

AMI BIOS Walkthrough

For Models:

MI-A78S-8209 GeForce 8200

MD-A72P-7509 nForce 750a





American Megatrends

www.ami.com

AMIBIOS (C) 2006 American Megatrends, Inc.

BIOS Date: 05/30/08 14:59:54 Ver: 08.00.15

MD-A72P-7509 BIOS V1.0

CPU : AMD Athlon(tm) 64 X2 Dual Core Processor 4600+

Speed : 2.41 GHz Count : 2

DCT0 = 400 MHz

Press DEL to run Setup

Press F11 for BBS POPUP

1 AMD North Bridge, Rev 62

NUMM ROM Version :4.082.19

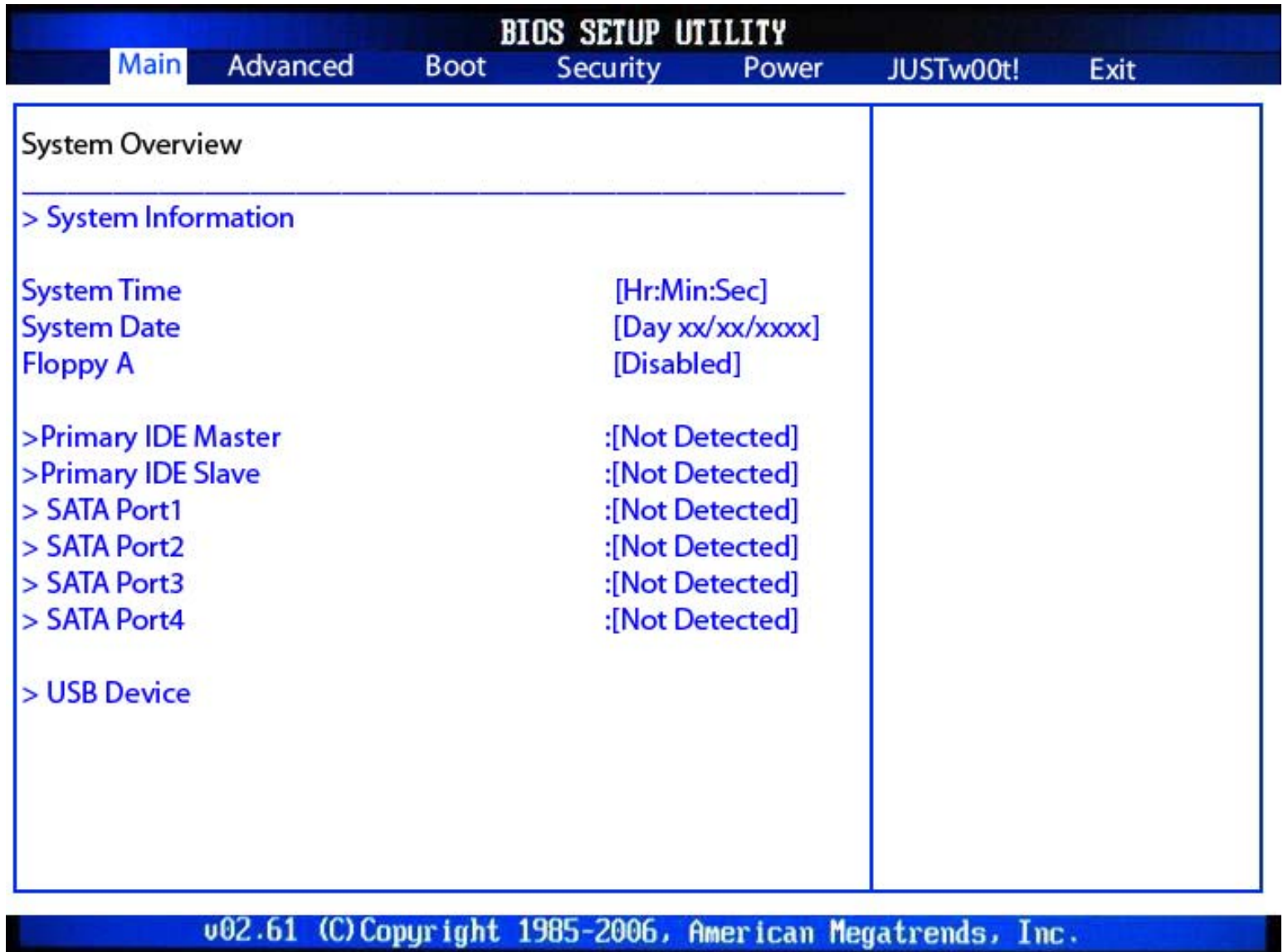
Initializing USB Controllers .. Done.

(C) American Megatrends, Inc.

64-0100-000001-00101111-053008-ATHLON64-C700A320-Y2KC

003A

POST details screen.



Main Tab of the BIOS Screen.

All the IDE and SATA ports listed here have nothing detected. All modern disk drives and optical drives will automatically be detected and will display a part number instead of Not Detected. If you are using a legacy device you can go in and manually set the device’s settings, including S.M.A.R.T support.

System Information:
Shows Detailed system information about the CPU, BIOS, and Memory.

System Time:
Show hour, minute and second.

System Date:
Show Day (Mon, Tue, Ect). Date, Month, and Year.

Floppy A:
Disabled
320kb
1.2MB
720KB
1.44MB – The standard 3 ½ in floppy drive type.
2.88MB

BIOS SETUP UTILITY

Main

Advanced

Boot

Security

Power

JUSTw00t!

Exit

System Overview

AMIBIOS

Version :XX.XX.XX

Build Date : XX/XX/XX

ID : XXXXXXXX

Processor

AMD Processor Name

Speed : XXXXMHz

Count : X

System Memory

Size : XXXXMB

System Time (Edit Here)

[hr:min:sec]

System Date (Edit Here)

[Day XX/XX/XXXX]

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

AMIBIOS:
Shows the current BIOS information, date of bios build, and motherboard ID.

Processor:
Shows processor name, speed of processor, and the number of processors.

System Memory:
Shows amount of RAM current installed in the system.

System Time:
Change hour, minute and second.

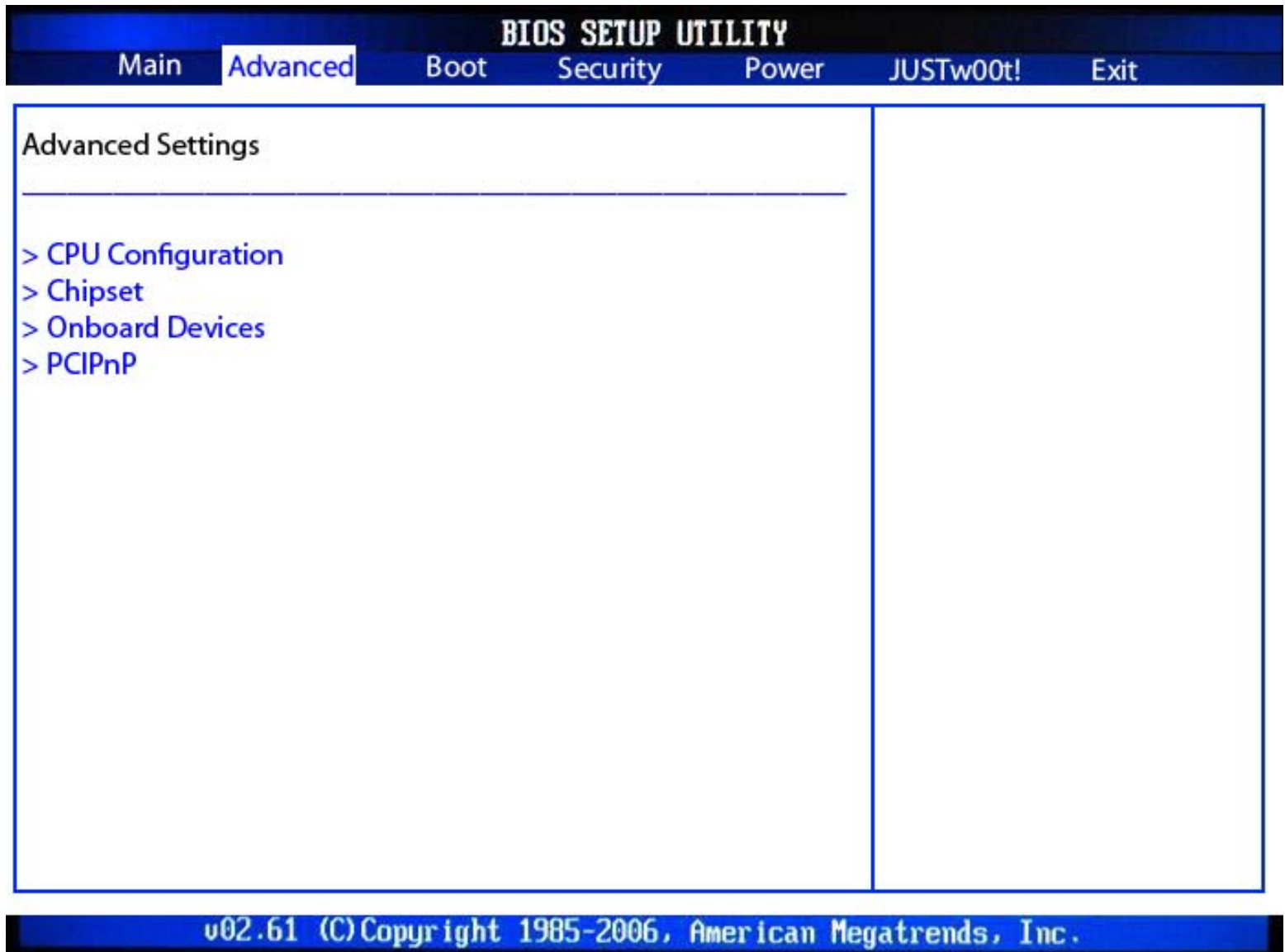
System Date:
Change Day (Mon, Tue, Ect). Date, Month, and Year.

BIOS SETUP UTILITY	
Main	Advanced Boot Security Power JUSTw00t! Exit
<div>USB Configuration</div> <hr/> <div>Module Version - X.XX.X-XX.X</div> <div>USB Devices Enabled : None</div> <div> <div>Legacy USB Support</div> <div>USB 2.0 Controller Mode</div> <div>BIOS EHCI Hand-Off</div> <div> <div>[Enabled]</div> <div>[HiSpeed]</div> <div>[Enabled]</div> </div> </div>	
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.	

Legacy USB Support:
Enabled, Disabled, or Auto
 Allows Legacy Devices to run through the USB port such as the mouse and keyboard. If disabled such devices wont work until an OS and drivers are installed.

USB 2.0 Controller Mode:
Hi Speed or Full Speed
 Hi Speed for 480mb/sec, full speed for older 12mb/sec mode.

BIOS EHCI Hand- Off:
Enabled or Disabled
 Enhanced Host Controller Interface hand off to your operating system.



Advanced Settings Tab.

CPU Configuration:

Shows detailed CPU information, and allows for configuration of microcode, virtual machine modes, and cool 'n' quiet.

Chipset:

Set SLI, Hybrid SLI, and graphics card settings.

Onboard Devices:

Set onboard Lan, USB, Audio, HDMI, Sata, and IDE settings.

PCIPnP:

Set plug and play settings, and allocate IRQ/DMA resources

BIOS SETUP UTILITY	
Main	Advanced
Boot Security Power JUSTw00t! Exit	
CPU Configuration Module Version: XX.XX AGESA Version: x.x.x.x Physical Count : X Logical Count : X	
<hr/> Processor Name (e.g AMD Athlon X2) Revision : XX Cache L1 : XXXkb Cache L2 : XXXXkb Cache L3 : N/A Speed : XXXXMhz NB Clk: N/A Current FSB Multiplier : Maximum FSB Multiplier : Able to Change Freq : Yes uCode Patch Level : None Required GART Error Reporting [Disabled] Microcode Update [Enabled] Secure Virtual Machine Mode [Enabled] Cool 'n' Quiet [Disabled]	
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.	

GART Error Reporting:
Enabled or Disabled
 Graphics Address Remapping Table error reporting. This option should be disabled for normal operation.

Microcode Update:
Enabled or Disabled
 Allows for the CPU’s Microcode to be updated.

Secure Virtual Machine Mode:
Enabled or Disabled
 Enables or disables AMD’s secure virtual machine option.

Cool ‘n’ Quiet:
Enabled or Disabled
 Enables or Disables AMD’s Cool ‘n’ Quiet mode, which reduces energy consumption of the CPU.

BIOS SETUP UTILITY	
Main	Advanced
Boot	Security
Power	JUSTw00t!
Exit	

Advanced Chipset Settings

Hybrid SLI Support	[Disabled]
SLI Support	[Disabled]
Primary Graphics Adapter	[PCIE VGA Card First]
iGPU and Ext-VGA Selection	[Disable iGPU if Ex]
iGPU Frame Buffer Detect	[Disabled]
iGPU Frame Buffer Size	[256MB]

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

Hybrid SLI Support:

Enabled or Disabled

Enable for Hybrid SLI to work, requires add in graphics card.

SLI Support:

Enabled or Disabled

Use this in conjunction with jumpers on the motherboard to enabled SLI. *(Not available for 8200 & 8300 motherboards)*

Primary Graphics Adapter:

PCIE VGA Card First – PCI Express card is primary card and will show post on bootup.

Internal VGA First – Onboard Graphics Card is primary card and will show post on bootup.

PCI VGA Card First – PCI card is primary card and will show post on bootup.

iGPU and Ext-VGA Selection:

Disable iGPU if External VGA Card Exist. – Completely disables onboard video when add in card installed.

Both Exist and iGPU by frame buffer detect. – Both onboard and add in card will be enabled.

iGPU Frame Buffer Detect:

Auto or Disabled

Automatically sets frame buffer

iGPU Frame Buffer Size:

Disabled, 32MB, 64MB, 128MB, 256MB, 512MB.

Manually set the amount of system RAM dedicated to onboard video card.

BIOS SETUP UTILITY	
Main	Advanced
Boot	Security
Power	JUSTw00t!
Exit	

Onboard Devices Setting	
PCIE training	[Only Gen1]
Lan1 Controller	[Auto]
USB 1.1 Controller	[Enabled]
USB 2.0 Controller	[Enabled]
AZALIA AUDIO	[Internal codec + E]
OnChip P-ATA Controller	[Enabled]
OnChip S-ATA Controller	[Enabled]
SATA Mode Select	[SATA Mode]
OnBoard Floppy Controller	[Enabled]
Serial Port 1 Address	[3F8/IRQ4]
Serial Port 2 Address	[Disabled]
HDMI/DVI	[Auto]

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

PCIE training:
Only Gen1
Gen2 if Supported
 Sets if Gen2 PCI-E will be used, option only for motherboards with Gen2 PCI-E slots

Lan1 Controller:
Auto or Disabled
 Onboard Ethernet port, auto to enable, disable to turn port off.

USB 1.1 Controller:
Enabled or Disabled
 Turns USB 1.1 on or off

USB 2.0 Controller:
Enabled or Disabled
 Turns USB2.0 on or off

AZALIA Audio:

Disabled – Turns off all onboard audio devices

Internal Codec – Turns off onboard sound, but leaves HDMI sound controller active.

External Codec – Turns off HDMI sound controller, but leaves onboard sound active.

Internal Codec + External Codec – Leaves both onboard and HDMI sound active.

OnChip P-ATA Controller:

Enabled or Disabled

Turns on or off the IDE Controller

OnChip S-ATA Controller:

Enabled or Disabled

Turns on off the SATA controller.

SATA Mode Select:

Changing this setting after installing your operating system will likely result in an unbootable OS.

SATA Mode – Default setting, use this for easiest installation of operating system. However for 750a motherboards only the 4 black SATA ports will be operational in this mode.

RAID Mode – Needed for installing a Raid array in your system. This option will likely require an additional driver to be specified during operating system install. This mode turns on the 2 additional white ports for 750a motherboards.

AHCI Mode – Advanced Host Controller Interface – Offers more features for hard disks, however will require extra drivers to be installed during OS installation to operate properly. This mode turns on the 2 additional white ports for 750a motherboards.

Onboard Floppy Controller:

Enabled or Disabled

Turns on of off the floppy controller.

Serial Port 1 Address:

Allows you to set the resources of serial header on motherboard.

Serial Port 2 Address:

Disabled or Resources set.

HDMI/DVI:

Auto or HDMI.

Allows system to detect if DVI or HDMI is being used, or forces HDMI. HDMI and DVI cannot be used at the same time.

BIOS SETUP UTILITY

Main

Advanced

Boot

Security

Power

JUSTw00t!

Exit

Advanced PCI/PnP Settings

Clear NVRAM

[No]

Plug & Play O/S

[No]

PCI Latency Timer

[32]

Allocate IRQ to PCI VGA

[Yes]

Palette Snooping

[Disable]

PCI IDE BusMaster

[Enabled]

OffBoard PCI/ISA IDE Card

[Auto]

IRQ3

[Available]

to

IRQ15

[Available]

DMA Channel 0

[Available]

to

DMA Channel 7

[Available]

Reserved Memory Size

[Disabled]

002.61 (C) Copyright 1985-2006, American Megatrends, Inc.

Clear NVRAM:
Yes or No
Clear None Volatile Random Access Memory. Clears the section where the system configuration is stored, NVRAM is what detects changes made to the system and ask user to enter setup when the change is detected.

Plug & Play O/S:
Yes or No.
If yes is selected then bios allows the operating system to allocate resources of devices not essential to boot.

PCI Latency Timer:
Determines how long a device can utilize the PCI bus before having to hand it over to another device on the BUS.
32
64
96
128
160
182
224
248

Allocate IRQ to PCI VGA:

Yes or No.

Assigns resources to PCI VGA card if installed.

Palette Snooping:

Enabled or Disabled

Need for ISA cards, leave disabled.

PCI IDE BusMaster:

Enabled or Disabled

Allows for IDE devices to communicate directly with less use of the CPU in command Line environments.

OffBoard PCI/ISA IDE Card:

Auto or PCI Slot 1-6

If an older PCI IDE card is used you may have to manually set which PCI port it is connected to, most will work fine in Auto setting.

IRQ 3-15

Available or Reserved

Allows you to specify if certain IRQ's can automatically be used by the system.

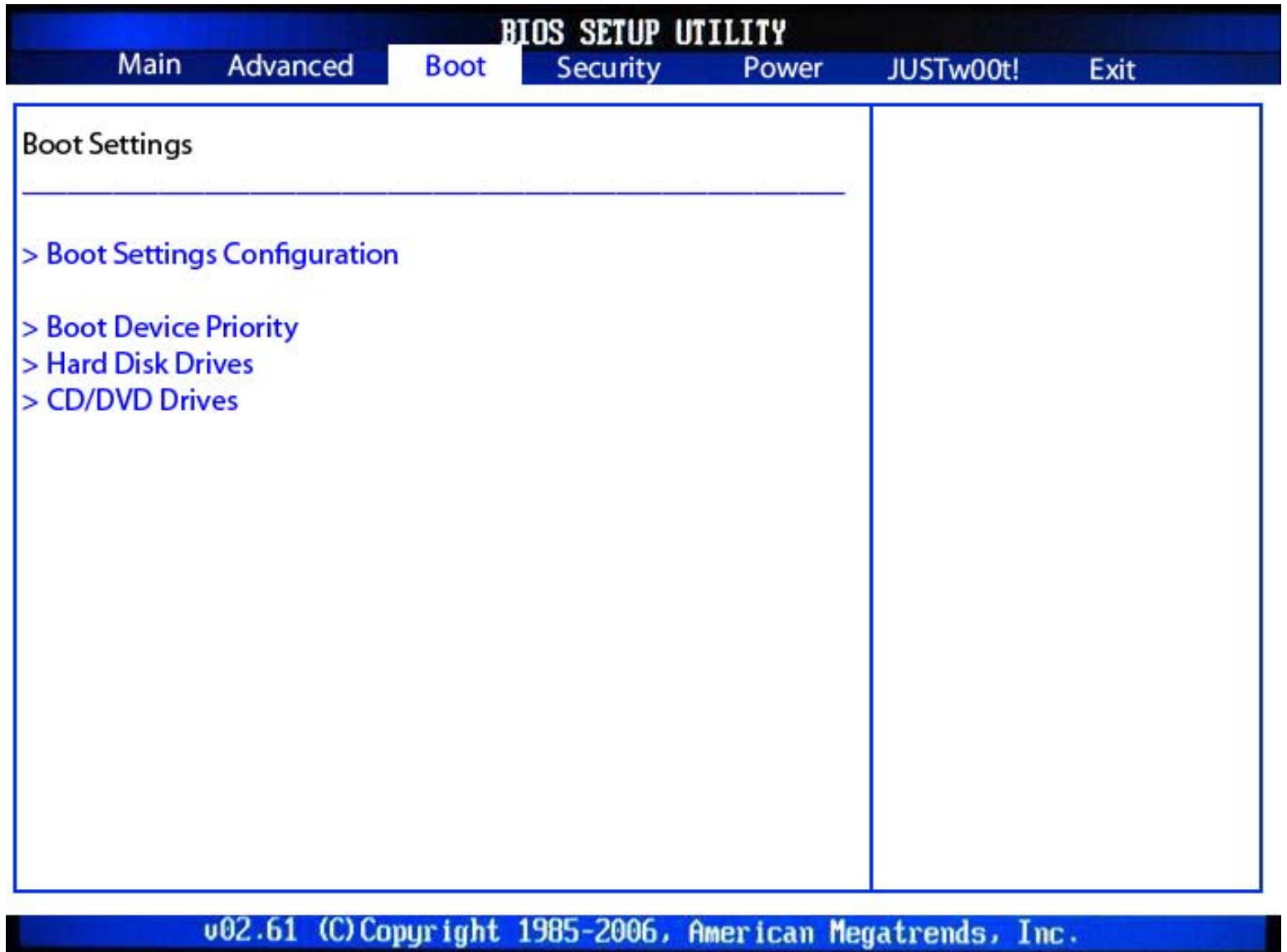
DMA Channel 0 to 7

Available or Reserved

Allows you to specify if certain DMA channels can automatically be used by the system.

Reserved Memory Size:

16k, 32k, or 64k



Boot Settings Configuration:

Allows you to change how the system boots, the onscreen logo, and certain display messages.

Boot Device Priority:

Set the order in which the devices in your system boot to.

Hard Disk Drives:

Set the order you would like the system to boot hard drives in.

CD/DVD Drives:

Set the order you would like CD/DVD optical drives to boot in.

BIOS SETUP UTILITY	
Main	Advanced
Boot	Security
Power	JUSTw00t!
Exit	
<div> <div>Boot Settings Configuration</div> <hr/> <div> <div>Quick Boot</div> <div>[Enabled]</div> </div> <div> <div>Full screen Logo</div> <div>[Disabled]</div> </div> <div> <div>AddOn ROM Display Mode</div> <div>[Force BIOS]</div> </div> <div> <div>Bootup Num Lock</div> <div>[On]</div> </div> <div> <div>PS/2 Mouse Support</div> <div>[Auto]</div> </div> <div> <div>Wait For 'F1' If Error</div> <div>[Enabled]</div> </div> <div> <div>Hit 'DEL' Message Display</div> <div>[Enabled]</div> </div> <div> <div>Interrupt 19 Capture</div> <div>[Enabled]</div> </div> </div>	
v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.	

Quick Boot:
Enabled or Disabled
Skips certain POST test to allow for faster booting to Operating System

Full Screen Logo:
Enabled or Disabled
Shows XFX Logo at startup.

AddOn ROM Display Mode:
Force BIOS or Keep Current
Sets how 3rd party devices display in BIOS. The Force BIOS option has all such devices show themselves, the Keep Current option allows those devices to remain in the background and doesn't force them to show a message.

Bootup Num Lock.
On or Off
Determines if the Num Lock key will be on or off at the system startup.

PS/2 Mouse Support:
Auto, Enabled, or Disabled
Allows you to set how the PS/2 mouse is detected, or if its completely disabled.

Wait for 'F1' If Error:

Enabled or Disabled

Turns on or of the F1 to continue message when the BIOS detects a problem.

Hit 'DEL' Message Display:

Enabled or Disabled

Shows or hides the "Press Del to Enter Setup" message at boot.

Interrupt 19 Capture

Enabled or Disabled

Allows add in devices to utilize interrupt 19. This features is needed if your add in devices has boot functions (e.q. and add in IDE card that has hard drives you want to have an operating system on.)

BIOS SETUP UTILITY	
Main	Advanced
Boot	Security
Power	JUSTw00t!
Exit	

Security Settings

Supervisor Password : Not Installed

User Password : Not Installed

Change Supervisor Password

Change User Password

Flash Write Protection [Enabled]

02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

Change Supervisor Password:
Allows you to set a password for a supervisor.

Change User Password:
Allows you to set a password for a user.

Flash Write Protection:
Enabled or Disabled
This feature protects the BIOS from be written over, if you are trying to update your BIOS you will have to set this to disabled before you run the BIOS flashing utility.

BIOS SETUP UTILITY

Main

Advanced

Boot

Security

Power

JUSTw00t!

Exit

Power Setting

> ACPI Configuration

> APM Configuration

> PC Health

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

ACPI Configuration:

Lets you setup which suspend mode to use, the ACPI Version, and APIC support.

APM Configuration:

Change how power button reacts, and how the system can be resumed from a suspend mode.

PC Health:

Allows you to monitor system temperatures, voltages, and fan speeds.

BIOS SETUP UTILITY

[Main](#)[Advanced](#)[Boot](#)[Security](#)[Power](#)[JUSTw00t!](#)[Exit](#)

ACPI Settings

Suspend Mode	[S3 (STR)]
ACPI Version Features	[ACPI v1.0]
ACPI APIC support	[Enabled]

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

Suspend Mode:

S1 or S3

Determines what type of suspend mode will be used when the system goes into Standby.

S1 is Power on Standby mode, power still goes to the CPU and RAM.

S3 is Suspend to RAM mode. Almost everything but RAM is powered down, all applications are held in the RAM until system is resumed and other components are powered back on.

ACPI Version Features:

ACPI v1.0, ACPI v2.0, or ACPI v3.0.

Allows you to set which ACPI standard will be running.

ACPI APIC Support

Enabled or Disabled

Advanced Configuration and Power Interface. Needed for Power Management options to be controlled by the Operating system.

BIOS SETUP UTILITY	
Main	Advanced
Boot	Security
Power	JUSTw00t!
Exit	

APM Configuration	
Power Management /APM	[Enabled]
Power Button Mode	[On/Off]
APM Resume Even Configuration	
Resume on PME#	[Disabled]
Resume on PCI-E Wake#	[Disabled]
Resume on LAN (Mac)	[Disabled]
Resume on Ring	[Disabled]
Resume on USB	[Disabled]
Resume By RTC Alarm	[Disabled]
Keyboard Wakeup	[Disabled]
Specific Key for PowerOn	
Mouse WakeUp	[Disabled]
PWRON After PWR-Fail	[OFF]

u02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

Allows different ways for the system to be resumed from a standby state.

Power Management /APM

Enabled or Disabled

Turns on or off the advanced power management.

Power Button Mode:

Power On/Off or Suspend

Determines if the power button causes the system to turn off, or go into a Suspended mode.

PWRON After PWR-Fail:

Off, On, Or former state.

Allows system to turn itself on in the event of a power loss. Useful for servers and other systems that need to be on at all times.

BIOS SETUP UTILITY						
Main	Advanced	Boot	Security	Power	JUSTw00t!	Exit

Exit

CPU PWN Control [250]

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

Allows you to monitor system temperatures, voltages, and fan speeds.

CPUFAN Mode Setting:

Manual Mode – Set the speed of the CPU manual

Thermal Mode – Set thermal parameters for the fan speed operation.

Speed Cruise Mode- Aims for certain speed with given tolerance.

BIOS SETUP UTILITY	
Main	Advanced
Boot	Security
Power	JUSTw00t
Exit	

Over Voltage and Clock Settings

Lan1BootROM Control

[Disabled]

>Memory Configuration

SVID support

[Enabled]

CPU Voltage Control

[Auto]

CPU SB Voltage Control

[Auto]

DRAM Voltage Control

[Auto]

Chipset Voltage Control

[Auto]

CPU/LDT Spread Spectrum

[Disabled]

SATA Spread Spectrum

[Disabled]

iGPU Spread Spectrum

[Disabled]

> AMD Overlocking Configuration

SB to K8(CPU) Freq Auto

[Enabled]

SB to K8(CPU) LinkWidth

[16 dn 16up]

CPUFrequency Control

[Manual]

CPU Frequency, MHz

[200]

MCP PCI-Express Frequency MHz

[100]

GPU Over Clock MHz

[500]

GPU Shader Clock MHz

[1500]

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

Lan1 BootROM Control;
Enabled or Disabled
Used for network booting.

SVID Support:
Enabled or Disabled

CPU Voltage Control:
Set CPU voltage from 1.000 v to 1.450 v in .050 increments.

CPU SB Voltage Control:
Set CPU SB voltage from 1.000 v to 1.450 v in .050 increments.

DRAM Voltage Control:
Allows you to increase voltage going to memory in .050 V increments, up to .350 V.

Chipset Voltage Control:
Allows you to increase Chipset voltage, by .030, .060, and .090 V.

CPU/LDT Spread Spectrum:
Enabled or Disabled

Enables or disables spread spectrum, spread spectrum reduces EMI. This should be disabled if overclocking.

SATA Spread Spectrum:

Enabled or Disabled

Enables or disables spread spectrum, spread spectrum reduces EMI. This should be disabled if overclocking.

iGPU Spread Spectrum:

Enabled or Disabled

Enables or disables spread spectrum, spread spectrum reduces EMI. This should be disabled if overclocking.

SB to K8 (CPU) Freq Auto:

Enabled or Disabled

SB to K8 (CPU) LinkWidth:

4up 4down, 8up 8down, and 16up 16down.

CPU Frequency Control:

Manual - Manually Set the Frequency

Auto L – Automatic Overclock, Turbo

Auto M – Automatic Overclock, Super

Auto H – Automatic Overclock, Great

CPU Frequency, MHz:

200MHz to 400MHz

MCP PCI-Express Frequency MHz:

Allows you to adjust the frequency of the PCI-E.

GPU Overclock MHz:

Manually adjust the frequency of the GPU.

GPU Shader Clock MHz:

Manually adjust the frequency of the GPU Shader

BIOS SETUP UTILITY

Main

Advanced

Boot

Security

Power

JUSTw00t

Exit

North Bridge Chipset Configuration

>Memory Configuration

>DRAM Timing Configuration

Memory CLK	: XXX MHz
CAS Latency (Td)	: X.X
RAS/CAS Delay (Trcd)	: X CLK
Row Precharge Time (Trp)	: X CLK
Min Active RAS(Tras)	: XX CLK
RAS/RAS Delay (Trrd)	: X CLK
Row Cycle (Trc)	: XX CLK

Memory 2T Mode

[2T Mode]

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

Memory 2T Mode:

Number of cycles it takes to address all memory. 2T mode recommended any time more than 2 sticks of memory is used.

BIOS SETUP UTILITY	
Main	Advanced
Boot	Security
Power	JUSTw00t
Exit	

Memory Configuration

Bank Interleaving	[Auto]
Enable Clock to All DIMMs	[Disabled]
MemClk Tristate C3/ATLVID	[Disabled]
Memory Hole Remapping	[Enabled]
DCT Unganged Mode	[Always]
Power Down Enable	[Disabled]

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

Bank Interleaving:
Auto or Disabled
 Interleaving makes it so the various banks in your memory DIMMs alternate their refresh and access cycles. This improves performance and is a plus for overclocking

Enable Clock to All DIMMs:
Enabled or Disabled
 When enabled this forces the clocks to run to all DIMM’s, even ones where no memory is detected. Disabled to save power and reduce EMI.

MemClk Tristate C3/ATLVID:
Enabled or Disabled

Memory Hole Remapping:
Enabled or Disabled
 Needed when using more than 3gb of memory. Keep enabled.

DCT Unganged Mode:
Always (2x64bit) or Auto(1x128bit)
 Ability for Phenom processors, essentially improves memory performance by allowing the memory to run in 2x64 bit channels instead of 1x128 bit channel. The 2x64bit mode allows for simultaneous reading and writing.

Power Down Enable:
Enabled or Disabled

BIOS SETUP UTILITY	
Main	Advanced
Boot	Security
Power	JUSTw00t
Exit	

DRAM Timing Configuration

Memory Clock Mode	[Auto or Manual]
Memclock Value	[XXX MHz]
DRAM Timing Mode	[DCT 0]
Cas Latency	[Auto]
TRCD	[Auto]
TRP	[Auto]
tRTP	[Auto]
TRAS	[Auto]
TRC	[Auto]
tWR	[Auto]
TRRD	[Auto]
tRWTTO	[Auto]
tWRRD	[Auto]
tWTR	[Auto]
tWRWR	[Auto]
tRDRD	[Auto]
tRFC0	[Auto]
tRFC1	[Auto]

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

Memory Clock Mode:

- Auto*- Automatically detect and configure memory speed
- Limit*- Set the speed that the RAM cannot exceed
- Manual* – Uses whatever setting

DRAM Timing Mode:

- Auto* – Automatically detect and configure memory timings.
- DCT 0* – Manually specify individual timings.
- DCT 1* – Manually specify second set of timings. (only if Unganged 2x64bit mode is used).
- Both* – Shows both DCT 0 and DCT 1 timings.

tCL (CAS):

Column Address Strobe

tRCD:

RAS to CAS Delay; time require between RAS and CAS access

tRP:

Precharge; the time required to switch from one row to the next row, for example, switch internal memory banks.

tRAS:

Active to precharge delay; this is the delay between the precharge and activation of a row.

BIOS SETUP UTILITY	
Main	Advanced
Boot	Security
Power	JUSTw00t
Exit	

AMD Overclocking Configuration

Processor Frequency Multiplier

[Auto]

Processor Voltage

[Auto]

v02.61 (C) Copyright 1985-2006, American Megatrends, Inc.

This overclocking menu will appear when not using a Phenom processor.

Processor Frequency Multiplier:

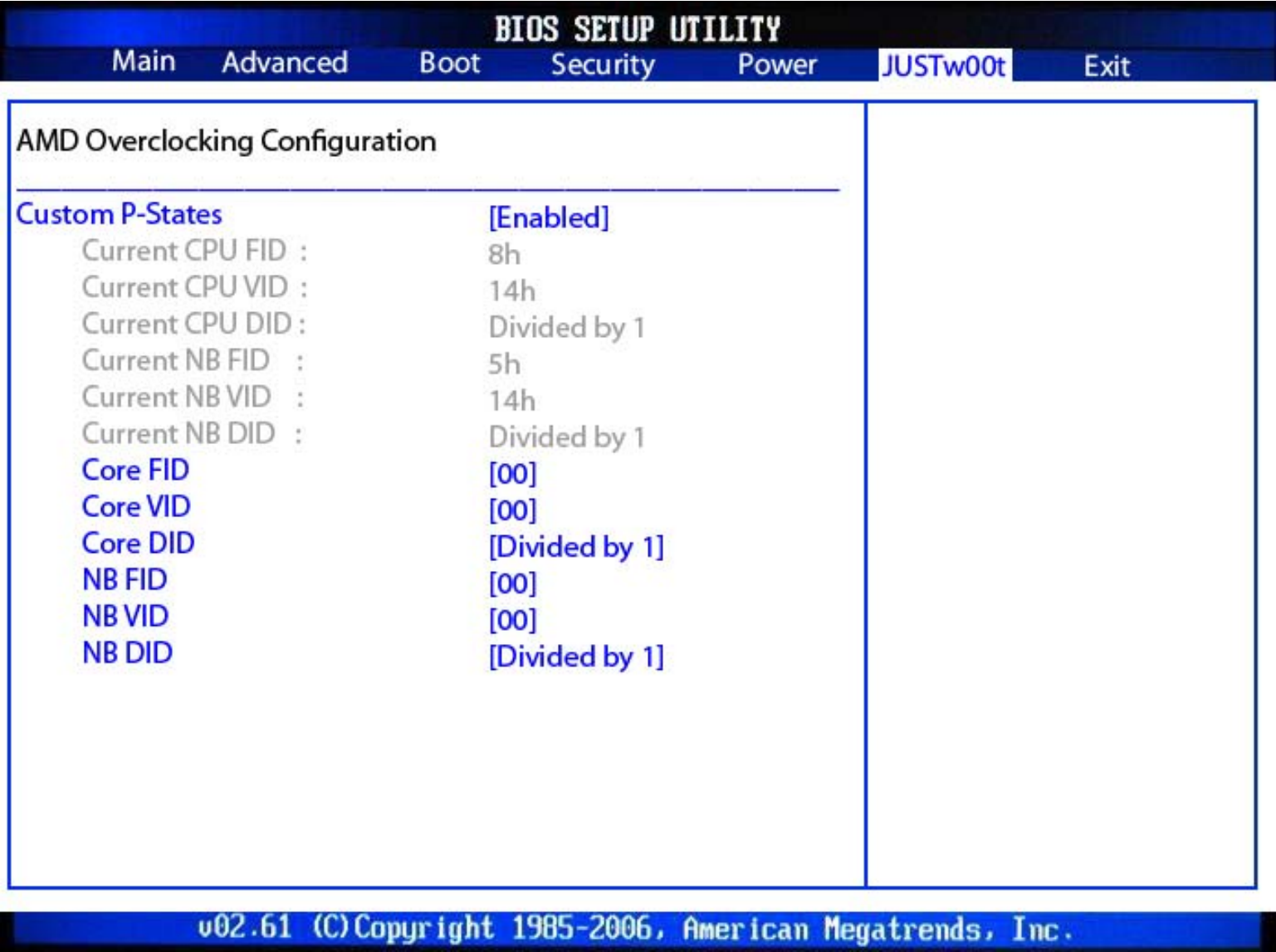
Auto – Allow BIOS to automatically set CPU Multiplier

4.0 to 11 in .5 increments – Manually set CPU speed by changing the multiplier.

Processor Voltage:

Auto - Allow BIOS to automatically set CPU Voltage

.800 V to 1.375 V in .025 V increments – Manually set the Voltage of the CPU



Overclocking menu for Phenom Processors only.

Custom P-States:
Enabled or Disabled

Enables and disables the ability to adjust the Phenoms Frequency Multiplier, Voltage, and the Divider. Overclocking with Phenom processors has changed significantly from previous generation processors. This option may be locked on some motherboards.

BIOS SETUP UTILITY							
Main	Advanced	Boot	Security	Power	JUSTw00t!	Exit	

Exit Options

Save Changes and Exit

Discard Changes and Exit

Discard Changes

Load Optimal Defaults

Load Failsafe Defaults

Options for saving, discarding changes, and loading default settings.