Technical Reference
MB-5865
7-Slot Pentium®
Motherboard with Triton II Chipset

CSS
LABORATORIES, INC.

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Irvine, California 92614

CSS Preferred Features

- INTEL Pentium Processor, upgradeable through 75 MHz, 90 MHz, 100 MHz, 120 MHz, 133 MHz, 150 MHz, 166 MHz and 200 MHz

- INTEL Triton II chipset

- System memory upgradeable to 384 MB using 64Mbit DRAM ('x32'SIMM)

- Optional ECC Memory

- ISA/PCI Bus Architecture. PCI 2.1 compliant

- 3 ISA Slots and 4 PCI Slots

- On-board IDE and floppy controller with separate master/slave IDE mode support for up to 4 IDE drives

- On-board I/O supporting 2 serial ports and 1 parallel port.

- On-board Universal Serial Bus controller (USB) and 2 USB ports

- 16 KB Level 1 Cache

- 256 KB or 512 KB level 2 pipelined cache

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 radioor television reception, which can be determined by turning the equipment off and on, the use 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 non-interference 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.

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 BATTERRIE. REMPLACER UNIQUEMENT AVEC UNE BATTERI DU MEME TYPE OU D'UN TYPE RECOMMENDE PAR LE CONSTRUCTEUR. ETTERAU REBUT LES BATTERRIES USAGEES CONFORMEMANT AUX INSTRUCTIONS DU FABRICATANT.

NOTICE

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Table of Contents

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

- **The Microprocessor** - description of the features of the Pentium Pro microprocessor

- **Motherboard** - illustration and brief description of the motherboard and the dual purpose expansion slot

- **Connectors** - description of connector locations and functions on the motherboard

- **Jumpers** - detailed description of the jumpers used to configure the motherboard

- **System Memory** - detailed description of system memory and 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

compatible with 8086/88, 80286, and 80386 DX and SX microprocessors. In addition, the Pentium features:

- 64-bit Data Bus
- Superscalar Architecture
- Capability for executing two instructions in parallel.
- Pipelined Floating-Point Unit
- Separate 8 KB Code and Data Caches (total 16 KB cache)
- Bus Cycle Pipelining
- Writeback MESI Protocol in the Data Cache
- Internal Parity Checking
- IEEE 1149.1 Boundary Scan

It is available in a variety of speeds, from 75 MHz through 200 MHz.

For additional information, contact your authorized CSS Laboratories representative.

PCI 4, PCI 3, PCI 2, PCI 1

JP18, JP19, JP17

Serial 2 J96, Serial 1 J97

Battery J100, MIN

Keybord

Mouse

Power J81

JP20, JP21, JP22

Parallel J98

GND 3.3V 3.3V GND

3.3 Volt Power J2

IDE Primary J70

IDE Secondary J71

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J54, J110, J109, J57

BANK 1, BANK 0

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Shared Slots

JP1, JP2

JP108

JP14

CACHE MODULE SLOT

JP10, JP12, JP13, JP11, JP16

Processor

SEN1

JP28, JP27, JP15
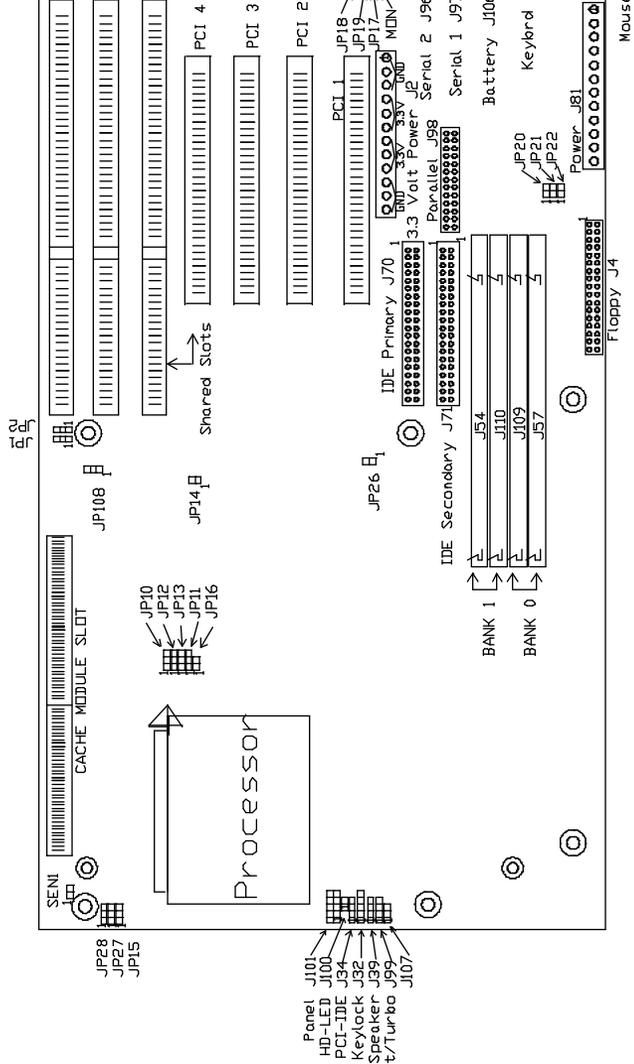
Panel J101
HD-LED J100
PCI-IDE J34
Keylock J32
Speaker J39
Reset/Turbo J99
J107

standard asychronous or pipeline burst external cache.

Expansion Slots

There are a total of seven expansion slots on the
motherboard. Three slots provide 16-bit wide ISA busses.

Four of the slots are PCI bus connectors. One PCI slot is
shared with an ISA connector, so that only one of them can
be used.

3.3 Volt/5 Volt Power Regulators

Both 3.3 volt and 5 volt power connectors are provided for
motherboard compatibility with the full line of Pentium
processors.

IR Header	J7 (optional)
CMOS Battery	J15
Speaker	J33
Reset/Turbo LED	J32
IDE Drive LED	J31
Front Panel	J30
VRM Connector	J29 (optional)
Keyboard Connector	J2
PS/2 Mouse/Aux. Keyboard Connector	J4
Power LED/Keylock	J34
Primary IDE Connector	J27
Secondary IDE Connector	J20
Parallel Port	J9
Serial Port 1	J5
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5V Power Connector	J8
3.3V Power Connector	J19
Temperature Sensor Output	SEN 1, SEN 2
Hard drive LED Connector	J35
Universal Serial Bus Connectors	J1, J3

CMOS Battery Connector J15

Pin	Assignment	Pin	Assignment
1	Speaker	3	Gnd
2	Not used	4	VCC

Reset/Turbo LED J32

The reset button on the front panel lets you perform a "warm boot", without turning the system off. The turbo LED shows thesystem is running at the higher clock speed.

Pin	Assignment	Pin	Assignment
1	Ground	3	Ground
2	Reset	4	Turbo LED

IDE Hard Drive LED J31

J31 connects a hard drive access LED to the front panel. It lights when the drive is accessed.

Front Panel Connector J30

This 10-pin connector is the interface between the system board and the control panel on the front of the system case.

Pin	Assignment
1	VCC

Pin	Assignment	Pin	Assignment
1	Clock	4	Ground
2	Data	5	+5 Vdc
3	Not used		

PS/2 Mouse/Keyboard Connector J4

This 10-pin connector may is for a PS/2 mouse or PS/2 keyboard.

Pin	Assignment	Pin	Assignment
1	Mouse clock	6	VCC
3	Aux KBD clock	8	Mouse data
5	Aux KBD data	10	Ground
9	Ground	Others	Ground

Power LED/Keylock LED Connector J34

J34 is a 5-pin connector used to attach the motherboard to the front panel's keylock LED and power indicator LED.

one of the cable ribbon with pin 1 of J27

Secondary IDE J20

J20 is the connector for the secondary on-board PCI-IDE hard drive controller, with pin 1 clearly marked. Note: be sure to orient pin one of the cable ribbon with pin 1 of J20.

Parallel Port J9

J9 connects the motherboard's parallel port.

Serial Port 1 J5

J5 provides the connection for the motherboard's serial port 1 (COM 1).

Serial Port 2 J6

J6 provides the connection for the motherboard's serial port 2 (COM2)

Floppy DriveConnector J10

J10 connects the floppy drivve to the controller provided on

connecting the power supply, always orient the plugs so that the black wires on each sit side-by-side.

Pin	Assignment	Pin	Assignment
1	Power good	7	Ground
2	+5 Vdc	8	Ground
3	+12 Vdc	9	-5 Vdc
4	-12 Vdc	10	+5 Vdc
5	Ground	11	+5 Vdc
6	Ground	12	+5 Vdc

3.3 Volt Power Supply Connector J19

Pin	Assignment	Pin	Assignment
1	Ground	4	+3.3 Vdc
2	Ground	5	+3.3 Vdc
3	Ground	6	+3.3 Vdc

Internal Temperature Sensor Headers   SEN1, SEN2

The motherboard can be connected to devices that measure temperature. This feature, available in some CSS systems, detects and reports excessive heat.

motherboard. If you are upgrading your motherboard to one of these processors, you will also need a VRM.

Universal Serial Bus Connectors   J1, J3 (optional)

The motherboard provides two 4-pin universal serial bus (USB) connectors. This feature is enabled by Intel's P11X3 chip, scheduled, by Intel, to ship by the end of June, 1996.

Pin	Assignment
1	VCC
2	Data -
3	Data +
4	Ground

configuring your system.

The motherboard has the following jumpers:

Description	Jumper
Clear CMOS Password	JP5 (not implemented)
Clear CMOS	JP4 (not implemented)
Flash BIOS	JP1, JP8, JP9
Processor Speed	JP7, JP6, JP18, JP17
Next Address	JP16
DRAM Refresh Rate	J28
ISA System Clock	JP10
Turbo LED/Green PC Indicator Select	JP15
Auxiliary Keyboard Enable	JP2, JP3

Cache Size	JP14	JP13
512 KB	2-3	1-2
256 KB	1-2	2-3
0 KB	1-2	1-2

Note: Cached type and size can be determined automatically by the BIOS. Therefore, it is not necessary to set these jumpers.

Flash BIOS Settings JP1, JP8, JP9

These jumpers indicate whether the flash EPROM is in boot block programmable mode or can only be partially updated.

Flash BIOS Settings	JP1	JP8	JP9
Normal	1-2	1-2	1-2
Program All	1-2	2-3	1-2

Next Address   JP16

Next Address	JP16
Normal	IN (default)
Not Allowed	OUT

Bus Clock Speed	JP7	JP6	JP18	JP17
75 MHz	2-3	2-3	OUT	OUT
90 MHz	1-2	1-2	OUT	OUT
100MHz	2-3	1-2	OUT	OUT
120 MHz	1-2	2-3	IN	OUT
133 MHz	2-3	1-2	IN	OUT
150 MHz	1-2	2-3	IN	IN
166 MHz	2-3	1-2	IN	IN
200 MHz	2-3	1-2	OUT	IN

Important Note: Your overdrive or P55C processor requires a voltage regulator module (VRM). The VRM plugs into a socket located on the motherboard. For more information, contact your sales representative.

The following table represents jumper settings specific to the Pentium MMX processor.

Bus Clock Speed	JP7	JP6	JP18	JP17
166 MHz	2-3	1-2	IN	IN
200 MHz	2-3	1-2	OUT	IN
233 MHz	2-3	1-2	OUT	OUT

is determined by the speed of the processor installed on the motherboard.

Refresh Rate	JP28
60 MHz	IN
66 MHz	OUT

ISA System Clock JP10

JP10 lets you synchronize the ISA bus clock with the clock driving the processor. The setting is determined by the speed of the processor installed on the motherboard.

ISA Clock	JP10
Divide by 3 (75 MHz processor)	1-2
Divide by 4 (all other processors)	2-3

Turbo LED/Green PC Indicator Select JP15

The Turbo LED is used for the low power mode indicator when the system is configured as a "Green PC".

The LED flashes when the system has downshifted to the lowest power consumption mode associated with the energy savings feature. When in "standby mode", the indicator dims, but remains lit.

same kind form one bank. The motherboard supports these DRAM SIMM in the following combinations:

512K x 32   +   512K x 32   = 4 MB/bank
(not recommended)

1M x 32	+ 1M x 32	= 8 MB/bank
2M x 32	+ 2M x 32	= 16 MB/bank
4M x 32	+ 4M x 32	= 32 MB/bank
8M x 32	+ 8M x 32	= 64 MB/bank
16M x 32	+ 16M x 32	= 128 MB per bank

Any combination of the three banks provide a large number of possible RAM size.

System Memory Configuration

RAM	Bank 0	Bank 1	Bank 2
8 MB	1M x 32 (2)		
16 MB	1M x 32 (2)	1M x 32 (2)	
16 MB	2M x 32 (2)		
20 MB	1M x 32 (2)	1M x 32 (2)	512K x 32*(2)
20 MB	2M x 32 (2)	512K x 32* (2)	
24 MB	2M x 32 (2)	1M x 32 (2)	
24 MB	1M x 32 (2)	1M x 32 (2)	1M x 32 (2)
24 MB	2M x 32 (2)	2M x 32 (2)	512K x 32*(2)
28 MB	2M x 32 (2)	1M x 32 (2)	512K x 32*(2)

40 MB	4M x 32 (2)	512K x 32*(2)	512K x 32*(2)
44 MB	4M x 32 (2)	1M x 32 (2)	512K x 32*(2)
48 MB	4M x 32 (2)	2M x 32 (2)	
48 MB	4M x 32 (2)	1M x 32 (2)	1M x 32 (2)
52 MB	4M x 32 (2)	2M x 32 (2)	512K x 32*(2)
56 MB	4M x 32 (2)	2M x 32 (2)	1M x 32 (2)
64 MB	8M x 32 (2)		
64 MB	4M x 32 (2)	4M x 32 (2)	
68 MB	8M x 32 (2)	512K x 32*(2)	
68 MB	4M x 32 (2)	4M x 32 (2)	512K x 32*(2)
72 MB	8M x 32 (2)	512K x 32*(2)	512K x 32*(2)
76 MB	8M x 32 (2)	512K x 32*(2)	1M x 32 (2)
80 MB	8M x 32 (2)	2M x 32 (2)	
80 MB	8M x 32 (2)	1M x 32 (2)	1M x 32 (2)
84 MB	8M x 32 (2)	2M x 32 (2)	512K x 32*(2)
88 MB	8M x 32 (2)	2M x 32 (2)	1M x 32 (2)
96 MB	8M x 32 (2)	4M x 32 (2)	
96 MB	4M x 32 (2)	4M x 32 (2)	4M x 32 (2)
96 MB	8M x 32 (2)	2M x 32 (2)	2M x 32 (2)
100 MB	8M x 32 (2)	4M x 32 (2)	512K x 32*(2)
104 MB	8M x 32 (2)	4M x 32 (2)	1M x 32 (2)
112 MB	8M x 32 (2)	4M x 32 (2)	2M x 32 (2)
128 MB	8M x 32 (2)	4M x 32 (2)	4M x 32 (2)
128 MB	16M x 32 (2)		
128 MB	8M x 32 (2)	8M x 32 (2)	
132 MB	8M x 32 (2)	8M x 32 (2)	512K x 32*(2)
134 MB	16M x 32 (2)	512K x 32*(2)	
136 MB	8M x 32 (2)	8M x 32 (2)	1M x 32 (2)

144 MB	16M x 32 (2)	2M x 32 (2)	
144 MB	16M x 32 (2)	1M x 32 (2)	1M x 32 (2)
148 MB	16M x 32 (2)	2M x 32 (2)	512K x 32*(2)
152 MB	16M x 32 (2)	2M x 32 (2)	1M x 32 (2)
160 MB	16M x 32 (2)	4M x 32 (2)	
160 MB	16M x 32 (2)	2M x 32 (2)	2M x 32 (2)
164 MB	16M x 32 (2)	4M x 32 (2)	512K x 32*(2)
168 MB	16M x 32 (2)	4M x 32 (2)	1M x 32 (2)
176 MB	16M x 32 (2)	4M x 32 (2)	2M x 32 (2)
192 MB	16M x 32 (2)	8M x 32 (2)	
192 MB	16M x 32 (2)	4M x 32 (2)	4M x 32 (2)
196 MB	16M x 32 (2)	8M x 32 (2)	512K x 32*(2)
200 MB	16M x 32 (2)	8M x 32 (2)	1M x 32 (2)
208 MB	16M x 32 (2)	8M x 32 (2)	2M x 32 (2)
224 MB	16M x 32 (2)	8M x 32 (2)	4M x 32 (2)
256 MB	16M x 32 (2)	16M x 32 (2)	
256 MB	16M x 32 (2)	8M x 32 (2)	8M x 32 (2)
260 MB	16M x 32 (2)	16M x 32 (2)	512K x 32*(2)
264 MB	16M x 32 (2)	16M x 32 (2)	1M x 32 (2)
272 MB	16M x 32 (2)	16M x 32 (2)	2M x 32 (2)
288 MB	16M x 32 (2)	16M x 32 (2)	4M x 32 (2)
320 MB	16M x 32 (2)	16M x 32 (2)	8M x 32 (2)
384 MB	16M x 32 (2)	16M x 32 (2)	16M x 32 (2)

*512K x 32 and 512K x 36 SIMM are not recommended

The SIMM is held by plastic press-clips on both sides of the slot.

Installing SIMM

1) Hold the SIMM so that the gold tab is pointingtoward the slot and the SIMM's notched side is on the right.

2) Gently press the SIMM into the slot.

3) Rotate the SIMM until it clicks into place.

Removing SIMM

1) While squeezing the clips and rotate the SIMM.

2) Pull the SIMM from the slot.

ADDRESS (hex)	NAME	FUNCTION
000000 to 9FFFFF	640 KB motherboard	system memory
0A0000 to 0BFFFF	128 KB video display ROM	reserved for graphics
0C0000 to 0DFFFF	128 KB I/O expansion ROM	reserved for ROM on I/O
0E0000 to 0EFFFF	64 KB reserved on motherboard	duplicate code assignment at FE0000
0F0000 to 0FFFFF	64 KB ROM on motherboard	duplicate code assignment at FF0000
100000 to FDFFFF	maximum memory is 15MB	I/O channel memory
FE0000 to FEFFFF	64 KB reserved on motherboard	duplicate code assignment at 0E0000
FF0000 to FFFFFF	64 KB reserved on motherboard	duplicate code assignment at 0F0000

Timers

The system has three programmable timers/counters
controlled by timer/counter chips and defined as channels 0
through 2 as follows:

Channel 0:   System Timer

000-01F	DMA #1
020-03F	INTR #1
040-05F	Timer
060-06F	Keyboard
070-07F	NMI mask register
080-09F	DMA page register
0A0-OBF	INTR #2
0C0-ODF	DMA #2
0F0-0F1	Clr/rst math coprocessor
0F8-0FF	Math coprocessor
1F0-1F8	Fixed disk
200-207	Joystick
278-27F	Secondary parallel port
2F8-2FF	Secondary serial port
300-31F	Prototype card
378-37F	Primary parallel port
380-38F	SDLC (secondary bisynchronous)
3A0-3AF	Primary bisynchronous
3B0-3BF	Monochrome display/printer adapter
3D0-3DF	Color/graphics monitor adapter
3F0-3F7	Diskette controller
3F8-3FF	Primary serial port

IRQs. Below are assignments in decreasing priority.

LEVEL Microprocessor NMI		FUNCTION Parity or I/O Channel Check
Interrupt Controllers		
Ctlr 1	Ctlr 2	
IRQ0		
IRQ1		Keyboard
IRQ2		
Interrupts IRQ8 - IRQ15 redirected to IRQ2		
	IRQ8	Real-Time clock interrupt
	IRQ9	Software re-directed to INT + AH (IRQ2)
	IRQ10	Reserved
	IRQ11	Reserved
	IRQ12	Reserved
	IRQ13	Coprocessor
	IRQ14	Fixed disk controller
	IRQ15	Reserved
IRQ3		Serial port 2
IRQ4		Serial port 1
IRQ5		Parallel port2
IRQ6		Diskette controller
IRQ7		Parallel port 1

Controller 1	Controller 2
Channel 0 - Spare	Channel 4 - Cascade for Controller 1
Channel 1 - SDLC	Channel 5 - Spare
Channel 2 - Diskette	Channel 6 - Spare
Channel 3 - Spare	Channel 7 - Spare

The first DMA controller holds channels 0 through 3. These channels support 8-bit data transfers between 8-bit I/O adapters and 8- or 16-bit system memory. Each channel can transfer data in 64 KB blocks.

The second DMA controller holds channels 4 through 7. Channel 4 cascades channels 0 through 3 to the microprocessor.

Channel 5, 6 and 7 support 16-bit data transfers between 16-bit I/O adapters and 16-bit system memory. These DMA channels can transfer data throughout the 16 MB system-address space in 128 KB blocks.

Channel 5, 6 and 7 cannot transfer data on odd byte boundaries.

BIOS Setup is a utility that stores your computer's configuration. 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 for you at the factory. This document provides an overview of the BIOS, which you can use when reconfiguring your system.

The BIOS Setup Utilities program is built into the CMOS on your system board. To start the program, press the <Delete> key while the system is booting. The Utilities menu screen will display:

```
┌─────────────────────────────────────────────────────────────────┐
│   ╱▲╲      American              AMI BIOS Setup                   │
│   ▱▱▱▱     Megatrends      (c) 1994 American Megatrends, Inc.     │
│                                                                   │
└─────────────────────────────────────────────────────────────────┘

┌──┬──────────────────────────┐    ┌──┬──────────────────────────┐
│▭ │          Setup           │    │▭ │         Security         │
├──┴──────────────────────────┤    ├──┴──────────────────────────┤
│                             │    │                             │
│  Standard   Advanced   Chipset│  │  Supervisor     User        │
│                             │    │                             │
│  Power Mgmt  PCI/PnP   Peripheral│ │  Anti-virus                 │
└─────────────────────────────┘    └─────────────────────────────┘

┌──┬──────────────────────┐    ┌──┬──────────────────────────┐
│▭ │        Utility       │    │▭ │         Default          │
├──┴──────────────────────┤    ├──┴──────────────────────────┤
│                         │    │                             │
│  Color Set    Language  │    │  Original   Optimal   Default│
```
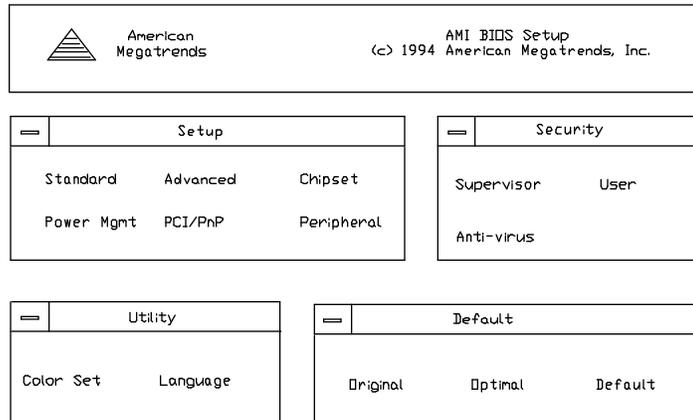
The **Security** option allow you to define a password. Enable the password option through **Advanced Setup**.

The **Default** option allows you to change all of your Setup values to **Optimal** or **Fail-Safe** settings. Or you can return the system to its original settings.

The most commonly used option is **Standard Setup**.

Standard Setup

This utility allows you to record your system setup.

-	Standard Setup
Pri Master　　Pri Slave　　　Sec Master　　Sec Slavd	
Date/Time　　Floppy A　　　Floppy B	

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.

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.

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 lists various hard drive parameters.

Floppy Drive A:/Floppy Drive B: Double-click the floppy drive icon and select the type installed. Scroll through the fields using the up/down arrows. Select from the following:

      5.25" - 360 KB   **3.5"** - 720 KB
              - 1.2 MB   - 1.44 MB
                                   - 2.44 MB

Date/Time Double-click the Date/Time icon and enter new values through the keyboard.

Advanced Setup

Advanced Setup allows you to fine tune some of the special features. These features are pre-set for you at the factory. To use this feature, double-click on the **Advanced Setup** icon on the Main Menu.

Use the arrow keys to toggle between items. Press

was pre-configured at the factory and need not be altered.

To use this feature, double-click on the Chipset Setup icon on the Main Menu.

-	Chipset Setup
82439 HX Global Features	: Enable
Memory Hole	: Disable
8 bit I/O Recovery Time (Sysclk)	: 1
16 bit I/O Recovery Time (Sysclk)	: 1
DRAM Timings	: 70ns
DRAM Refresh Rates	: 66 MHz
ISA Clock Divisor	: PCICLK/4
Turbo Read Lead Off	: Disable
DRAM Read Burst Timing	: x333
DRAM Write Burst Timing	: x333
Fast RAS to CAS Delay (Clocks)	: 3
DRAM Lead Off Timing (DLT)	: 7/6/3/4
Turbo Read Pipelining	: Disable
Speculative Lead Off	: Disable
Turnaround Insertion	: Disable
Memory Address Drive Strength	: Auto
NA Disable (NAD) for External Cache	: Disable
Extended Cacheability	: 64 MB
Peer Concurrency	: Enable
DRAM Error Checking	: Disable
Serr # Output Type	: Normal
Serr # Duration	: Pulse Mode
Serr # Enable	: Disable
Single Bit Correction Error	: Disable
Multiple Bit Uncorrectable Error	: Disable
Bad Parity On Uncorrectable Error	: Disable
PCI 2.1 Passive Release Enable	: Enable

DRAM Refresh Rate specifies the processor's internal clock, used to refresh the DRAM.

ISA Clock Divisor is the factor used to divide the clock signal used for the PCI bus to provide the ISA bus signal. For a 75 MHz processor, select PCICLK/3. For all other speeds, select PCICLK/4.

Turbo Read Lead Off when enabled, results in a 1 host clock pull-in of all read lead off timings.

Serr # Output Type system error output signal type for the system.

Serr # Enable enables system to report memory errors.

Memory Address Drive Strength select 8 mA or 12 mA output for memory address signal strength.

NA Disable (NAD) for External Cache next address disable affects system performance.

Extended Cacheability selects memory cacheable space.

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.

To use this feature, double-click on the Power Management Setup icon on the Main Menu. You may select to make changes to the following features:

-	**Power Management Setup**
Power Management APM	: Disable
Instant-On Timer (Minute)	: Disable
Green PC Monitor Power State	: Standby
Video Power Down Mode	: Standby
Hard Disk Power Down Mode	: Suspend
Hard Disk Time Out (Minute)	: 8
Standby Time Out (Minute)	: 1
Standby Time Out (Minute)	: 1
Slow Clock Ratio	: 1:8
IRQ3	: Ignore
IRQ4	: Monitore
IRQ5	: Ignore
IRQ7	: Ignore
IRQ8	: Monitor
IRQ9	: Ignore

Instant On Timer is a type of green mode timer lets you wake up the system at the same time that you trigger it.

IRQ3, 4, 5, 7, 8, 9 can either be ignored or monitored. When monitored, activity on the IRQ is used to wake the system up.

Use the arrow keys to toggle between items. Press

-	PCI/PNP Setup
Plug and Play Aware O/S	: No
PCI Latency Timer (PCI Clocks)	: 32
PCI VGA Palette Snoop	: Disable
PCI IDE Bus Master	: Disable
Offboard PCI IDE card	: Auto
Offboard PCI IDE Primary IRQ	: Disable
Offboard PCI IDE Secondary IRQ	: Disable
PCI Slot 1 IRQ Priority	: Auto
PCI Slot 2 IRQ Priority	: Auto
PCI Slot 3 IRQ Priority	: Auto
PCI Slot 4 IRQ Priority	: Auto
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	: ISA/EISA
IRQ4	: ISA/EISA
IRQ5	: ISA/EISA
IRQ7	: ISA/EISA
IRQ9	: PCI/PnP
IRQ10	: PCI/PnP
IRQ11	: PCI/PnP
IRQ14	: PCI/PnP
IRQ15	: PCI/PnP
Reserved Memory Size	: Disable
Reserved Memory Address	: C8000
PCI Peer-to-Peer Traffic	: Disable

Use the arrow keys to toggle between items. Press

-	**Peripheral Setup**
On-Board FDC	: Auto
On-Board Serial Port 1	: Auto
On-Board Serial Port 2	: Auto
On-Board Parallel Port	: Auto
Parallel Port Mode	: Normal
Parallel Port IRQ	: Auto
Parallel Port DMA Channel	: None
On-Board IDE	: Both
Slow IDE drive delay (seconds)	: Disable

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

Slow IDE Drive Delay when enabled, lengthens the boot time, so that all IDE drives installed have ample time to spin up. Different drive brands may have slightly different boot up times.

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.