-Off USB1 1.1 Controller	[Enabled] [HiSpeed] [Enabled] [Enabled]	← Select Screen ↑↓ Select Item ← Change Option F1 General Help
USB1 2.0 Controller USB2 1.1 Controller USB2 2.0 Controller USB2 1.1 Controller	[Enabled] [Enabled] [Enabled] [Enabled]	F10 Save and Exit ESC Exit
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#### • Legacy USB Support

Enabled or Disabled Legacy USB option, and Auto option disables legacy support if no USB devices are connected.

• USB 2.0 Controller Mode

Allow you to selects the HiSpeed(480Mbps) or FullSpeed(12Mbps).

# • BIOS EHCI Hand-Off

This is a workaround for OSes without EHCI hand-off support. The EHCI ownership change should claim by EHCI driver.

#### Back to Advanced Setup Menu

# PCIPnP Setting

BIOS SETUP UTILITY				
Advanced				
Advanced PCI/PnP Settings	Clear NVRAM during			
WARNING: Setting wrong value may cause system t	System Boot.			
Clear NVRAM Plug & Play O/S PCI Latency Timer Allocate IRQ to PCI VGA Palette Snooping PCI IDE BusMaster OffBoard PCI/ISA IDE Card	[No] [No] [64] [Yes] [Disabled] [Enabled] [Auto]	<ul> <li>← Select Screen</li> <li>↑↓ Select Item</li> <li>← Change Option</li> <li>F1 General Help</li> <li>F10 Save and Exit</li> <li>ESC Exit</li> </ul>		

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Clear NVRAM

This item for clearing NVRAM during system boot.

Plug & Play O/S

This item lets the BIOS configure all the devices in the system or lets the operating system configure plug and play (PnP) devices not required for boot if your system has a Plug and Play operating system.

• PCI Latency Timer

This item sets value in units of PCI clocks for PCI device latency timer register.

Allocate IRQ to PCI VGA

This item assigns IRQ to PCI VGA card if card requests IRQ or doesn't assign IRQ to PCI VGA card even if card requests an IRQ.

• Palette Snooping

This item informs the PCI devices that an ISA graphics device is installed in the system so the card will function correctly.

#### • PCI IDE BusMaster

This item uses PCI busmastering for BIOS reading / writing to IDE derives.

#### • OffBoard PCI/ISA IDE Card

This item works for most PCI IDE cards, some PCI IDE cards may require this to be set to the PCI slot number that is holding the card.

# 4.5.4 Boot Setting

BIOS SETUP UTILITY								
Main	Advanced	Boot	Security	Power JUSTwoot! Exit				
Boot Sett	ings tings Configurat	ion		Configure Settings during System Boot.				
<ul> <li>Boot Dev</li> <li>Hard Dis</li> <li>Removabl</li> <li>CD/DVD D</li> </ul>	vice Priority sk Drives je Drives prives			+ Select Screen +4 Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit				

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#### Boot Settings Configuration

Click <Enter> key to enter its submenu.

	BIOS SETUP UTILITY Boot	
Boot Settings Configuration Quick Boot Quiet Boot AddOn ROM Display Mode Bootup Num-Lock Wait For 'F1' If Error Hit 'Del' Message Display Interrupt 19 Capture	[Enabled] [Disabled] [Force BIOS] [ON] [Enabled] [Enabled] [Disabled]	<ul> <li>Allows BIOS to skip certain tests while booting. This will decrease the time meeded to boot the system.</li> <li>Select Screen</li> <li>Select Iten</li> <li>Change Option</li> <li>F1 General Help</li> <li>F10 Save and Exit</li> <li>ESC Exit</li> </ul>
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# • Quick Boot

This item allows you to speed up Power On Self Test (POST) after you power on the computer. If this is set to [Enabled], BIOS will shorten or skip some check items during POST.

# • Quiet Boot

It's for sets post menu and detect device.

AddOn ROM Display Mode

Sets the display mode for option ROM.

#### Bootup Num-Lock

Allows you to select the power-on state for the NumLock.

#### • Wait For 'F1' If Error

When set to Enabled, the system waits for the F1 key t be pressed when error occurs.

• Hit 'Del' Message Display

When set to Enabled, the system displays the message "Press DEL to run Setup" durning POST.

#### • Interrupt 19 Capture

When set to Enabled, this function allows the option ROMs to trap Interrupt 19.

Back to Boot Setup Menu

# Boot Device Priority

Click <Enter> key to enter submenu, it will be display specifies the boot sequence from the available devices.

#### Hard Disk Drives

 ${\sf Click}$  <Enter> key to enter submenu, it will be display specifies the boot device priority sequence from available hard disk drives.

#### Removable Drives

 ${\sf Click}$  <Enter> key to enter submenu, it will be display specifies the boot device priority sequence from available removable drives.

#### CD/DVD Drives

 ${\rm Click}$  <Enter> key to enter submenu, it will be display specifies the boot device priority sequence from available CD/DVD drives.

# 4.5.5 Security Setting

		BIOS SE	TUP UTILITY				
Main	Advanced	Boot	Security	Powe	r Jl	USTwoot !	Exit
Securi	ty Settings				Insta	11 or Chang	ge the
Superv User P	isor Password : Not assword : Not	t Installed t Installed			Jassw	oru.	
Change User A Change	Supervisor Passuor ccess Level User Password	rd [Full	Access]		⊢ N↓ Enter	Select Scr Select Ite Change	een m
Passwo	user Password rd Check	ISetu	p]		1 710 780	General He Save and E	lp xit
Boot S	ector Virus Protect	tion [Disa	bledl		200	LXIU	
	v02.61 (C)Cop	yright 1985-2	2006, American	Megatre	nds,	Inc.	

This item allows you to Chage Supervisor/User Password, Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked toconfirm the password. Type the password again and press <Enter>.

① Note: Don't forget your password. If you forget the password, you will have to open the computer case and clear all information in the CMOS before you can start up the system. But by doing this, you will have to reset all previously set options.

# 4.5.6 Power Setting

			BIOS SET	JP UTILIT	Y	
Main	Advanced	Boot	Security	Power	JUSTw00T !	Exit
Power > ACPI > APM > PC H	Settings [ Configurat Configuration lealth	ion m			Sect ACPI ← ↑↓ Enter F1 F10 ESC	ion for Advanced Configuration. Select Screen Select Item • Go to Sub Screen General Help Save and Exit Exit
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#### ACPI Configuration

Click <Enter> key to enter its submenu.

BIOS SETUP UTILITY					
Power					
ACPI Configuration	Select the ACPI				
Suspend mode [Auto] Repost Video On S3 Resume [NO]	state used for System Suspend.				
	<ul> <li>← Select Screen</li> <li>↑↓ Select Item</li> <li>← Change Option</li> <li>F1 General Help</li> <li>F10 Save and Exit</li> <li>ESC Exit</li> </ul>				
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#### • Suspend Mode

Allows you to select the Advanced Configuration and Power Interface (ACPI) state to be used for system suspend.

#### • Repost Video on S3 Resume

Determines whether to invoke VGA BIOS post on S3/STR resume.

• Press **<Esc>** key to return to "**Power**" menu.

# APM Configuration

Click <Enter> key to enter its submenu, APM Configuration Template Manager allows you to manage Power Managerment default or custom configuration templates.

BIOS SETUP UTILITY					
	Power				
APM Configuration		Enable/Disable SMI			
Power Management/APM Suspend Time OUT Power Button Mode Video Power Down Mode Hard Disk Tower Down Mode Hard Disk Time Out(Minute) PWRON After PWR-Fail Resume By RTC Alarm Keyboard WakeUp Specific Key for PowerOn Mouset WakeUp Wake-UP by PME USB Wakeup S3/S4	Daabled] Disabled] Con/Off] Suspend] Suspend] Disabled] COFF] Disabled] Disabled] Disabled] Disabled] Disabled] Disabled]	<ul> <li>← Select Screen</li> <li>↑ Select Item</li> <li>↑ Change Option</li> <li>F1 General Help</li> <li>F10 Save and Exit</li> <li>ESC Exit</li> </ul>			

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- Power Management/APM Enable or disable APM.
- Power Button Mode

Select Power button functionality.

• Suspend Time OUT

If no activity during this time period, the BIOS will place the system into suspend low power state.

Video Power Down Mode

Optional:Disabled,Standby,suspend.

#### Hard Disk Power Down Mode

Optional:Disabled,Standby,suspend.

• Hard Disk Time Out(Minute)

Optional:Disabled,1,2,3,4,5,6,7,8.

#### • PWRON After PWR-Fail

This item selects the system action after an AC power failure.

**[Off]:** When power returns after an AC power failure, the system's power remains off. You must press the Power button to power-on the system.

- **[On]:** When power returns after an AC power failure, the system's power will be powered on automatically.
- [Former-Sts]: When power returns after an AC power failure, the system will return to the state where you left off before power failure occurred. If the system's power is off when AC power failure occurs, it will remain off when power returns. If the system's power is on when AC power failure occurs, the system will power-on when power returns.

# Resume By RTC Alarm

Allows you to enable or disable RTC to generate a wake event. When this item is set to Enabled, the items RTC Alarm Date, RTC Alarm Hour, RTC Alarm Minute, and RTC Alarm Second appear with set values.

# Keyboard WakeUp

PS/2 keyboard activity wakes the computer from an ACPI S1 or S3 state.

• Specific Key for PowerOn

When the Power On function is set to Password, use this item to set the password.

PC Health

Click <Enter> key to enter its submenu, it will be display hardware health configuration, including System temperature, CPU temperature, FAN speed and all kinds of voltages.

# CPUFAN Mode Setting

Available options: Manual Mode, Thermal Cruise Mode, Speed Cruise Mode

CPUFAN PWM Control

According to PWM out configuration adjustable CPU Fan speed.

# 4.5.7 JUSTwoot! Setting

	BIOS SETUP UTILITY						
Main	Advanced	Boot	Security	Power	JUST	w00T!	Exit
OverC	Clock Setting	ls			To En Onboar	abled/D d PCIE	isable LAN BOOTR
<ul> <li>AMD</li> <li>DRAM</li> <li>Memory</li> </ul>	Overclockin 1 Timing Conl ory Configur	g Config Figurati ation	puration on				
Mem CAS RAS Row Min RAS Row	ory CLX CAS Delay() Precharge 1 Active RAS RAS Delay(1 Cycle (Trc)	l) Ircd) Iime(Trp (Tras) trrd) )	:N/A,667 :N/A,9 C) :N/A,9 C) :N/A,9 C) :N/A,9 C) :N/A,24 () :N/A,4 C) :N/A,33 ()	MHZ LK LK LK CLK LK CLK			
Dimm Dram CPU V Vcore K10 C NB Va SB Va SB Va	Voltage Cont Voltage Voltage Contre PUNB Voltage Oltage Contre Oltage contre Oltage	trol rol e Contro ol	[AUT :1.576 [Aut :1.352 ] [AUT0 :1.160 [AUT0 :1.248]	D] U D] U D] U D] U U	<pre></pre>	Select Select Go to S General Save an Exit	Screen Item Sub Screen I Help nd Exit

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# AMD Overclocking Configuration

This item allows you to set processor frequency, processor voltage, CPU-NB HT link speed, ncHT incoming link width, ncHT outgoing link width, memory configuration and CPU/HT reference clock.

The option of CPU/HT Reference Clock allows you overclock CPU clock, the Min is 200MHz, the Max is 400, keyin "+"/"-" to select clock.

User's Manual

BIOS	SETUP UTILITY		
		JUSTw00T !	
AMD Overclocking Configuration			0.711
Speed :2110MHZ, NB CLX:1800MHZ Maximum FSB Multiplier:10.5x Processor Frequency(FID) Processor Voltage(VID) Processor NB Frequency(NBFID) Processor NB Voltage (NBVID)	[Auto] [Auto] [Auto] [Auto]	Config freque voltag	ure CPU ncy and e
CPU-NB HT Link Speed ncHT Incoming Link Width ncHT Outgoing Link Width Advanced Reference Clock (MHZ) CPU/HT Reference Clock(MHZ)	EAUTO] EAuto] EAuto] EDisabled] E200]	÷ †↓ Enter	Select Screen Select Item Go to Sub Screen
A.I. Overclock Function A.I. Overclock	[100]	F1 F10 ESC	General Help Save and Exit Exit

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• PCIE Reference Clock (MHz)

It's for adjust PCIE frequency.

• A.I. Overclock

CPU frequency intelligent setting.

#### Memory Configuration

Click < Enter> key to enter its submenu.

BIOS SETUP UTILITY				
	J	USTwoot!		
Memory Configuration		Enabled Bank Memory		
Bank Interleaving Enable Clock to All DIMMs MemClk Tristate C3/ATLVID Memory Hole Remapping DCT Unganged Mode Power Down Enable Power Down Mode	[Auto] [Disabled] [Disabled] [Enabled] [Always] [Enabled] [Chabled]	+ Select Screen + Select Item +- Change Option F1 General Help F10 Save and Exit ESC Exit		
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#### • Bank Interleaving

Sets the bank interleaving feature.

• Enable Clock to All DIMMs

This item is to enable or disable the unused clocks to DIMMs even the memory slots are not populated.

- MemClk Tristate C3/ATLVID Enables or disables the MemClk Tri-Stating during C3 and Alt VID.
- Memory Hole Remapping
   Enables or disables the memory remark

Enables or disables the memory remapping around the memory hole.

DCT Unganged Mode

This item allows the selection of the unganged DRAM mode (64-bit width).

- Power Down Enable This item is to enable or disable the DDR power down mode.
- Power Down Mode Available options: Channel, Chip Select

#### DRAM Timing Configuration

This submenu allows you to set Memory Clock Mode and DRAM Time Mode.

#### Minix785G Series

User's Manual

BIOS SETUP UTILITY				
	J	USTwoot!		
DRAM Timing Configuration		Options		
Memory Clock Mode DRAM Timing Mode	[Auto] [Auto]	- Auto Limit Manual		
Hemory 2T Hode	[2T Mode]	<ul> <li>← Select Screen</li> <li>↑↓ Select Item</li> <li>← Change Option</li> <li>F1 General Help</li> <li>F10 Save and Exit</li> <li>ESC Exit</li> </ul>		
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# Memory Clock Mode

This item is to select the memory clock mode.

DRAM Timing Mode

This item is to select the DRAM Timing mode.

• Back to JUSTw00T! Setup Menu

# 4.5.8 Exit Setting

BIOS SETUP UTILITY									
Main	Advanced	Boot	Security	Power	JUSTwoot! Exit				
Exit Op Save Ch Discard Discard Load Op Load Fa	tions anges and Exit Changes and E Changes timal Defaults ilsafe Defaults	xit s			Exit system setup after saving the changes. F10 key can be used for this operation. Select Screen 14 Select Item Enter Go to Sub Screen F1 General Help F10 Save and Exit ESC Exit				
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Minix785G Series

Highlight this item and select <Ok>,then press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. Or press <Cancel> to return to the main menu.

BIOS SETUP UTILITY									
	Main Adv	anced Boot	Security	Power	JUSTwoot	t Exit			
	Exit Options Save Changes Discard Chang	and Exit es and Exit	t Exit			n setup ng the			
	Load Optimal Load Failsafe	Save configuration changes and exit s			etup?	t Screen			
		[Ok]	[0	ancel]	lec	t Item Sub Screen			
					F10 Save	al Help and Exit			
					ESC Exit				
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Highlight this item and select <Ok>, then press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. Or press <Cancel> to return to the main menu.

BIOS SETUP UTILITY										
	Main	Advanced	Boot	Security	Power	JUSTwo	ot! Exit			
Exit Options     Exit sys       Save Changes and Exit     uithout       Discard Changes     Exit							stem setup saving any can be used operation.			
	Load Load	Optimal Defa Failsafe Def	al Defa Discard changes and exit setu				er lect Screen			
	[Ok] [Cancel]				ncell		ect Item to Sub Screen eral Helm			
						F10 Save ESC Exi	e and Exit t			

#### Minix785G Series

Sleect <Ok>and press <Enter> to discard changes and exit, or press <Cancel> to return to the main menu.



This option opens a dialog box that let you install optimized defaults for all appropriate items in the Setup Utility. Select <OK> and then <Enter> to install the defaults. select <Cancel> and then <Enter> to not install the defaults. The optimized defaults place demand on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F9>.



This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility: Select <Ok> and the <Enter> to install the defaults. Select <Canel> and then <Enter> to not install the defaults. The fail-safe defaults place no great demand on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F8>.

BIOS SETUP UTILITY									
	Main	Advanced	Boot	Security	Power	· JU:	STwoot!	Exit	
	Exit ( Save ( Discar Discar Load ( Load )	Dptions Changes and Exit d Changes and Ex d Changes Dptimal Defaults Vailsafe Defaults	it Load	Failsafe Defaul	lts?	Load F values setup F8 key for tF for tF t Enter F1 F10 ESC	Failsafe s for all question g can be nis opera Select S Select I Go to Su General Save and Exit	Default the is. used ition. creen tem b Screen Help Exit	
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# **Chapter 5 Driver Installation**

Check your package and there is Driver CD included. This CD consists of all drivers you need. In addition, this CD also include an auto detect software which can tell you which hardware is installed, and which drivers needed so that your system can function properly.

Insert CD into your CD-ROM drive and the menu should appear as below. If the menu does not appear, double-click My Computer / double-click CD-ROM drive or click Start / click Run / type X:\ AUTORUN.EXE (assuming X is your CD-ROM drive).



(This picture is only for reference)

From the Main MENU you may make 4 selections:

- 1. +Mainboard Driver Installation Utility: Click to enter the driver installation menu.
- 2. +Useful Software Utility: Click to enter the utilities installation menu.
- 3. >Browse CD: Click to browse the contents of this "Driver & Utility CD".
- 4. Exit: Click to exit this installation menu.

When you choose **Mainboard Driver installation Utility**, the drivers menu should appear as below:



(This picture is only for reference)

From the Drivers MENU you may make 3 selections:

- 1. AMD Chipset Installtion Utility
- 2. Onboard LAN Driver
- 3. Audio Driver