

## **Technical Reference**

SB-P201  
Single Pentium® II/III  
Single Board Computer  
with Intel 440 BX Chipset



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1641 McGaw Avenue  
Irvine, California 92614



## Features

- 1 Pentium® II Processor upgradeable through 300, 350 MHz, 400 MHz and 450 MHz, with either 256 KB or 512 KB cache
- Intel 440BX chipset
- System memory, with 64-bit path, upgradeable from 8 MB to 512 MB fast page mode (FPM) or extended data out (EDO)/Hyper Page Mode RAM in two 168-pin DIMM sockets, one bank per socket
- PCI local bus interface compliant with PCI 2.1 specification, 100 MB/sec bandwidth (sustained), supports 4 PCI bus masters, pipeline snoop ahead feature
- AMI BIOS with BIOS-facilitated timers for *Green PC* feature
- PS/2 keyboard, PS/2 mouse, 2 serial, 1 parallel and 2 USB ports
- On-board PCI bus master EIDE controller (up to 4 EIDE drives & 2 floppy drives). Two channels support PIO modes 3 & 4; 14 MB/sec bus master IDE.
- Year 2000 compliant
- Compatible with Windows™, NT, 95, 98, OS/2, SCO, Unix™, Interactive UNIX™, QNX™

## FCC Standards

The FCC (Federal Communications Commission) restricts the amount of radiation and radio frequency emissions coming from computing equipment.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CSS Labs is not responsible for any radio or television interference caused by unauthorized modifications to this equipment. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

To ensure compliance to FCC noninterference regulations, peripherals attached to this device require shielded I/O cables.

**NOTICE:** The use of a non-shielded I/O cable with this device is in violation of U.S. Federal law and will not allow the device to meet the maximum emission limits.

**CAUTION:** Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

**Note:** If you have purchased the miniature tower system, please note the following...

**Warning:** The system is to be installed on desk or table tops only. The unit will become unstable if operated as a floor standing unit and unintentional force is applied to the top of the unit.

**Warning:** Turn the unit off and unplug the power cord before you open the cover to install any cards or peripheral devices.

## WARNING

CAUTION: THERE IS A DANGER OF EXPLOSION IF THE BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

ATTENTION: IL Y A DANGER D'EXPLOSION S'IL Y A REMPLACEMENT INCORRECT DE LA BATTERIE. REMPLACER UNIQUEMENT AVEC UNE BATTERIE DU MEME TYPE OU D'UN TYPE RECOMMENDE PAR LE CONSTRUCTEUR. ETTERAU REBUT LES BATTERIES USAGEES CONFORMEMANT AUX INSTRUCTIONS DU FABRICATANT.

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P/N SB-P201-DOC Revision 1 January 1999

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# Overview

This document describes the technical features of the board. The topics include:

- **The Microprocessor** - description of the features of the Pentium II microprocessor
- **Board** - illustration and description of the single board computer
- **Connectors** - description of connector locations and functions on the board
- **Jumpers** - detailed description of the jumpers used to configure the board
- **System Memory** - detailed description of system memory and instructions on how to add memory
- **System Memory Map** - listing of traditional address assignments for system memory
- **Configuration Utilities** - description and instructions for using the utility to configure the board's BIOS

# The Microprocessor

The Pentium® II microprocessor combines all of the features of the Pentium, Pentium Pro and 80486 processors plus Intel MMX™ media enhancement technology,

In addition, the Pentium II features:

- Dynamic Execution performance
- Multi-transaction system bus
- Dual Independent Bus Architecture allowing access to data from either bus simultaneously or in parallel
- Dynamic Execution with Multiple Branch Prediction, Data Flow Analysis and Speculative Execution
- Intel MMX multimedia technology
- 32K (16K/16K) non-blocking, level-one cache
- 66 or 100 MHz bus speed
- Error Correction Code (ECC), fault analysis, recovery, and functional redundancy checking for both system and L2 cache busses.

## The Board

### Cache Memory

The processor comes with 32 KB of L1 cache, and 256 KB or 512 KB of internal L2 cache.

### Voltage Regulators

The board comes with a voltage regulator, making the board compatible with the full line of processors. VR1 and VR2 are 1.5 volt regulators, VR3, VR4, VR5 and VR6 are 3.3 volt regulators and VR7 is a 2.5 volt regulator.

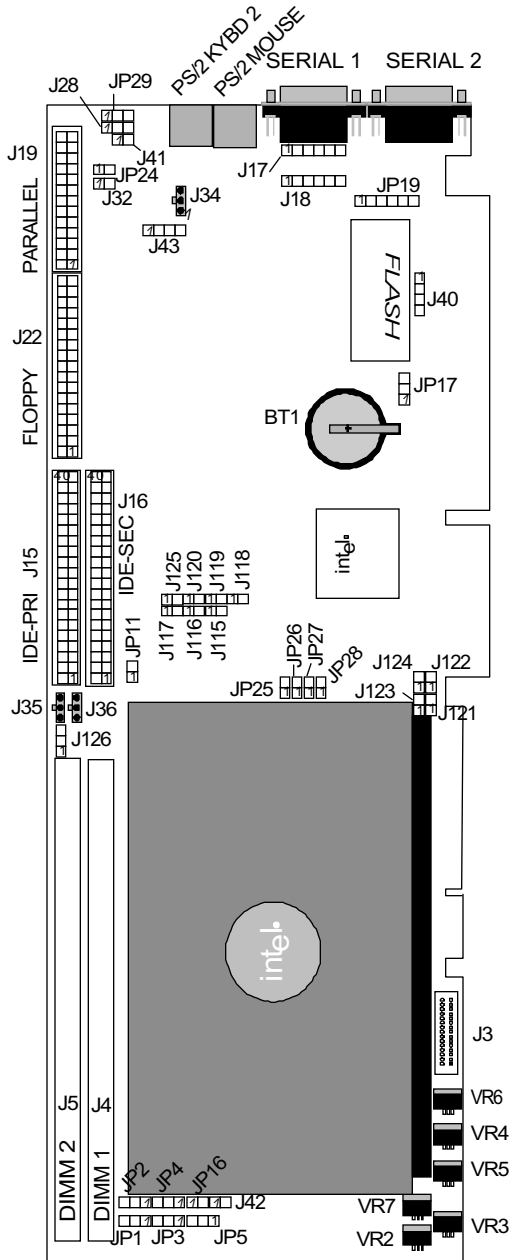


Figure 1: The Board

# Connectors

Description	Connector
J23	PS/2 keyboard connector
J24	PS/2 mouse connector
J20	Serial port 1 connector
J21	Serial port 2 connector
J19	Parallel port
J17	USB0 Universal Serial Bus 0
J18	USB1 Universal Serial Bus 1
J15	Primary IDE connector
J16	Secondary IDE connector
J22	Floppy drive connector
J35, J36	Processor fan connectors
JP19	Infrared connector
BT1	Battery
J34	Wake On LAN

## PS/2 Keyboard Connector J23

Pin	Assignment	Pin	Assignment
1	Keyboard Data	4	+5 V
2	Not Used	5	Clock
3	Ground	6	Not Used

## PS/2 Mouse Connector J24

Pin	Assignment	Pin	Assignment
1	Mouse Data	4	+5 V
2	Not Used	5	Clock
3	Ground	6	Not Used

## Serial Ports 1 (COM1); Serial Port 2 (COM2) Connectors J20, J21

The board provides two 9-pin serial ports and connectors.

Pin	Assignment	Pin	Assignment
1	DCD	6	DSR
2	RXD	7	RTS
3	TXD	8	CTS
4	DTR	9	RI
5	Ground		

## Parallel Port J19

J19 provides the connection for the parallel port.

Pin	Assignment	Pin	Assignment
1	STE	14	Ground
2	AFD#	15	PD6
3	PD0	16	Ground
4	ERR#	17	PD7
5	PD1	18	Ground
6	INIT#	19	ACK#
7	PD2	20	Ground
8	SLIN#	21	BUSY
9	PD3	22	Ground
10	Ground	23	PE
11	PD4	24	Ground
12	Ground	25	SLCT
13	PD5		

## Universal Serial Bus 0 (USB0); Universal Serial Bus 1 (USB1) Connectors J18, J17

The 6-pin Universal Serial Bus connectors are located on the board, behind serial port 1.

## Primary EIDE (IDE-PRI); Secondary EIDE (IDE-SEC) J15, J16

J15 is used for the primary PCI EIDE drive. J16 is used for the secondary on-board PCI EIDE.

Pin	Assignment	Pin	Assignment
1	Reset IDE	2	Ground
3	Host Data 7	4	Host Data 8
5	Host Data 6	6	Host Data 9
7	Host Data 5	8	Host Data 10
9	Host Data 4	10	Host Data 11
11	Host Data 3	12	Host Data 12
13	Host Data 2	14	Host Data 13
15	Host Data 1	16	Host Data 14
17	Host Data 0	18	Host Data 15
19	Ground	20	Key
21	DDRQ (DDRQ1)	22	Ground
23	I/O Write #	24	Ground
25	I/O Read#	26	Ground
27	IOCHRD	28	470 $\Omega$ pulldown
29	DDACK0(DDACK1)#	30	Ground
31	IRQ14 (IRQ15)	32	Reserved
33	Addr 1	34	Reserved
35	Addr0	36	Addr2
37	Chip Select 1P (1S)#	38	Chip select (3P 3S)
39	Activity #	40	Ground

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## Floppy Drive J22

J22 connects the floppy drive to the controller provided on the board.

Pin	Assignment	Pin	Assignment
1	Ground	2	DENSEL
3	Ground	4	TP
5	Key	6	FDENIN#
7	Ground	8	FDINDX#
9	Ground	10	FDM00#
11	Ground	12	FDSD01#
13	Ground	14	FDSD004#
15	Ground	16	FDM01#
17	MSEN1	18	FDDIR#
19	Ground	20	FDSTEP#
21	Ground	22	FDWD#
23	Ground	24	FDWE#
25	Ground	26	FDTRK0#
27	MSEN0	28	FDWPD#
29	Ground	30	FDRDATA#
31	Ground	32	FDRHEAD#
33	Ground	34	DSKCHG#

## Fan Connectors J35, J36

The processor fan provides extra cooling for the powerful new Pentium II processors.

Pin	Assignment
1	Ground
2	12 volt
3	Sense

## CMOS Battery BT1

The board uses 3 volt lithium battery to maintain constant power to CMOS. The battery can last up to ten years before needing to be replaced.

## Infrared Connector JP19

JP19 connects to an optional infrared add-in controller. Infrared controllers can act as ports for a number of peripheral devices including mouse, printer and keyboard.

Pin	Assignment
1	Receiving
2	Transmitting
3	Ground
4	Not used
5	Not used
6	Vcc

## Wake On LAN J34

The Wake On LAN (WOL) will be supported in future revisions of the BIOS (under the **Power Management Setup** program). J34 is attached to the system's LAN card and powers up the system when a wakeup packet or signal is received from the network through the card.

Pin	Assignment
1	Ground
2	12 volt
3	Sense

# Jumpers

The board's jumpers are pre-configured at the factory.

<b>Jumper</b>	<b>Description</b>
JP25, JP26 JP27, JP28	Processor (core) bus frequency
JP17	Clear CMOS contents

Many of the system's features are set by placing jumper caps on pins on the board. The board's jumper settings are described in the following pages.

Two-pin jumpers are described as either jumped, with the jumper cap "ON", or not jumped, with the jumper cap "OFF".

Jumpers with more than two pins are described with the pins to be jumped numerically. For example, if pins 1 and 2 are to be capped, the setting will be. "1-2". Refer to the board illustration of page 3.

## Processor Speed Ratio JP29, JP30, JP31, JP32

The Pentium II uses a clock multiplier to match the processor's core frequency with the speed of the processor bus (the speed data travels into and out of the processor). These jumpers multiply the processor's bus speed.

Pentium II's are available with 66 MHz or 100 MHz bus speeds. The following jumper table, the column labeled "Processor Speed Ratio" lists the number of times the board's clock is multiplied to match the processor's speed.

Processor Speed Ratio	JP28	JP27	JP26	JP25
2x	IN	IN	IN	IN
3x	IN	IN	OUT	IN
4x	IN	IN	IN	OUT
5x	IN	IN	OUT	OUT
2.5x	IN	OUT	IN	IN
3.5x	IN	OUT	OUT	IN
4.5x	IN	OUT	IN	OUT

The following table matches processor speed, processor clock and the board's processor bus speed.

Processor Speed Ratio	66 MHz	100 MHz
2x	N/A	200 MHz
3x	200 MHz	300 MHz
4x	266 MHz	400 MHz
5x	333 MHz	500 MHz
2.5x	166 MHz	N/A
3.5x	233 MHz	350 MHz
4.5x	300 MHz	450 MHz

## Clear CMOS Contents JP17

Temporarily placing a jumper shunt on JP17, pins 2-2 clears the contents of the CMOS chip. CMOS contains your system's BIOS configuration. Remember to remove the jumper after you have cleared your CMOS' contents.

Clear CMOS	JP17
Clear CMOS	2-3
Normal (default)	1-2

**Note:** Leaving the jumper shut removed has the same effect as jumping pins 2-3. If pins 1-2 are not jumped, CMOS will be unable to retain it's information.

# System Memory

The board uses DIMM memory. DIMM is available in 64-pin or 72-pin, where the 72-pin DIMM provides error correcting code (ECC). Up to 512 MB SDRAM is supported.

**66 MHz FSB Processor Speed - use *non-PC100* SDRAM**

**100 MHz FSB Processor Speed - use *PC100* SDRAM**

Memory uses symmetrical and asymmetrical addressing. Single and double density DIMMS are supported

There are two banks available for memory upgrades. The board supports DIMM in the following combinations:

1M x 64/72 = 8 MB/bank	8M x 64/72 = 64 MB/bank
2M x 64/72 = 16 MB/bank	16M x 64/72 = 128 MB/bank
4M x 64/72 = 32 MB/bank	32M x 64/72 = 256 MB/bank

## Installing and Removing DIMM

Read these instructions completely before installing or removing DIMMs. The DIMM is held by plastic press-clips on both sides of the slot.

### Installing DIMM

- 1) Hold the DIMM so that the gold tab is pointing toward the slot. The DIMM is keyed so that it will only snap into the slot when positioned correctly.
- 2) Press one end of the DIMM until it inserts and its press-clip snaps into place.
- 3) Press the other end of the DIMM until it inserts and its press-clip snaps into place.

## **Removing DIMM**

- 1) Pull both press-clips simultaneously, until the DIMM pops up from its slot.

The following pages provide a table with all the possible memory configurations for the SBP201.

## System Memory Configuration

RAM	Bank 0	Bank 1
8 MB	1M x 64/72	
16 MB	1M x 64/72	1M x 64/72
16 MB	2M x 64/72	
24 MB	1M x 64/72	2M x 64/72
32 MB	2M x 64/72	2M x 64/72
32 MB	4M x 64/72	
32 MB	2M x 64/72	2M x 64/72
40 MB	1M x 64/72	4M x 64/72
48 MB	2M x 64/72	4M x 64/72
48 MB	4M x 64/72	2M x 64/72
64 MB	8M x 64/72	
64 MB	4M x 64/72	4M x 64/72
64 MB	4M x 64/72	4M x 64/72
72 MB	8M x 64/72	1M x 64/72
80 MB	2M x 64/72	8M x 64/72
96 MB	4M x 64/72	8M x 64/72
128 MB	8M x 64/72	8M x 64/72
128 MB	16M x 64/72	
136 MB	16M x 64/72	1M x 64/72
144 MB	2M x 64/72	16M x 64/72
160 MB	16M x 64/72	4M x 64/72
192 MB	16M x 64/72	8M x 64/72
256 MB	16M x 64/72	16M x 64/72
256 MB	32M x 64/72	
256 MB	16M x 64/72	16M x 64/72
264 MB	32M x 64/72	1M x 64/72
272 MB	32M x 64/72	2M x 64/72
288 MB	32M x 64/72	4M x 64/72
320 MB	32M x 64/72	8M x 64/72
384 MB	16M x 64/72	32M x 64/72
512 MB	32M x 64/72	32M x 64/72

# System Interrupts

The processor has two controllers, supplying 16 IRQs. Below are assignments in decreasing priority.

IRQ	Function
NMI	Parity error
IRQ0	Reserved, interval timer
IRQ1	Reserved, keyboard buffer full
IRQ2	Reserve, cascade interrupt from slave PIC
IRQ3	Onboard serial port 2
IRQ4	Onboard serial port 1
IRQ5	User available
IRQ6	Onboard floppy controller
IRQ7	Onboard parallel port
IRQ8	Real-time clock (RTC)
IRQ9	User available
IRQ10	User available
IRQ11	User available
IRQ12	Onboard mouse port if enabled, else user available
IRQ13	Reserved, math coprocessor
IRQ14	Onboard primary IDE disk controller
IRQ15	Onboard secondary IDE disk controller

**Note:** IRQ9, IRQ10, IRQ11, IRQ12, IRQ15, IRQ3, IRQ4, IRQ5 and IRQ7 can be redirected to PCI add-in boards.

The PCI standard has a 4-IRQ limitation. Some PCI add-in boards do not require IRQs. Some can share an IRQ with another board of the same model and manufacture. Check the add-in board's documentation for IRQ information.

## Installing a Pentium II Processor

The board provides a single edge contact (SEC) slot for Pentium II processor packaged in an SEC cartridge. The SEC slot is equipped with attach mount brackets and retention mechanism. The Pentium II mounts parallel with the single board computer.

The heatsink is mounted on the board. The fan assembly is supplied with the Pentium II processor. Follow the directions below to install a Pentium II processor on the single board computer. Be sure to ground yourself during this procedure.

1. Remove the board's DIMM memory modules.
2. Push the SEC cartridge's two locks inward. With the fan facing outwards, press the cartridge gently but firmly until it is fully inserted into the slot.
3. To secure the SEC cartridge, push its locks outward so that the lock shows through the retention mechanism's lock holes.
4. Plug the fan into the three-pin processor fan connector on the board.

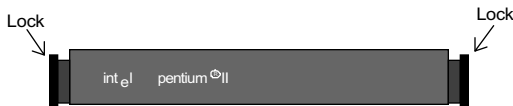


Figure 2: Pentium II, Top View

# Configuration Utilities

## Overview

The BIOS Setup utility stores your system's configuration. The utility described below provides a bridge to PCI slots in excess of the four allowed by current standards.

When your system "boots", it's configuration is read into main memory. Hard drives, floppy drives, video adapter, memory and keyboard are described to the system.

The BIOS is pre-configured at the factory. This document is an overview of the BIOS.

To start the program, press the <Delete> key while the system is booting. The Utilities menu screen will display:

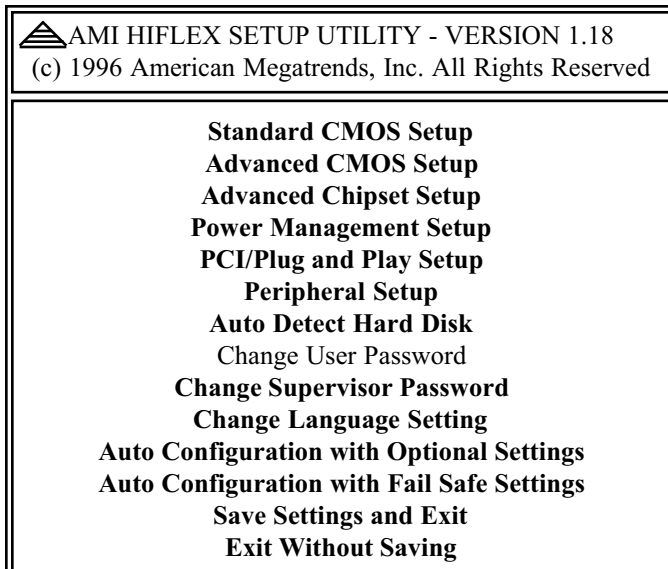


Figure 3: The Main Menu

The most commonly accessed selections are Standard CMOS Setup, Advanced CMOS Setup, Advanced Chipset Setup, Power Management Setup PCI/Plug and Play Setup, and Peripheral Setup.

## Standard Setup

This utility allows you to record your system setup.

To start SETUP, Double-click on the **Standard Setup** icon on the Main Menu. Alter only the items that need to be changed or reset. If a selected option is correct, skip the corresponding step.

AMI BIOS SETUP - STANDARD CMOS SETUP										
(c) 1996 American Megatrends, Inc. All Rights Reserved										
Date (mm/dd/yy)	: Friday, March 3, 1997			Base Memory	640 KB					
Time (hh/mm/ss)	: 11:11:00			Extd Memory	: 15 MB					
Floppy Drive A	: 1.44 MB 3 1/2									
Floppy Drive B	: Not Installed									
	Type	Size	Cyln	Head	WPcom	Sec	LBA Mode	Blk Mode	PIO Mode	32bit Mode
Pri Master	Auto									
Pri Slave	Auto									
Sec Master	Auto									
Sec Slave	Auto									
Boot Sector Virus Protection				Disabled						
Month:	Jan - Dec			Esc: Exit			↑↓		: Sel	
Day :	01 - 31			PgUp/PgDn : Modify						
Year :	1901 - 2099			F2/F3 : Color						

Figure 4: Standard Setup Menu

**Pri Master** Primary master IDE/PCI hard drive. Define the parameters of your hard disk and modes. The default setting is Auto, to auto-detect drive type.

**Pri Slave** Primary slave IDE/PCI hard drive. Define the parameters of your hard disk and modes. The default setting is Auto, to auto-detect drive type.

**Sec Master** Secondary master IDE/PCI hard drive, if installed. Define the parameters of your hard disk and modes. The default setting is Not Installed.

**Sec Slave** Secondary slave IDE/PCI hard drive, if installed. Define the parameters of your hard disk and modes. The default setting is Not Installed.

**Note:** You may also manually enter the hard disk parameters. Two helpful tables appear at the end of this section. One describes drive parameters, and the other is a list of various hard drive parameters.

**Floppy Drive A:/Floppy Drive B** Select the type that matches the drive installed. Scroll through the fields using the up and down arrows. You may select from the following:

5.25"	3.5"
360 KB	720 KB
1.2 MB	1.44 MB
	2.88 MB

**Date/Time** Enter new values through the keyboard.

Use the arrow keys to toggle between items. Available options for the highlighted item are displayed on the right side of the menu. Press <PgUp> or <PgDn> to toggle through available options.

## Advanced Setup

Advanced Setup allows you to fine tune some of the special features. These features are pre-set for you at the factory. Double-click the Advanced Setup icon on the Main Menu.

Use the arrow keys to toggle between items. Available options for the highlighted item are displayed on the right side of the menu. Press <PgUp> or <PgDn> to toggle through available options.

AMI BIOS SETUP - ADVANCED CMOS SETUP (c) 1996 American Megatrends, Inc. All Rights Reserved		
Quick Boot	Enabled	Available Options: Disabled Enabled
Pri Master ARMD	Enabled	
Pri Slave ARMD	Enabled	
Sec Master ARMD	Enabled	
Sec Slave ARMD	Enabled	
1st Boot Device	IDE-0	
2nd Boot Device	FLOPPY	
3rd Boot Device	CDROM	
Try Other Boot Devices	Yes	
Initialize I20 Devices	Yes	
Initial Display Mode	BIOS	
Display Mode at Add-On ROM Init	Force BIOS	
Floppy Access Control	Read Write	
Hard Disk Access Control	Read Write	
S.M.A.R.T. for Hard Disk	Disable	
Boot Up NumLock	On	
PS/2 Mouse Support	Enabled	
Primary Display	VGA/EGA	Esc: Exit ↑↓ : Sel
Password Check	Setup	PgUp/PgDn : Modify
Boot to OS/2	No	F2/F3 : Color

Figure 5a: The Advanced Setup Menu

AMI BIOS SETUP - ADVANCED CMOS SETUP		
(c) 1996 American Megatrends, Inc. All Rights Reserved		
Initial Display Mode	BIOS	Available Options:
Display Mode at Add-On ROM Init	Force BIOS	Disabled
Floppy Access Control	Read Write	Enabled
Hard Disk Access Control	Read Write	
S.M.A.R.T. for Hard Disk	Disable	
Boot Up NumLock	On	
PS/2 Mouse Support	Enabled	
Primary Display	VGA/EGA	
Password Check	Setup	
Boot to OS/2	No	
Cache Bus ECC	Enabled	
System BIOS Cacheable	Enabled	
C000, 16k Shadow	Cached	
C400, 16k Shadow	Cached	
C800, 16k Shadow	Cached	
CC00, 16k Shadow	Cached	
D000, 16k Shadow	Cached	
D400, 16k Shadow	Cached	
D800, 16k Shadow	Cached	
DC00, 16k Shadow	Cached	
		Esc: Exit   ↑↓ : Sel
		PgUp/PgDn : Modify
		F2/F3 : Color

Figure 5b: The Advanced Setup Menu

## Advanced Chipset Setup

This option lets you configure some of the advanced features of your particular system through the chipset. It was pre-configured at the factory and need not be altered. Double-click on the Chipset Setup icon on the Main Menu.

Use the arrow keys to toggle between items. Available options for the highlighted item are displayed on the right side of the menu. Press <PgUp> or <PgDn> to toggle through available options.

AMI BIOS SETUP - ADVANCED CHIPSET SETUP (c) 1996 American Megatrends, Inc. All Rights Reserved		
USB Function	Disabled	Available Options: Disabled
USB KB/Mouse Legacy Support	Disabled	
Port 64/60 Emulation	Disabled	Enabled
SERR#	Disabled	
PERR#	Disabled	
USWC Write POST	Enabled	
BX Master Latency TimerClks	64	
Multi Trans Timer (Clks)	32	
PCI1 to PCI0 Access	Enabled	
DRAM Integrity Mode	N/A	
DRAM Refresh Rate	15.6us	
Memory Hole	Disabled	
SDRAM RAS# precharge	Auto	
Power Down SDRAM	Enabled	
ACPI Control Register	Enabled	
Gated Clock	Enabled	
Graphics aperture Size	64MB	
Search for MDA Resources	Yes	Esc: Exit    ↑↓: Sel
AGP Multi Trans Timer (AGP Clks)	32	PgUp/PgDn: Modify
AGP Low-Priority Timer (AGP Clks)	16	F2/F3: Color

Figure 6a: The Chipset Setup Menu

AMI BIOS SETUP - ADVANCED CHIPSET SETUP	
(c) 1996 American Megatrends, Inc. All Rights Reserved	
AGP Multi Trans Timer (AGP Clks) 32	Available Options:
AGP Low-Priority Timer (AGP Clks) 16	Disabled
AGP SERR	Enabled
AGP Parity Error Response	Disabled
8bit I/O Recovery Time	Disabled
16bit I/O Recovery Time	Disabled
PIIX4 SERR#	Disabled
USB Passive Release	Enabled
PIIX4 Passive Release	Enabled
PIIX4 Delayed Transaction	Enabled
TypeF DMA Buffer Controller1	Disabled
TypeF DMA Buffer Controller2	Disabled
DMA-0 Type	Normal ISA
DMA-1 Type	Normal ISA
DMA-2 Type	Normal ISA
DMA-3 Type	Normal ISA
DMA-4 Type	Normal ISA
DMA-5 Type	Normal ISA
DMA-6 Type	Normal ISA
DMA-7 Type	Normal ISA
	Esc: Exit    ↑↓: Sel PgUp/PgDn : Modify F2/F3 : Color

Figure 6b: The Chipset Setup Menu

## Power Management Setup

This utility lets you set the “green” functionality parameters.

AMI BIOS SETUP - POWER MANAGEMENT SETUP (c) 1996 American Megatrends, Inc. All Rights Reserved		
ACPI Aware O/S	No	Available Options:
Power Mngmt/APM	Disabled	Disabled
Power Button Function	On/Off	Enabled
Green PC Monitor Power State	Disabled	
Video Power Down Mode	Suspend	
Hard Disk Power Down Mode	Disabled	
Hard Disk Time Out (Minutes)	Disabled	
Power Saving Type	POS	
Standby/Suspend Timer Unit	4 min	
Standby Time Out	Disabled	
Suspend Time Out	Disabled	
Slow Clock Ratio	50%-62.5%	
Display Activity	Ignore	
Device 6 (Serial port 1)	Ignore	
Device 7 (Serial port 2)	Ignore	
Device 8 (Parallel port)	Ignore	
Device 5 (floppy disk)	Ignore	Esc: Exit   ↑↓ : Sel
Device 0 (Primary master IDE)	Monitor	PgUp/PgDn : Modify
Device 1 (Primary slave IDE)	Ignore	F2/F3 : Color
Device 2 (Secondary master IDE)	Ignore	

Figure 7: The Advanced Setup Menu

**Instant On Timer** is a green mode timer letting you wake the system up as it is triggered.

**IRQ3, 4, 5, 7, 9, 10, 11, 12, 13, 14, 15** can be ignored or monitored. Monitored, IRQ activity wakes up the system.

Use the arrow keys to toggle between items. Available options for the highlighted item are displayed on the right side of the menu. Press <PgUp> or <PgDn> to toggle through available options.

## PCI/PnP Setup

This menu allows you to define attributes of the PCI bus portion of the board.

AMI BIOS SETUP - PLUG AND PLAY SETUP (c) 1996 American Megatrends, Inc. All Rights Reserved		
Plug and Play O/S	No	Available Options: Disabled Enabled
PCI Latency Timer (PCI Clocks)	64	
PCI VGA Palette Snoop	Disabled	
PCI IDE Bus Master	Disabled	
OffBoard PCI IDE Card	Auto	
OffBoard PCI IDE Primary IRQ	Disabled	
OffBoard PCI IDE Secondary IRQ	Disabled	
DMA Channel 0	PnP	
DMA Channel 1	PnP	
DMA Channel 3	PnP'	
DMA Channel 5	PnP	
DMA Channel 6	PnP	
DMA Channel 7	PnP	
IRQ3	PCI/PnP	
IRQ4	PCI/PnP	
IRQ5	PCI/PnP	
IRQ7	PCI/PnP	
IRQ9	PCI/PnP	
IRQ10	PCI/PnP	
IRQ11	PCI/PnP	
IRQ15	PCI/PnP	Esc: Exit    ↑↓ : Sel PgUp/PgDn : Modify F2/F3 : Color
Reserved Memory Size	Disabled	
Reserved Memory Address	C8000	

Figure 8: The PCI/Plug and Play Setup Menu

Use the arrow keys to toggle between items. Available options for the highlighted item are displayed on the right side of the menu. Press <PgUp> or <PgDn> to toggle through available options.

## Peripheral Setup

This menu allows you to specify the peripherals installed on your board.

On-board IDE enables the on-board chipset EIDE function.

Use the arrow keys to toggle between items. Press <Enter> to access the drop down selection menu.

Use the arrow keys to toggle between options. Press <Enter> to make a selection.

AMI BIOS SETUP - PERIPHERALS SETUP (c) 1996 American Megatrends, Inc. All Rights Reserved		
OnBoard FDC	Auto	Available Options: Disabled Enabled
OnBoard Serial Port A	Auto	
OnBoard Serial Port B	Auto	
Serial Port B Mode	Normal	
IR Duplex Mode	Half	
IrDA Protocol	1.6us	
OnBoard Parallel Port	Auto	
Parallel Port Mode	ECP	
EPP Version	N/A	
Parallel Port DMA Channel	3	Esc: Exit    ⤴ : Sel
Parallel Port IRQ	Auto	PgUp/PgDn : Modify
OnBoard IDE	Both	F2/F3 : Color

Figure 9: The Peripherals Setup Menu