USER'S MANUAL

ProX-2622

6U Compact PCI Card
for Socket 370 System
W/ VGA / LAN

Prox-2622 M0

Prox-2622 6U Compact PCI Card
With VGA / LAN

OPERATION MANUAL

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ACKNOWLEDGEMENTS

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

This chapter gives you the information for Prox-2622. It also outlines the System specifications.

Section includes:

- About This Manual
- System Specifications
- Safety precautions

Experienced users can skip to chapter 2 on page 2-1 for Quick Start.

1-1. ABOUT THIS MANUAL

Thank you for procuring our Prox-2622 Compact PCI Card. The Prox-2622 is a 6U-sized Compact PCI all-in-one card enhanced with VGA and LAN, which complies with PICMG 2.0 R2.1 Compact PCI specifications. It provides faster processing speed, greater expandability and can handle more tasks than before. This manual is designed to assist you on how to install and set up the system. It contains five chapters. The user can apply this manual for configuration according to the following chapters:

Chapter 1 Introduction

This chapter introduces you to the background of this manual, and the specifications for this system. The final page of this chapter indicates how to avoid damaging this Card.

Chapter 2 Hardware Configuration

This chapter outlines the component locations and their functions. In the end of this chapter, you will learn how to set the jumpers and how to configure this card to meet your own needs.

Chapter 3 Software Utilities

This chapter contains helpful information for proper installation of the VGA utilities, LAN utilities and how to update BIOS. It also describes the Watchdog-timer configuration.

Chapter 4 Green PC Function

This chapter explains the Green PC functions concisely.

Chapter 5 Award BIOS Setup

This chapter indicates you how to set up the BIOS configurations.

Appendix A Expansion Bus

This Appendix introduces you the Compact PCI Connectors and their respective pin assignments.

Appendix B Technical Summary

This section gives you the information about the Technical maps.

Appendix C Trouble Shooting

This section outlines the error messages and offers you the methods to solve the problems.

1-2. SYSTEM SPECIFICATIONS

- **CPU :**
  Intel® Celeron™ processors in 370-pin socket.
  300A~850 MHz clock generator.
  Intel® Pentium® III (Coppermine) processors in 370-pin socket.
  500E~850 MHz clock generator.
  Auto detect voltage regulator.

- **MEMORY :**
  Up to 512MB SDRAM
  Two 168-pin DIMM socket on board.

- **CACHE :**
  Depended on CPU (128K/256KB Cache).

- **REAL-TIME CLOCK / CALENDAR :**
  CMOS data back up from BIOS set or BIOS default.
  Dallas DS 12887 Real Time Clock.

- **BIOS :**
  Award Flash BIOS for plug & play function.
  Easy update 256KB flash EEPROM.
  Support Green Function.
  Support S/IO Setup.

- **KEYBOARD CONNECTOR :**
  Mini DIN connector, support for PC/AT Keyboard.

- **MOUSE CONNECTOR :**
  Mini DIN connector, support for PS/2 Mouse.

- **BUS SUPPORT :**
  Internal PCI Bus for VGA, IDE, & LAN.
  PCI to PCI bridges drive up to 8 Compact PCI BUS.

- **DISPLAY :**
  Enhanced SMI SM710 VGA Chip.
  Support SVGA for CRT.
  VGA BIOS combines in 256KB flash ROM together with system BIOS.
  15-pin connector resolution on SVGA Monitor.
  Support 4 MB/8MB of SGRAM for the graphics/video frame buffer.

- **WATCHDOG :**
  I / O port 0443H to Enable watchdog.
  I / O port 0441H to Disable watchdog.
  Time-out timing select 0 / 8 / 16 / 24 / 32 / 40 / 48 / 56 / 64 / 72 / 80 / 88 / 96 / 104 / 112 / 120 sec +/- 25%.

- **IDE INTERFACE :**
  One IDE port (Ultra DMA-33) supports up to two Enhanced IDE devices.

- **FLOPPY DISK DRIVER INTERFACE :**
  Support up to two Floppy Disk Drives, 3.5" and 5.25" (360K / 720K / 1.2M / 1.44M / 2.88M / LS-120).

- **DISK-ON-CHIPS SOCKET :**
  32-pin SSD socket on board, supports up to 144MB Disk-on-chip.

- **USB CONNECTOR :**
  Two Universal Serial Bus Connector on board

- **LAN ADAPTER :**
  Intel 82559 Fast Ethernet
  10/100 Base-T PCI-BUS

- **SERIAL PORT :**
  Two high speed 16550 Compatible UARTs with Send / Receive 16 Byte FIFOs. COM1 = RS-232; COM2 = RS-232/422/485 selectable.
  MIDI Compatible.
  Programmable Baud Rate Generator.

- **PARALLEL PORT :**
  SPP, ECP, EPP Function.
  Bi-directional parallel port.

- **GREEN FUNCTION :**
  Software supported by BIOS setup.
  Hardware supported by switch control.

- **HARDWARE MONITORING FUNCTION :**
  CPU Temperature.
  Voltage Monitoring function.
  Cooling Fan, which includes System fan and CPU Fan.

- **LED INDICATOR :**
  System power.
  Hard Disk access.
  LAN Led indicators.

- **BUS SPEED :**
  PCI Bus 33Mhz
  USB 12Mbit/sec

- **DMA CONTROLLER :**
  82C37 x 2

- **DMA CHANNELS :**
  7

- **INTERRUPT CONTROLLERS :**
  82C59 x 2

- **INTERRUPT LEVELS :**
  15

- **OPERATING TEMPERATURE :**
  0°C to 60°C.

- **COMPACT PCI BUS :**
  PCI to PCI bridges drive up to 8 compact PCI BUS.

- **SYSTEM POWER REQUIREMENT :**
  DC Voltage: +5V, minimum +4.75V, maximum +5.25V.
  DC Ampere: 15A.
  DC Voltage: +12V, minimum +11.4V, maximum +12.6V.
  DC Ampere: 500mA.

- **BOARD DIMENSION :**
  160mm x 233.35mm (CPCI 6U high, 2-slot width 8TE spec).

- **BOARD NET WEIGHT :**
  0.53kgs.

1-3. SAFETY PRECAUTIONS

Follow the messages below to avoid your systems from damage:

1. Keep your system away from static electricity on all occasions.

2. Prevent electric shock. Don‘t touch any components of this card when the card is power-on. Always disconnect power when the system is not in use.

3. Always disconnect power when you change any hardware devices. For instance, when you connect a jumper or install any cards, a surge of power may damage the electronic components or the whole system.

HARDWARE CONFIGURATION

CHAPTER

2

*** QUICK START ***

Helpful information describes the jumper & connector settings, and component locations.

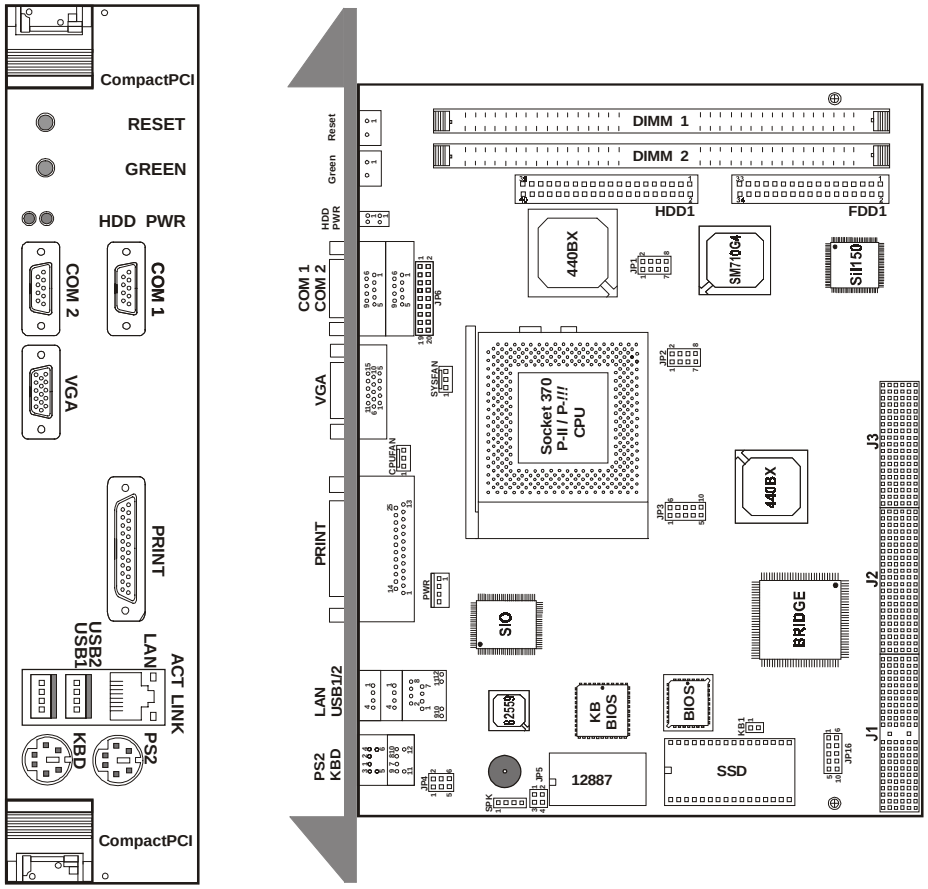
Section includes

- Jumper & Connector Quick Reference Table
- Component Locations
- Configuration and Jumper settings
- Connector's Pin Assignments

2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

PS/2 Mouse Connector ……..	PS2
Keyboard Connector ……..	KBD
LAN Connector ……..	LAN
Universal Serial Bus Connector ……..…..	USB1, USB2
Printer Connector ……..	PRINT
VGA Connector ……	VGA
COM PORT Connector ……..	COM1, COM2
RS232/422/485 (COM2) Selection ……	JP6
Hard Disk Drive Led Indicator ……..	HDD
Power Led Indicator ……...	PWR
Reset Button ……...	RST
Green Function Button ……...	GREEN
CPU Fan Connector ……...	CPUFAN
System Fan Connector ……...	SYSFAN
External Speaker Connector ……...……..	SPK
Keylock Connector ……	KB1
Reset/NMI/Clear Watchdog ……...	JP4
Hard Disk Drive Connector ……...……	HDD1
Floppy Disk Drive Connector ……	FDD1
Solid State Disk Connector ……	SSD
SSD Memory Mapping Selection ……..…….	JP2, JP5
Memory Installation ……...	DIMM1, DIMM2
Reserved pin ……...	PWR1, JP3, JP16
Reserved pin ……...	JP1

2-2. COMPONENT LOCATIONS



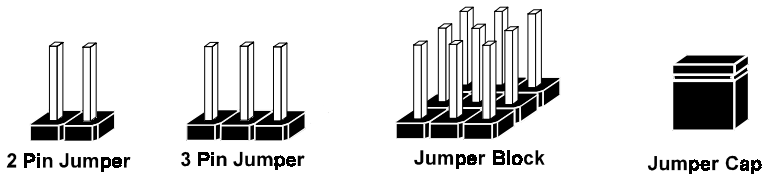
Prox-2622 Connectors, Jumpers, and Components' Location

2-3. HOW TO SET THE JUMPERS

You can configure your board by setting the jumpers. Jumper is consists of two or three metal pins with a plastic base mounted on the card, and by using a small plastic "cap", Also known as the jumper cap (with a metal contact inside), you are able to connect the pins. So you can set-up your hardware configuration by "opening" or "closing" the pins.

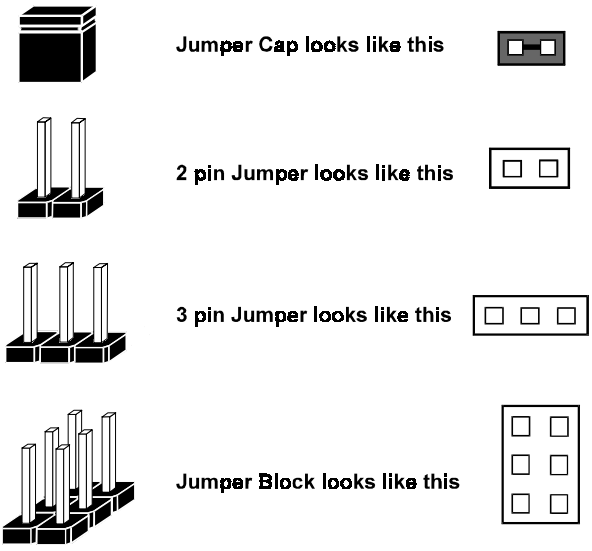
The jumper can be combined into sets that called jumper blocks. When the jumpers are all in the block, you have to put them together to set up the hardware configuration. The figure below shows how this looks like.

JUMPERS AND CAPS

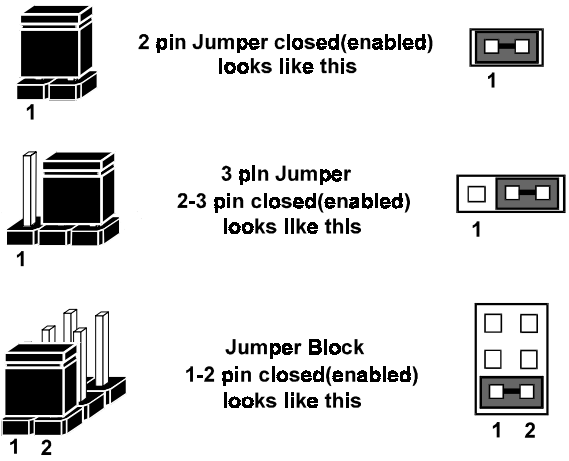


If a jumper has three pins (for example, labelled PIN1, PIN2, and PIN3), You can connect PIN1 & PIN2 to create one setting and shorting. You can either connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figures on the next following page will show you what the manual diagrams look like and what they represent.

JUMPER DIAGRAMS



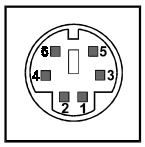
JUMPER SETTINGS



2-4. PS/2 MOUSE CONNECTOR

PS2 : PS/2 Mouse Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	MOUSE DATA
2	NC
3	GND
4	VCC
5	MSCLK
6	NC

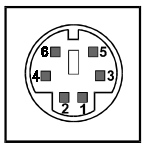


PS2

2-5. KEYBOARD CONNECTOR

KBD : Keyboard Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	KB DATA
2	NC
3	GND
4	VCC
5	KBCLK
6	NC

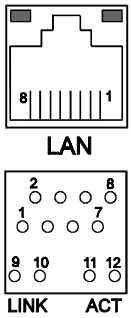


KBD

2-6. LAN CONNECTOR

LAN : LAN Connector
There are two LAN led indicator found in LAN connector, the green LED indicates power link, while the orange LED is used to detect data active transfer signal.
The pin assignments are as follows:

PIN	ASSIGNMENT
1	TX+
2	TX-
3	RX+
4	ISOLATED GND
5	ISOLATED GND
6	RX-
7	ISOLATED GND
8	ISOLATED GND
9	PULL HI
10	LED – Green
11	PULL HI
12	LED – Orange



2-7. UNIVERSAL SERIAL BUS CONNECTOR

There are two USB connector found in this board, details are shown below.

USB1 : Universal Serial Bus Connector
The pin assignments are as follows:

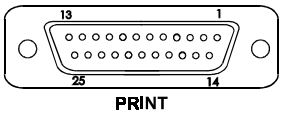
PIN	ASSIGNMENT
1	VCC
2	USBP∅–
3	USBP∅+
4	GND

USB2 : Universal Serial Bus Connector
The pin assignments are as follows:

PIN	ASSIGNMENT
1	VCC
2	USBP1–
3	USBP1+
4	GND

2-8. PRINTER CONNECTOR

PRINT : Printer Connector
As to link the Printer to the card, you need a cable to connect both DB25 connector and parallel port.
The pin assignments are as follows:

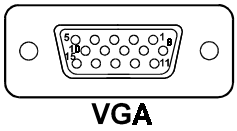


PRINT

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	STB	14	AUTFE
2	P0	15	ERROR
3	P1	16	INIT
4	P2	17	SLCTIN
5	P3	18	GND
6	P4	19	GND
7	P5	20	GND
8	P6	21	GND
9	P7	22	GND
10	ACK	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT	26	NC

2-9. VGA CRT CONNECTOR

VGA : VGA CRT Connector
The pin assignments are as follows:



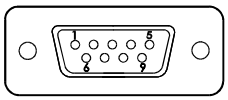
PIN	ASSIGNMENT
1	RED
2	GREEN
3	BLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	NC
10	GND
11	NC
12	NC
13	HSYNC
14	VSYNC
15	NC

2-10. COM PORT CONNECTOR

You will find two COM port in our Prox-2622 board. COM1 is fixed for RS-232, while the COM2 is selectable for RS-232/422 and RS-485 by jumper selection.

COM1 : COM1 Connector, DB9 male connector
The COM1 Connector assignments is as follows:

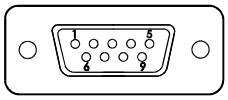
PIN	ASSIGNMENT
1	DCD
2	RX
3	TX
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI



COM 1

COM2 : COM2 Connector, DB9 male connector
The COM2 Connector assignments is as follows :

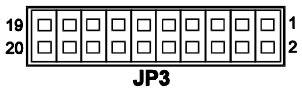
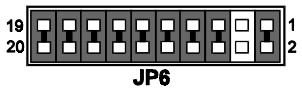
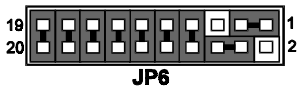
PIN	ASSIGNMENT		
	RS-232	RS-422	RS-485
1	DCD	TX-	TX-
2	RX	TX+	TX+
3	TX	RX+	RX+
4	DTR	RX-	RX-
5	GND	GND	GND
6	DSR	RTS-	NC
7	RTS	RTS+	NC
8	CTS	CTS+	NC
9	RI	CTS-	NC
10	NC	NC	NC



COM 2

2-11. RS232/422/485 (COM2) SELECTION

JP6 : RS-232/422/485 Selection
COM1 is fixed for RS-232 function only.
COM2 is selectable for RS-232, 422, 485 function.
The jumper settings are as follows:

COM 2 Function	Jumper Settings (pins closed)	Jumper Illustration
RS-232	Open	
RS-422	1-2, 5-6, 7-8, 9-10, 11-12,13-14,15-16, 17-18,19-20	
RS-485	1-3, 4-6, 7-8, 9-10, 11-12,13-14,15-16, 17-18,19-20	

*** Manufactory default --- RS-232.

2-12. HARD DISK DRIVE LED INDICATOR

HDD : Hard Disk Drive Led Indicator
The pin assignment is as follows:

PIN	ASSIGNMENT
1	VCC
2	HDD ACTIVE SIGNAL

2-13. POWER LED INDICATOR

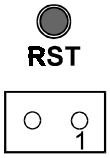
PWR : Power Led Indicator
The pin assignment is as follows:

PIN	ASSIGNMENT
1	VCC
2	GND

2-14. RESET BUTTON

RST : Reset Button
The pin assignments is as follows :

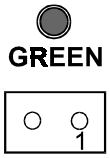
PIN	ASSIGNMENT
1	RESET
2	GROUND



2-15. GREEN BUTTON

GREEN : Green Button
The pin assignment is as follows :

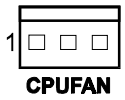
PIN	ASSIGNMENT
1	GROUND
2	ACTIVE SIGNAL



2-16. CPU FAN CONNECTOR

CPUFAN : CPU Fan connector
The pin assignment is as follows:

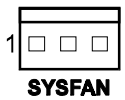
PIN	ASSIGNMENT
1	CPUFAN
2	+12V
3	GND



2-17. SYSTEM FAN CONNECTOR

SYSFAN : System Fan connector
The pin assignment is as follows:

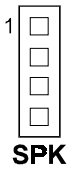
PIN	ASSIGNMENT
1	SYSFAN
2	+12V
3	GND



2-18. EXTERNAL SPEAKER CONNECTOR

SPK : External Speaker Connector
The pin assignment is as follows :

PIN	ASSIGNMENT
1	VCC
2	Speaker Signal
3	Speaker Signal
4	Speaker Signal



2-19. KEYLOCK CONNECTOR

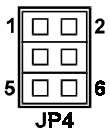
KB1 : Keylock Connector
The pin assignment is as follows :

PIN	ASSIGNMENT
1	Keyboard INT
2	Ground

2-20. RESET/NMI/CLEAR WATCHDOG

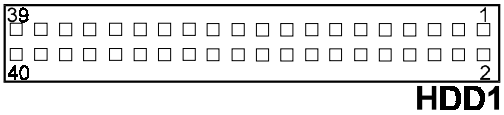
JP4 (1-2) : For Reset
JP4 (3-4) : For NMI
JP4 (5-6) : For Clear Watchdog
The pin assignment is as follows:

PIN	ASSIGNMENT
1	WDGRST
2	WDGRSTJ
3	WDGNMI
4	IOCHKJ
5	CLRWDG
6	GND



2-21. HARD DISK DRIVE CONNECTOR

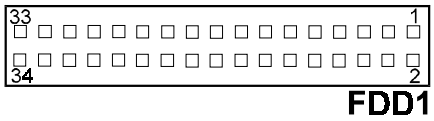
HDD1 : Hard Disk Drive Connector
The pin assignment is as follows:



PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	IDERST	21	IDEREQ0
2	GND	22	GND
3	IDED7	23	IDEIOW
4	IDED8	24	GND
5	IDED6	25	IDEIOR
6	IDED9	26	GND
7	IDED5	27	IDERDY
8	IDED10	28	PULL HI
9	IDED4	29	IDEACK0
10	IDED11	30	GND
11	IDED3	31	IRQ14
12	IDED12	32	IOCS16
13	IDED2	33	IDEA1
14	IDED13	34	GND
15	IDED1	35	IDEA0
16	IDED14	36	IDEA2
17	IDED0	37	IDECS1P
18	IDED15	38	IDECS3P
19	GND	39	IDELEDP
20	N.C.	40	GND

2-22. FLOPPY DISK DRIVE CONNECTOR

FDD1 : Floppy Disk Drive Connector
The pin assignments is as follows:



PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	2	RPM
3	GND	4	NC
5	GND	6	NC
7	GND	8	INDEX
9	GND	10	MTR0
11	GND	12	DRV1
13	GND	14	DRV0
15	GND	16	MTR1
17	GND	18	DIR
19	GND	20	STEP
21	GND	22	WDATA
23	GND	24	WGATE
25	GND	26	TRK0
27	GND	28	WRPRT
29	GND	30	RDATA
31	GND	32	SEL
33	GND	34	DSKCHG

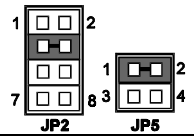
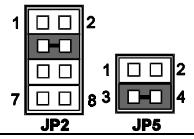
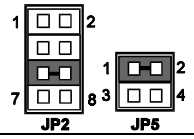
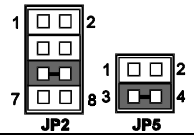
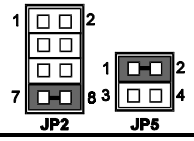
2-23. SOLID-STATE DISK SOCKET

SSD: 32pin Disk-on-chip Socket
The pin assignment is as follows:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	NC	17	SD3
2	NC	18	SD4
3	NC	19	SD5
4	SA12	20	SD6
5	SA7	21	SD7
6	SA6	22	CE
7	SA5	23	SA10
8	SA4	24	OE
9	SA3	25	SA11
10	SA2	26	SA9
11	SA1	27	SA8
12	SA0	28	NC
13	SD0	29	NC
14	SD1	30	VCC
15	SD2	31	WE
16	GND	32	VCC

2-24. SSD MEMORY MAPPING SELECTION

JP2, JP5 : SSD Memory Mapping Selection
A 32-pin SSD socket supports Disk-on-Chip up to 144MB. This PnP Flash ROM SSD can be install as one of user's hard disk drive.
The SSD Memory Mapping selections are as follows:

SSD Memory Map	JUMPER SETTINGS (pins closed) JP2	JP5	JUMPER ILLUSTRATION
D0000h-D1FFFh	3-4	1-2	
D4000h-D5FFFh	3-4	3-4	
D8000h-D9FFFh	5-6	1-2	
DC000h-DDFFFh	5-6	3-4	
E0000h-E1FFFh	7-8	1-2	

*** Manufactory default --- D0000h-D5FFFh

2-25. MEMORY INSTALLATION

The Prox-2622 can support 2 SDRAM banks.

DRAM BANK CONFIGURATION

DIMM 1	DIMM 2	TOTAL MEMORY
32M		32M
32M	32M	64M
32M	64M	96M
64M		64M
64M	32M	96M
64M	64M	128M
64M	128M	192M
128M		128M
128M	64M	192M
128M	128M	256M
128M	256M	384M
256M		256M
256M	128M	384M
256M	256M	512M

SOFTWARE UTILITIES

CHAPTER
3

This chapter comprises the detailed information of VGA driver, LAN driver and flash BIOS update. It also describes on how to install the watchdog timer.

Section includes:

- VGA Driver Utilities
- Flash BIOS Update
- LAN Driver Utilities
- Watchdog Timer Configuration

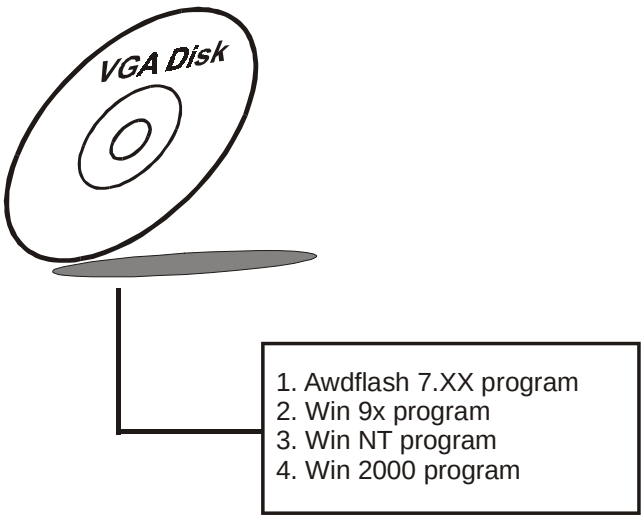
3-1. INTRODUCTION

Enclosed with our Prox-2622 package is our driver utility, which may comes in a form of a CD ROM disc or floppy diskettes. For CD ROM disc user, you will only need some of the files contained in the CD ROM disc, please kindly refer to the following chart:

File name (Assume that CD ROM drive is D:)	Purpose
D:\VGA\SMI	For VGA Driver installation
D:\Flash\Awdflash.exe	For BIOS update
D:\Lan\82559V38	For LAN Driver installation

3-2. VGA DRIVER UTILITY

Prox-2622 is enhanced with SMI SM710 3D VGA chip to provide VGA function. Installation programs for VGA drivers are listed as follows:



3-1-2. Installation of VGA Driver for PCI

1. Install VGA Driver to Windows 9x

(1). Click START, SETTINGS, then CONTROL PANEL.
(2). On CONTROL PANEL, click the DISPLAY icon and enter the SETTINGS tab of the DISPLAY PROPERTIES window.
(3). Select the SETTINGS page, push the CHANGE DISPLAY TYPE button. Click the CHANGE button in the "Adapter Type" area.
(4). Push the "HAVE DISK BUTTON" and press OK.
(5). Specify the path for the new driver and press the <Enter> key. The "Select Device" dialog box will appear. Select the "Silicon Motion Lynx3DM".
(6). Follow the remaining instructions that appear on the screen to complete the rest of the installation, and then restart your computer.

2. Install VGA driver to Windows NT 4.0

(1). To install VGA drivers to Windows 4.0 is as you normally would. Click START, then SETTINGS, then CONTROL PANEL of the operating system.
(2). Select the DISPLAY icon to start the DISPLAY PROPERTIES window, then choose the SETTING tab, then DISPLAY TYPE.
(3). In the CHANGE DISPLAY TYPE window, click on the CHANGE button in the ADAPTER TYPE, this will bring up the SELECT DEVICE window.
(4). In the CHANGE DISPLAY window, click on Have Disk. Follow the instructions appearing on the screen until you complete the whole installation.
(5). Once installation is completed, the system must be shut down and restarted for the new drivers to take effect.

3-3. FLASH BIOS UPDATE

3-3-1. System BIOS Update:

Users of Prox-2622 can use the program “Awdflash.exe” contained in the Utility Disk for system BIOS and VGA BIOS update.

3-3-2. To update VGA BIOS:

In order to update VGA BIOS, you need two files. One is the “Awdflash.exe” file and the other is the new VGA BIOS file. Both file must be provided by the vendor or manufacturer. When you get these two files ready, follow the following steps for updating your BIOS:

1. Install “Awdflash.exe” from Utility Disk to Drive C.
2. Insert the VGA BIOS file you have obtained from the vendor.
3. Type the path to Awdflash.exe and execute the VGA BIOS update with file C20xxxxx.bin
   C:\UTIL\AWDFLASH>AWDFLASH C20xxxxx.bin
4. The screen will display the table below:

FLASH MEMORY WRITER v7.XX (C) Award Software 1999 All Rights Reserved
For i440BX-SMC669-2A69KP6IC-0 DATE: 01/01/2000 Flash Type: MXIC 29F002(N)T/5V File Name to Program: C20xxxxx.bin Checksum: XXXXX
Error Message : Do You Want To Save BIOS (Y/N)

If you want to save up the original BIOS, enter "Y" and press < Enter > .
If you choose "N", the following table will appear on screen.

FLASH MEMORY WRITER v7.XX (C) Award Software 1999 All Rights Reserved
For i440BX-SMC669-2A69KP6IC-0 DATE: 01/01/2000 Flash Type: MXIC 29F002(N)T/5V File Name to Program: C20xxxxx.bin Checksum: XXXXX
Error Message : Are You Sure To Program (Y/N)

Select "Y", and the BIOS will be renewed. When refreshing the BIOS, do not turn off or reset the system, or you will damage the BIOS. After you have completed all the programming, the screen displays the table below:

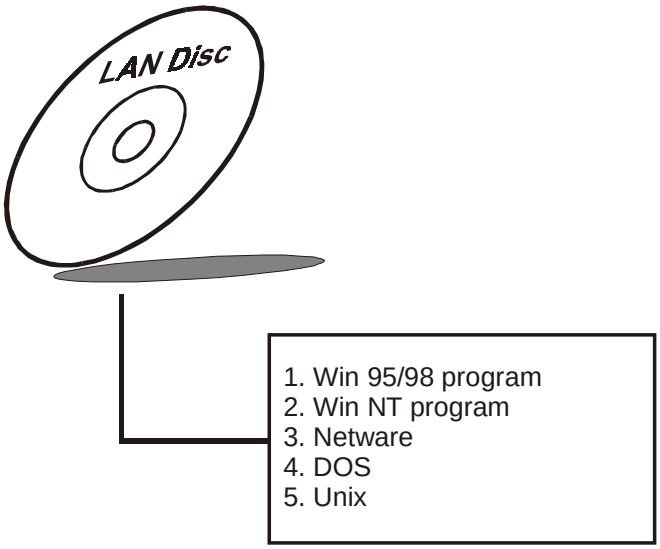
FLASH MEMORY WRITER v7.XX (C) Award Software 1999 All Rights Reserved
For i440BX-SMC669-2A69KP6IC DATE: 01/01/2000 Flash Type: MXIC 29F002(N)T/5V File Name to Program: C04xxxxx.bin Checksum: XXXXX Reset System or Power off to accomplish update process!
F1: Reset F10: Exit

Please reset or power off the system, and then the Flash BIOS is fully implemented.

3-4. LAN DRIVER UTILITY

3-4-1. Introduction

Prox-2622 Compact PCI is enhanced with LAN function can support various network adapters. Installation programs for LAN drivers are listed as follows:



For more details on Installation procedure, please refer to info file found on LAN directory.

3-5. WATCHDOG TIMER CONFIGURATION

This board has watchdog timer function for monitoring whether the system is still work or not after a period of time. The user can select watchdog timer to system reset or NMI (Non-Maskable interrupt) depending on the jumper set in chapter 2. This is defined at I/O port **443H**. When you want to enable the watchdog timer, please write I/O port **443H**, then the system will either reset itself or perform the NMI function. Likewise, when you want to disable the function, write I/O port **441H**, the system will run the command to stop the Watchdog function.

In Prox-2622 watchdog function, you must write your program so when it writes I/O port address 443 for enable watchdog and write I/O port address 441 for disable watchdog. The timer's intervals have a tolerance of 25% so you should program an instruction that will refresh the timer about every second.

The following program shows you how to program the watch timer in your program.

Watchdog enable program:

```
MOV     AX, 000FH       (choose the values you need; start from 0)
MOV     DX, 0443H
OUT     DX, AX
```

Watchdog disable program:

```
MOV     AX, 000FH       (this value can be ignored)
MOV     DX, 0441H
OUT     DX, AX
```

The Watchdog Timer control table is as follows:

Level	Value	Time/sec	Level	Value	Time/sec
1	F	0	9	7	64
2	E	8	10	6	72
3	D	16	11	5	80
4	C	24	12	4	88
5	B	32	13	3	96
6	A	40	14	2	104
7	9	48	15	1	112
8	8	56	16	0	120

CHAPTER

4

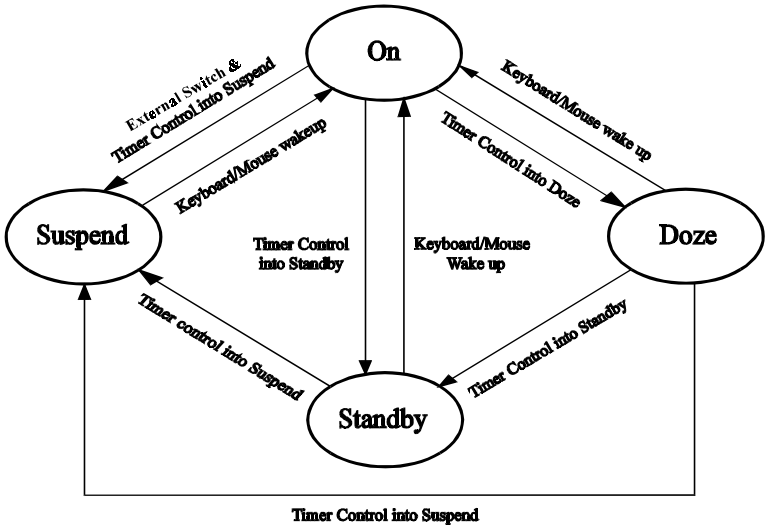
GREEN PC FUNCTION

This chapter gives you the concise information for Green PC Function.

Section includes:

- Power Saving Block Diagram
- CPU Doze Mode
- System STANDBY Mode
- System SUSPEND Mode

4-1. POWER SAVING BLOCK DIAGRAM



4-2. CPU DOZE MODE

1. After timing-out, CPU clock slows down to 8MHz.
2. One beep sound.
3. Flash LED to indicate power saving status.
4. Monitor Activity, according to the setting of Advanced Setup.
5. Any activity occurs, system will exit from Doze mode to On mode.

4-3. SYSTEM STANDBY MODE

1. After timing-out, CPU clock slows down to 8MHz.
2. Two beep sound.
3. Flash LED to indicate power saving status.
4. Level 1 cache are disabled.
5. VGA monitor displays blank screen.
6. Fixed disk driver motor will be spin off.
7. Any activity occurs, system will exit from Standby mode to On mode.

4-4. SYSTEM SUSPEND MODE

1. After timing-out, CPU clock slows down to 8MHz, if you use Intel Pentium or Cyrix (SMI) CPU, then CPU clock will be stopped.
2. Three beep sound.
3. Flash LED to indicate power saving status.
4. Level 2 cache are disabled.
5. VGA monitor displays blank screen.
6. Fixed disk driver motor will be spin off.
7. Monitor activity according to the setting of Advanced Setup.
8. When system in Suspend mode, only Keyboard / Mouse / Alarm resume can wakeup system.

AWARD BIOS SETUP

CHAPTER

5

This chapter states out how to set up the Award BIOS.

Section includes:

- Introduction
- Entering Setup
- The Standard CMOS Setup
- The BIOS Features Setup
- The Chipset Features Setup
- Power Management Setup
- PNP/PCI Configuration
- Load BIOS defaults
- Integrated Peripherals
- IDE HDD Auto Detection
- Save Setup and Exit Setup

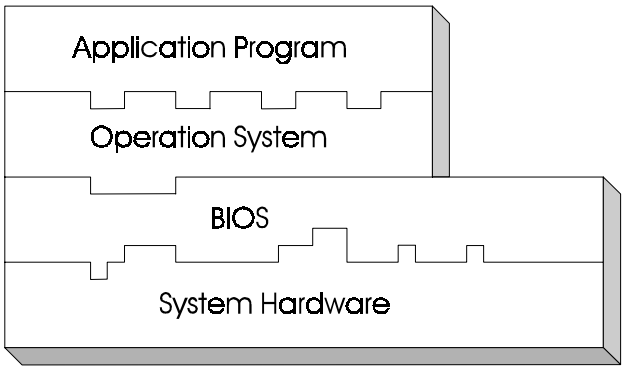
5-1. INTRODUCTION

This chapter will show you the function of the BIOS in managing the features of your system. The Prox-2622 Socket 370 Compact PCI Card is equipped with the BIOS for system chipset from Award Software Inc. This page briefly explains the function of the BIOS in managing the special features of your system. The following pages describe how to use the BIOS for system chipset Setup menu.

Your application programs (such as word processing, spreadsheets, and games) rely on an operating system such as DOS or OS/2 to manage such things as keyboard, monitor, disk drives, and memory.

The operating system relies on the BIOS (Basic Input and Output system), a program stored on a ROM (Read-only Memory) chip, to initialize and configure your computer's hardware. As the interface between the hardware and the operating system, the BIOS enables you to make basic changes to your system's hardware without having to write a new operating system.

The following diagram illustrates the interlocking relationships between the system hardware, BIOS, operating system, and application program:



5-2. ENTERING SETUP

When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines and the following message will appear on the lower screen:

PRESS <DEL> TO ENTER SETUP, ESC TO SKIP MEMORY TEST

As long as this message is present on the screen you may press the <Del> key (the one that shares the decimal point at bottom of the number keypad) to access the Setup program. In a moment, the main menu of the Award SETUP program will appear on the screen:

ROM PCI / ISA BIOS (2A69KP6I) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	SUPERVISOR PASSWORD
CHIPSET FEATURES SETUP	USER PASSWORD
POWER MANAGEMENT SETUP	IDE HDD AUTO DETECTION
PNP/PCI CINFIGURATION	SAVE & EXIT SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
Esc : Quit F10 : Save & Exit Setup	↑↓→← : Select Item (Shift)F2 : Change Color
Time, Date, Hard Disk Type.....	

Setup program initial screen

You may use the cursor up/down keys to highlight each individual menu items. As you highlight each item, a brief description of that item's function appears in the lower window. If you have a colour monitor you can use the Shift F2 keys to scroll through the various colour combination available.

5-3. THE STANDARD CMOS SETUP MENU

Highlight〝STANDARD CMOS SETUP〞and press < ENTER > and the screen will display the following table:

ROM PCI / ISA BIOS (2A69KP6I)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

Date (mm:dd:yy) : Mon, Jun 19 2000
Time (hh:mm:ss) : 10 : 10 : 30

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	: Auto	0M	0	0	0	0	0	AUTO
Primary Slave	: Auto	0M	0	0	0	0	0	AUTO
Secondary Master	: Auto	0M	0	0	0	0	0	AUTO
Secondary Slave	: Auto	0M	0	0	0	0	0	AUTO

Drive A : 1.44M, 3.5 in.
Drive B : None

Video : EGA/VGA
Halt On : All, But Keyboard

Base Memory: 640K
Extended Memory: 64512K
Other Memory: 384K

Total Memory: 65536K

Esc : Quit ↑↓→← :Select Item Pu/Pd/+/- : Modify
F1 : Help (Shift) F2 : Change Color

CMOS setup screen

In the above table the base memory size and the extended memory size are displayed. This is automatically read from your systems, and you do not need to set these parameters. The screen shows a calendar. Since you have not yet set the time and date, the date displayed is probably incorrect.

Information on each item are listed below:

Date:

< Month >, < Date >, and <Year >. Ranges for each value are in the CMOS Setup Screen, and the week day will skip automatically.

Time:

< Hour >, < Minute >, and < Second >. Use 24 hour clock format, i.e., for PM numbers, add 12 to the hour. For examples, 4: 30 P.M. You should enter the time as 16 : 30 : 00.

Primary Master/Primary Slave:
Secondary Master/Secondary Slave :

The categories identify the types of 2 channels that have been installed in the computer. There are 45 predefined types and 4 user definable types are for Enhanced IDE BIOS. Type 1 to Type 45 are predefined. Type User is user-definable.

Press PgUp / <+> or PgDn / <-> to select a numbered hard disk type or type the number and press < Enter >. Note that the specifications of your drive must match with the drive table. The hard disk will not work properly if you enter improper information for this category. If your hard disk drive type is not matched or listed, you can use Type User to define your own drive type manually.

If you select Type User, related information is asked to be entered to the following items. Enter the information directly from the keyboard and press < Enter >. This information should be provided in the documentation from your hard disk vendor or the system manufacturer.

If the controller of HDD interface is ESDI, the selection shall be "Type 1".

If the controller of HDD interface is SCSI, the selection shall be "None"
If the controller of HDD interface is CD-ROM, the selection shall be "None"

TYPE:

This is the number designation for a drive with certain identification parameters.

SIZE (CAPACITY):

This is the formatted capacity of the drive based on the following formula: (# of heads) X (# of cylinders) X (# of sets) X (512bytes/sects)

CYLS:

This is the number of cylinders found in the specified drive type.

HEAD:

This is the number of heads found in the specified drive type.

PRECOMP:

Precomp is the read delay circuitry which takes into account the timing differences between the inner and outer edges of the surface of the disk platter. The number designates the starting cylinder of the signal.

LANDZ:

Landzone is the landing zone of the heads. This number determines the cylinder location where the heads will normally park when the system is shut down.

SECTOR:

This is the number of sector found in the specified drive type.

DRIVE A AND DRIVE B:

The category identifies the type of floppy disk drive A or drive B that have been installed in the computer. The available options are as follows:

None	No floppy drive installed.
360KB 5.25in	5-1/4 inch PC type standard drive; 360 kilobyte capacity
1.2KB 5.25in	5-1/4 inch AT type high-density drive; 1.2 MB capacity
720KB 3.5in	3-1/2 inch double-sided drive; 720 KB capacity
1.44MB 3.5in	3-1/2 inch double-sided drive; 1.2 MB capacity
2.88MB 3.5in	3-1/2 inch double-sided drive; 2.88 MB capacity

VIDEO:

The category selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you do not have to select the type in Setup. The available options are as follows:

EGA/VGA	Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SEGA, SVGA or PGA monitor adapters.
CGA 40	Color Graphics Adapter, power up in 40 column mode.
CGA 80	Color Graphics Adapter, power up in 80 column mode.
MONO	Monochrome adapter, includes high resolution monochrome adapters.

HALT ON:

The category determines whether the computer will stop if an error is detected during power up. The available options are as follows:

No errors	Whenever the BIOS detects a non-fatal error the system will be stopped and you will be prompted.
All errors	The system boot will not be stopped for any error that may be detected.
All, But Keyboard	The system boot will not stop for a keyboard error; it will stop for all other errors.
All, But Diskette	The system boot will not stop for a disk error; it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error; it will stop for all other errors.

BASE MEMORY:

The POST (Power On Self Test) will determine the amount of base (or conventional) memory installed in the system. The value of the base memory is typically 512K for systems with 512K memory installed on the motherboard, or 640K for systems with 640K or more memory installed on the motherboard.

EXTENDED MEMORY:

The BIOS determines how much extended memory is present during the POST. This is the amount of memory located above 1MB in the CPU's memory address map.

OTHER MEMORY:

This refers to the memory located in the 640K to 1024K address space. This is memory that can be used for different applications. DOS uses this area to load device drivers in an effort to keep as much base memory free for application programs. The BIOS is the most frequent user of this RAM area since this is where it shadows RAM.

HARD DISK ATTRIBUTES:

Type	Cylinders	Heads	V-P comp	LZone	Sect	Capacity
1	306	4	128	305	17	10
2	615	4	300	615	17	20
3	615	6	300	615	17	30
4	940	8	512	940	17	62
5	940	6	512	940	17	46
6	615	4	65535	615	17	20
7	642	8	256	511	17	30
8	733	5	65535	733	17	30
9	900	15	65535	901	17	112
10	820	3	65535	820	17	20
11	855	5	65535	855	17	35
12	855	7	65535	855	17	49
13	306	8	128	319	17	20
14	733	7	65535	733	17	42
15	000	0	0000	000	00	00
16	612	4	0000	663	17	20
17	977	5	300	977	17	40
18	977	7	65535	977	17	56
19	1024	7	512	1023	17	59
20	733	5	300	732	17	30
21	733	7	300	732	17	42
22	733	5	300	733	17	30
23	306	4	0000	336	17	10
24	977	5	65535	976	17	40
25	1024	9	65535	1023	17	76
26	1224	7	65535	1223	17	71
27	1224	11	65535	1223	17	111
28	1224	15	65535	1223	17	152
29	1024	8	65535	1023	17	68
30	1024	11	65535	1023	17	93
31	918	11	65535	1023	17	83
32	925	9	65535	926	17	69
33	1024	10	65535	1023	17	85
34	1024	12	65535	1023	17	102
35	1024	13	65535	1023	17	110
36	1024	14	65535	1023	17	119
37	1024	2	65535	1023	17	17
38	1024	16	65535	1023	17	136
39	918	15	65535	1023	17	114
40	820	6	65535	820	17	40
41	1024	5	65535	1023	17	42
42	1024	5	65535	1023	26	65
43	809	6	65535	852	17	40
44	809	6	65535	852	26	61
45	776	8	65335	775	33	100
47			AUTO			

Award Hard Disk Type Table

5-4. The BIOS FEATURES SETUP MENU

Choose the "BIOS FEATURES SETUP" in the main menu, the screen shown as below.

ROM PCI/ISA BIOS (2A69KP6I)
BIOS FEATURES SETUP
AWARD SOFTWARE, INC.

Virus Warning	: Disabled	Video BIOS Shadow	: Enabled
CPU Internal Cache	: Enabled	C8000-CBFFF Shadow	: Disabled
External Cache	: Enabled	CC000-CFFFF Shadow	: Disabled
CPU L2 Cache ECC Checking	: Enabled	D0000-D3FFF Shadow	: Disabled
Processor Number Feature	: Enabled	D4000-D7FFF Shadow	: Disabled
Quick Power On Self Test	: Disabled	D8000- DBFFF Shadow	: Disabled
Boot Sequence	: A,C,SCSI	DC000-DFFFF Shadow	: Disabled
Swap Floppy Drive	: Disabled		
Boot Up Floppy Seek	: Enabled		
Boot Up NumLock Status	: On		
Gate A20 Option	: Fast		
Typematic Rate Setting	: Disabled		
Typematic Rate (Chars/Sec)	: 6		
Typematic Delay (Msec)	: 250	Esc : Quit	↑↓→← : Select Item
Security Option	: Setup	F1 : Help	Pu/Pd/+/- : Modify
PCI/VGA Palette Snoop	: Disabled	F5 : Old Values	(Shift)F2 : Color
OS Select For DRAM > 64MB	: Non-OS2	F6 : Load BIOS Defaults	
Report No FDD For WIN 95	: Yes	F7 : Load Setup Defaults	

BIOS Features Setup

The SETUP MENU allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security. When you change any of the settings, you may recall the default settings at any time from the main menu.

A brief introduction of each setting in the BIOS FEATURES SETUP program is given as follows:

VIRUS WARNING:

When Enabled, the BIOS will monitor the boot sector and partition table of the hard disk drive for any attempt for modification.

CPU INTERNAL CACHE:
EXTERNAL CACHE:

These two categories speed up memory access. However, it depends on CPU/Chipset design.

CPU L2 CACHE ECC CHECKING:

This item allows you to enable or disable CPU L2 Cache ECC checking.

QUICK POWER ON SELF TEST:

This category allows you to speed up Power On Self Test (POST) after power-up the computer. When Enabled, the BIOS will shorten or skip some check items during POST.

BOOT SEQUENCE:

This item allows you to define to the system, the sequence for which drive to look for first when system boots up.

SWAP FLOOPY DRIVE:

When the system has two floppy drives, this category allows you to swap the logical drive name assignments.

BOOT UP FLOPPY SEEK:

You may enable / disable this item to define whether the system will look for a floppy disk drive to boot at power-on, or directly to the hard disk drive.

BOOT UP NUMLOCK STATUS:

This allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock on. The available options are On (keypad is number keys) and Off (keypad is arrow keys).

GATE 20A OPTION:

This entry allows you to select how the gate A20 is handled. The gate A20 is a device used to address memory above 1Mbytes. Initially the gate A20 was handled via a pin on the keyboard. Today, while keyboards still provide this support, it is more common and much faster for the system chipset to provide support for gate A20. The available options are Normal and Fast.

TYPEMATIC RATE SETTING:

Enable this item if you wish to be able to configure the characteristics of your keyboard. Typematic refers to the way in which characters are entered repeatedly if a key is held down. For example, if you press and hold down the "A" key, the letter "a" will repeatedly appear on your screen on your screen until you release the key.

TYPEMATIC RATE (CHARS/SEC):

You can use this item to define the typematic rate delay of your keyboard, i.e. the rate at which characters will be repeated when a key held down.

TYPEMATIC DELAY (MSEC):

You can use this item to define the period after which the typematic function become active i.e. how long after you press a key the characters will be repeated.

SECURITY OPTION:

This category allows you to limit access to the system and Setup, or just to Setup.

System	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
Setup	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

PCI/VGA PALETTE SNOOP:

It determines whether the MPEG ISA/VESA VGA Card can work with PCI/VGA or not.

OS SELECT FOR DRAM >64MB:

This item allows you to access the memory that over 64MB in OS/2. You may choose OS2 or Non-OS2.

REPORT NO FDD FOR WIN 95:

Whether report no FDD for Win 95 or not.

VIDEO BIOS SHADOW:

Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed.

C8000-CBFFF SHADOW ~ DC000-DFFFF SHADOW:

These categories determine whether option ROMs will be copied to RAM. An example of such option ROM would be support of on-board SCSI.

5-5. CHIPSET FEATURES SETUP

Choose the "CHIPSET FEATURES SETUP" from the main menu, the screen shown as below.

ROM PCI/ISA BIOS (2A69KP6I)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	: Enable	Auto Detect DIMM/PCI Clk	: Enabled
EDO DRAM Speed Selection	: 60ns	Spread Spectrum	: Disabled
EDO CASx# MA Wait State	: 2	CPU Host Clock (CPU/PCI)	: Default
EDO RASx# Wait State	: 2	CPU Warning Temperature	: 60ºC /140ºC
SDRAM RAS-to-CAS Delay	: 3	Current CPU1 Temperature	: 56ºC /132ºC
SDRAM RAS Precharge Time	: 3	Current CPUFAN1 Speed	: 0 RPM
SDRAM CAS latency Time	: 3	Current CPUFAN2 Speed	: 0 RPM
SDRAM Precharge Control	: Disabled	Vcore: 1.74 V +3.3V	: 3.24 V
DRAM Data Integrity Mode	: Non-ECC	+ 5 V : 4.99 V +12 V	: 11.97 V
System BIOS Cacheable	: Disabled		
Video BIOS Cacheable	: Disabled	Shutdown Temperature	: 75ºC /167ºC
Video RAM Cacheable	: Disabled		
8 Bit I/O Recovery Time	: 1		
16 Bit I/O Recovery Time	: 1		
Memory Hole At 15M-16M	: Disabled	Esc : Quit	↑↓→← : Select Item
Passive Release	: Enabled	F1 : Help	Pu/Pd/+/- : Modify
Delayed Transaction	: Disabled	F5 : Old Values	(Shift)F2 : Color
AGP Aperture Size (MB)	: 64	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Chipset Features Setup

The parameters in this screen are for system designers, service personnel, and technically competent users only. Do not reset these values unless you understand the consequences of your changes.

AUTO CONFIGURATION:

Auto Configuration selects pre-determined optimal values of chipset parameters. When disabled, chipset parameters revert to setup information stored in CMOS. Many fields in this screen are not available when Auto Configuration is Enabled.

EDO DRAM SPEED SELECTION:

The DRAM timing is controlled by the DRAM Timing Registers. The timings programmed into this register are dependent on the system design. Slower rates may be required in certain system designs to support loose layouts or slower memory. The available choices are 50ns and 60ns.

EDO CASx# MA WAIT STATE:

You can select the timing control type of EDO DRAM CAS MA. (memory address bus) The choices are 1 and 2.

EDO RASx# WAIT STATE:

You can select the timing control type of EDO DRAM RAS MA (memory address bus). The choices are 1 and 2.

SDRAM RAS-to-CAS DELAY:

You can select RAS to CAS Delay time in HCLKs of 2/2 or 3/3. The system board designer should set the values in this field, depending on the DRAM installed. Do not change the values in this field unless you change specifications of the installed DRAM or the installed CPU.
The choices are 2 and 3.

SDRAM RAS PRECHARGE TIME:

Defines the length of time for Row Address Strobe is allowed to precharge.

SDRAM CAS LATENCY TIME:

You can select CAS latency time in HCLKs of 2/2 or 3/3. The system board designer should set the values in this field, depending on the DRAM installed. Do not change the values in this filed unless you change specifications of the installed DRAM or the installed CPU.

DRAM DATA INTEGRITY MODE:

Select parity or ECC (error-correcting code), according to the type of installed DRAM.

SYSTEM BIOS CACHEABLE :

Select Enabled allows caching of the system BIOS ROM at F000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

VIDEO BIOS CACHEABLE:

Select Enabled allows caching of the video BIOS ROM at C0000h-F7FFFh, resulting in better video performance. However, if any program writes to this memory area, a system error may result.

VIDEO RAM CACHEABLE:

Select Enabled allows caching of the video RAM, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

8 Bit I/O RECOVERY TIME:

The recovery time is the length of time, measured in CPU clocks, which the system will delay after the completion of an input/output request. This delay takes place because the CPU is operating so much faster than the input/output bus that the CPU must be delayed to allow fro the completion of the I/O. This item allows you to determine the recovery time allowed for 8bit I/O.

16 Bit I/O RECOVERY TIME:

This item allows you to determine the recovery time allowed for 16bit I/O. Choices from NA, 1 to 4 CPU clocks.

MEMORY HOLE AT 15-16M:

In order to improve performance, certain space in memory can be reserved for ISA cards. This memory must be mapped into the memory space below 16MB.

PASSIVE RELEASE:

When Enabled, CPU to PCI bus accesses are allowed during passive release. Otherwise, the arbiter only accepts another PCI master access to local DRAM.

DELAYED TRANSACTION:

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select Enabled to support compliance with PCI specification version 2.1.

AGP APERTURE SIZE:

Select the size of the Accelerated Graphics Post (AGP) aperture. The aperture is a portion of the PCI memory address range dedicated for graphics memory address space.

5-6. POWER MANAGEMENT SETUP

Choose "POWER MANAGEMENT SETUP" option on the main menu, and a display will be shown on screen as below :

ROM PCI/ISA BIOS (2A69KP6I)
POWER MANAGEMENT SETUP
AWARD SOFTWARE, INC.

ACPI function	: Enabled	** Reload Global Timer Events **	
Power Management	: User Define	IRQ [3-7, 9-15], NMI	: Disabled
PM Control by APM	: Yes	Primary IDE 0	: Disabled
Video Off Method	: DPMS	Primary IDE 1	: Disabled
Video Off After	: Standby	Secondary IDE 0	: Disabled
MODEM Use IRQ	: 3	Secondary IDE 1	: Disabled
Doze Mode	: Disable	Floppy Disk	: Disabled
Standby Mode	: Disable	Serial Port	: Disabled
Suspend Mode	: Disable	Parallel Port	: Disabled
HDD Power Down	: Disable		
Throttle Duty Cycle	: 62.5%		
PCI/VGA Act- Monitor	: Disabled		
Power On by Ring	: Enable		
IRQ 8 Break Suspend	: Disabled		

Esc : Quit	↑↓→← : Select Item
F1 : Help	Pu/Pd/+/- : Modify
F5 : Old Values	(Shift)F2 : Color
F6 : Load BIOS Defaults	
F7 : Load Setup Defaults	

Power Management Setup

This Setup Menu allows you to configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use. Having made all the settings above, press < Esc > to return to the main menu.

ACPI FUNCTION:

User are allowed to enable or disable the Advanced Configuration and Power Management (ACPI).

POWER MANAGEMENT:

This item allows the user to select the type or degree of power saving and is directly related to the following modes: ❶ HDD Power Down, ❷ Doze Mode, ❸ Suspend Mode, and ❹ Standby Mode.

There are four available options: Disable, Min. Power Saving, Max. Power Saving, and User Defined.

PM CONTROL BY APM:

When enabled, an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock.
If the Max. Power Saving is not enabled, this will be preset to ***NO***.

VIDEO OFF METHOD:

This category determines the manner in which the monitor is blanked.

V/H SYNC+BLANK	This selection will cause the system to turn off the vertical & horizontal synchronization ports and write blanks to video buffer.
BLANK SCREEN	This selection only writes blanks to video buffer.
DPMS	Initial display power management signaling.

VIDEO OFF AFTER:

When enabled, this feature allows the VGA adapter to operate in a power saving mode. The available choices are N/A, Suspend, Standby, and Doze.

MODEM USE IRQ:

This item enable you to name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system.

DOZE MODE:

When enabled and after the set time of system inactivity, the CPU clock will run at slower speed while all other devices still operate at full speed.

STANDBY MODE:

When enabled and after the set time of system inactivity, the fixed disk drive and the video would be shut off while all other devices still operate at full speed.

SUSPEND MODE:

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

HDD POWER DOWN:

When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

THROTTLE DUTY CYCLE:

This item allows you to select the percent of time that the clock runs when the system enters Doze mode.

PCI/VGA ACT MONITOR:

This item allows you to enable any video activity restarts the global timer for Standby mode.

POWER ON BY RING:

This item allows you to awaken the system from a soft off state through an incoming call on the modem.

IRQ 8 BREAK SUSPEND:

You may enable and disable monitoring of IRQ8 so it doesn't awaken the system from Suspend mode.

5-7. PNP/PCI CONFIGURATION

Choose "PNP/PCI CONFIGURATION" from the main menu, a display will be shown on screen as below:

ROM PCI/ISA BIOS (2A69KP6I)
PNP/PCI CONFIGURATION
AWARD SOFTWARE, INC.

PNP OS Installed : No	Used MEM base addr : N/A
Resources Controlled by : Manual	
Reset Configuration Data : Disabled	
IRQ-3 assigned to : PCI / ISA PnP	
IRQ-4 assigned to : PCI / ISA PnP	
IRQ-5 assigned to : PCI / ISA PnP	
IRQ-7 assigned to : PCI / ISA PnP	
IRQ-9 assigned to : PCI / ISA PnP	
IRQ-10 assigned to : PCI / ISA PnP	
IRQ-11 assigned to : PCI / ISA PnP	
IRQ-12 assigned to : PCI / ISA PnP	
IRQ-14 assigned to : PCI / ISA PnP	
IRQ-15 assigned to : PCI / ISA PnP	
DMA-0 assigned to : PCI / ISA PnP	
DMA-1 assigned to : PCI / ISA PnP	Esc : Quit ↑↓→← : Select Item
DMA-3 assigned to : PCI / ISA PnP	F1 : Help Pu/Pd/+/- : Modify
DMA-5 assigned to : PCI / ISA PnP	F5 : Old Values (Shift)F2 : Color
DMA-6 assigned to : PCI / ISA PnP	F6 : Load BIOS Defaults
DMA-7 assigned to : PCI / ISA PnP	F7 : Load Setup Defaults

PNP/PCI CONFIGURATION

This Setup Menu allows you to configure the PCI Bus system. PCI, Also known as Personal Computer Interconnect, is a system, which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. The section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

You can manually configure the PnP/PCI Device's IRQ by highlighting the selected item and press the <F1> key, all options for the desired selection will be displayed for choice. User may select the desired options.

PNP OS INSTALLED:

Select Yes if the system operating environment is Plug-and-Play aware (ex: Windows 95).

RESOURCE CONTROLLED BY:

The Award Plug and Play Bios can automatically configure all the booth and Plug and Play-compatible devices. If set to Auto, all interrupt request (IRQ) and DMA assignment fields disappear, as the BIOS automatically assigns them.

RESET CONFIGURATION DATA:

When Enable, the system will reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system cannot boot.

IRQ # ASSIGNED TO:

If resources are controlled manually, assign each system interrupt as Legacy ISA Devices or PCI/ISA PnP Devices.

Legacy ISA Devices	complaint with the orginal PC AT bus specification, requiring a specific interrupt such as IRQ4 for serial port 1.
PCI/ISA PnP Devices	complaint with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

DMA # ASSIGNED TO:

If resources are controlled manually, assign each system DMA channel as as Legacy ISA Devices or PCI/ISA PnP Devices.

Legacy ISA Devices	complaint with the orginal PC AT bus specification, requiring a specific interrupt such as IRQ4 for serial port 1.
PCI/ISA PnP Devices	complaint with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

5-8. LOAD BIOS DEFAULTS

AUTO CONFIGURATION WITH BIOS DEFAULTS

"LOAD BIOS DEFAULTS" loads the default BIOS values. When the diagnostic aid of your system becomes unusable, choose this option and the following message appears:

```
Load BIOS Default ( Y / N ) ? Y
```

To use the BIOS defaults, change the prompt to "Y" and press < Enter >, the CMOS is load automatically when you power on the Prox-2622.

5-9. LOAD SETUP DEFAULTS

AUTO CONFIGURATION WITH SETUP DEFAULTS

This Main Menu item uses the default SETUP values. Use this option as a diagnostic aid of your system behaves erratically. Choose this item and the following message appears:

```
Load SETUP Default ( Y / N ) ?Y
```

To use the SETUP defaults, change the prompt to "Y" and press <Enter> The CMOS is load automatically form SETUP default values.

5-10. INTEGRATED PERIPHERALS

Choose "INTEGRATED PERIPHERALS" from the main menu, a display will be shown on screen as below:

ROM PCI/ISA BIOS (2A69KP6I)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

IDE HDD Block Mode	: Disabled	Onboard Parallel Port	: 378/IRQ7
IDE Primary Master PIO	: Auto	Parallel Port Mode	: Normal
IDE Primary Slave PIO	: Auto		
IDE Secondary Master PIO	: Auto		
IDE Secondary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
IDE Secondary Master UDMA	: Auto		
IDE Secondary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: Enabled		
On-Chip Secondary PCI IDE	: Enabled		
Onboard PCI SCSI Chip	: Enabled		
USB Keyboard Support	: Disabled		
Init Display First	: PCI Slot		
Onboard FDC Controller	: Enabled	Esc : Quit	↑↓→← : Select Item
Onboard UART 1	: 3F8/IRQ4	F1 : Help	Pu/Pd/+/- : Modify
Onboard UART 2	: 2F8/IRQ3	F5 : Old Values	(Shift)F2 : Color
Onboard UART 2 Mode	: Standard	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

INTEGRATED PERIPHERALS

IDE HDD BLOCK MODE:

This item allows your hard disk controller to use the fast block mode to transfer data to and from your hard disk drive (HDD). When Enabled, the IDE controller uses block mode. When Disabled, the IDE controller uses standard mode.

IDE PRIMARY/SECONDARY MASTER/SLAVE PIO:

This item let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

IDE PRIMARY/SECONDARY MASTER/SLAVE UDMA:

Ultra DMA/33 is a DMA data transfer protocol that utilizes ATA commands and the ATA bus to allow DMA commands to transfer data at a maximum burst rate of 33 MB/s. When you select Auto in the four IDE UDMA fields, the system automatically determines the optimal data transfer rate for each IDE device.

ON-CHIP PRIMARY/SECONDARY PCI IDE:

The Integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately.

ONBOARD PCI SCSI CHIP:

Select Enabled if your system contains a PCI SCSI chip and you have a PCI SCSI card.

USB KEYBOARD SUPPORT:

Select Enabled if your system contains a USB controller and you have a USB Keyboard.

INIT DISPLAY FIRST:

This item initializes the AGP video display before initializing any other display device on the system. Thus the AGP display becomes the primary display.

ONBOARD FDC CONTROLLER:

Select Enabled unless you installed an add-in FDC.

ONBOARD PARALLEL PORT:

Select a logical LPT port address and corresponding interrupt for the physical parallel port.

PARALLEL PORT MODE:

Select an operating mode for the onboard parallel port. Select Compatible or Extended unless you are certain both your hardware and software support EPP or ECP mode.

5-11. PASSWORD SETTING

User may select either supervisor or user password, or both of them on the Main Menu, the differences between them is that the supervisor password allows the user to enter and change the options of the setup menus while the user password can only enter but do not have the right to change the options of the setup menus.

TO SET A PASSWORD

If you want to enable this item you should choose the ″PASSWORD SETTING″ option from the main menu, the following message will appear at the center of the screen to assist you in creating a password.

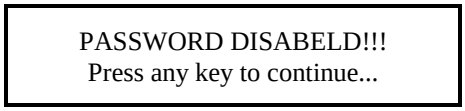
Type the password, up to eight characters in length, and press < Enter >. You will be asked to confirm the password. Type the password again and press < Enter >. You may also press < Esc > to abort the selection and not enter a password.

To change the original password, enter CMOS setup Menu again and you will be asked to enter the original password, then select ″PASSWORD SETTING″ and press enter. The system will ask you to enter a password, you may enter the new password and re-type the new password for confirmation.

🔔 User should bear in mind that when a password is set, you will be ask to enter the password everything you enter CMOS setup Menu. Additionally, you may also determine when the password is required within the BIOS Features Setup Menu and its Security option. If the Security option is set to “System”, the password will be required both at boot and at entry to Setup. If set to “Setup”, prompting only occurs when trying to enter Setup.

TO DISABLE THE PASSWORD

Upon entering the CMOS setup Menu, the system will ask you to enter the original password, after entering the original password, press 〝PASSWORD SETTING〞 a message will appear at the center.



Press < Enter > and the password will be disabled. Once the password is disabled, you can enter Setup freely.

5-12. IDE HDD AUTO DETECTION

Choose the〝IDE HDD AUTO DETECTION〞option . The screen will be shown as below.

ROM PCI / ISA BIOS (2A69KP6I)
STANDARD CMOS SETUP
AWARD SOFTWARE, INC.

HARD DISKS	TYPE	SIZE	CYLS.	HEADS	PRECOMP	LANDZ	SECTOR	MODE
Primary Master : (	MB)	0	0	0		0	0	-------

Select Primary Master Option (N=Skip) : N

OPTIONS	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
1(Y)	0	0	0	0	0	0	NORMAL

Note: Some OSes (SCO-UNIX Before v5.0) must use “Normal” for installation
Esc : Skip

IDE HDD AUTO DETECTION Screen

This setup menu allows you to save time in finding the Hard Disk Drive information, just follow the following steps:

1. Select the 〝IDE HDD AUTO DETECTION〞from the Main Menu.
2. After a couple of seconds, the screen will appear the Hard Disk information and following message:

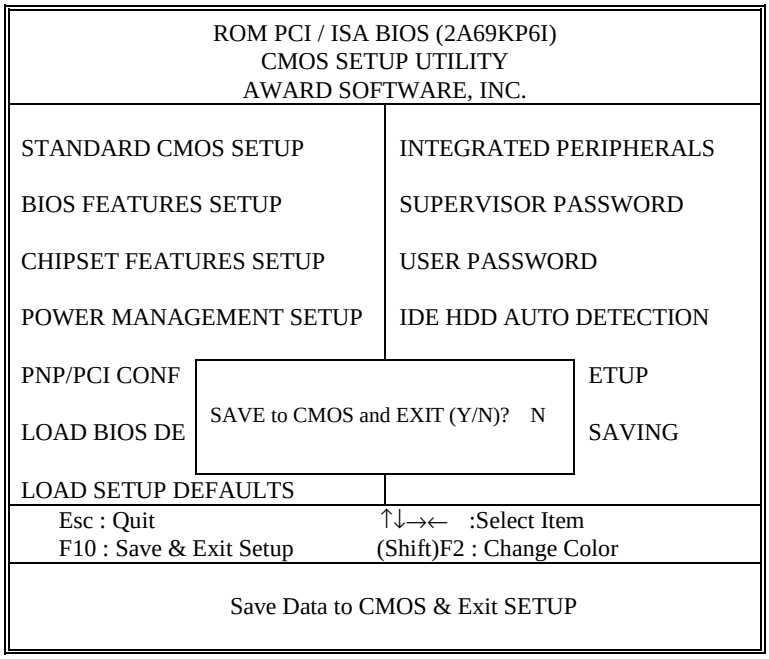
“SELECT PRIMARY MASTER OPTION (N=SKIP):N”

3. Enter Y or N to confirm the acceptance of the parameter reported by BIOS, then press the <ENTER> key.

🔔 The process will repeat again form Primary Slave, Secondary Master and Secondary Slave Hard Disks.

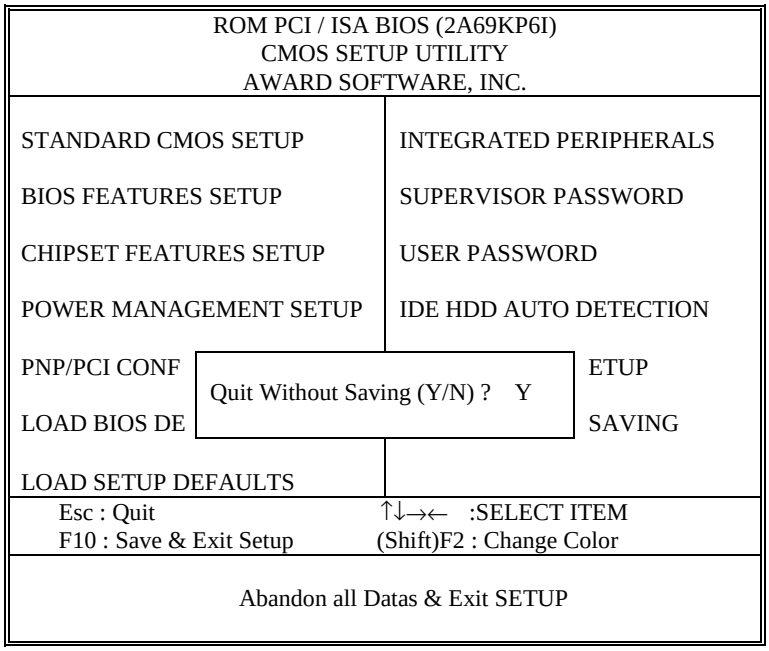
5-13. SAVE & EXIT SETUP

When you have completed adjusting all the settings as required, you must have these setting into the CMOS RAM. Select "SAVE & EXIT SETUP" and press<Enter>, as the display shown on below:



When you confirm that you wish to save the settings your machine will be automatically rebooted and the changes you have made will be implemented. You may call up the setup program at any time to adjust any of the individual items by pressing the <Del> key during boot up.

If wish to cancel any changes you have made, select "EXIT WITHOUT SAVING" and the original setting stored in the CMOS will be retained. The screen will be shown as below:



COMPACT PCI CONNECTOR

APPENDIX

A

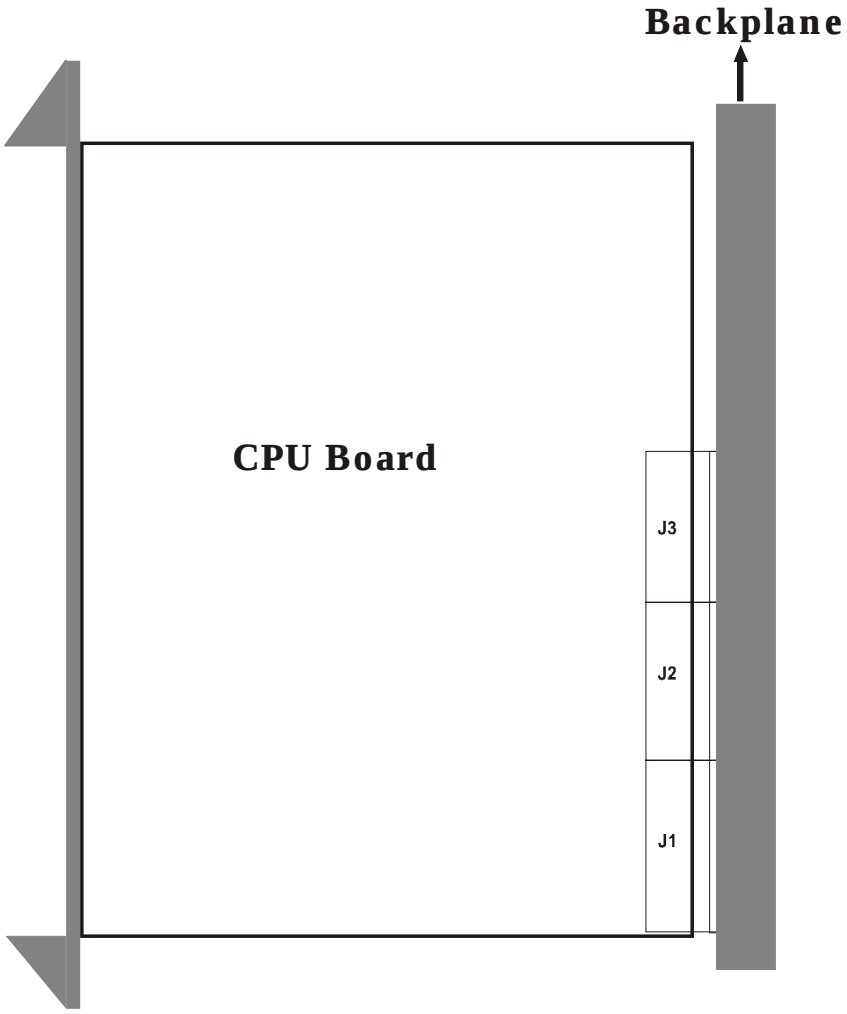
This appendix indicates the pin assignments of the compact PCI connector found in CPU Board

Section includes:

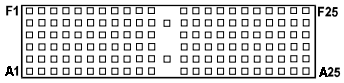
- J1 Connector Pin Assignment
- J2 Connector Pin Assignment
- J3 Connector Pin Assignment

COMPACT PCI CONNECTOR

There are three Compact PCI connectors found in CPU board (named J1, J2, J3).
The figure below shows how to connect the Prox-2622 CPU Board to the backplane.



J1 CONNECTOR PIN ASSIGNMENT

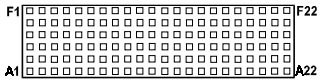


J1

The pin assignments is as follows:

PIN	A	B	C	D	E	F
1	5V	-12V	TRST#	+12V	5V	GND
2	TCK	5V	TMS	NC	TDI	GND
3	PIRQ-A	PIRQ-B	PIRQ-C	5V	PRIQ-D	GND
4	NC	GND	NC	NC	NC	GND
5	NC	NC	SPCIRST#	GND	SPGNTϕ#	GND
6	SPREQϕ#	GND	NC	SPCLKϕ	SAD[31]	GND
7	SAD[30]	SAD[29]	SAD[28]	GND	SAD[27]	GND
8	SAD[26]	GND	NC	SAD[25]	SAD[24]	GND
9	SC/BE[3]#	NC	SAD[23]	GND	SAD[22]	GND
10	SAD[21]	GND	NC	SAD[20]	SAD[19]	GND
11	SAD[18]	SAD[17]	SAD[16]	GND	SC/BE[2]#	GND
12-14	KEY	KEY	KEY	KEY	KEY	GND
15	NC	SFRAME#	SIRDY#	GND (7)	STRDY#	GND
16	SDEVSEL#	GND	NC	SSTOP#	SPLOCK#	GND
17	NC	SMBCLK	SMBDATA	GND	SPERR#	GND
18	SSERR#	GND	NC	SPAR	SC/BE[1]#	GND
19	NC	SAD[15]	SAD[14]	GND	SAD[13]	GND
20	SAD[12]	GND	NC	SAD[11]	SAD[10]#	GND
21	NC	SAD[9]	SAD[8]	NC	SC/BE[0]#	GND
22	SAD[7]	GND	NC	SAD[6]	SAD[5]	GND
23	NC	SAD[4]	SAD(3)	5V	SAD[2]	GND
24	SAD[1]	5V	NC	SAD[0]	SACK64#	GND
25	5V	REQ64#	HSENUM#	NC	5V	GND

J2 CONNECTOR PIN ASSIGNMENT

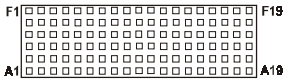


J2

The pin assignments is as follows:

PIN	A	B	C	D	E	F
1	SPCLK1	GND	SPREQ-1	SPGNT-1	SPREQ-2	GND
2	SPCLK2	SPCLK3	NC	SPGNT-2	SPREQ-3	GND
3	SPCLK4	GND	SPGNT-3	SPREQ-3	SPGNT-4	GND
4	NC	NC	NC	GND	NC	GND
5	NC	GND	NC	NC	NC	GND
6	NC	NC	NC	GND	NC	GND
7	NC	GND	NC	NC	NC	GND
8	NC	NC	NC	GND	NC	GND
9	NC	GND	NC	NC	NC	GND
10	NC	NC	NC	GND	NC	GND
11	NC	GND	NC	NC	NC	GND
12	NC	NC	NC	GND	NC	GND
13	NC	GND	NC	NC	NC	GND
14	NC	NC	NC	GND	NC	GND
15	NC	GND (15)	FAL-	REQ-5	GNT-5	GND
16	NC	NC	DEG-	NC	NC	GND
17	NC	GND(15)	PRST-	REQ-6	GNT-6	GND
18	NC	NC	NC	GND	NC	GND
19	GND(3)(16)	GND(3)(16)	NC	NC	NC	GND
20	SPCLK5(3)(16)	GND(3)(16)	NC	GND	NC	GND
21	SPCLK6(3)(16)	GND(3)(16)	NC	NC	NC	GND
22	NC	NC	NC	NC	NC	GND

J3 CONNECTOR PIN ASSIGNMENT



J3

The pin assignments is as follows:

PIN	A	B	C	D	E	F
1	WDATAJ	WGATEJ	FDIR	DRVIJ	INDEXJ	GND
2	TRKOJ	WRTPRTJ	DRVDENO	MTRIJ	DRVOJ	GND
3	DSKCHG	MTROJ	STEPJ	HDSEL	RDATAJ	GND
4	GND	GND	GND	GND	DRVDEN1	GND
5	IDELED	GND	IDERST	GND	GND	GND
6	GND	GND	GND	GND	GND	GND
7	IDE1SA0	IDE1SA1	IDE1SA2	IDE1RDY	IDE1CS3	GND
8	IDE1IOW	IDE1IOR	GND	IDE1IRQ	GND	GND
9	IDE1D3	IDE1D7	IDE1D11	IDE1D15	IDE1CS1	GND
10	IDE1D2	IDE1D6	IDE1D10	IDE1D14	GND	GND
11	IDE1D1	IDE1D5	IDE1D9	IDE1D13	IDE1ACK	GND
12	IDE1D0	IDE1D4	IDE1D8	IDE1D12	IDE1DRQ	GND
13	GND	GND	GND	GND	GND	GND
14	IDE2SA0	IDE2SA1	IDE2SA2	IDE2RDY	IDE2CS3	GND
15	IDE2IOW	IDE2IOR	GND	IDE2IRQ	GND	GND
16	IDE2D3	IDE2D7	IDE2D11	IDE2D15	IDE2CS1	GND
17	IDE2D2	IDE2D6	IDE2D10	IDE2D14	GND	GND
18	IDE2D1	IDE2D5	IDE2D9	IDE2D13	IDE2ACK	GND
19	IDE2D0	IDE2D4	IDE2D8	IDE2D12	IDE2DRQ	GND

TECHNICAL SUMMARY

APPENDIX

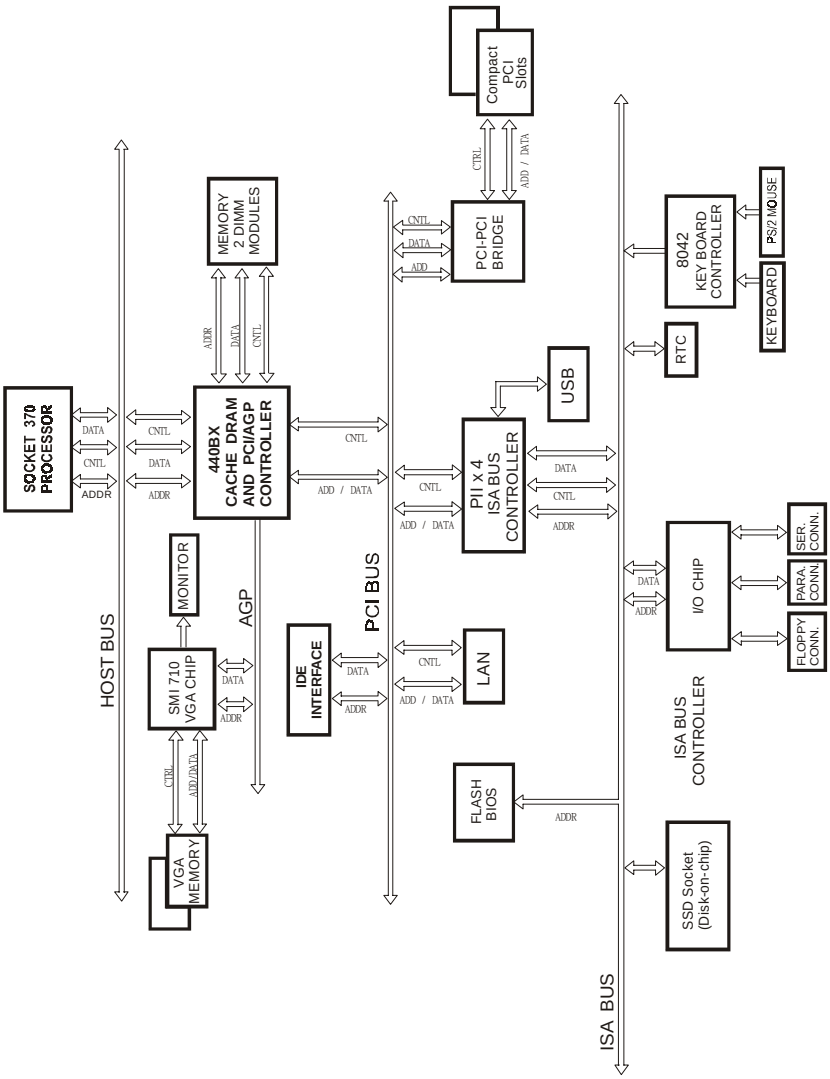
B

This section introduces you the maps concisely.

Sections include:

- Block Diagram
- Interrupt Map
- RTC & CMOS RAM Map
- Timer & DMA Channels Map
- I / O & Memory Map

BLOCK DIAGRAM



INTERRUPT MAP

IRQ	ASSIGNMENT
0	System TIMER interrupt from TIMER-0
1	Keyboard output buffer full
2	Cascade for IRQ 8-15
3	Serial port 2
4	Serial port 1
5	Available
6	Floppy Disk adapter
7	Parallel port 1
8	RTC clock
9	Available
10	Available
11	Available
12	PS/2 Mouse
13	Math coprocessor
14	IDE1
15	Available

RTC & CMOS RAM MAP

CODE	ASSIGNMENT
00	Seconds
01	Second alarm
02	Minutes
03	Minutes alarm
04	Hours
05	Hours alarm
06	Day of week
07	Day of month
08	Month
09	Year
0A	Status register A
0B	Status register B
0C	Status register C
0D	Status register D
0E	Diagnostic status byte
0F	Shutdown byte
10	Floppy Disk drive type byte
11	Reserve
12	Hard Disk type byte
13	Reserve
14	Equipment byte
15	Base memory low byte
16	Base memory high byte
17	Extension memory low byte
18	Extension memory high byte
30	Reserved for extension memory low byte
31	Reserved for extension memory high byte
32	Date Century byte
33	Information Flag
34-3F	Reserve
40-7f	Reserved for Chipset Setting Data

TIMER & DMA CHANNELS MAP

Timer Channel Map :

Timer Channel	Assignment
0	System timer interrupt
1	DRAM Refresh request
2	Speaker tone generator

DMA Channel Map :

DMA Channel	Assignment
0	Available
1	Available
2	Floppy Disk adapter
3	Available
4	Cascade for DMA controller 1
5	Available
6	Available
7	Available

I/O & MEMORY MAP

Memory Map :

MEMORY MAP	ASSIGNMENT
0000000-009FFFF	System memory used by DOS and application
00A0000-00BFFFF	Display buffer memory for VGA/ EGA / CGA / MONOCHROME adapter
00C0000-00DFFFF	Reserved for I/O device BIOS ROM or RAM buffer.
00E0000-00EFFFF	Reserved for PCI device ROM
00F0000-00FFFFF	System BIOS ROM
0100000-FFFFFFF	System extension memory

I/O Map :

I/O MAP	ASSIGNMENT
000-01F	DMA controller (Master)
020-021	Interrupt controller (Master)
022-023	Chipset controller registers I/O ports.
040-05F	Timer control regsiters.
060-06F	Keyboard interface controller (8042)
070-07F	RTC ports & CMOS I/O ports
080-09F	DMA register
0A0-0BF	Interrupt controller (Slave)
0C0-0DF	DMA controller (Slave)
0F0-0FF	Math coprocessor
1F0-1F8	Hard Disk controller
278-27F	Parallel port-2
2B0-2DF	Graphics adapter controller
2F8-2FF	Serial port-2
360-36F	Net work ports
378-37F	Parallel port-1
3B0-3BF	Monochrome & Printer adapter
3C0-3CF	EGA adapter
3D0-3DF	CGA adapter
3F0-3F7	Floppy disk controller
3F8-3FF	Serial port-1

TROUBLE SHOOTING

APPENDIX

C

This section outlines the errors that may occur when you operate the system. It also gives you the suggestions on solving the problems.

Section includes:

- Trouble Shooting for Error Messages
- Trouble Shooting for POST Code

TROUBLE SHOOTING FOR ERROR MESSAGES

The following information informs you the error messages and the trouble shooting. Please adjust your systems according to the messages below. And make sure all the components and connectors are in proper position and firmly attached. If the errors still encountered, please contact with your distributor for maintenance.

POST BEEP :

Currently there are two kinds of beep code in BIOS. The one code indicates that a video error has occurred and the BIOS cannot initialize the video screen to display any additional information. This beep code consists of a single long beep followed by three short beeps. The other one code indicates that your DRAM error has occurred. This beep code consists of a single long beep repeatedly.

CMOS BATTERY FAILURE :

When the CMOS battery is out of work or has run out, the user has to replace the whole unit.

CMOS CHECKSUM ERROR :

This error informs you that the CMOS is corrupted. When the battery runs weak, this situation might happen. Please check the battery and change a new one when necessary.

DISPLAY SWITCH IS SET INCORRECTLY :

Display switch on the motherboard can be set to either monochrome or color. This indicates the switch is set to a different setting than indicated in Setup. Determine which setting is correct, and then either turn off the system and change the jumper, or enter Setup and change the video selection.

DISK BOOT FAILURE:

When you can‘t find the boot device, insert a system disk into Drive A and press < Enter >. Make sure both the controller and cables are all in proper positions, also make sure the disk is formatted correct device. Then reboot the system.

DISKETTE DRIVES OR TYPES MISMATCH ERROR :

When the diskette drive type is different from CMOS, please run setup or configure the drive again.

ERROR ENCOUNTERED INITIALIZING HARD DRIVE :

When you can‘t initialize the hard drive. Assure the adapter is installed correctly and all cables are correctly and firmly attached. Also be sure the correct hard drive type is selected in Setup.

ERROR INITIALIZING HARD DISK CONTROLLER :

When this error occurs. Be sure the cord is exactly installed in the bus. Make sure the correct hard drive type is selected in Setup. Also check whether all of the jumpers are set correctly in the hard drive.

FLOPPY DISK CONTROLLER ERROR OR NO CONTROLLER PRESENT :

When you cannot find or initialize the floppy drive controller, please check the controller whether in proper Setup. If there are no floppy drive installed, Ensure the Diskette Drive selection in Setup is set to NONE.

KEYBOARD ERROR OR NO KEYBOARD PRESENT :

When this situation happens, please check keyboard attachment and no keys being pressed during the boot. If you are purposely configuring the system without a keyboard, set the error halt condition in Setup to HALT ON ALL, BUT KEYBOARD. This will cause the BIOS to ignore the missing keyboard and continue the boot.

MEMORY ADDRESS ERROR :

When the memory address indicates error. You can use this location along with the memory map for your system to find and replace the bad memory chips.

MEMORY SIZE HAS CHANGED :

Memory has been added or removed since the last boot. In EISA mode use Configuration Utility to re-configure the memory configuration. In ISA mode enter Setup and enter the new memory size in the memory fields.

MEMORY VERIFYING ERROR :

It indicates an error verifying a value already written to memory. Use the location along with your system's memory map to locate the bad chip.

OFFENDING ADDRESS MISSING :

This message is used in connection with the I/O CHANNEL CHECK and RAM PARITY ERROR messages when the segment that has caused the problem cannot be isolated.

REBOOT ERROR :

When this error occurs that requires you to reboot.. Press any key and the system will reboot.

SYSTEM HALTED :

Indicates the present boot attempt has been aborted and the system must be rebooted. Press and hold down the CTRL and ALT keys and press DEL.

TROUBLE SHOOTING FOR POST CODES

When you power on your PC, and the screen display nothing. You have to insert the POST Card for test. The address for ISA POST port is 80h. Make sure the card is in correct slot. The lists below indicate you the error messages. Please follow the instruction to adjust your system. If the error still occurred, please contact with your distributor for maintenance.

C0 : Turn off OEM specific cache, shadow.....

03 : Initialize all the standard devices with default values Standard devices includes :
DMA controller (8237).
Programmable Interrupt Controller (8259).
Programmable Interval Timer (8254).
RTC chip.

05 : 1.Keyboard Controller Self-Test.
2.Enable Keyboard Interface.

07 : Verifies CMOS's basic R/W functionality.

BE : Program defaults values into chipset according to the MODBINable Chipset Default Table.

C1 : Auto-detection of onboard DRAM & Cache.

C5 : Copy the BIOS from ROM into E0000-FFFFF shadow RAM so that POST will go faster.

08 : Test the first 256K DRAM.

09 : 1. Program the configuration register of Cyrix CPU according to the MODBINable Cyrix Register Table.
2. OEM specific cache initialization (if needed).

0A : 1. Initialize the first 32 interrupt vectors with corresponding Interrupt handlers Initialize INT no from 33-120 with Dummy(Spurious) Interrupt Handler.
2. Issue CPUID instruction to identify CPU type.
3. Early Power Management initialization (OEM specific).

0B : 1.Verify the RTC time is valid or not.
2. Detect bad battery.
3. Read CMOS data into BIOS stack area.
4. PnP initializations including (PnP BIOS only).
   -Assign CSN to PnP ISA card.
   -Create resource map from ESCD.
5. Assign I/O & Memory for PCI devices (PCI BIOS only).

0C : Initialization of the BIOS Data Area (40 : 0N-40:FF).

0D : 1. Program some of the Chipset's value according to Setup. (Early Setup Value Program).
2. Measure CPU speed for display & decide the system clock speed.
3. Video initialization including Monochrome ,CGA, EGA/VGA. If no display device found, the speaker will beep.

0E : 1. Initialize the APIC (Multi-Processor BIOS only).
2. Test video RAM (If Monochrome display device found).
3. Show messages including :
-Award Logo, Copyright string, BIOS Date code & Part No.
-OEM specific sign on messages.
-Energy Star Loge (Green BIOS only).
-CPU brand, type & speed.
-Test system BIOS checksum (Non-compress Version only).

0F : DMA channel 0 test.

10 : DMA channel 1 test.

11 : DMA page registers test.

14 : Test 8254 Timer 0 Counter2.

15 : Test 8259 interrupt mask bits for channel 1.

16 : Test 8259 interrupt mask bits for channel 2.

19 : Test 8259 functionality.

30 : Detect Base Memory & Extended Memory Size.

31 : 1. Test Base Memory from 256K to 640K.
2. Test Extended Memory from 1M to the top of memory.

32 : 1.Display the Award Plug & Play BIOS Extension message (PnP BIOS only).
2.Program all onboard super I/O chips (if any) including COM ports, LPT ports, FDD port....according to setup value.

3C : Set flag to allow users to enter CMOS Setup Utility.

3D : 1 Initialize Keyboard.
2 Install PS2 mouse.

3E : Try to turn on Level 2 cache.
Note : Some chipset may need to turn on the L2 cache in this stage. But usually, the cache is turn on later in POST 61h.

BF : 1. Program the rest of the Chipset's value according to Setup. (Later Setup Value Program).
2. If auto-configuration is enabled, programmed the chipset with pre-defined value in the MODBINable Auto-Table.

41 : Initialize floppy disk drive controller.

42 : Initialize Hard drive controller.

43 : If it is a PnP BIOS, initialize serial & parallel ports.

45 : Initialize math coprocessor.

4E : If there is any error detected (such as video, kb....), show all the error messages the screen & wait for user to press <F1> key.

4F : 1. If password is needed, ask for password.
2. Clear the Energy Star Logo (Green BIOS only).

50 : Write all CMOS values currently in the BIOS stack area back into the CMOS.

52 : 1.Initialize all ISA ROMs.
2. Later PCI initializations (PCI BIOS only).
-assign IRQ to PCI devices.
-initialize all PCI ROMs.
3.PnP Initializations (PnP BIOS only).
-assign I/O, Memory, IRQ & DMA TO PnP ISA devices.
-initialize all PnP ISA ROMs.
4. Program shadows RAM according to Setup settings.
5. Program parity according to Setup setting.
6. Power Management Initialization.
-Enable/Disable global PM.
-APM interface initialization.

53 : 1.If it is NOT a PnP BIOS, initialize serial & parallel ports.
2. Initialize time value in BIOS data area by translate the RTC time value into a timer tick value.

60 : Setup Virus Protection (Boot Sector Protection) functionality according to Setup setting.

61 : 1. Try to turn on Level 2 cache.
Note : if L2 cache is already turned on in POST 3D, this part will be skipped.
2. Set the boot up speed according to Setup setting.
3. Last chance for Chipset initialization.
4. Last chance for Power Management initialization (Green BIOS only).
5. Show the system configuration table.

62 : 1.Setup daylight saving according to Setup value.
2.Program the NumLock, typematic rate & typematic speed according to Setup setting.

63 : 1. If there is any changes in the hardware configuration, update the ESCD information (PnP BIOS only).
2. Clear memory that have been used.
3. Boot system via INT 19H.

FF : System Booting. this means that the BIOS already pass the control right to the operating system.

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