EXP8039

User's Manual

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RMA FORM

CHAPTER 1
INTRODUCTION

1.1 OVERVIEW

The *EXP8039* is complemented by a 256KB second level Write-Back cache providing workstation level computing performance, and SIMM sockets support up to 32MB of DRAM.

The *EXP8039* motherboard offers outstanding I/O capabilities. Three PCI Local Bus slots provide a high bandwidth data path for data-movement intensive function such as Graphics. Four ISA slots complete the I/O mix.

The *EXP8039* motherboard provides the foundation for cost effective, high performance, highly expandable platforms which deliver the latest in CPU and I/O technologies.

1.2 SYSTEM FEATURES

- Ti Processor only
- Supports 4 System States for Power Saving : ON/DOZE/STANDBY/SUPEND
- Supports L2 Write Back/Write Through Cache Feature
- Supports 3 MASTER PCI Bus
- Supports 128KB/256KB Cache Size
- Supports 72pin SIM MODULES
- Enhanced PCI IDE on Board
- Supports 2S1P, Floppy on Board
- BIOS has been Hardware Integrated with Enhanced IDE Driver for Best Hard Disk Performance

- Supports Parallel Port EPP/ECP Mode

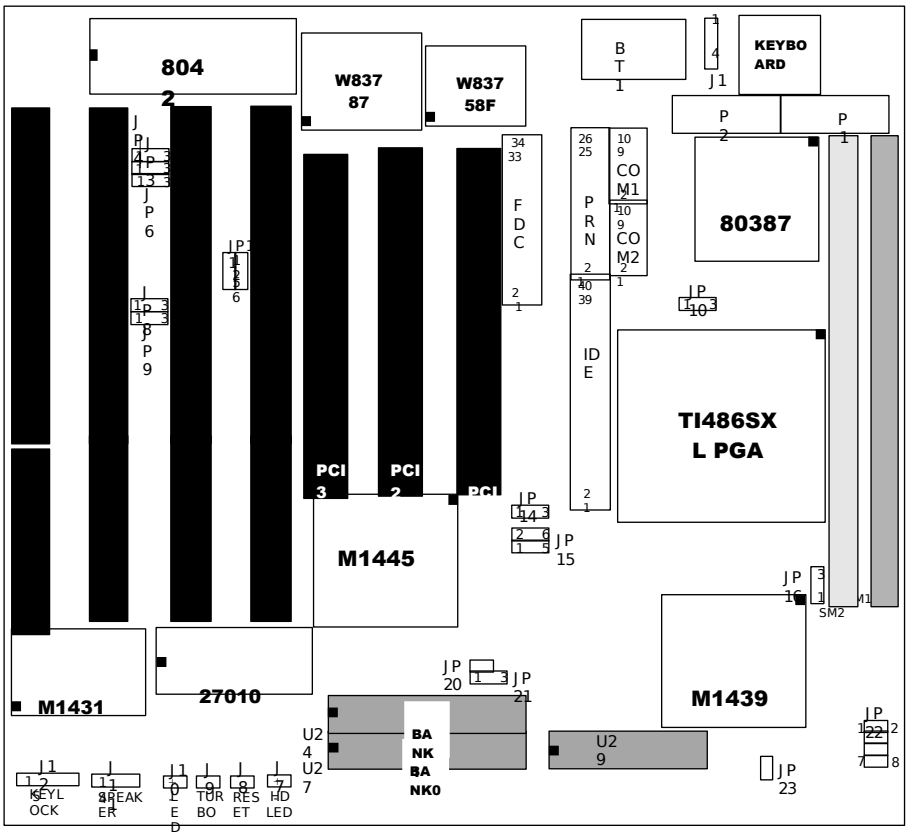
1.3 SYSTEM SPECIFICATIONS

Processor :	Ti 486 SXL/SXL2 CPU
CPU Clock :	25/33/40/50/66 MHz CPU
Memory :	Up to 32MB
Memory Configuration :	1MB/2MB/4MB/8MB/16MB
SRAM Configuration :	128KB/256KB
BIOS Subsystem :	AMI BIOS
I/O Subsystem No. Slot :	Four16-bit ISA Bus and Three PCI Bus
Dimension :	20.0 cm x 22.0 cm , 2/3 Size

Additional Features

Miscellaneous Connectors :	Reset Button, Internal Battery, Turbo SW, Flash LED(Turbo LED) for Power Green
Board Design :	Four-layer Implementation for Low Noise Operation

1.5 EXP8039 BOARD LAYOUT



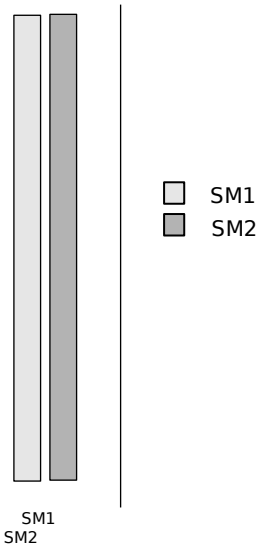
CHAPTER 2
INSTALLATION

Before the system is ready to operate, the hardware must be set up for various functions of the system. To set up the *EXP8039* motherboard is a simple task. The user only has to set a few jumpers, connectors and sockets.

2.1 DRAM INSTALLATION

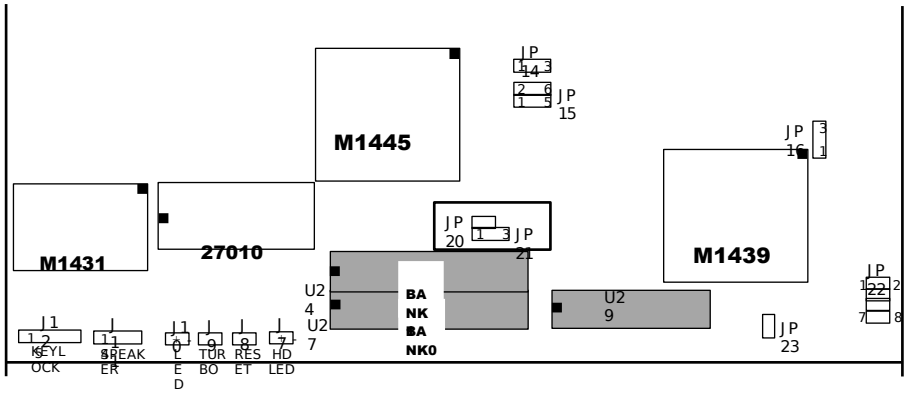
The *EXP8039* motherboard can support expanded memory from 1MB to 32MB. Either 1MB, 2MB, 4MB, 8MB, 16MB, SIM Modules can be used on the *EXP8039* motherboard.

ν The board layout below shows the locations of the DRAM memory banks :



- **The motherboard consists of two memory banks, SM1, SM2 .**

2.2 SRAM INSTALLATION

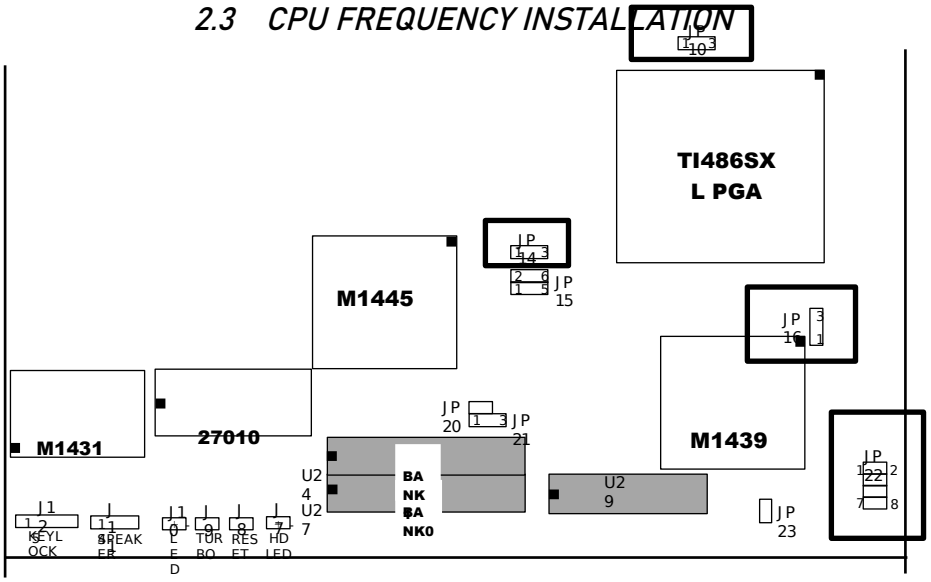


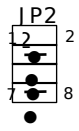
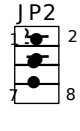
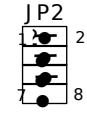
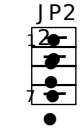
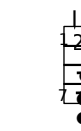
CACHE CONFIGURATION SIZE

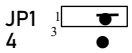
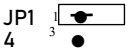
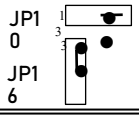
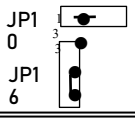
128K		256K ♣	
TAG RAM	***DATA RAM***	***TAG RAM***	***DATA RAM***
U29 8KX8	*U27 32KX32*	*U29 32KX8*	*U24,U27 32KX32*
JP2 0		JP2 0	
JP2 1		JP2 1	

♣ Default Setting

2.3 CPU FREQUENCY INSTALLATION



25MHz	33 MHz	40MHz	50MHz	66MHz♣	80MHz
					

PCI FREQUENCY SETTING		CPU POWER VOLTAGE	
CPU CLOCK x1	CPU CLOCK x1/2 ♣	3.6V ♣	5V
			

♣ Default Setting

2.3 OTHER JUMPER & CONNECTOR INSTALLATION

CONNECTOR DESCRIPTION

CONNECTOR	PIN OUT	SIGNAL NAME
JP6: DISPLAY		1-2 Mono 2-3 Color
J8 : RESET	1 2	Ground Reset In
J9 : TURBO SWITCH		Off On
J10 : TURBO LED	1 2	+Anode -Cathode
J11 : SPEAKER	1 2 3 4	+5V DC Data Out Data Out Data Out
J12 : KEYLOCK	1 2 3 4 5	Power LED Not Used Ground Keyboard Inhibitor Ground
KB1: KEYBOARD CONNECTOR	1 2 3 4 5	Keyboard Clock Keyboard-Data Space Ground +5V
	1 2 3	Power Good +5V DC +12V DC

P1 & P2 : POWER CONNECTOR	4 5,6,7,8 9 10,11,12	-12V DC Ground -5V DC +5V DC

CONNECTOR	PIN OUT	SIGNAL NAME
J1	1 2 3 4	1-2 Clear CMOS 1-4 External Battery Connector (1: Ground) (4: External Battery Power In)
J2	COM1 Connector	
J3	Printer Connector	
J4	Floppy Connector	
J5	COM2 Connector	
J6	On Board IDE Connector	
J7	On Board IDE LED	

PARALLEL PORT I/O ADDRESS

JUMPER	EPP/ECP MODE DMA1	EPP/ECP MODE DMA3
JP4		
JP11		

PARALLEL PORT IRQ

JUMPER	IRQ5	IRQ7
JP9		

CHAPTER 3
SYSTEM BIOS SETUP

WinBIOS Setup can be accessed via keyboard, mouse, or pen. The mouse click functions are:

- single click to change or select both global and current fields and
- double click to perform an operation in the selected field.

Using the keyboard with WinBIOS Setup

WinBIOS Setup has a built-in keyboard driver that uses simple keystroke combinations:

KEYSTROKE	FUNCTION
<Tab>	Move to the next window or field.
→, ←, ↑, ↓	Move to the next field to the right, left, above, or below.
<Enter>	Select in the current field.
+	Increments a value.
-	Decrements a value.

<Esc>	Closes the current operation and return to previous level.
<PgUp>	Returns to the previous page.
<PgDn>	Advances to the next page.
<Home>	Returns to the beginning of the text.
<End>	Advances to the end of the text.
<Alt>, <H>	Access a help window.
<Alt><Spacebar>	Exit WinBIOS Setup.
Alphabetic Keys	A to Z are used in the Virtual Keyboard, and are not case sensitive.
Numeric Keys	0 to 9 are used in the Virtual Keyboard and Numeric Keypad.

The hardware features and options of the *EXP8039* are on-site selectable for maximum flexibility. You will need to configure these options through the built-in Setup Utility prior to using *EXP8039* for the first time. This setup Utility is a multi-screen,menu driven program and is contained within the BIOS EPROM.

The following sections show the procedures that you may need to configure the *EXP8039* :

1. Press <DEL> while turning on or rebooting the system to invoke Setup Utility program.
2. The Main Menu will be shown as follows:

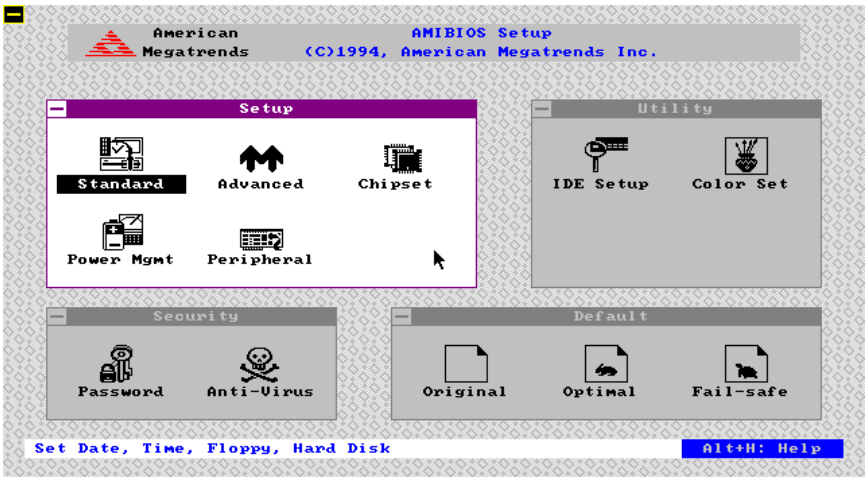


Figure 1

3. The functions are grouped into four categories which are Setup, Utility, Security and Default.
4. By using <TAB> key or mouse cursor to select the function group.
5. Use arrow keys or mouse to select the function icon within the group. Then press <Enter> key to invoke the setup fucntion.
6. Use <ESC> key to go back to the previous screen.

© SYSTEM SETUP

There are five icons in the Setup Group.
Selecting Standard icon displays the following menu:

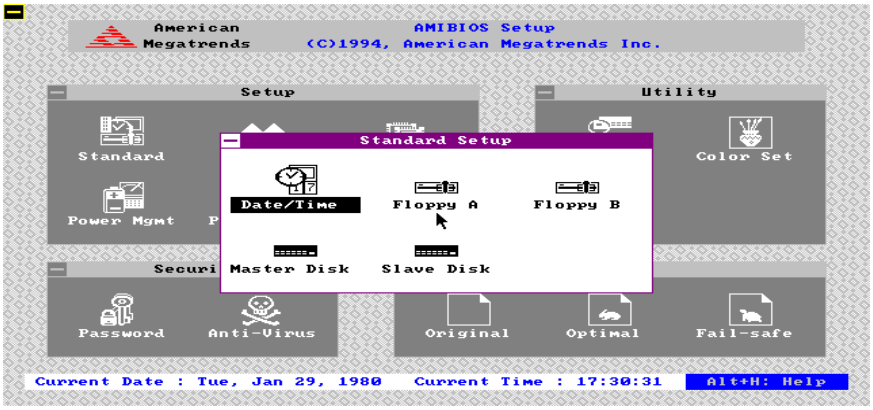


Figure 2

Selecting Date/Time icon displays the following menu:

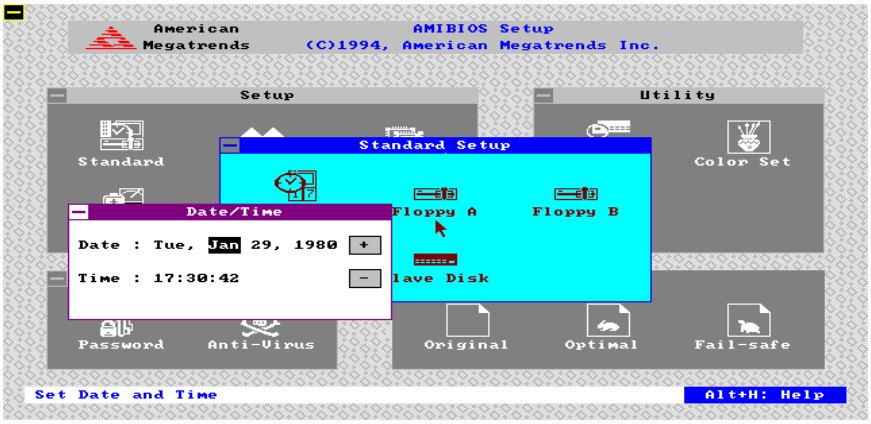


Figure 3

After entering correct date and time, press <ESC> to go back to the previous menu.
Selecting Floppy A/B icon displays the following menu:

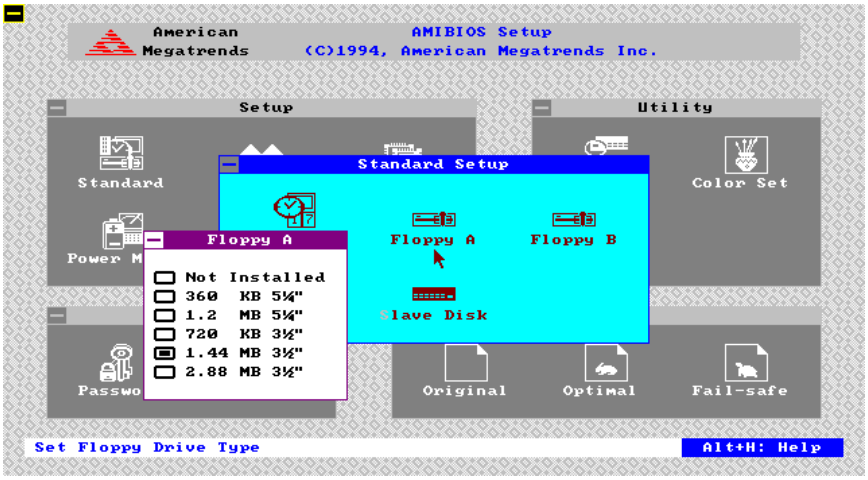


Figure 4

Using arrow keys or mouse to select the correct specification of floppy drive. Press <ESC> key to go back to the previous menu.

Selecting Master Disk icon displays the following menu:

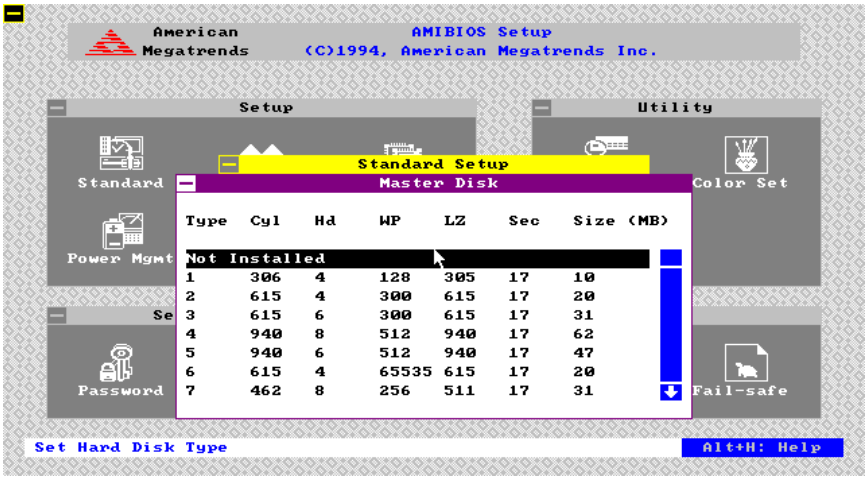


Figure 5

Use arrow keys or mouse to select or enter the Hard Disk specifications. Press <ESC> to go back to the previous menu.

Selecting Advanced icon displays the following menu:

Use arrow keys to select the desired entries and make changes. Press <Esc> key to go back to the previous menu.

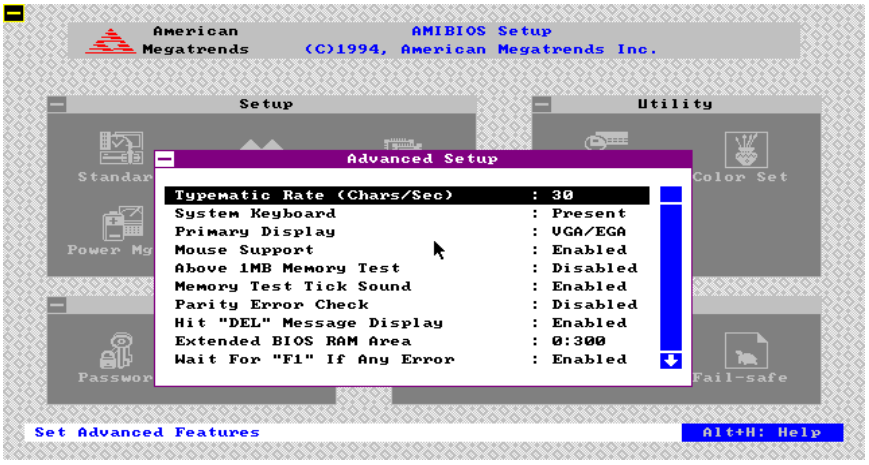


Figure 6

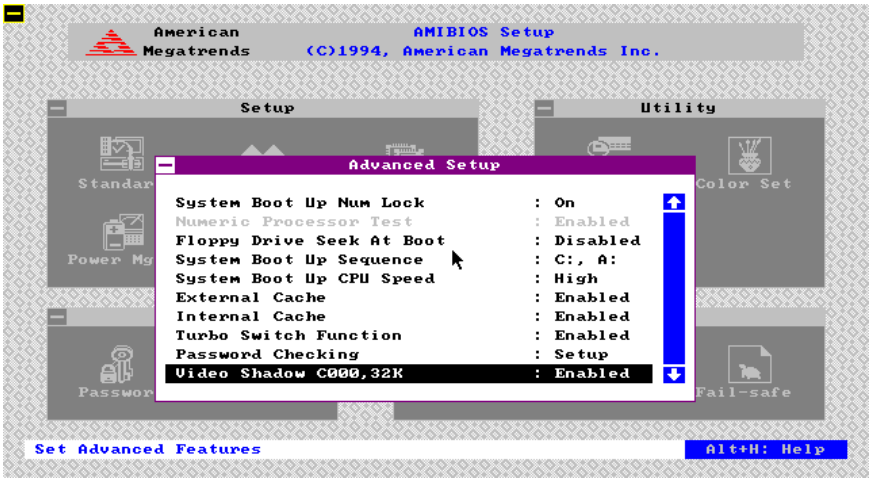


Figure 7

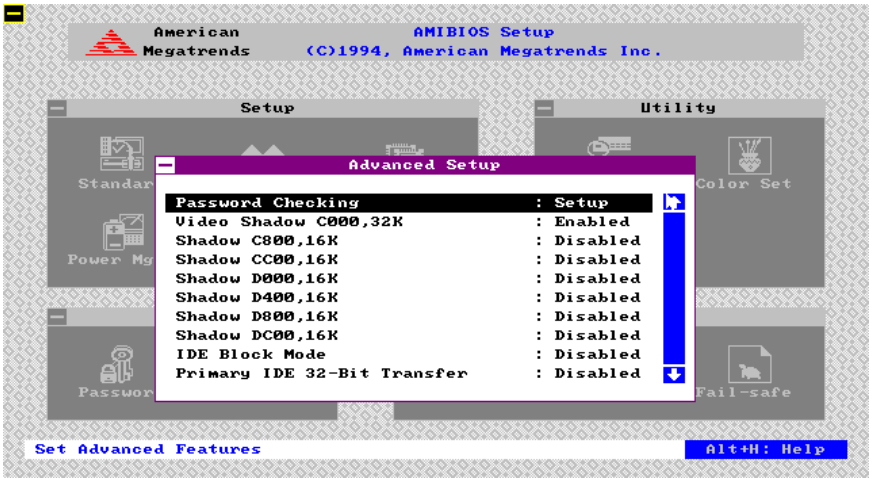


Figure 8

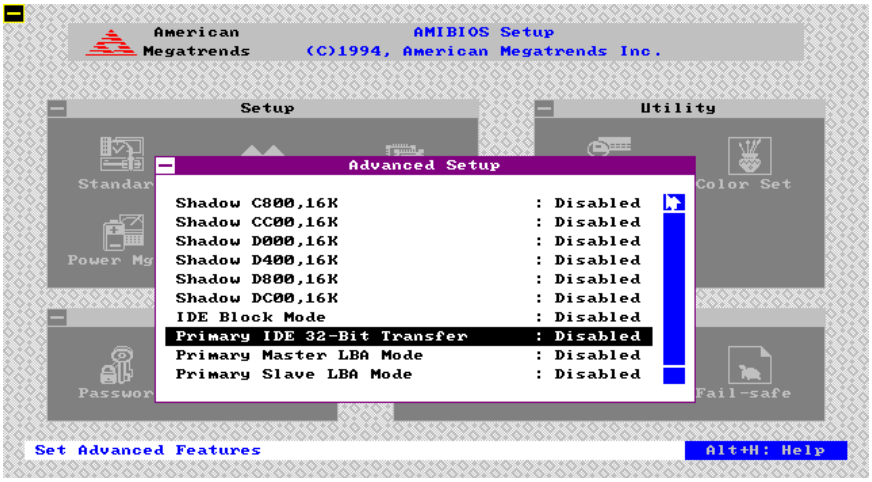


Figure 9

- Primary Display:
  Select the type of video display card your system intalled. The options are:
  Absent
  VGA/EGA
  CGA 40x25
  CGA 80x25
  Mono (for Herculess or MDA)
  If you have a VGA or any higher resolution card,choose the EGA/VGA setting.

- Keyboard Function:
  "Typematic Rate chars/sec" : The function controls the speed of keystrokes. The options are Disable/15/20/30 characters per second.
  "System Keyboard" : Testing the keyboard or not.

- Password Checking:
  "Always" : Uses the user password feature every time when you boot up system.
  "Setup" : This only protect the setup utiliay settings.

- Shadow Functions:
  This function copies the BIOS into system DRAM to improve performance.

- IDE Block Mode:
  The feature enhances hard disk performance by making multi-sector transfers instead of one sector per transfer.

- Primany IDE 32-Bit transfer:
  This function used 32-bit data transfer between the system and the IDE hard disk.

- LBA Mode (Logical Block Address)

Disable : For IDE hard disk drives smaller than 528MB.
Enable : Setting IDE hard disk drives over 528MB.

Selecting Chipset icon displays the following menu :
Use arrow keys or mouse to select the desired entries and make changes. Press <ESC> key to go back to the previous menu.

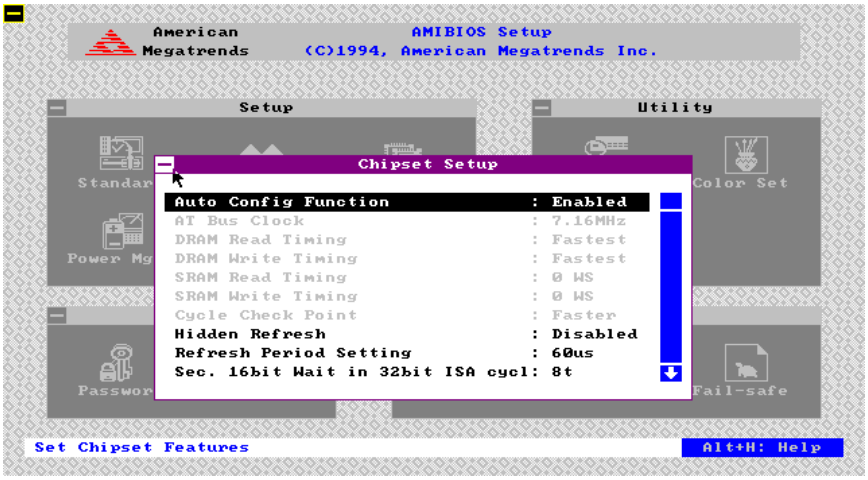


Figure 10

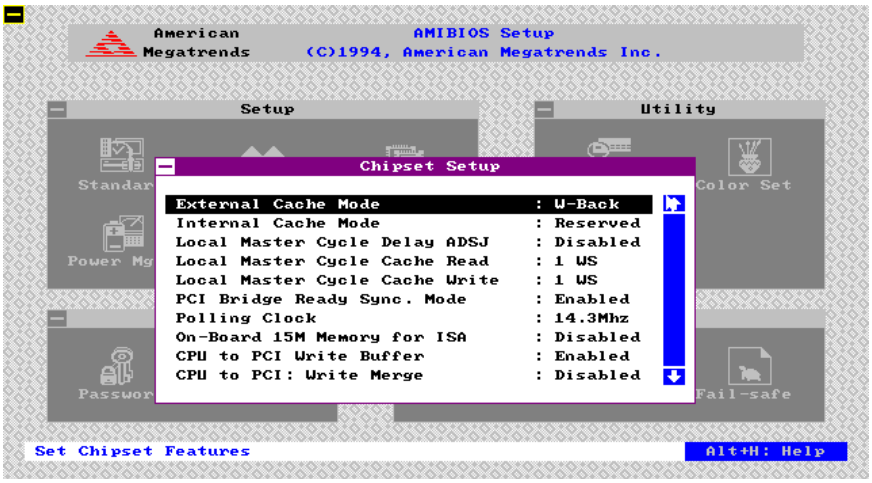


Figure 11

Note :

1. Byte merge:

   This feature is used to merge byte or word to double word. Since PCI is a 32-bit bus.

2. Fast Back to Back:

   This feature is used to enable PCI fast-back-to-back cycle defined in PCI specification.

But in our tests, not every PCI VGA card can accept these features correctly, we suggest this feature programmed as an option in CMOS setup.

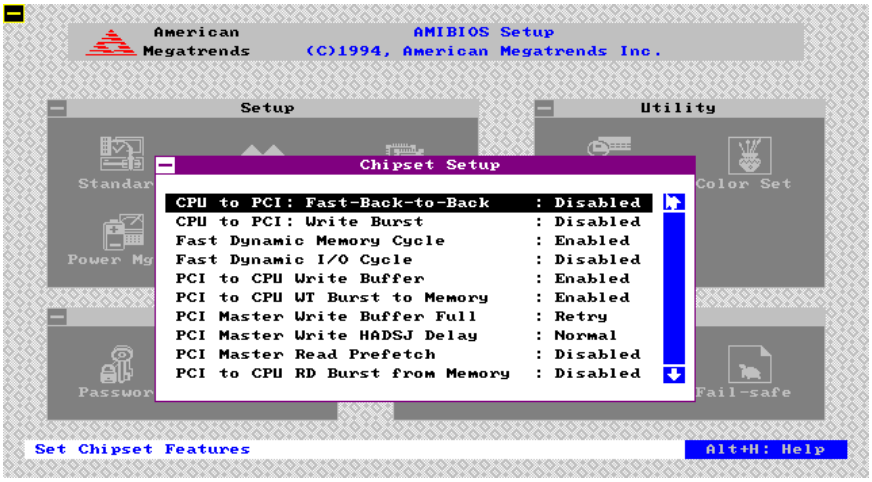


Figure 12

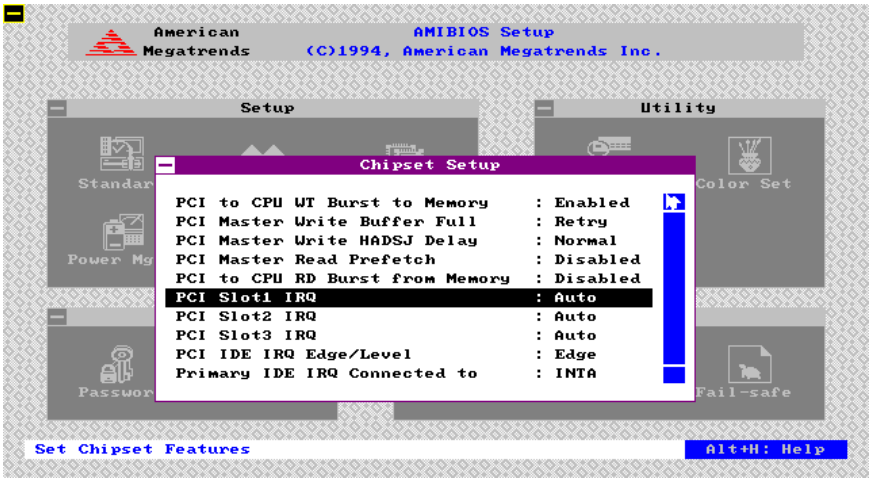


Figure 13

The "Auto Config Function" is optimal Settings for this motherboard, which configures the settings based on the CPU clock speed. You should not change them unless you know what you are doing.

RMA FORM

When the motherboard can not work well, please fill up this form to describe related situations. If the space is not enough to use, you can attach separate paper.

MODEL: **MODEL NO:**

HARDWARE

CPU: Brand _____, Model _____, Speed _____ MHz
CO-PROCESSOR: Brand _____, Model _____, Speed _____ MHz
SIMM: Brand _____, Speed _____ ns, Q'ty _____ pcs, Total _____ MB
CACHE: Brand _____, Speed _____ns, Total _____K
TAG RAM: Brand _____, Speed _____ns
BIOS DATE CODE: _____
SYSTEM SPEED RUNNING _____ MHz
VIDEO CARD: Chip _____, RAM _____, VGA Mode _____
Bus_____(ISA, VESA or PCI)
OTHER ADD-ON CARDS:

SOFTWARE

OPERATING SYSTEM _____ VERSION _____
SOFTWARE PROGRAM _____
BIOS SETUP: DRAM Wait State_____ CACHE Wait State_____
If you change BIOS SETUP, please describe the changes:

<A> ERROR

☐ HANG UP ☐ NO SCREEN ☐ FLOPPY R/W ERROR
☐ HARD DISK R/W ERROR ☐ PARITY MEMORY ERROR
☐ OTHER
_____

<B> ERROR MESSAGES ON YOUR SCREEN (PLEASE SHOW US THE WHOLE SENTENCE)

<C> PROBLEM DESCRIPTION