

## Foreword

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This manual is designed to provide the basic necessary information for the end user to understand and properly use the MP066 mainboard. The mainboard ensures superlative performance and complete compatibility with industry standards, which incorporating many technical enhancements.

## Trademarks

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## Checklist

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Your MP066 package contains the following:

- \* MP066 mainboard
- \* User's Manual.
- \* HDD/FDD Cable
- \* Com1 & Com2 Cable
- \* Printer Cable

## Precautions

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Make sure you ground yourself before handling the mainboard or other system components. Electrostatic discharge will damage mainboard. Note that you must take special precaution when handling the mainboard in dry or air-conditioned environments.

The precaution below is to protect the mainboard from electrostatic discharge.

- \* Do not remove the anti-static packaging until you are ready to install the mainboard and other system components.
- \* Ground yourself before removing any system component from its protective anti-static packaging. To ground yourself, grasp the expansion slot covers or other unpainted portion computer chassis.
- \* Frequently ground yourself while working, or use a grounding strap.
- \* Handle the mainboard by the edges and avoid touching its components.

## Mainboard Features

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- \* Intel Triton PCI chipset: 82437 (TSC)/82438 (TDP)/82371FB (PIIX)
- \* Support P54C/P55C Microprocessor, system running up to 200 Mhz
- \* Support High performance 32bits PCI local bus and provide three PCI bus master
- \* Support four 16bits ISA system bus I/O slot
- \* Cache Optional up to 512KB, using DIP type SRAM (Asynchronous mode) or Synchronous Cache on board and Cache module (Synchronous pipeline burst, burst mode)
- \* Direct mapped organization with write through / write back selection
- \* Main memory (DRAM) support from 4MB to 128MB
- \* Support Enhance IDE onboard
- \* PnP (Plug & Play) compatible Enhance Fast I/O (Serial port, Parallel port, FDC .... ) onboard

## Jumper and Connectors Reference

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Before installing the mainboard, make sure that the jumper setting are properly set for your configuration. The function of different jumpers are respectively as follows:

CPU Internal Clock Multiplier .....	JP19, JP20
CPU Clock Frequency Selector .....	JP15, JP16
CPU Voltage Selector .....	JP17
Cache Option .....	JP9, JP3
SRAM Voltage Selector .....	JP1, JP2
Flash ROM Voltage Selector .....	JP23
CMOS Charge I Discharge .....	J3
AT Bus Speed Selector .....	JP18

## Mainboard Connectors:

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Onboard HDD LED Connector .....	J2
Reset Switch Connector .....	J8
Speaker Connector.....	J5

Keylock and Power LED Connector..... J4  
PS/2 mouse Connector ..... MS2  
Keyboard Connector ..... KB1  
Power Supply Connector ..... PW1  
Turbo Switch Connector ..... TB/SW (J7)  
Turbo LED Connector ..... TB/LED (J6)

Jumper Caps reference :  
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Red	Jumper for	Voltage Selector
White	Jumper for	Cpu Type
Yellow	Jumper for	Clock Selector
Blue	Jumper for	Cache Option
Black	Jumper for	Other

P54C(Intel) CPU JUMPER SETTING  
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CPU SPEED	CPU Clock Selector Yellow Jumper Cap JP15 JP16	CPU Internal Clock Selector Yellow Jumper Cap JP19 JP20
PP-75 Mhz	CL CL 50 Mhz	OP OP x 1.5
PP-100 Mhz	CL CL 50 Mhz	CL OP x 2
PP-90 Mhz	OP CL 60 Mhz	OP OP x 1.5
PP-120 Mhz	OP CL 60 Mhz	CL OP x 2
PP-150 Mhz	OP CL 60 Mhz	CL CL x 2.5
PP-100 Mhz	CL OP 66 Mhz	OP OP x 1.5
PP-133 Mhz	CL OP 66 Mhz	CL OP x 2
PP-166 Mhz	CL OP 66 Mhz	CL CL x 2.5
P54CT-180 Mhz	OP CL 60 Mhz	OP CL x 3
P54CST-200 Mhz	CL OP 66 Mhz	OP CL x 3

NOTE: Using PP75/90/100/120/133 JP20 must be set to OPEN.

CYRIX 6x86 CPU JUMPER SETTING  
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CPU SPEED	CPU Clock Selector Yellow Jumper Cap JP15 JP16	CPU Internal Clock Selector Yellow Jumper Cap JP19 JP20
6x86-P120(100 Mhz)	CL CL 50 Mhz	OP OP x2
6x86-P150(120 Mhz)	OP CL 60 Mhz	OP OP x2
6x86-P166(133 Mhz)	CL OP 66 Mhz	OP OP x2

CPU VOLTAGE SELECTOR Red Jumper Cap  
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JP17

2-3 3.38 Volts for Intel P54C Cyrix 6x86 Standard CPU Type

1-2 3.53 Volts for Intel P54C Cyrix 6x86 VRE CPU Type

Note: MP066 only can support single voltage CPU.

SRAM Configuration  
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SRAM Configuration is used to configure the external cache of the main-board. External cache can be configured by using 32K\*8 and 64K\*8 SRAM/Synchronous cache or Cache module. There are 3 types of external cache configuration.

- A. DIP Type SRAM ( Asynchronous Cache )
- 256K cache size
- |     |       |                  |
|-----|-------|------------------|
| JP9 | SRAM  | TAG RAM(U11)     |
| 3-4 | 32K*8 | 8K*8/16K*8/32K*8 |
- 512K cache size
- |     |       |              |
|-----|-------|--------------|
| JP9 | SRAM  | TAG RAM(U1I) |
| 2-3 | 64K*8 | 16K*8/32K*8  |
- B. Synchronous Cache Module or Synchronous Cache on board
- Please remove DIP type SRAM on the mainboard because Aynch-ronous and Synchronous can't be simultaneously installed.

Synchronous Cache on board U5,U6

256K cache size

JP9	JP3	SRAM	TAG RAM(U11)
3-4	1-2	32K*32	8K*8/16K*8/32K*8

512K cache size

JP9	JP3	SRAM	TAG RAM(U11)
2-3	2-3	64K*32	16K*8/32K*8

Synchronous Cache on hoard upgrade to 512K using Synchronous Cache Module

JP9	JP3	SRAM	TAG RAM(U11)
2-3	2-3	32K*32	8K*8

Note: To upgrade to 512K cache, you only can use CD013 additional 256K cache on board. Please contact Edom International Corporation at (510) 659-8882 for detail.

SRAM Voltage Selector  
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MP066 provides two types of voltage value for the SRAM , 5V voltage for mix-mode DIP type SRAM ,3.3 V voltage for 3.3 V DIP type SRAM and synchronous cache or cache module.

JP1	JP2	
OPEN	1-2,3-4,5-6	For MIX Mode SRAM
1-2,3-4,5-6	OPEN	For 3.3 Volts DIP SRAM or Synchronous Cache or Cache module

AT Bus Speed Selector Yellow jumper Cap  
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JP18	
1-2	PCI Clock 1/3
2-3	PCI Clock 1/4

Flash ROM Voltage Selector Red jumper Cap  
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JP23	
OPEN	EPROM
1-2	Flash ROM 12 Volts (Intel, MXIC Brand)
2-3	Flash ROM 5 Volts (SST Brand)

Note: Wrong voltage setup will damage BIOS. Please call Edom for detail.

Memory Configuration  
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Memory Module Combinations

Bank 0	Bank 1	Bank 2	TotalMemory Using Sockets
SIMM 3&4	SIMM 1&2	SM1-8	

None	None	1MB x 8	8MB
None	4MB x 2	None	8MB
4MB x 2	None	None	8MB

None	8MB x 2	None	16MB
None	4MB x 2	1MB x 8	16MB
4MB x 2	None	1MB x 8	16MB
4MB x 2	4MB x 2	None	16MB
8MB x 2	None	None	16MB

None	8MB x 2	1MB x 8	24MB
8MB x 2	None	1MB x 8	24MB
4MB x 2	8MB x 2	None	24MB
8MB x 2	4MB x 2	None	24MB

None	None	4MB x 8	32MB
None	16MB x 2	None	32MB
16MB x 2	None	None	32MB
8MB x 2	8MB x 2	None	32MB

None	4MB x 2	4MB x 8	40MB
None	16MB x 2	1MB x 8	40MB
4MB x 2	None	4MB x 8	40MB
16MB x 2	None	1MB x 8	40MB
4MB x 2	16MB x 2	None	40MB
16MB x 2	4MB x 2	None	40MB

None	8MB x 2	4MB x 8	48MB
8MB x 2	16MB x 2	None	48MB
8MB x 2	None	4MB x 8	48MB
16MB x 2	8MB x 2	None	48MB

None	None	8MB x 8	64MB
None	32MB x 2	None	64MB
None	16MB x 2	4MB x 8	64MB
16MB x 2	None	4MB x 8	64MB
32MB x 2	None	None	64MB
16MB x 2	16MB x 2	None	64MB

None	4MB x 2	8MB x 8	72MB
4MB x 2	None	8MB x 8	72MB
32MB x 2	4MB x 2	None	72MB
4MB x 2	32MB x 2	None	72MB

None	8MB x 2	8MB x 8	80MB
8MB x 2	None	8MB x 8	80MB
8MB x 2	32MB x 2	None	80MB
32MB x 2	8MB x 2	None	80MB

None	16MB x 2	8MB x 8	96MB
16MB x 2	None	8MB x 8	96MB
16MB x 2	32MB x 2	None	96MB
32MB x 2	16MB x 2	None	96MB

None	None	16MB x 8	128MB
32MB x 2	32MB x 2	None	128MB

IMPORTANT:Do not useSIMM modules with more than 24 chips per 72 pin and 9 chips per 30 pin module with this mainboard.

Module with more than 24 or 9 chips exceeds the design specification of the memory subsystem and will cause unreliable operation.

#### CMOS Charge / Discharge (Black jumper Cap) =====

CMOS Charge / Discharge is used to discharge and charge CMOS. If you discharge the CMOS all the data will be erased.

J3  
2-3            Charge CMOS  
1-2            Reset CMOS

#### Mainboard Connectors =====

- J4    Keylock and Power LED connector will be connected in your computer case front panel. Keylock is used to lock the keyboard. Power LED will light up when you turn on your power supply.
- J5    Speaker connector will be connected in the speaker of your computer case.
- J8    Reset Switch connector will be connected in your computer case front panel. Resetting the system, it will restart the computer from self-test without turning off the power supply. This connection is always at "off" position.
- J2    Onboard HDD LED connector will be connected in your computer case front panel.
- MS2   PS/2 Mouse connector , this is used for PS/2 mouse. (In mainframe case>
- KB2   Keyboard connector ,this is used for inputting signal from the keyboard.
- PW1   Power Supply connector is connected from the output of the power supply. Most of the power supply has two connectors which will be connected to the mainboard.Each connector has six wires, two of the wires are black. To connect to the mainboard , make sure that the black wire is in the middle .Wrong connection will cause damage to the mainboard.
- TB/SW    Turbo Switch Connector will be connected in your computer (J7)    Case front panel.
- TB/LED    Turbo LED Connector will be connected in your computer Case (J6)    front panel.

#### AWARD BIOS SETUP =====

Award BIOS supports plug and play function and has a built-in setup program that allows the users to modify the basic system configuration. This type of information is stored in CMOS so that it retains the setup information when the power is turned off.

1. Turn on or reboot the system. when the below message appears at the bottom of the screen during the POST ( Power On Self Test ),press DEL key to enter setup.
2. Press the DEL key to enter the Award BIOS program and the main menu will appear on the screen.The main menu allows you to select from ten setup functions and two exit choices.
3. Use the arrow key to highlight the item you wish to modify and then press enter.
4. Press <ESC> key at anytime to return to the main menu.
5. In the main menu , choose "SAVE & EXIT SETUP " to save the changes and reboot the system. Choosing "EXIT WITHOUT SAVING " ignore the changes and exit the setup program.

#### STANDARD CMOS Setup =====

This setup includes all the items in a standard compatible BIOS.

1. Choose " STANDARD CMOS SETUP " from the main menu and a Standard CMOS Setup menu will appear on the screen.
2. Use arrow key to move between items and selected values.Use PgUp/PgDn/+/- keys to modify the selected item. Some items let you key in the value directly.

Date (mm/dd/yy)                      Type the current date.

Time (hh/mm/ss)                      Type the current time.

Hard Disk                              Choose from the predefined hard disk types 1 to 45. Type User is for user definable. If you select type user, enter the informtaion

directly from the keyboard and press <Enter>. If you select AUTO type, BIOS will automatically detect HDD type when power on. This information should be provided in the documentation from your hard disk vendor.

Drive A & B	Choose	360KB,5.25 in. 1.2MB, 5.25 in. 720KB,5.25 in. 1.4MB, 3.5 in. 2.88MB, 3.5 in. Not installed
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Video	Choose	Monochrome Color 40 x 25 EGA/VGA Color 80 x 25
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Halt on	This category determines whether the computer will stop if an error is detected during power up.
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3. When you finish, press the <ESC> key to return to the main menu.

BIOS FEATURES SETUP  
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This setup includes items of special enhanced features.

1. Choose "BIOS FEATURES SETUP " from the main menu and BIOS Features Setup menu will appear on the screen with the default values.
2. Use arrow key to move between items and selected values.Use PgUp/PgDn/+/- keys to modify the selected item.<F> functions are explained below:

<F1>	Help, gives options available for each item.
Shift <F2>	Change Color
<F5>	Get the old values , for the user to start the current session.
<F6>	Load all option with the BIOS default values.
<F7>	Load all option with the Setup default values.

Virus Warning	This option enabled/disabled virus warning message if any attempt to write to the boot sector or hard disk partition.
CPU Internal Cache	This option enabled/disabled the CPU internal cache memory.
External Cache	This option enabled/disabled the external cache memory.
Quick Power On Self Test	This option enabled/disabled the BIOS past POST at boot up.
Boot Sequence	This option A,C / C,A the computer search the first drive for the operating system.
Swap Floppy Drive	This option enabled/disabled the boot up sequence from B to A drives.
Boot Up Floppy Seek	This option enabled/disabled the search of floppy disk drive.
Boot Up Numlock Status	This option on/off the numlock mode at boot up.
Boot Up System Speed	This option high/low speed that the system will run at after power on.
Gate A20 Option	This option fast for chipset , normal for keyboard use of Gate A20.
Memory parity Check	This option enabled/disabled the memory parity check function.
Typematic Rate Setting	This option enabled/disabled the typematic rate function.
Typematic Rate (Char/Sec)	This option set the rate of character repeat per second.
Typematic Delay (Msec)	This option set the delay'time between the first and second character displayed.
Security Option	This option system/setup System - each time the system is booted the password prompt appears. Setup- If a password is set , the password prompt only appears ifyou try to enter the setup program.

Video BIOS Shadow will copy BIOS code from slower ROM to faster RAM.

3. After you finished the BIOS Features Setup program, press <ESC> to return to the main menu.

CHIPSET FEATURES SETUP  
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This setup includes the items of chipset register features.

Note: Change the setting only if you are familiar with the chipset.

1. Choose "CHIPSET FEATURES SETUP " from the main menu and CHIPSET Features Setup menu will appear on the screen with the default values
2. Use arrow key to move between items and selected values. Use PgUp/PgDn/+/- keys to modify the selected item. <F> functions are explained below:

<F1>	Help, gives options available for each item.
Shift <F2>	Change Color
<F5>	Get the old values,for the user to start the current session.
<F6>	Load all option with the BIOS default values.
<F7>	Load all option with the Setup default values.
DRAM RAS# Precharge Time	This option set the DRAM RAS Precharge timing.
DRAM R/W Leadoff Timing	This option set the DRAM Leadoff timing time.
DRAM RAS To CAS Delay	this option set the DRAM RAS to CAS delay timing.
DRAM Read Burst Timing	This option set the DRAM Read Burst timing after lead off time cycle.
DRAM Write Burst Timing	This option set the DRAM Write Burst timing after lead off time cycle.
System BIOS cacheable	This option enabled/disabled the system BIOS area Cacheable
Video BIOS cacheable	This option enabled/disabled the video BIOS area Cacheable
8 Bit I/O Recovery Time	This option used to add additional recovery delay between CPU or PCI , master 8 bits I/O cycle and the ISA bus.
16 Bit I/O Recovery Time	This option used to add additional recovery delay between CPU or PCI , master 16 bits UO cycle and the ISA bus.
IDE HDD Block Mode	This option enabled/disabled the IDE HDD Block mode function. Not all HDD support this function.
IDE Primary Master /Slave , Secondary Master / Slave	This option select different PIO mode from mode 0 to mode 4 for on board PCI IDE mode processor input / output mode.
On-chip Primary PCI IDE	This option enabled/disabled the primary onboard PCI IDE.
On-chip Secondary PCI IDE	This option enabled/disabled secondary onboard PCI IDE.
Onboard FDC controller	This option enabled/disabled onboard FDC controller
Onboard Serial Port 1 & 2	This option enabled/disabled onboard Serial port 1 & 2.
Onboard Parallel Port	This option enabled/disabled onboard Parallel port.

Parallel Port Mode This option select different parallel port mode.

3. After you finished the CHIPSET Features Setup program, press <ESC> to return to the main menu.

POWER MANAGEMENT SETUP  
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This setup includes the items of power management setup features.

1. Choose "POWER MANAGEMENT SETUP " from the main menu and Power Management Setup Features menu will appear on the screen with the default values
2. Use arrow key to move between items and selected values.Use PgUp/PgDn/+/- keys to modify the selected item. <F> functions are explained below:

	<F1>	Help, gives options available for each item.
Shift	<F2>	Change Color
	<F5>	Get the old values , for the user to start the current session.
	<F6>	Load all option with the BIOS default values.
	<F7>	Load all option with the Setup default values.
Power Management	Option are as follows:	
	Disable	Global Power management will be disabled.
	User Define	Let's you define time HDD and System will power down.
	Min Saving	Pre-defined timer values of 1 hour.
	Max Saving	Pre-defined timer values of 1 minute.
PM Control by APM	This option yes/no for Advanced Power Management. If APM is used you must run "power.exe" under DOS v6.0 or later version.	
Video Off Method	The "Video Off Method" default is "V/H SYNC + Blank". The other options are "DPMS" and "Blank Only". When power management blank the monitor screen, the default setting blanks the screen and turns off vertical and horizontal scanning. The DPMS (Display Power Management System) setting allow the BIOS to control the video card if it has the DPMS feature. IF you don't have a "Green"monitor, use the Blank Only option.	
Doze Mode	This option set the time or disabled the doze mode.  3-12	
Standby Mode	This option set the time or disabled Standby mode.	
Suspend Mode	This option set the time or disabled Suspend mode.	
HDD Power Down	This option set the time or disabled HDD Power Down.	
COM-Drive Port Accessed and IRQ3 - IRQ15	Those option ON/OFF the BIOS monitors' activities, If activity occurs from the enabled item, the system will not enter into the green function mode. (power saving)	

#### PCI CONFIGURATION SETUP

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This setup includes the items of power management setup features.

1. Choose "PCI CONFIGURATION SETUP " from the main menu and PCI Configuration Setup Features menu will appear on the screen with the default values.
2. Use arrow key to move between items and selected values. Use PgUp/PgDn/+/- keys to modify the selected item. <F> functions are explained below:

	<F1>	Help, gives options available for each item.
Shift	<F2>	Change Color
	<F5>	Get the old values , for the user to start the current session.
	<F6>	Load all option with the BIOS default values.
	<F7>	Load all option with the Setup default values.
PnP BIOS Auto-config	This option enabled/disabled PnP BIOS Auto-config. Enabled it will automatic ally set the 1st, 2nd, 3rd and 4th IRQ for slot 1-4 INTA#.	
Slot 1,2,3,4 Using INT#	This option assign the PCI INT# number A,B,C,D or Auto. If set to Auto it will automatic ally assign PCI INTA#.	
1st,2nd,3rd,4th Available IRQ	This option assign the IRQ for slot 1-4 PCI INTA #. If PnP BIOS Auto-config set to disable the BIOS will automatically route the INT# to the specified IRQ following the 1st,2nd,3rd and 4th IRQ order you assign.	
PCI IRQ Activated By	This option set the IRQ assign to LEVEL or EDGE trigger.	
PCI IDE IRQ Map To	This option select PCI-AUTO, ISA or assign a PCI Slot number (depending on which slot the PCI IDE is inserted)	
Primary IDE INT#	This option set the Primary IDE INT# to A, B, C or D. The default setting is A.	
Secondary IDE INT#	This option set the Secondary IDE INT# to A, B, C or D. The default setting is B.	

#### LOAD BIOS DEFAULTS

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"LOAD BIOS DEFAULTS" loads the troubleshooting default values permanently recorded in the BIOS ROM . These setting are non-optional and turn off all high performance features.

The Standard CMOS Setup screen is not affected. To use this feature, highlight it on the main screen and press <Enter>. A line will appear asking if you want to load the BIOS default. Press the <Y> key and then <Enter>. The default setting will load. Press <N> if you don't want to proceed.

LOAD SETUP DEFAULTS

The "LOAD SETUP DEFAULTS" option loads optimized settings from the BIOS ROM. Use this option to load default setting for normal use.

The Setup Defaults default setting do not affect the standard CMOS Setup screen. To use the Setup Defaults, highlight the entry on the main screen and press <Enter>. A line will appear asking ifyou want to load the Setup default values. Press the <Y> key and then press <Enter>. The screen Defaults will load. Press <N> if you don't want to proceed.

PASSWORD SEVTING

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This allows you to limit access to the system and setup.

1. Choose "PASSWORD SETTING" in the main menu and press <Enter>. The following message appears on the screen.  
  
"Enter Password:"
2. Enter a password and press <Enter>. (If you do not wish to use the password function ,just press <Enter> and a "Password disabled " message appears.)
3. After you enter your password, the following message appears, prompting you to confirm the new password:  
  
"Confirm Password:"
4. Re-enter your password and then press <ESC> to exit the main menu.  
  
Important :If you forget the password ,the only way to access the system is to reset the CMOS.  
Note : resetting the CMOS, all setup will lost and you must run BIOS setup program again.

IDE HDD AUTO DETECTION

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If your system has an IDE hard drive ,you can use this utility to detect its parameters and enter them into the Standard CMOS Setup automatically.

This utility will detect as many as four IDE drivers if your system configuration supports that many. In sequence, set of parameters for each drive will appear in the box. To accept the entries displayed press the Y key,to skip to the next drive, press the N key. If you accept the values, the parameters will appear listed beside the drive letter on the screen and the next letter, without parameters will appear and the program will attempt to detect parameters for the next drive. If you press the N key to skip rather than accept a set of parameters. zeros are entered after that drive letter.

Remember, if you use another IDE controller that does not have Enhanced IDE support for four devices, you can only install two IDE hard disk drives. Your IDE controller must support Enhanced IDE features in order to use Drive E: and Drive F:. The on-board PCI IDE controller supports Enhanced IDE and has two connectors that support a total of four IDE devices.

When you finished, any entries you accepted are automatically entered on the line for that drive in the Standard CMOS Setup. Any entries you skipped are ignored and nothing is entered for that drive in Standard CMOS Setup.

IDE HDD Auto Detection

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Note: If you are setting up a hard disk that supports LBA mode, three lines will appear in the parameter box. Choose the line that lists LBA or an LBA drive. Do not choose Large or Normal.

Important: This utility will only detect one set of parameters for an IDE hard drive. Some IDE drivers can use more than one set. This is not a problem if the drive is new and there is nothing on it. If the hard disk drive is already fully formatted when you install it, and different parameters than those detected here were used, You will have to enter them manually.

If the parameters listed don't match the ones used when the drive was formatted, the drive won't be readable. If the auto detect parameters displayed do not match the ones that should be used for your drive, do not accept them. Press <N> key to reject the values and enter the correct ones manually form the Standard CMOS Setup screen.

SAVE & EXIT SETUP



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This function saves the changes of values to the CMOS and exit setup.

EXIT WITHOUT SAVING  
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This function abandons all CMOS changes and exit setup.

BIOS-Supported Enhanced IDE Features  
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The BIOS has several feature enhancements for IDE hard disk drives and support for other IDE devices.

The original LDE implementation was limited to two hard disk drives with relatively slower data transfer rates. While this solution is simple and reliable, it has some limitations that have become more signification as the performance level of other system components and overall system performance have increased dramatically with the advent of new micro-processor, expansion bus and operating system technologies.

In response to these demands, the IDE specification has been updated to increase its capabilities and provide improved performance. Together these are referred to as 'Enhanced IDE'. Enhanced IDE features comprise the following:

- \* Support for IDE hard disk drives larger than the former 528MB limit imposed by various technical factors.
- \* Support for IDE devices other than hard disk drives, including IDE Tape Backup and CD-ROM drives.
- \* Support for two IDE channels with two devices per channel, allowing the use of four IDE local bus interface.

This mainboard supports the use of these new features. The features work with the on-board PCI IDE controller which has two connectors built onto the board. With this controller you can use one or both connectors to connect up to four IDE devices.

Large IDE Hard Disks  
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For IDE hard disk drives, the BIOS provides three modes to support both normal IDE hard disks and also drives larger than 528MB:

- Normal - for IDE drives smaller than 528MB
- Large - for drives larger: than 528MB that do not use LBA. These can only be used with the MS-DOS operating system.
- LBA - for drives larger than 528MB and up to 8.4GB (GigaBytes) that use Logic Block Addressing mode.

Other IDE Devices  
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Enhanced IDE allows the use of IDE devices other than hard disks. Two devices that previously required non-standard or adapted interfaces and are now available as standard IDE devices are Tape Backup and CD-ROM drives. these will now be able to take advantage of the ease of installation, lower cost and in some cases superior performance of Enhanced IDE, putting an end to the system configuration complications created by their earlier interfaces.

To use IDE devices other than hard disks with this mainboard you may need to install a device driver in your system software configuration. Refer to the documentation that comes with any device you will install for instructions about this and any other installation requirements.

Dual IDE Channel Support  
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With the on-board PCI IDE controller you can connect up to four IDE peripheral devices to your system. With enhanced IDE you can connect two devices to each connector. All devices are categorized the same way IDE hard disks have been in the past, with one device set as the "Master" device and the second as the "Slave" device.

Faster Data Transfer  
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Enhanced IDE includes a scheme to support a significant increase in the rate of data transfer from the IDE device to the rest of the system compared to the previous standard. One aspect of this scheme is support for the Mode 3 timing scheme. If you use both the on-board controller and hard disks that support Mode 3 operation you can increase the data transfer rate up to as much as 11MB per second.