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**EXP8049**

**User's Manual**

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**RMA FORM**

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 OVERVIEW**

The *EXP8049* is complemented by a 512KB second level Write-Back cache providing workstation level computing performance, and SIMM sockets support up to 64MB of DRAM.

The *EXP8049* motherboard offers outstanding I/O capabilities. Four PCI Local Bus slots provide a high bandwidth data path for data-movement intensive function such as Graphics. Three ISA slots complete the I/O mix.

The *EXP8049* Baby-AT 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**

- Supports INTEL 486SX, DX, DX2, DX4, P24T, P24D, S-SERIAL  
AMD DX, DX2, DXL, DX4  
CYRIX SX, DX, DX2
- Supports H/W GREEN/WAKE UP Switch
- Supports 4 System States for Power Saving : ON/DOZE  
/STANDBY/SUSPEND
- Supports L1/L2 Write Back/Write Through Cache Feature
- Supports 3 MASTER PCI Bus & 1 SLAVE PCI Bus
- Supports 128KB/256KB/512KB Cache Size
- Supports 72pin SIM MODULES
- Supports SMI/SMM/PMU/APM Power Controllers
- 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 : INTEL 486SX/DX/DX2/DX4/P24T/P24D 486CPU  
 CYRIX CX486 SX/DX/DX2 486CPU  
 AMD DX/DX2/DX4/DXL 486CPU

CPU Clock : 25/33/40/50 MHz CPU

Memory : Up to 64MB

Memory Configuration : 1MB/2MB/4MB/8MB/16MB/32MB/64MB

SRAM Configuration : 128KB/256KB/512KB

BIOS Subsystem : PHOENIX\AMI BIOS

I/O Subsystem No. Slot : Three 16-bit ISA Bus and Four PCI Bus

Dimension : 9.2" X 8.8" , 2/3 Baby AT Size

#### **Additional Features**

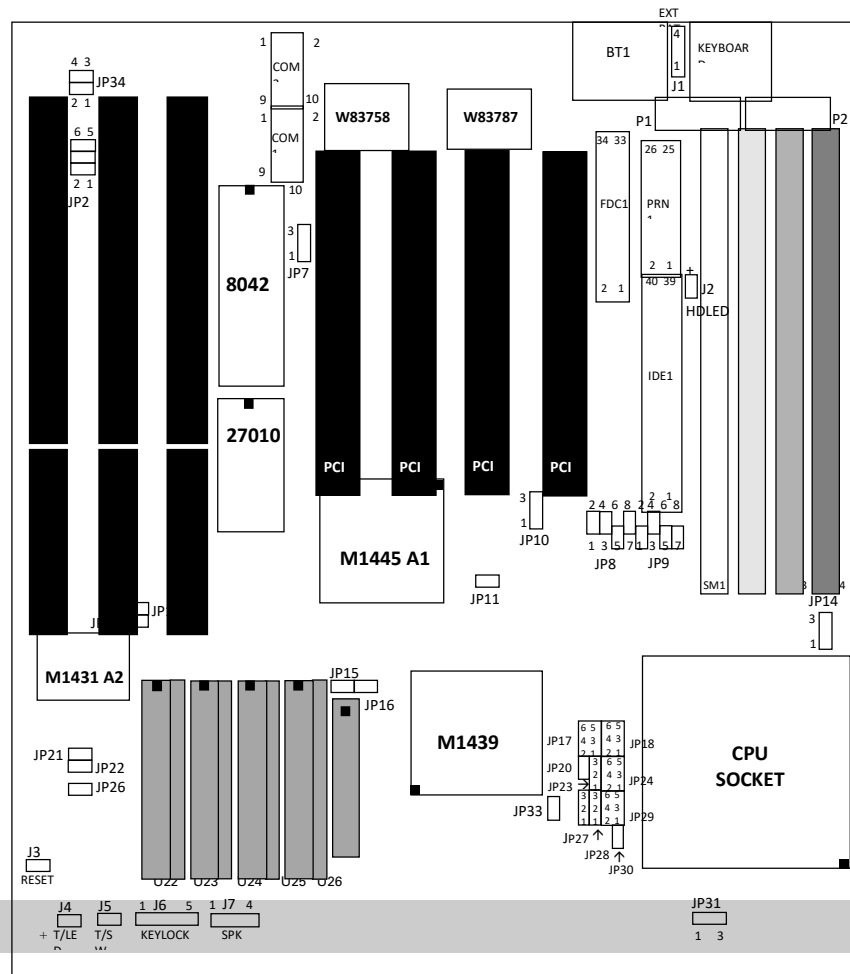
Miscellaneous Connectors : Reset Button, Internal Battery, Turbo SW, Flash LED(Turbo LED) for Power Green

Board Design : Four-layer Implementation for Low Noise Operation

### **1.4 SYSTEM PERFORMANCE**

<b>SOFTWARE CPU TYPE</b>	<b>LANDMARK V2.0</b>	<b>POWER METER V1.7 MIPS</b>	<b>NORTON V8.0 CPU SPEED</b>
<b>INTEL DX-33MHz</b>	111.35MHz	14.7MIPS	72.0
<b>AMD DX-40MHz</b>	133.77MHz	17.6MIPS	86.5
<b>INTEL DX2-50MHz</b>	167.64MHz	19.4MIPS	99.3
<b>INTEL DX-50MHz</b>	167.64MHz	21.9MIPS	108.4
<b>INTEL DX2-66MHz</b>	222.69MHz	25.8MIPS	132.0

1.5 EXP8049 BOARD LAYOUT



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## **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 *EXP8049* motherboard is a simple task. The user only has to set a few jumpers, connectors and sockets.

#### **2.1 DRAM INSTALLATION**

The *EXP8049* main board can support expanded memory from 1MB to 64MB. Either 1MB, 2MB, 4MB, 8MB, 16MB, 32MB, SIM Modules can be used on the *EXP8049* motherboard.

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

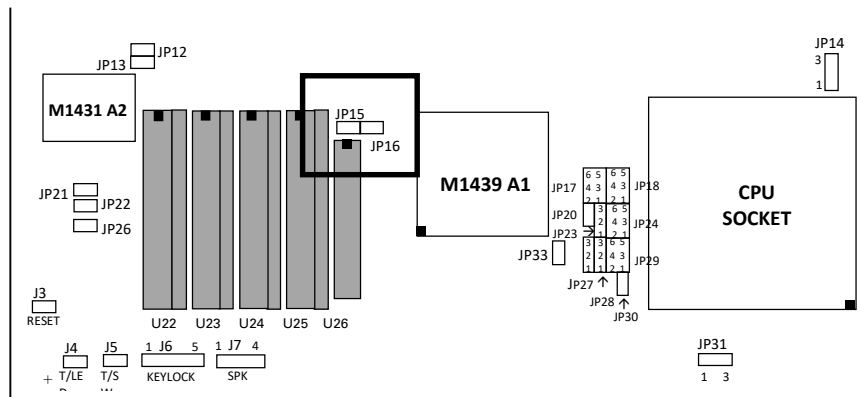


□ The motherboard consists of four memory banks, SM1, SM2, SM3 or SM4 .

□ TABLE 1

SM1	SM2	SM3	SM4	TOTAL MEMORY
4MB	None	None	None	4MB
4MB	4MB	None	None	8MB
4MB	4MB	4MB	None	12MB
8MB	4MB	None	None	12MB
8MB	8MB	None	None	16MB
16MB	None	None	None	16MB
16MB	4MB	None	None	20MB
16MB	4MB	4MB	None	24MB
16MB	4MB	4MB	4MB	28MB
16MB	16MB	None	None	32MB
16MB	16MB	4MB	None	36MB
16MB	16MB	4MB	4MB	40MB
16MB	16MB	16MB	None	48MB
16MB	16MB	16MB	4MB	52MB
16MB	16MB	16MB	16MB	64MB
32MB	32MB	None	None	64MB

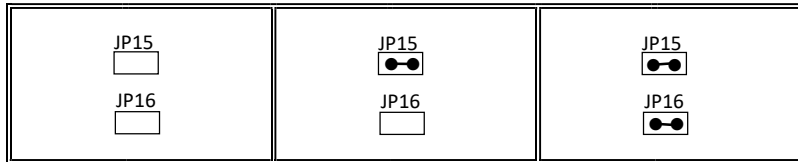
## 2.2 SRAM INSTALLATION



### CACHE CONFIGURATION SIZE

128K		256K ♣		512K	
TAG RAM	DATA RAM	TAG RAM	DATA RAM	TAG RAM	DATA RAM
U26	U22-U25	U26	U22-U25	U26	U22-U25
8KX8	32KX8	32KX8	64KX8	32X8	128KX8

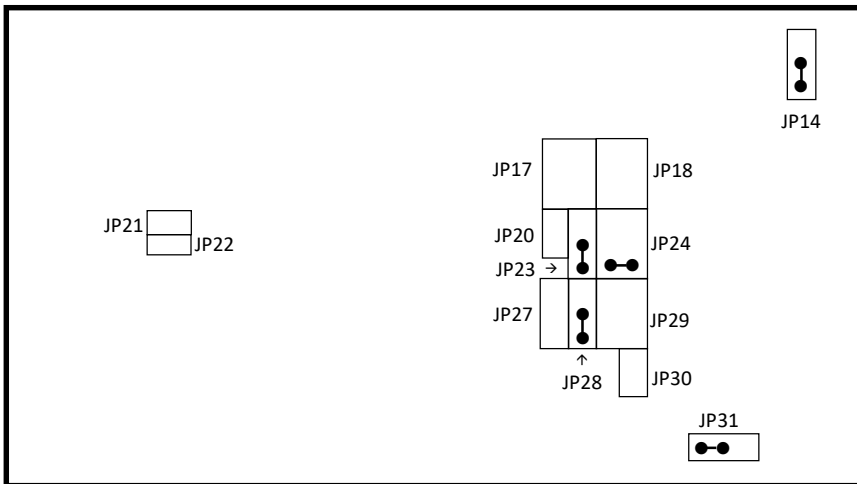
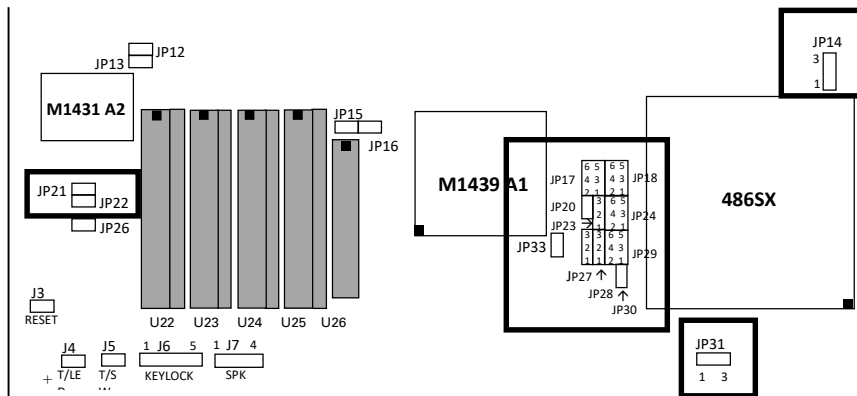




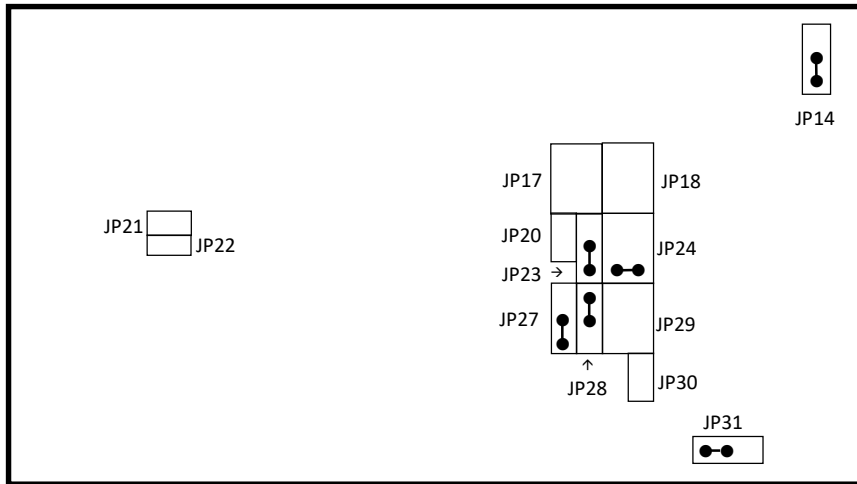
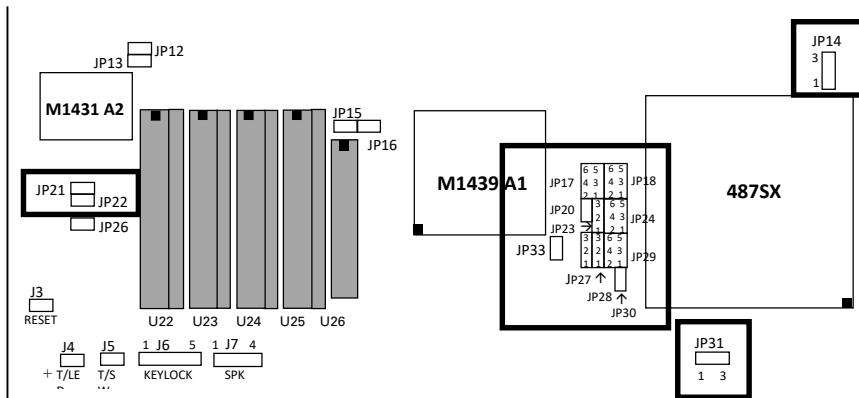
♣ Default Setting

## 2.3 CPU INSTALLATION

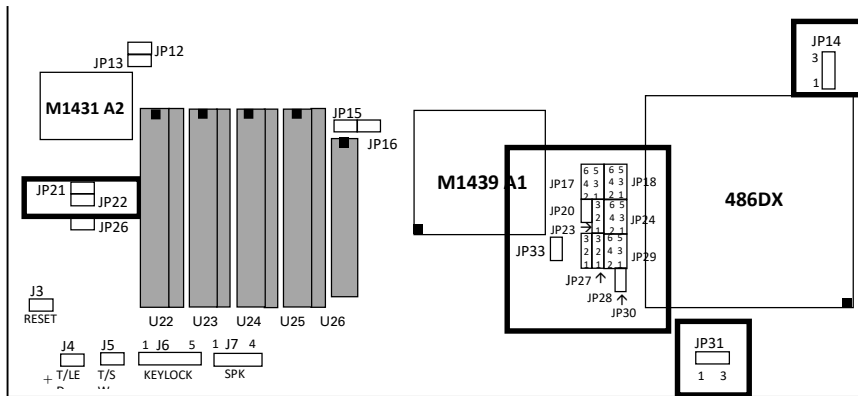
### INTEL 486SX & UMC U5S CPU TYPE



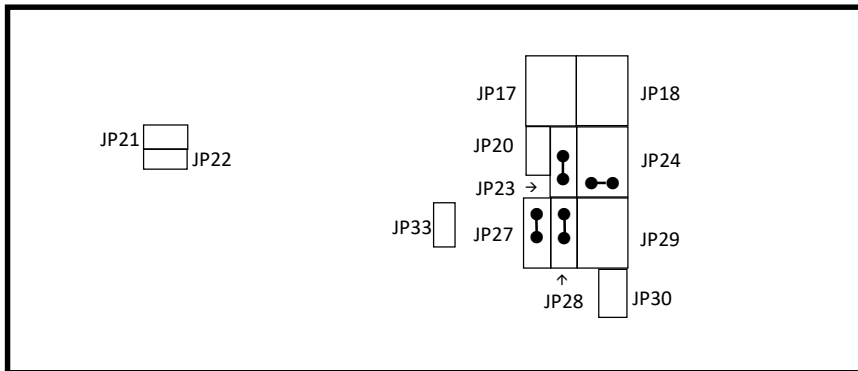
INTEL 487SX CPU TYPE



**INTEL & AMD CPU TYPE  
(486DX, 486DX2, AMD486DX4-100 )**



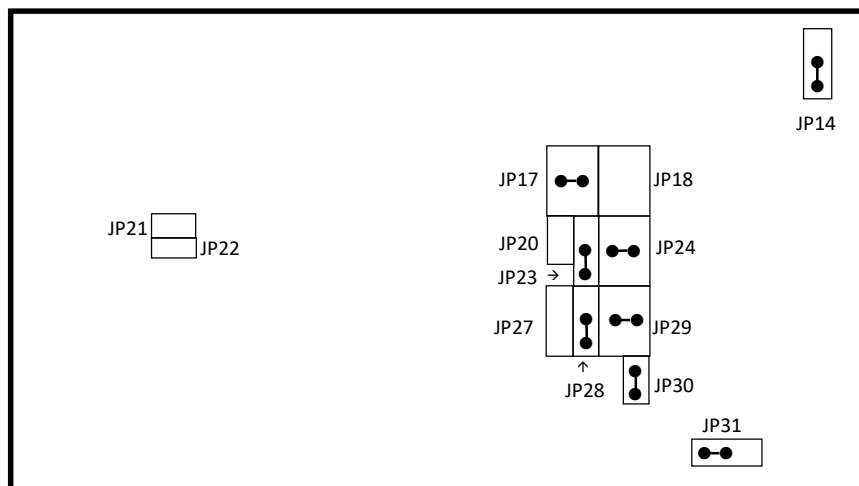
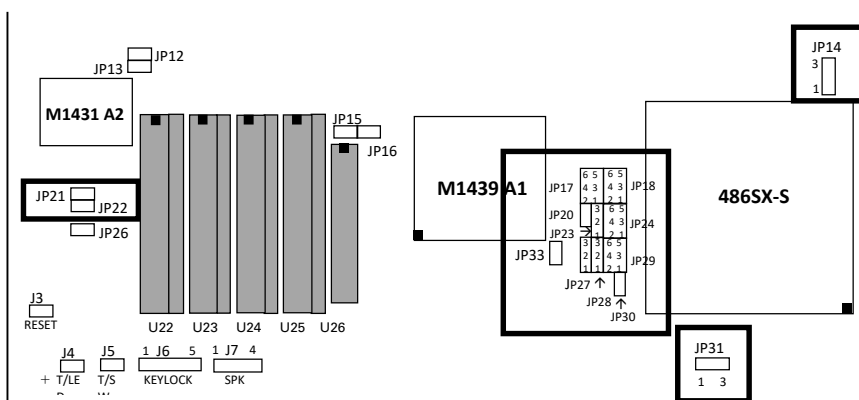
- ❖ **JP33**: Open AMD DX4 CPUCLK      3x
- Close AMD DX4 CPUCLK      2x



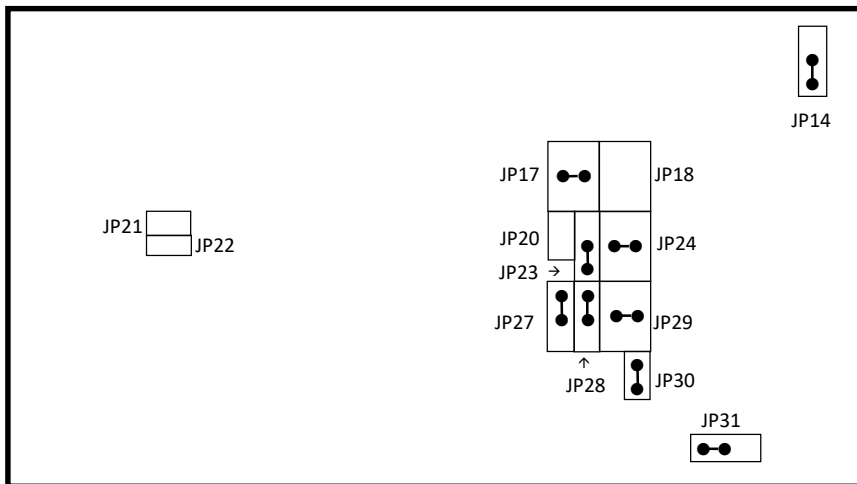
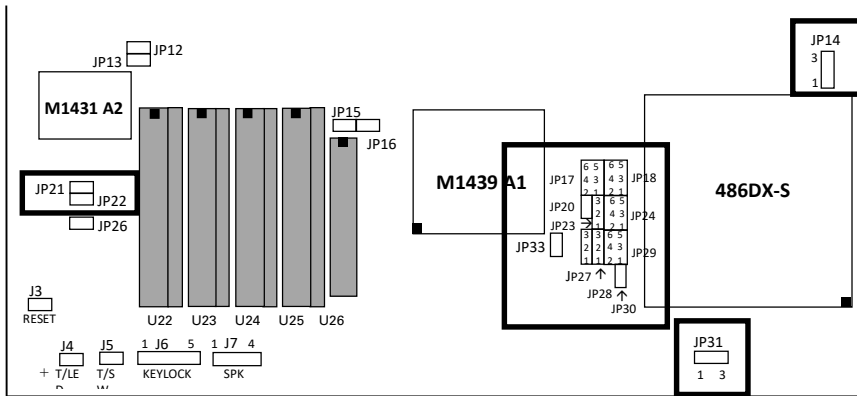
**JP14 & JP31**

3.3V or 5V Voltage Selector. Please set the correct voltage according to the CPU required voltage specification. Incorrect setting of this voltage selector may damage or render the CPU invalid operation.

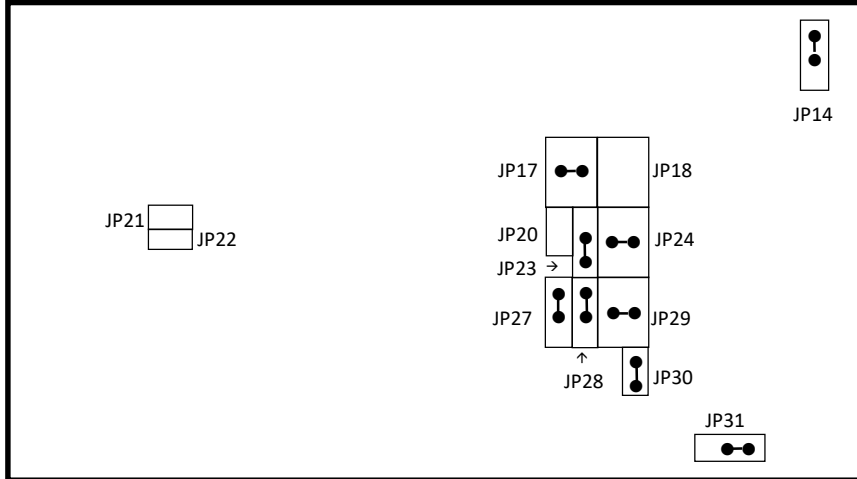
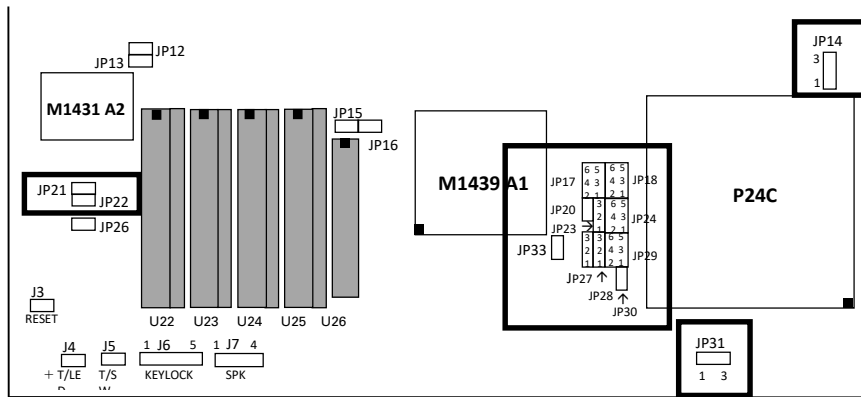
**INTEL 486SX-S CPU TYPE**



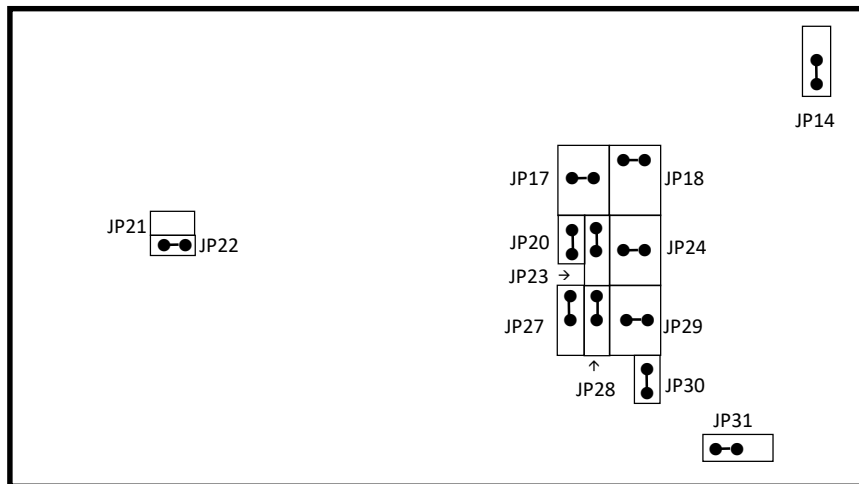
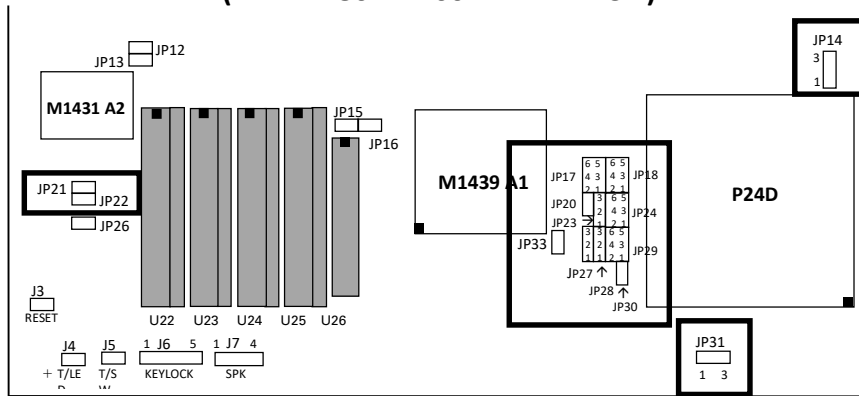
**INTEL 486DX-S/486DX2-S/OVERDRIVE CPU TYPE**



**P24C CPU TYPE  
(INTEL DX4-100 )**

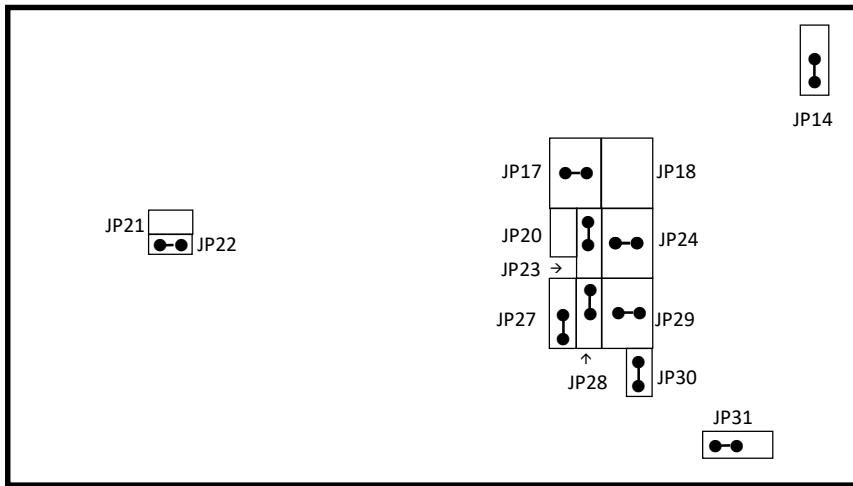
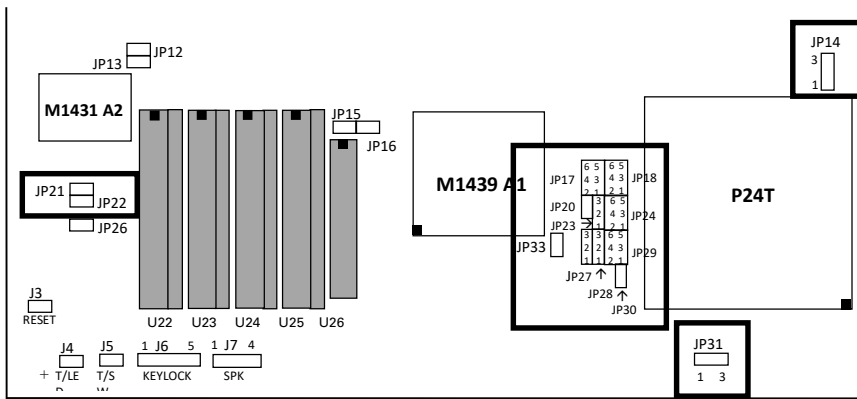


**P24D CPU TYPE  
(INTEL 486DX2-66 WRITE BACK)**

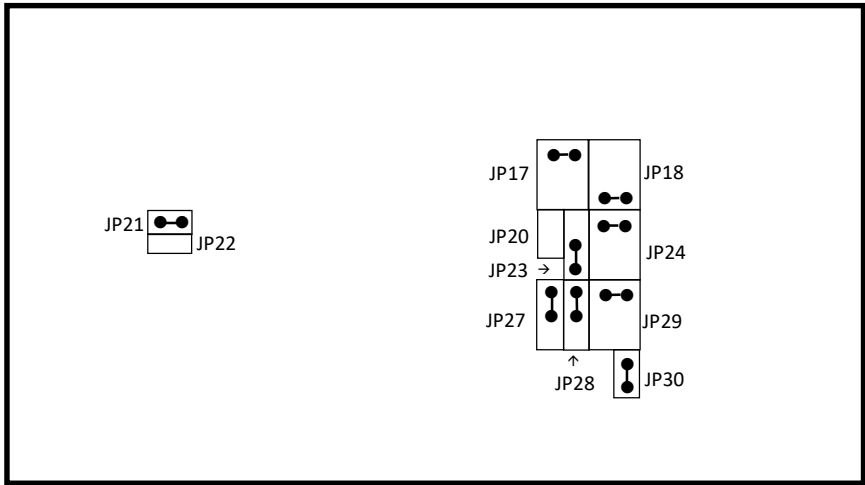
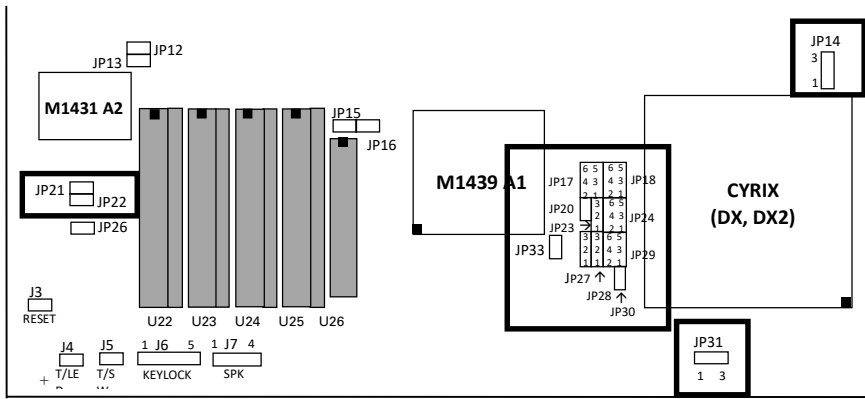




P24T CPU TYPE



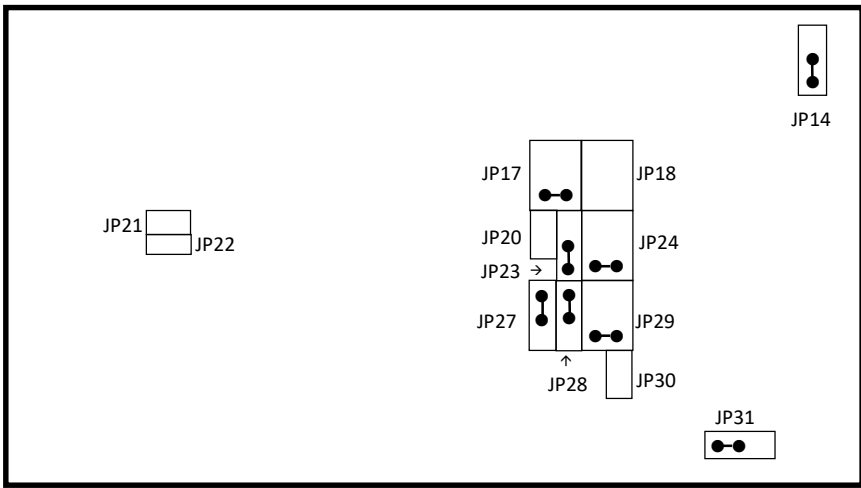
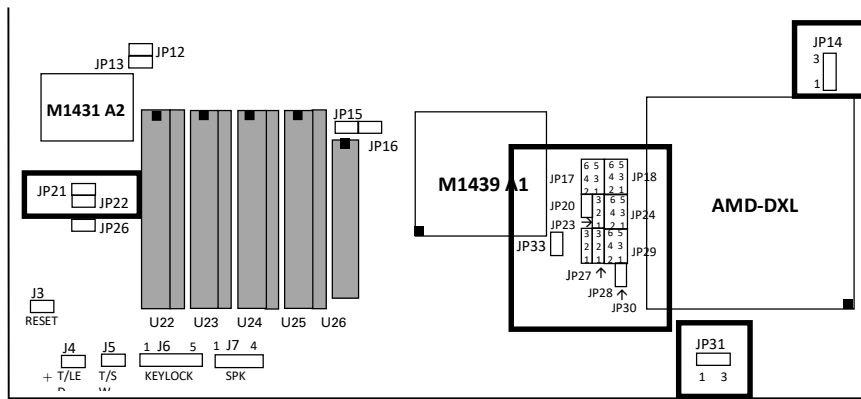
**CYRIX CPU TYPE  
(SX, DX DX2 )**

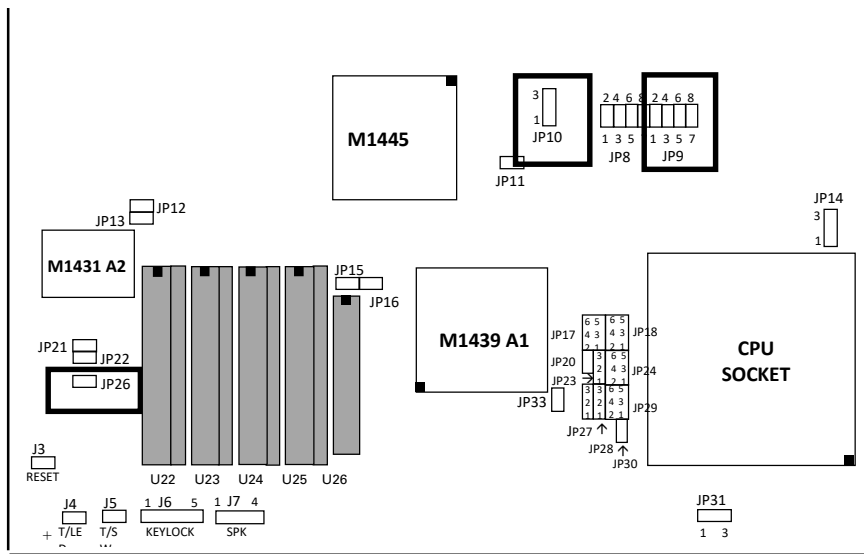


**JP14, JP31**

3.3V or 5V Vottage Selector. Please set the correct voltage according to the CPU reguired voltage specification. Incorrect setting of this voltage selector may damage or render the CPU invaild operation.

## AMD-DXL CPU TYPE





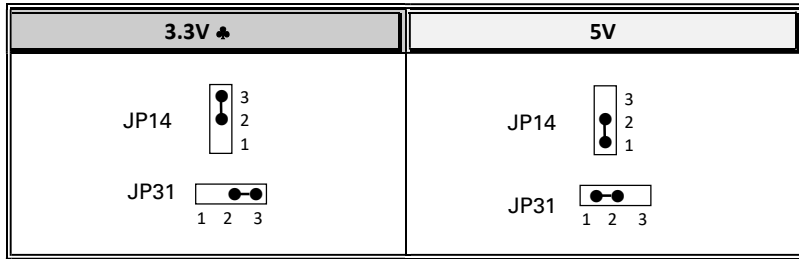
### FREQUENCY SETTING

25MHz	33 MHz♣	40MHz	50MHz
JP9	JP9	JP9	JP9
JP10	JP10	JP10	JP10
JP26	JP26	JP26	JP26

♣ Default Setting

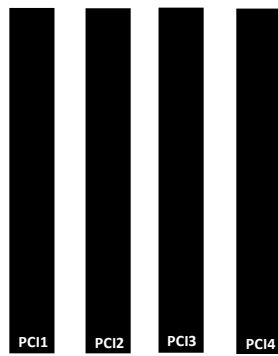
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### CPU POWER VOLTAGE



♣ Default Setting

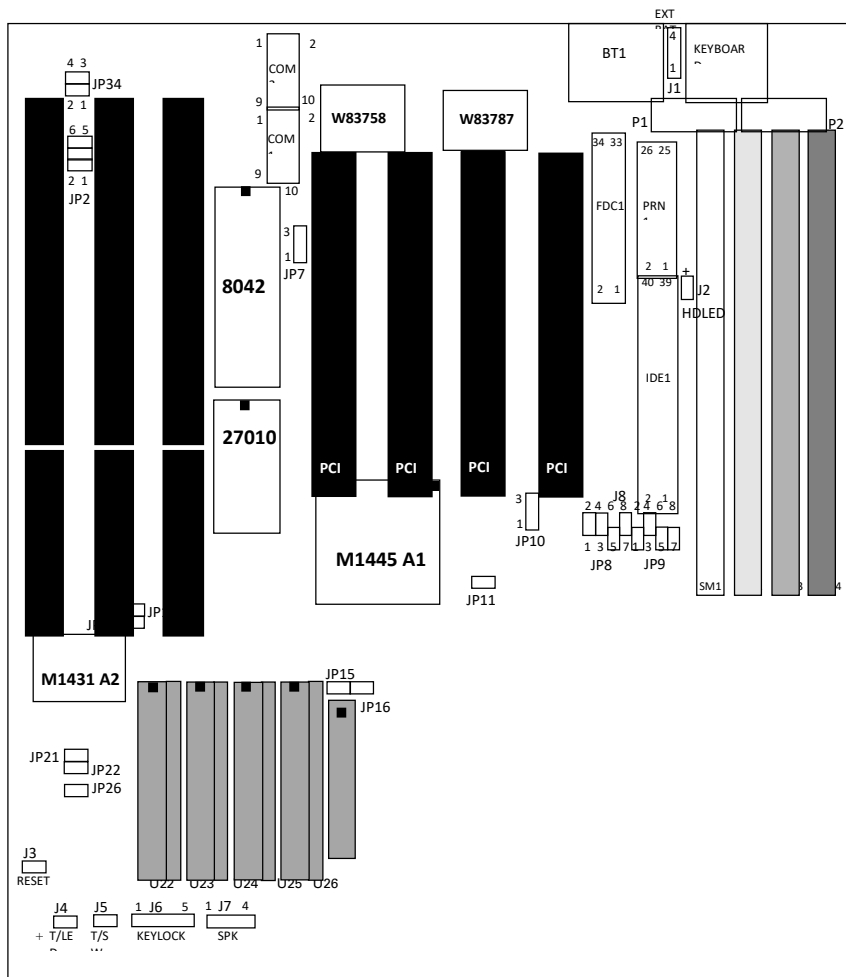
### PCI SLOT DESCRIPTION







3 MASTER SLOTS □ PCI 1, PCI 2, PCI 3

1 SLAVE PCI SLOT □ PCI 4


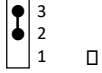
## 2.4 OTHER JUMPER SETTING



## GREEN FUNCTION OPTION

JUMPER		DESCRIPTION
JP8		For Power Fan
		For Monitor Power
		For VGA H-Sync
		For VGA V-Sync
<b>JP12</b>	Modem Ring-In Signal Connector	
<b>JP13</b>	External Switch (Sleep or Wake Up)	


## COLOR/MONO SELECTION

JP7	 <p>Mono</p>	 <p>Color</p>
-----	---	---

♣ Default Setting



**CONNECTOR DESCRIPTION**

CONNECTOR	PIN OUT	SIGNAL NAME
<b>J6 : KEY LOCK</b>	1 2 3 4 5	Power LED Not Used Ground Keyboard Inhibitor Ground
<b>J7 : SPEAKER</b>	1 2 3 4	+5V DC Data Out Data Out Data Out
<b>J3 : RESET</b>	1 2	Ground Reset In
<b>J4 : TB-LED</b>	1 2	+Anode -Cathode
<b>J5 : TURBO SWITCH</b>	<input type="checkbox"/> Normal	<input checked="" type="checkbox"/> Turbo Speed <input type="checkbox"/>
<b>KB1: KEYBOARD CONNECTOR</b>	1 2 3 4 5	Keyboard Clock Keyboard-Data Space Ground +5V
<b>P1 &amp; P2 : POWER CONNECTOR</b>	1 2 3 4 5,6,7,8 9 10,11,12	Power Good +5V DC +12V DC -12V DC Ground -5V DC +5V DC
<b>J1</b>		1-2 Clear CMOS 1-4 External Battery Connector (1: Ground) (4: External Battery Power In)
<b>J2</b>	On Board IDE LED	
<b>IDE1</b>	On Board IDE Connector	
<b>FDC1</b>	Floppy Connector	
<b>PRN1</b>	Printer Connector	

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□ Default Setting

**PRINTER PORT**

<b>JP2</b>	In ECP Mode (JP2 is used for Parallel Port DMA Acknowledge Input)	
	1-2	DMA Channel 1
	3-4	DMA Channel 3
	In Standard Printer Mode	
	5-6	Open Printer as Input/Output Port
	Close Printer as Output Port <b>(Default)</b>	
<b>JP34</b>	In ECP Mode for Parallel Port DMA request output	
	1-2	DMA Channel 1
	3-4	DMA Channel 3

## CHAPTER 3 SYSTEM BIOS SETUP

### PHOENIX BIOS SYSTEM CONFIGURATION SETUP

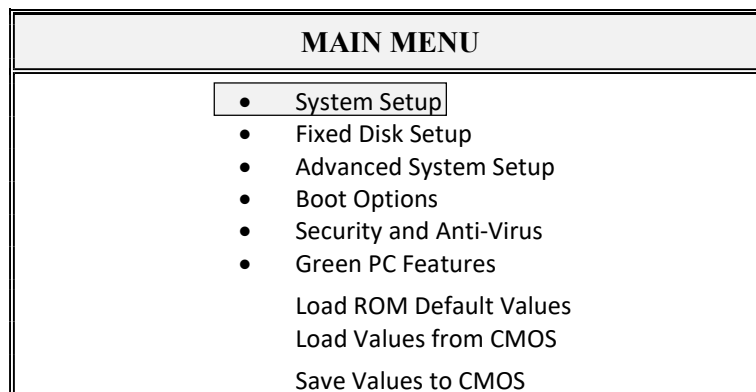
Use the *EXP8049* to record changes in your hardware and to control its special features. The Setup program uses a number of menus in which you can specify changes to your hardware and turn the special features on or off.

1. To start the *EXP8049* Setup program, take the following steps:

*Press <DEL> to enter SETUP program While turning on or rebooting your system. The Phoenix BIOS for EXP8049 displays this message:*

2. The Main Menu which looks like this appears:

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*



---

↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save & Exit

3. Select an option by moving the highlight with your up-and-down arrow keys and press. <Enter>.
4. After making your changes, select Save Values to CMOS to make them operative. Press <Esc> to exit the setup program. The following pages describe each one of these selections.

### 3.1 SYSTEM SETUP MENU

Selecting "**System Setup**" on the Main Menu displays this menu:

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

SYSTEM SETUP	
System Time:	[13:59:20]
System Date:	[10/19/1994]
Video System:	[EGA / VGA]
System Memory:	640 KB
Extended Memory:	7168 KB
Diskette Drive A:	[1.2 MB, 5 1/4"]
Diskette Drive B:	[Not Installed]
Keyboard:	[Installed]
↑↓ Move ESC Exit PgUp Previous Value F5 Previous Configuration F1 Help PgDn Next Value F6 Default Configuration	

### 3.2 FIXED DISK SETUP

Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.

MAIN MENU		
<ul style="list-style-type: none"> <li>• System Setup</li> <li>• Fixed Disk Setup</li> <li>• Advanced System Setup</li> <li>• Boot Options</li> <li>• Security and Anti-Virus</li> <li>• Green PC Features</li> </ul>		
Load ROM Default Values Load Values from CMOS Save Values to CMOS		
↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save & Exit

Selecting "**Fixed Disk Setup**" on the Main Menu displays this menu:

Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.

FIXED DISK SETUP		
IDE Adapter 0 Master (None)		
IDE Adapter 0 Slave (None)		
Large Disk Access Mode: [DOS]		
↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save &
Exit		

Selecting either option and pressing <Enter> displays a menu like this:

<b>IDE ADAPTER 0 MASTER (C: 545 MB)</b>	
Autotype Fixed Disk:	[Press Enter]
Type:	[ User] 545 MB
Cylinders:	[1057]
Heads:	[ 16]
Sectors/Track:	[ 63]
Write Precomp:	[None]
Multi-Sector Transfers:	[16 Sectors]
LBA Mode Control:	[Disabled]
32 Bit I/O:	[Disabled]
Transfer Mode:	[Standard]
↑↓ Move	Enter Select
F1 Help	ESC Exit
	F10 Save & Exit

### 3.3 ADVANCED SYSTEM SETUP

Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.

MAIN MENU		
<ul style="list-style-type: none"><li>• System Setup</li><li>• Fixed Disk Setup</li><li>• <b>Advanced System Setup</b></li><li>• Boot Options</li><li>• Security and Anti-Virus</li><li>• Green PC Features</li></ul>		
Load ROM Default Values		
Load Values from CMOS		
Save Values to CMOS		
↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save & Exit

Selecting **“Advanced System Setup”** from the Main Menu displays the following menu:

---

### 3.3.1 Integrated Peripherals

Selecting "**Integrated Peripherals**" from the Advanced Setup menu displays a menu like the one shown here. The actual features displayed depend on the capabilities of your system's hardware.

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

ADVANCED SYSTEM SETUP		
<b>Warning!</b> Items on this menu, if set incorrectly, could cause your system to malfunction.		
<ul style="list-style-type: none"><li>• Integrated Peripherals</li><li>• Memory Cache</li><li>• Memory Shadow</li><li>• Advanced Chipset Control</li><li>• PCI Devices</li></ul>		
↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save & Exit

Choose an option and press <Enter>. See the following pages for a description of each feature and its options.

INTEGRATED PERIPHERALS	
COM Port 1:	[3F8/COM1:IRQ4]
COM Port 2:	[2F8/COM2:IRQ3]
LPT Port:	[378/LPT1]
On -Board Floppy:	[Enabled]
Parallel Port:	[Standard Mode]



(* Note) FDC AB Change: [Disabled]
---------------------------------------

**NOTE:** You can choose the EPP/ECP mode if your external device supports EPP/ECP feature.

### 3.3.2 Memory Cache

Selecting "**Memory Cache**" from the Advanced Setup menu displays a menu like the one shown here. The actual features displayed depend on the capabilities of your system's hardware.

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

ADVANCED SYSTEM SETUP		
<p><b>Warning!</b></p> <p>Items on this menu, if set incorrectly, could cause your system to malfunction.</p> <ul style="list-style-type: none"> <li>• Integrated Peripherals</li> <li>• <span style="border: 1px solid black; padding: 2px;">Memory Cache</span></li> <li>• Memory Shadow</li> <li>• Advanced Chipset Control</li> <li>• PCI Devices</li> </ul>		
↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save & Exit

Choose an option and press <Enter>. See the following pages for a description of each feature and its options.

MEMORY CACHE	
SRAM Read:	[1 ws]
SRAM Write:	[0 ws]
DRAM Read:	[Normal]
DRAM Write:	[Normal]
Cache Cycle Check:	[Fast]
ATCLK Selection:	[CLK2/4]
Polling Clock:	[14.318 MHz]

↑↓ Move	ESC Exit	PgUp	Previous Value	F5	Previous Configuration
	F1 Help	PgDn	Next Value	F6	Default Configuration

ATCLK SELECTION	
CPU Frequency	ATCLK
25MHz	7.19MHz
33MHz	CLK2/4
40MHz	CLK2/5
50MHz	CLK2/6

### 3.3.3 Memory Shadow

Selecting "**Memory Shadow**" from the Advanced Setup menu displays a menu like the one shown here. The actual features displayed depend on the capabilities of your system's hardware.

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

ADVANCED SYSTEM SETUP		
<b>Warning!</b> Items on this menu, if set incorrectly, could cause your system to malfunction.		
<ul style="list-style-type: none"><li>• Integrated Peripherals</li><li>• Memory Cache</li><li>• <b>Memory Shadow</b></li><li>• Advanced Chipset Control</li><li>• PCI Devices</li></ul>		
↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save & Exit

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

MEMORY SHADOW	
System Shadow:	[Enabled]
Video Shadow:	[Enabled]
Shadow Memory Regions::	
C800 - CFFF:	[Disabled]

D000 - D7FF:	[Disabled]
D800 - DFFF:	[Disabled]
E000 - E7FF:	[Disabled]
E800 - EFFF:	[Disabled]
↑↓ Move ESC Exit Configuration	PgUp Previous Value F5 Previous
F1 Help Configuration	PgDn Next Value F6 Default

### 3.3.4 Advanced Chipset Control

Selecting "**Advanced Chipset Control**" from the Advanced System Setup menu displays a menu like the one shown here.

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

ADVANCED SYSTEM SETUP		
<p><b>Warning!</b> Items on this menu, if set incorrectly, could cause your system to malfunction.</p> <ul style="list-style-type: none"> <li>• Integrated Peripherals</li> <li>• Memory Cache</li> <li>• Memory Shadow</li> <li>• <b>Advanced Chipset Control</b></li> <li>• PCI Devices</li> </ul>		
↑↓ Move F1 Help	Enter Select ESC Exit	F10 Save & Exit

Technicians use this menu to change the values in the chipset registers and optimize your system's performance.

Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.

<b>ADVANCED CHIPSET CONTROL</b>	
On Chip IDE Controller:	[Enabled]
On Board 15M Memory as ISA Range:	[Disabled]
PCI IRQ Level/Edge Selection:	[Edge]
CPU to PCI Write Merge:	[Disabled]
CPU to PCI Write Buffer:	[Enabled]
CPU to PCI Fast Back to Back:	[Disabled]
CPU to PCI Burst Write Buffer:	[Disabled]
Fast Dynamic Memory Cycle:	[Enabled]
Fast Dynamic I/O Cycle:	[Disabled]
CPU Cycle: Memory Sample Point:	[1 wait]
PCI to CPU Write Buffer:	[Enabled]
PCI to CPU Write Burst to Memory:	[Enabled]
PCI Master Write Buffer Full:	[Retry]
PCI Master Write HADSJ Delay:	[Normal]
PCI to CPU Read Buffer:	[Disabled]
PCI to CPU Read Burst from Memory:	[Disabled]
Internal Cache Feature:	[Write Through]
External Cache:	[Enabled]
External Cache Feature:	[Write Back]
Shadow Cacheable:	[Disabled]

↑↓ Move ESC Exit    PgUp Previous Value F5    Previous

---

Configuration	F1 Help	PgDn	Next Value	F6	Default
Configuration					

Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.

ADVANCED CHIPSET CONTROL					
VESA Master Cycle Delay ADSJ:				[Non - Delay ADSJ]	↑
PCI Bridge Ready Syn. Mode:				[Syn.]	
Hidden Refresh:				[Enabled]	
HITMJ Timing:				[4t]	
RAS to CAS Delay:				[4t]	
I/O Recovery:				[Disabled]	
On - Chip I/O Recovery:				[Disabled]	
ISA I/O Wait State:				[1 ws]	
ISA Memory Wait State:				[1 ws]	
Refresh Period:				[60 us]	
W/S in 32-bit ISA:				[8t]	
Delay Internal ADSJ:				[Disabled]	
↑↓ Move ESC Exit	PgUp	Previous Value	F5	Previous	
Configuration					
F1 Help	PgDn	Next Value	F6	Default	
Configuration					

**NOTE:** The contents of this menu depends on the chipset installed on your motherboard, and chipsets vary widely. Consult your dealer or the <F1> help screens before changing the items on this menu. Incorrect settings can cause your system to malfunction.

### 3.3.5 PCI Devices

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

<b>ADVANCED SYSTEM SETUP</b>		
<p><b>Warning!</b> Items on this menu, if set incorrectly, could cause your system to malfunction.</p> <ul style="list-style-type: none"> <li>• Integrated Peripherals</li> <li>• Memory Cache</li> <li>• Memory Shadow</li> <li>• Advanced Chipset Control</li> <li style="border: 1px solid black; padding: 2px;">• PCI Devices</li> </ul>		
↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save & Exit

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

<b>PCI DEVICES</b>		
Base I/O Address:	[3000]	↓
Base Memory Address:	[0080000000]	
Multimedia Mode:	[Disabled]	
Parity:	[Disabled]	
NCR SCSI at AD17 PCI Device:		
Enable Device:	[Disabled]	
Enable Master:	[Disabled]	
Use Default Latency Timer Value:	[Yes]	
Latency Timer Value:	[0040]	
IRQ line:	[9]	
↑↓ Move ESC Exit Configuration	PgUp Previous Value F5	Previous
F1 Help	PgDn Next Value F6	Default



Configuration

Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.

PCI DEVICES		
PCI Device , Slot #1		
Enable Device:		[Disabled]
Enable Master		[Disabled]
Use Default Latency Timer Value:		[Yes]
Latency Timer Value:		[0040]
IRQ Line:		[None]
PCI Device, Slot #2:		
Enable Device:		[Disabled]
Enable Master:		[Disabled]
Use Default Latency Timer Value:		[Yes]
Latency Timer Value:		[0040]
IRQ Line:		[None]
PCI Device, Slot #3:		
Enable Device:		[Disabled]
Enable Master:		[Disabled]
Use Default Latency Timer Value:		[Yes]
Latency Timer Value:		[0040]
IRQ Line:		[None]
PCI Device, Slot #4:		
Enable Device:		[Disabled]
Enable Master:		[Disabled]
Use Default Latency Timer Value:		[Yes]
Latency Timer Value:		[0040]
IRQ Line:		[None]
↑↓ Move	ESC Exit	PgUp Previous Value F5
Configuration		Previous
	F1 Help	PgDn Next Value F6
Configuration		Default

---

**NOTE:** The number of PCI device slots depends on motherboard specifications. When you install PCI IDE card on any PCI slot, you must set that slot's IRQ line [14] and [Enabled Device] [Enable Master] items must set Enable.

### 3.4 BOOT OPTIONS

Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.

MAIN MENU		
<ul style="list-style-type: none"> <li>• System Setup</li> <li>• Fixed Disk Setup</li> <li>• Advanced System Setup</li> <li>• <b>Boot Options</b></li> <li>• Security and Anti-Virus</li> <li>• Green PC Features</li> </ul>		
Load ROM Default Values Load Values from CMOS Save Values to CMOS		
↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save & Exit

Selecting "**Boot Options**" from the Main Menu displays this menu:

Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.

BOOT OPTIONS						
Boot Sequence:		[A:then C:]				
Summary Screen:		[Enabled]				
↑↓ Move	ESC Exit	PgUp	Previous Value	F5	Previous Configuration	
F1 Help	PgDn	Next Value	F6	Default Configuration		

---

### 3.5 SECURITY AND ANTI-VIRUS

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

MAIN MENU		
<ul style="list-style-type: none"><li>• System Setup</li><li>• Fixed Disk Setup</li><li>• Advanced System Setup</li><li>• Boot Options</li><li>• <b>Security and Anti-Virus</b></li><li>• Green PC Features</li></ul> <p>Load ROM Default Values Load Values from CMOS Save Values to CMOS</p>		
↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save & Exit

Selecting **“Security and Anti-Virus”** from the Main Menu displays a menu like this:

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

SECURITY AND ANTI-VIRUS		
Supervisor Password is		Disabled
User Password is		Disabled
Set Supervisor Password		[Press Enter]
Set User Password		[Press Enter]
Password on Boot		[Disabled]
Diskette Access:		[Supervisor]
Fixed Disk Boot Sector:		[Normal]
↑↓ Move	Enter Set/Change Password	F5 Previous Configuration

F1 Help	ESC Exit	F6	Default
Configuration			

"**Supervisor Password is**" shows whether supervisor password is set or not. "**User Password is**" shows whether user password is set or not. Setting Supervisor Password requires a password on entering Setup. The passwords are not case sensitive. Pressing <Enter> at either Set Supervisor Password or Set User Password displays a dialog box like this:

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

SET SUPERVISOR PASSWORD	
Enter New Password:	[    ]
Re-enter New Password:	[    ]
Enter Accept	

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

SET USER PASSWORD	
Enter New Password:	[    ]
Re-enter New Password:	[    ]
Enter Accept	

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

NOTICE	
Changes have been saved.	
[Continue]	

**Fixed Disk Boot Sector: [Normal]**

---

This option when “write protect” will prevent virus from writing to the boot sector. Note when “write protect” is selected, this may cause failure installing OS/2 and windows NT. Default option as **“Normal”**.

### 3.6 GREEN PC FEATURES

Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.

MAIN MENU		
<ul style="list-style-type: none"><li>• System Setup</li><li>• Fixed Disk Setup</li><li>• Advanced System Setup</li><li>• Boot Options</li><li>• Security and Anti-Virus</li><li>• Green PC Features</li></ul>		
Load ROM Default Values		
Load Values from CMOS		
Save Values to CMOS		
↑↓ Move	Enter Select	
F1 Help	ESC Exit	F10 Save & Exit

Selecting "**Green PC Features**" on the main menu displays an information window like this:

### GREEN PC FEATURES

Power Saving Mode:	[Disabled]
System Doze Timer:	[1 min]
System Standby Timer:	[2 min]
System Suspend Timer:	[5 min]
Wakeup System During Suspend:	[Disabled]
Wakeup Time at (hour):	[0 hr]
Wakeup Time at (minute):	[0 min]
Hard Disk Standby Timer:	[Disabled]
Video Standby Timer:	[Disabled]
VGA With Power Down Feature:	[Standard]
Advanced Power Management Setup	
System Enters Power Down/Wakeup Modes by:	
VGA Access Event:	[Off]
IRQ 1 (Keyboard):	[On]
IRQ 3 (COM2):	[On]
IRQ 4 (COM1):	[On]
IRQ 5 (Alt Printer):	[Off]
IRQ 6 (Diskette):	[On]
IRQ 7 (Printer):	[On]
IRQ 9 (IRQ2 Redir):	[Off]
IRQ10 (Reserved):	[Off]
IRQ11 (Reserved):	[Off]
IRQ12 (PS/2 Mouse):	[On]
IRQ14 (Fixed Disk):	[On]
IRQ15 (Reserved):	[Off]
DMA1 (LAN Card	
):	[On]
DMA3 (LAN Card	
):	[On]
LPT IO Addresss:	[On]
VESA Master Event:	[Off]



↑↓ Move ESC Exit Configuration	PgUp Previous Value	F5	Previous
F1 Help Configuration	PgDn Next Value	F6	Default

### **3.7 LOAD ROM DEFAULT VALUES**

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

<b>NOTICE</b>
Default values have been loaded. [Continue]

### **3.8 LOAD VALUES FROM CMOS**

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

<b>NOTICE</b>
Previous values have been loaded. [Continue]

### **3.9 SAVE VALUES TO CMOS**

*Phoenix BIOS Setup - Copyright 1985-94 Phoenix Technologies Ltd.*

<b>NOTICE</b>
Changes have been saved. [Continue]

---

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## 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**