

USER'S MANUAL

ProX-1630

**For Socket 370
Half-sized Embedded Card
With VGA / LAN**

Prox-1630 M5

***ProX-1630 Socket 370
Half-sized Embedded Card
With VGA / LAN***

OPERATION MANUAL

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This operation manual is meant to assist both Embedded Computer manufacturers and end-users in installing and setting up the system. The information contained in this document is subject to change without any prior notice.

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INTRODUCTION



This chapter gives you the information for Prox-1630. 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 a Quick Start.

1-1. ABOUT THIS MANUAL

Thank you for purchasing our Prox-1630 Socket 370 Half-sized Embedded Card with VGA/LAN, which is fully PC / AT compatible. The Prox-1630 provides faster processing speed, greater expandability and can handle more tasks than before. This manual is designed to assist you 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 will indicate how to avoid damaging this Embedded 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 jumper and how to configure this card to meet your own needs.

Chapter 3 Software Utilities

This chapter contains helpful information for proper installations of the VGA utilities, LAN utilities and Flash BIOS Update. 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 expansion bus for ISA BUS.

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™ processor in 370-pin socket.
300A/333/366/400/433/466/500/533/566/600/700/733 MHz clock generator.

- Intel® Pentium® III processor in 370-pin socket.
500E/550E/600E/650/700/750/800/850 MHz clock generator.
Auto detect voltage regulator.

- **MEMORY :**

- Up to 256MB SDRAM
One 168pin DIMM socket on board.

- **CACHE :**

- Depended on CPU (128K/256K 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 AND PS/2 MOUSE CONNECTOR :**

- Mini DIN connector, support AT Keyboard or PS/2 Mouse by jumper selection.
One additional 5-pin External keyboard connector.

- **BUS SUPPORT :**

- External ISA.
Internal PCI Bus for VGA, LAN, & IDE.

● **DISPLAY :**

Support SVGA for CRT & Panel.
Support 32bits PCI Local Bus.
VGA BIOS combines in 256KB flash ROM together with system BIOS.
Support 15-pin connector 1024 x 768 (256 colors) resolution on SVGA Monitor.
Integrates 2 Mbytes of SDRAM for the graphics/video frame buffer.
Support 51-pin connector 640 x 480, 800 x 600, 1024 x 768 resolutions on LCD Panel.
Panel support Color STN, TFT, EL.
Support simultaneous display of CRT & LCD flat Panel.

● **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 ports, Support Ultra DMA-33, 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 :**

A 32-pin SSD socket on board, supports up to 144MB Disk-on-chips.

● **USB CONNECTOR :**

Universal Serial Bus Connector on board, supports up to two USB ports.

● **LAN ADAPTER :**

MXIC MX98715 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.
MIDI Compatible.
Programmable Baud Rate Generator.

● **PARALLEL PORT :**

SPP, ECP, EPP Function.
Bi-directional parallel port.

● **GREEN FUNCTION :**

Software support by BIOS setup.
Hardware support by switch control.

● **LED INDICATOR :**

System power.
Hard Disk access.
LAN LED indicator.

● **DMA CONTROLLER :**

82C37 x 2

● **DMA CHANNELS :**

7

● **INTERRUPT CONTROLLERS :**

82C59 x 2

● **INTERRUPT LEVELS :**

15

● **OPERATING TEMPERATURE :**

0 to 60°C.

● **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 DIMENSIONS :**

185mm x 122mm

● **BOARD NET WEIGHT :**

0.25 Kilograms.

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. Stay safe from the 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. 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.

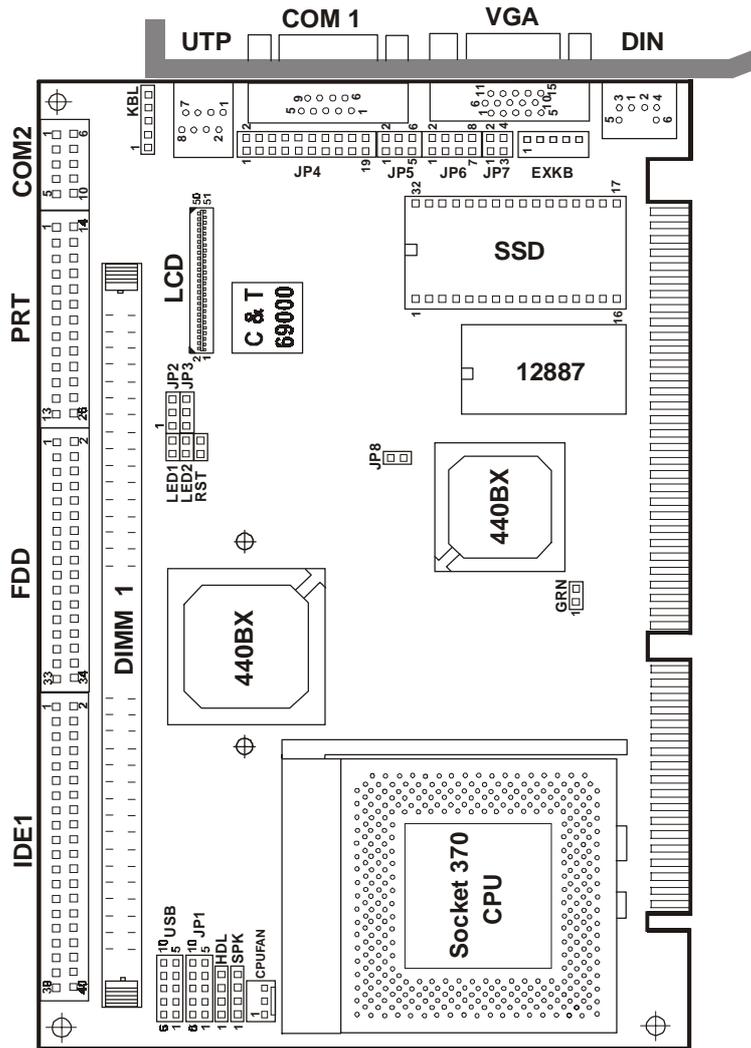
This section includes:

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

2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

COM Connector	COM1, COM2
RS232/422/485 (COM2) Selection	JP4
SSD Memory Mapping Selection	JP6, JP7
Keyboard or PS2 Mouse Selection	JP5
Keyboard or PS2 Mouse Connector	DIN
External Keyboard Connector	EXKB
Reset Connector	RST
Hard Disk Drive LED Connector	HDL
VGA CRT Connector	VGA
CPU Fan Connector	CPUFAN
External Speaker Connector	SPK
Power LED & Keyboard Connector	KBL
Floppy Disk Drive Connector	FDD
Hard Disk Drive Connector	IDE1
LCD Panel Connector	LCD
Printer Connector	PRT
Universal Serial Bus Connector	USB
LAN Connector	UTP
Solid-State Disk Socket	SSD
Panel VCC Selection	JP2
Green Function Connector	GRN
LAN LED Indicator	LED1, LED2
IRQ 12 Release Selection	JP8
Memory Installation	DIMM1

2-2. COMPONENT LOCATIONS



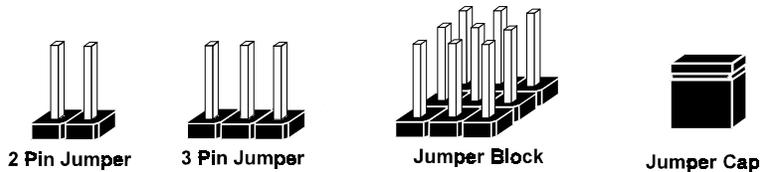
Prox-1630 Connector, Jumper and Component locations

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" pins.

The jumper can be combine 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 figure below shows what the manual diagram looks like and what they represent.

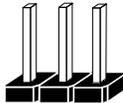
JUMPER DIAGRAMS



Jumper Cap looks like this



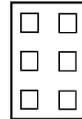
2 pin Jumper looks like this



3 pin Jumper looks like this



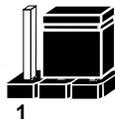
Jumper Block looks like this



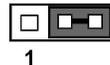
JUMPER SETTINGS



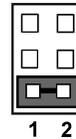
2 pin Jumper close(enabled)
looks like this



3 pin Jumper
2-3 pin close(enabled)
looks like this



Jumper Block
1-2 pin close(enabled)
looks like this



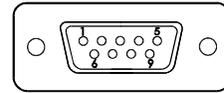
2-4. COM PORT CONNECTOR

Two COM port is enhanced in this board namely: COM1 and COM2. COM1 is for RS-232 while COM2 is selectable for RS-232/422/485.

COM1 : COM1 Connector, DB9 male connector

The COM1 Connector assignments are as follows :

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

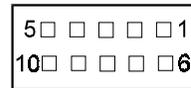


COM 1

COM2 : COM2 Connector

The COM2 Connector assignments are 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

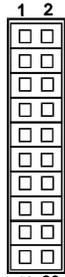
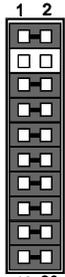
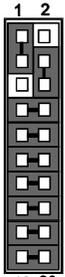
2-5. RS232/422/485 (COM2) SELECTION

JP4 : 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	RS-232	RS-422	RS-485
Jumper setting (pin closed)	Open	1-2 5-6 7-8 9-10 11-12 13-14 15-16 17-18 19-20	1-3 4-6 7-8 9-10 11-12 13-14 15-16 17-18 19-20
Jumper illustration	 <p>1 2 19 20 JP4</p>	 <p>1 2 19 20 JP4</p>	 <p>1 2 19 20 JP4</p>

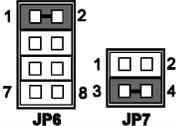
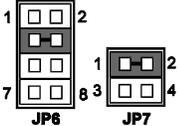
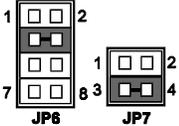
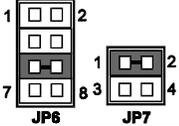
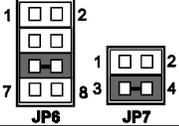
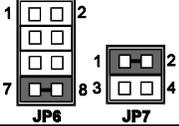
*** Manufactory default --- RS-232.

2-6. SSD MEMORY MAPPING SELECTION

JP6, JP7 : 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 are as follows:

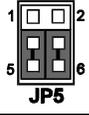
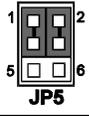
SSD Memory Map	JUMPER SETTINGS (pins closed)		JUMPER ILLUSTRATION
	JP6	JP7	
CC000h-CDFFFh	1-2	3-4	
D0000h-D1FFFh	3-4	1-2	
D4000h-D5FFFh	3-4	3-4	
D8000h-D9FFFh	5-6	1-2	
DC000h-DDFFFh	5-6	3-4	
E0000h-E1FFFh	7-8	1-2	

*** Manafactory default --- CC000h-CDFFFh

2-7. KEYBOARD OR PS/2 MOUSE SELECTION

JP5 : PC/AT Keyboard or PS/2 Mouse Selection

The jumper settings are as follows:

DEVICE TYPE	JUMPER SETTINGS (pins closed) JP5	JUMPER ILLUSTRATION
AT KEYBOARD	3-5 4-6	
PS/2 MOUSE	1-3 2-4	

*** Manufactory default -- AT Keyboard

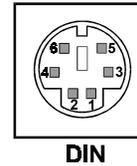
2-8. KEYBOARD OR PS/2 MOUSE CONNECTOR

DIN : PC/AT Keyboard or PS/2 Mouse Connector

DIN connector can support PC/AT Keyboard or PS/2 Mouse.

The pin assignments are as follows :

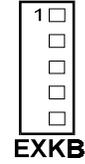
PIN	ASSIGNMENT	
	KEYBOARD	PS/2 MOUSE
1	KBDATA	MOUSE DATA
2	NC	NC
3	GND	GND
4	Vcc	Vcc
5	KBCLK	MSCLK
6	NC	NC



2-9. EXTERNAL KEYBOARD CONNECTOR

EXKB : External Keyboard Connector
The pin assignments are as follows :

PIN	ASSIGNMENT
1	KBCLK
2	KBDATA
3	NC
4	GND
5	VCC



2-10. RESET CONNECTOR

RST : Reset Connector.
The pin assignments are as follows :

PIN	ASSIGNMENT
1	RESET
2	GROUND



2-11. HARD DISK DRIVE LED CONNECTOR

HDL : Hard Disk Drive LED Connector
The pin assignments are as follows :

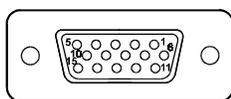
PIN	ASSIGNMENT
1	VCC
2	HDD Active Signal
3	HDD Active Signal
4	HDD Active Signal



2-12. VGA CRT CONNECTOR

VGA : VGA CRT Connector

The pin assignments are as follows:



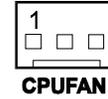
VGA

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

2-13. CPU FAN CONNECTOR

CPUFAN : CPU Fan connector
The pin assignments are as follows:

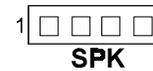
PIN	ASSIGNMENT
1	GND
2	+12V
3	NC



2-14. EXTERNAL SPEAKER CONNECTOR

SPK : External Speaker Connector
The pin assignments are as follows :

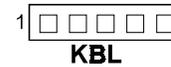
PIN	ASSIGNMENT
1	VCC
2	Speaker Signal
3	Speaker Signal
4	Speaker Signal



2-15. POWER LED & KEYLOCK CONNECTOR

KBL : Power LED & Keylock Connector
The pin assignments are as follows :

PIN	ASSIGNMENT
1	Power LED
2	NC
3	Ground
4	Keyboard INT
5	Ground

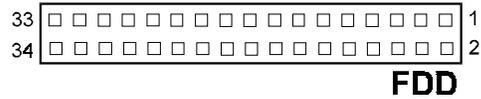


2-16. FLOPPY DISK DRIVE CONNECTOR

FDD : Floppy Disk Drive Connector

You can use a 34-pin daisy-chain cable to connect two FDDs. On one end of this cable there is a 34-pin flat cable to attach the FDD on the board, the other side attaches to two FDDs.

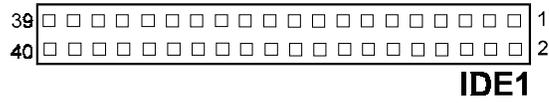
The pin assignments are as follows :



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

2-17. HARD DISK DRIVE CONNECTOR

IDE1: Hard Disk Drive Connector

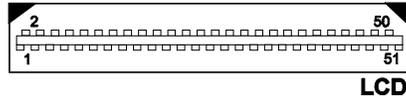


PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	IDERST	21	IDEREQ0
2	GND	22	GND
3	IDED7	23	IDEIOW
4	IDED8	24	GND
5	IDED6	25	IDEIOR
6	IDED9	26	GND
7	IDED5	27	IDERDY
8	IDED10	28	PULL HI
9	IDED4	29	IDEACK0
10	IDED11	30	GND
11	IDED3	31	IRQ14
12	IDED12	32	IOCS16
13	IDED2	33	IDEA1
14	IDED13	34	GND
15	IDED1	35	IDEA0
16	IDED14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

2-18. LCD PANEL CONNECTOR

LCD : LCD Panel Connector

The connector LCD is a 51-pin, dual-in-line header used for Flat Panel displays. The pin assignments are as follows :

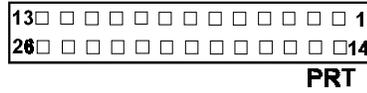


PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	P0	2	P16
3	P1	4	P17
5	P2	6	P18
7	P3	8	P19
9	P4	10	P20
11	P5	12	P21
13	P6	14	P22
15	P7	16	P23
17	LCD VDD	18	LCDVDD
19	P8	20	P24
21	P9	22	P25
23	P10	24	P26
25	P11	26	P27
27	P12	28	P28
29	P13	30	P29
31	P14	32	P30
33	P15	34	P31
35	P34	36	P32
37	P35	38	P33
39	M	40	GND
41	VDDSAFE	42	FLM
43	VDDSAFE	44	GND
45	ENABKL	46	SHFCLK
47	ENVEE	48	GND
49	12VSAFE	50	LP
51	12VSAFE		

2-19. PRINTER CONNECTOR

PRT : 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 :



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

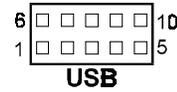
2-20. UNIVERSAL SERIAL BUS CONNECTOR

USB: Universal Serial Bus Connector

USB connector of this board can support two USB ports.

The pin assignments are as follows:

PIN	ASSIGNMENT
1	VCC
2	USB ϕ -
3	USB ϕ +
4	GND
5	GND
6	VCC
7	USBP1-
8	USBP1+
9	GND
10	GND

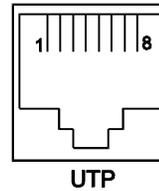


2-21. LAN CONNECTOR

UTP: LAN Connector

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



2-22. SOLID-STATE DISK SOCKET

SSD: 32-pin Disk-on-chip Socket

The pin assignments are as follows:

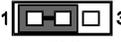


PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	NC	17	SD3
2	NC	18	SD4
3	NC	19	SD5
4	SA12	20	SD6
5	SA7	21	SD7
6	SA6	22	CE
7	SA5	23	SA10
8	SA4	24	OE
9	SA3	25	SA11
10	SA2	26	SA9
11	SA1	27	SA8
12	SA0	28	NC
13	SD0	29	NC
14	SD1	30	VCC
15	SD2	31	WE
16	GND	32	VCC

2-23. PANEL VCC SELECTION

JP2: Panel VCC Selection

The pin assignments are as follows:

Panel VCC Selection	JUMPER SETTINGS (pins closed)	JUMPER ILLUSTRATION
VCC	1-2	 JP2
VCC3.3V	2-3	 JP2

2-24. GREEN FUNCTION CONNECTOR

GRN: Green Function Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	EXTSMI-
2	GND



2-25. LAN LED INDICATOR

Prox-1630 possesses 2 LAN Led Indicators, namely: LED1, and LED2.
The pin assignments are as follows:

LED1: LAN Led Indicator

This Led indicator is used to detect data transfer.

PIN	ASSIGNMENT
1	Pull Hi
2	Link



LED2: LAN Led Indicator

This Led indicator is used to detect power link.

PIN	ASSIGNMENT
1	Pull Hi
2	Active



2-26. IRQ12 RELEASE SELECTION

JP8: IRQ12 Release Selection.

The pin assignments are as follows:

SELECTION	JUMPER SETTING	JUMPER ILLUSTRATION
IRQ12 Release	Open	<p>A diagram of a two-pin jumper. It consists of a rectangular box with two pins. The top pin is labeled with the number '1'. The jumper is shown as an open circuit, with no connection between the pins. Below the box, the text 'JP8' is printed.</p>
PS/2 Mouse	Closed	<p>A diagram of a two-pin jumper. It consists of a rectangular box with two pins. The top pin is labeled with the number '1'. The jumper is shown as a closed circuit, with a vertical bar connecting the two pins. Below the box, the text 'JP8' is printed.</p>

2-27. MEMORY INSTALLATION

The Prox-1630 Embedded Computer support 1 SDRAM banks.

DRAM BANK CONFIGURATION

DIMM 1	TOTAL MEMORY
32M	32M
64M	64M
128M	128M
256M	256M

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

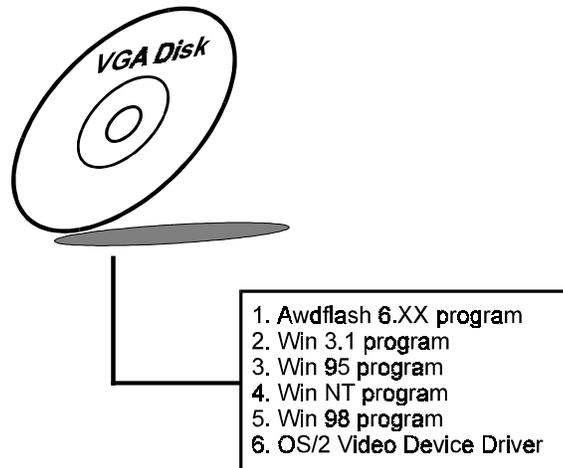
3-1. INTRODUCTION

Enclosed with our Prox-1630 package is our driver utilities, which may come 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\C&T\CT69K	For VGA driver installation
D:\Flash\Awdflash.exe	For BIOS update
D:\Lan\MX98715	For Lan Driver installation

3-2. VGA DRIVER UTILITY

The VGA interface embedded with our Prox-1630 can support a wide range of display mode, such as SVGA, STN, TFT, EL,.....etc. You can display CRT and LCD Panel simultaneously on this board, but make sure that the modes for CRT and LCD Panel are the same. If not, only one of them can be displayed.



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

1. Install VGA Driver to Windows 3.1

- (1). To install VGA driver to Windows 3.1, please insert Utility Disk into floppy disk drive A/B or CD ROM drive under your Windows 3.1 system, and go to directory where VGA driver is located.
- (2). Click Setup.exe file for VGA driver installation directly. Follow the instructions on the screen and complete the installation.
- (3). Once installation is completed, you must shut down system and restart in order for changes to take effect.

2. Install VGA Driver to Windows 95

- (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 "Adaper 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 "Chips and Tech 69000 PCI".
- (6). Follow the remaining instruction that appear on the screen to complete the rest of the installation, then restart your computer.

3. Install VGA driver to Windows NT 3.5x/4.0

- (1). To install VGA drivers to Windows 3.5x/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.

4. Install VGA driver to OS/2 Warp Operation System

(1) Preliminary Steps:

- (i) OS/2 DOS Support must be installed.
- (ii) If you previously installed SVGA support, you must reset the system to VGA mode. VGA is the default video mode enable when OS/2 is to be installed.
- (iii) To restore VGA mode, Use SELECTIVE INSTALL and select VGA for PRIMARY DISPLAY. For more information on this procedure, see the section on Changing Display Adapter Support in the OS/2 User's Guide.

(2) Start Driver installation

- (i) Open an OS/2 full screen or windowed session.
- (ii) Place into Drive A/B the Utility Disk, which contains the 69000 Display Driver.
- (iii) At the OS/2 command prompt , type the following commands to copy the files to the OS/2 drive:
Type A: and press ENTER to make this the default drive.
Type Setup A: C: and press ENTER
- ⌚ When the setup Program is completed, you will need to perform a shut down and then restart the system in order for chane to take effect.
- (iv) After restarting the system, first open the OS/2 System folder.
- (v) Then open the System Setup folder.
- (vi) Open the Display Driver Install Object.
- (vii) When the Display Driver Install window appears, select PRIMARY DISPLAY, and click OK.
- (viii) When the Primary Display Driver List window appears, select "Chips and Technologies 69000" from the list of Adapter types, then select OK to install the video driver.

- (ix) When installation is complete, you should shut down and restart the system for the changes to take effect. And also make sure to remove the install Utility Disk before restarting system.

3-3. FLASH BIOS UPDATE

3-3-1. System BIOS Update:

Users of Prox-1630 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 for LCD Flat Panel Display:

As Prox-1630 user, you have to update the VGA BIOS for your specific LCD flat panel you are going to use. For doing this, you need two files. One is the "Awdflash.exe" file and the other is the VGA BIOS C&T 69000 file for LCD panel display. Both files must be provided by the vendor or manufacturer. When you get these two files ready, follow the following steps for updating your VGA 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 630xxxxx.bin
C:\UTIL\AWDFLASH>AWDFLASH 630xxxxx.bin
4. The screen will display the table below:

FLASH MEMORY WRITER v7.XX (C) Award Software 1999 All Rights Reserved	
For i440BX-SMC669-2A69KP6AC-0	DATE: 05/06/1999
Flash Type: MXIC 29F002(N)T/5V	
File Name to Program: 630xxxxx.bin	
Checksum: XXXXXX	
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-SMC669-2A69KP6AC-0 DATE: 05/06/1999 Flash Type: MXIC 29F002(N)T/5V File Name to Program: 630xxxxx.bin Checksum: XXXXX
Error Message : Are You Sure To Program (Y/N)

Select "Y", and the BIOS will be renewed. When you are 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:

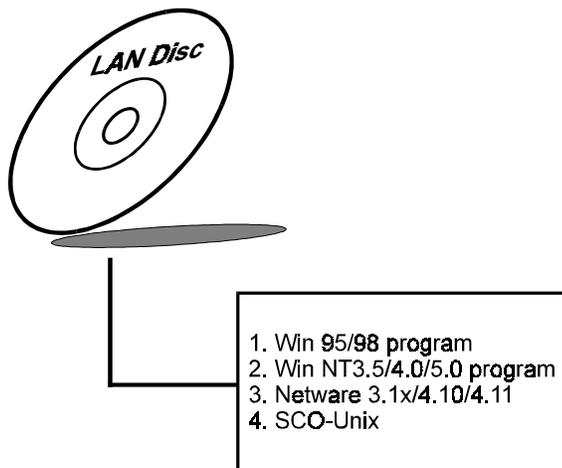
FLASH MEMORY WRITER v7.XX (C) Award Software 1999 All Rights Reserved
For i440BX-SMC669-2A69KP6AC-0 DATE: 05/06/1999 Flash Type: MXIC 29F002(N)T/5V File Name to Program: 630xxxxx.bin Checksum: XXXXX Reset System or Power off to accomplish update process!
F1: Reset F10: Exit

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

3-4. LAN DRIVERS UTILITES

3-4-1. Introduction

Prox-1630 Embedded Board is enhanced with LAN function can support various network adapters. Installation programs for LAN drivers are listed as follows:



3-4-2. Installing Driver Procedure on Microsoft Windows 95/98

1. In the Main group of Win 95/98, select the "Control Panel" icon.
2. Select "Driver from disk provided by hardware manufacturer" from New Hardware Found dialog box, then click OK button.
3. Insert the Utility disk into your floppy drive or CD ROM drive, then enter the driver pathname (ex: A:\W95 or A:\W98), then click "OK" button from Install from Disk dialog box.
4. When the system has selected your installed adapter, the screen will show the following adapter name:
"Macronix MX98713 Fast Ethernet Adapter" OR
"Macronix MC987x5 Family Fast Ethernet Adapter"
5. Follow screen instructions to complete the process.
6. Restart your computer.

3-4-3. Installing Driver Procedure on Microsoft Windows NT4.0

1. In “My Computer” icon of NT40, choose the “Control Panel” icon.
2. In the Control Panel window, choose the “Network” icon.
3. In the Network Settings dialog box, choose the “Adapters” item.
The Add Network Adapter dialog box appears.
4. In the list of network cards, select “Have Disk ...”, and then press <Enter> button.
5. Insert the LAN driver disk in Drive A, enter drive and pathname A:\NT40 and then choose the “OK” button.
6. In the installed adapter dialog box, you will see the product lists, select the “Macronix MC987x5 Family Fast Ethernet Adapter” and use “OK” button to install it.
7. After that, installation is completed. Macronix MC987x5 Family Fast Ethernet Adapter becomes one of those Installed Adapter Cards and driver become of those Installed Network Software.
8. To complete network installation, remember binding the adapter to transport drivers by choosing “OK” button under Network Setting dialog box.
9. Restart your systems.

**For more details on Installation procedure. please refer to
Readme.txt file found on LAN DRIVER UTILITY.**

3-5. WATCHDOG TIMER CONFIGURATION

The watchdog timer can reset the system automatically. It is defined at I/O port **0443H**. When you want to enable the watchdog timer, please write I/O port **0443H**, then the system will reset itself. When you want to disable the function, write I/O port **0441H**, the system will run the command to stop the Watchdog function.

The Prox-1630 watchdog function, You must write your program so when it writes I/O port address 0443 for enable watchdog and write I/O port address 0441 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
```

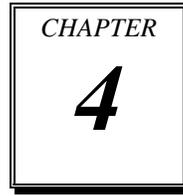
Watchdog disable program:

```
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

GREEN PC FUNCTION

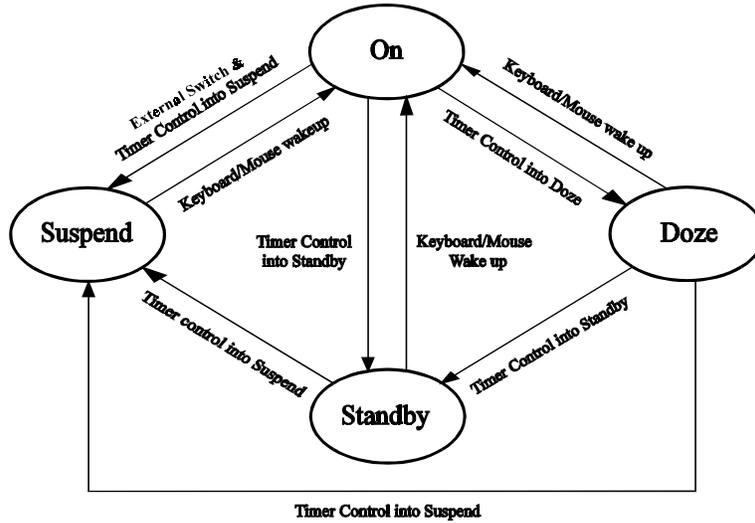


This chapter gives you the concise information for Green PC Function.

Sections include:

- 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. Flash LED to indicate power saving status.
3. Monitor Activity, according to the setting of Advanced Setup.
4. 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. Flash LED to indicate power saving status.
3. Level 1 cache are disabled.
4. VGA monitor displays blank screen.
5. Fixed disk driver motor will be spin off.
6. 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 sounds.
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



This chapter shows 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/Setup defaults
- Integrated Peripherals
- IDE HDD Auto Detection
- Save and Exit Setup

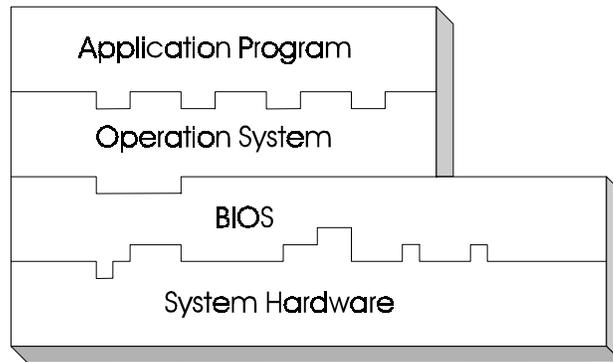
5-1. INTRODUCTION

This chapter will show you the function of a BIOS in managing the features of your system. The Prox-1630 Celeron Socket 370 Embedded Card is equipped with the BIOS for system chipset from Award Software Inc. This page briefly explains the function of a 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 a 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 TO ENTER SETUP, ESC TO SKIP MEMORY TEST

As long as this message is present on the screen you may press the key (the one that shares the decimal point at the 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 (2A69KP6B) 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 CONFIGURATION	SAVE & EXIT SETUP
LOAD BIOS DEFAULTS	EXIT WITHOUT SAVING
LOAD SETUP DEFAULTS	
Esc : Quit	↑↓→← : SELECT ITEM
F10 : Save & Exit Setup	(Shift)F2 : Change Color
Time, Date, Hard Disk Type.....	

Setup program initial screen

You may use the cursor up/down keys to highlight the 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 color monitor you can use the Shift F2 keys to scroll through the various color combinations available.

5-3. THE STANDARD CMOS SETUP MENU

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

ROM PCI / ISA BIOS (2A69KP6B)									
STANDARD CMOS SETUP									
AWARD SOFTWARE, INC.									
Date (mm:dd:yy)		: Mon, Jul 19 1999							
Time (hh:mm:ss)		: 18 : 14 : 57							
HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE	
Primary Master	: Auto	0	0	0	0	0	0	0	AUTO
Primary Slave	: Auto	0	0	0	0	0	0	0	AUTO
Drive A : 1.44M , 3.5 in.				Base Memory: 640K					
Drive B : None				Extended Memory: 64512K					
Video : EGA/VGA				Other Memory: 384K					
Halt On: All, But keyboard				-----					
				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. Description on each item are listed as follows:

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 example, 4: 30 P.M. You should enter the time as 16:30:00.

Primary Master/Primary Slave :

These 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.

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 :

Landz 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 sectors found in a specified drive type.

DRIVE A AND DRIVE B:

The options are 360KB 5.25in, 1.2KB 5.25in, 720KB 3.5in, 1.44MB 3.5in, 2.88MB 3.5in and None. Not Installed could be used as an option for diskless workstations.

VIDEO:

This 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. Available Options are Mono, Color 40, VGA/EGA, Color 80.

EGA/VGA	Enhanced Graphics Adapter/Video Graphics Array. For EGA, VGA, SEGA, SVGA or VGA 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:

This category allows user to choose whether the computer will stop if an error is detected during power up. Available options are "All errors", "No errors", "All, But keyboard", "All, But Diskette", and "All But Disk/Key".

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 (2A69KP6B) 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
		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	: No	F7 : Load Setup Defaults	

BIOS Features Setup

The "BIOS FEATURES SETUP" allows you find true certain features supported by the chipset and Award BIOS. It also includes support for shadow RAM under which the contents of the ROM BIOS can be copied into memory at boot up, enhancing performance. 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 settings in the BIOS FEATURES SETUP program is given below.

VIRUS WARNING :

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

CPU INTERNAL CACHE/EXTERNAL CACHE :

Cache memory is additional memory that is much faster than conventional DRAM (system memory). CPUs from 486-type on up contain internal cache memory, and most, but not all, modern PCs have additional (external) cache memory. When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for even faster access by the CPU.

CPU L2 CACHE ECC CHECKING :

When you select Enabled, memory checking is enable when the external Cache contains ECC SRAMs.

QUICK POWER ON SELF TEST:

This item allows you to speed up Power On Self Test (POST) after power-on the computer when it is Enabled. The BIOS will shorten or skip some check items during POST. We recommend that you normally disable quick POST. Better to find a problem during POST than lose data during your work.

BOOT SEQUENCE:

This item allows you to define for the system, the sequence for which the drives are looked for first when the system boots up.

SWAP FLOPPY DRIVE:

This field is effective only in systems with two floppy drives. Selecting Enabled assigns physical drive B to logical drive A, and physical drive A to logical drive B.

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 proceed directly to the hard disk drive.

BOOT UP NUMLOCK STATUS:

Use this item to enable / disable the NumLock on your keyboard automatically at power-on.

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.

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. This item is disabled by default.

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 becomes 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:

This entry enable or disable the system to work with MPEG ISA/VESA VGA Card.

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 :

Select Yes to release IRQ6 when the system contains no floppy drive, for compatibility with Windows 95 logo certification. In the Integrated Peripherals screen, select Disabled for the Onboard FDC Controller field.

5-5. CHIPSET FEATURE SETUP

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

ROM PCI/ISA BIOS (2A69KP6B) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
Auto Configuration	: Enable	Auto Detect DIMM/PCI Clk	: Enabled
EDO DRAM Speed Selection	: 60 ns	Spread Spectrum	: Disabled
EDO CASx# MA Wait State	: 2	CPU Host Clock (CPU/PCI)	: Default
EDO RASx# Wait State	: 2		
SDRAM RAS-to-CAS Delay	: 3		
SDRAM RAS Precharge Time	: 3		
SDRAM CAS latency Time	: 3		
SDRAM Precharge Control	: Disabled		
DRAM Data Integrity Mode	: Non-ECC		
System BIOS Cacheable	: Disabled		
Video BIOS Cacheable	: Disabled		
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 the 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 predetermined optimal values of the 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.

EDO CAS# MA WAIT STATE:

You can select the timing control type of EDO DRAM CAS MA. (memory address bus)

EDO RAS# WAIT STATE:

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

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: 2,3.

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 field 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-FFFFh, 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 for 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 (MB) :

The aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation.

5-6. POWER MANAGEMENT SETUP

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

ROM PCI/ISA BIOS (2A69KP6B)	
POWER MANAGEMENT SETUP	
AWARD SOFTWARE, INC.	
ACPI function	: Disabled
Power Management	: User Define
PM Control by APM	: Yes
Video Off Method	: DPMS
Video Off After	: Standby
MODEM Use IRQ	: 3
Doze Mode	: Disable
Standby Mode	: Disable
Suspend Mode	: Disable
HDD Power Down	: Disable
Throttle Duty Cycle	: 62.5%
PCI/VGA Act-Monitor	: Disabled
PowerOn by Ring	: Enabled
IRQ 8 Break Suspend	: Disabled
** Reload Global Timer Events **	
IRQ (3-7, 9-15), NMI	: Disabled
Primary IDE 0	: Disabled
Primary IDE 1	: Disabled
Floppy Disk	: Disabled
Serial Port	: Enabled
Parallel Port	: 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 category determines how much power consumption for system after selecting below items. Default value is Disable. Having made all the settings above, press < Esc > to return to the main menu.

ACPI FUNCTION:

Users 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:

- a. HDD Power Down
- b. Doze Mode
- c. Suspend Mode

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

PM CONTROL BY APM:

When this item is set to be YES, the system BIOS will wait for APM's prompt before it enter any PM mode e.g. DOZE, STANDBY or SUSPEND. If APM is installed, & if there is a task running, even when the timer is timed out, the APM will not prompt the BIOS to put the system into any power saving mode.

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 features allows the VGA adapter to operate in a power saving mode.

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.

IRQ 8 BREAK SUSPEND:

This item allows you to enable and disable the 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 (2A69KP6B) 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 section describes how to configure PCI bus system. This section covers technical items which is strongly recommended for experienced users only.

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 loaded automatically when you power on the PROX-1630.

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 loaded automatically from the 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 (2A69KP6B) INTEGRATED PERIPHERALS AWARD SOFTWARE, INC.			
IDE HDD Block Mode	: Enabled	Onboard Parallel Port	: 378/IRQ7
IDE Primary Master PIO	: Auto	Parallel Port Mode	: Normal
IDE Primary Slave PIO	: Auto		
IDE Primary Master UDMA	: Auto		
IDE Primary Slave UDMA	: Auto		
On-Chip Primary PCI IDE	: 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

By moving the cursor to the desired selection and pressing <F1> key, the all options for the desired selection will be displayed for choice. User may select the desired option. Having made all the setting according to your selections. Press <Esc> to return to the Main Menu.

Information on each item are listed as follows:

IDE HDD BLOCK MODE:

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per sector the drive can support.

IDE PRIMARY MASTER/SLAVE PIO:

The four IDE PIO fields allows you to 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 MASTER/SLAVE UDMA:

UDMA, also known as Ultra DMA, 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 PCI IDE:

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

USB KEYBOARD SUPPORT:

Select Enabled if you have a USB Keyboard.

INIT DISPLAY FIRST:

Initializw 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.

5-11. PASSWORD SETTING

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.

Enter Password:

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

To change the original password, enter CMOS setup Menu again 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, then you may enter new password and re-type new password of confirmation.

 User should bear in mind that when a password is set, you will be asked to enter the password everything you enter CMOS setup Menu.

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.

PASSWORD DISABELD!!!
Press any key to continue...

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 (2A69KP6B)
CMOS SETUP UTILITY
AWARD SOFTWARE, INC.

	Type	Size	CYLS.	HEADS	PRECOMP	LANDZONE	SECTORS	MODE
Primary Master :	(Mb)	0	0	0	0	0	-----
Primary Slave :								

:

Select Secondary Slave Option (N=Skip) : N

Options	Size	Cyls	Head	Precomp	Landz	Sector	Mode
2(Y)	3224	781	128	0	6252	63	LBA
1	3227	6253	16	65535	6252	63	Normal
3	3224	781	128	65535	6252	63	Large

Note: Some Oses (like SCO-UNIX) 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:

ROM / PCI / ISA BIOS (2A69KP6B) 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 CONF	ETUP
LOAD BIOS DE	SAVING
LOAD SETUP DEFAULTS	
SAVE to CMOS and EXIT (Y/N)? N	
Esc : Quit	↑↓→← :Select Item
F10 : Save & Exit Setup	(Shift)F2 : Change Color
Save Data to CMOS & Exit SETUP	

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 key during boot up.

5-14. EXIT WITHOUT SAVING

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:

ROM / PCI / ISA BIOS (2A69KP6B) 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 CONF	Quit Without Saving (Y/N) ? Y	ETUP
LOAD BIOS DE		SAVING
LOAD SETUP DEFAULTS		
Esc : Quit	↑↓→← :SELECT ITEM	
F10 : Save & Exit Setup	(Shift)F2 : Change Color	
Abadon all Datas & Exit SETUP		

EXPANSION BUS



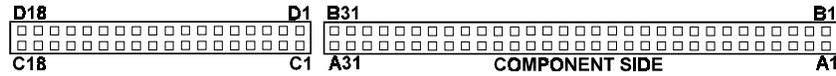
This appendix indicates the pin assignments.

Sections include:

- ISA BUS Pin Assignment

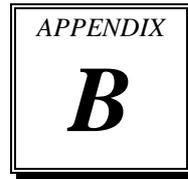
ISA BUS PIN ASSIGNMENT

There are two edge connector (called "gold fingers") on this CPU Card, on the right hand is the connector of ISA Bus, followed up by PCI BUS connector. The ISA-bus connector is divided into two sets : one consists of 62 pins; the other consists of 36 pins. The pin assignment is as follows:



B		A		D		C	
PIN	ASSIGNMENT	PIN	ASSIGNMENT	PIN	ASSIGNMENT	PIN	ASSIGNMENT
B1	GND	A1	-I/O CH CHK	D1	-MEMCS16	C1	SBHE
B2	RESET	A2	SD07	D2	-I/OCS16	C2	LA23
B3	+5V	A3	SD06	D3	IRQ10	C3	LA22
B4	IRQ9	A4	SD05	D4	IRQ11	C4	LA21
B5	-5V	A5	SD04	D5	IRQ12	C5	LA20
B6	DRQ2	A6	SD03	D6	IRQ15	C6	LA19
B7	-12V	A7	SD02	D7	IRQ14	C7	LA18
B8	OWS	A8	SD01	D8	-DACK0	C8	LA17
B9	+12V	A9	SD00	D9	DRQ0	C9	-MEMR
B10	GND	A10	-I/O CH RDY	D10	-DACK5	C10	-MEMW
B11	-SMEMW	A11	AEN	D11	DRQ5	C11	SD08
B12	-SMEMR	A12	SA19	D12	-DACK6	C12	SD09
B13	-IOW	A13	SA18	D13	DRQ6	C13	SD10
B14	-IOR	A14	SA17	D14	-DACK7	C14	SD11
B15	-DACK3	A15	SA16	D15	DRQ7	C15	SD12
B16	-DRQ3	A16	SA15	D16	+5V	C16	SD13
B17	-DACK1	A17	SA14	D17	-MASTER	C17	SD14
B18	-DRQ1	A18	SA13	D18	GND	C18	SD15
B19	-REFRESH	A19	SA12				
B20	BCLK	A20	SA11				
B21	IRQ7	A21	SA10				
B22	IRQ6	A22	SA09				
B23	IRQ5	A23	SA08				
B24	IRQ4	A24	SA07				
B25	IRQ3	A25	SA06				
B26	-DACK2	A26	SA05				
B27	T/C	A27	SA04				
B28	BALE	A28	SA03				
B29	+5V	A29	SA02				
B30	OSC	A30	SA01				
B31	GND	A31	SA00				

TECHNICAL SUMMARY

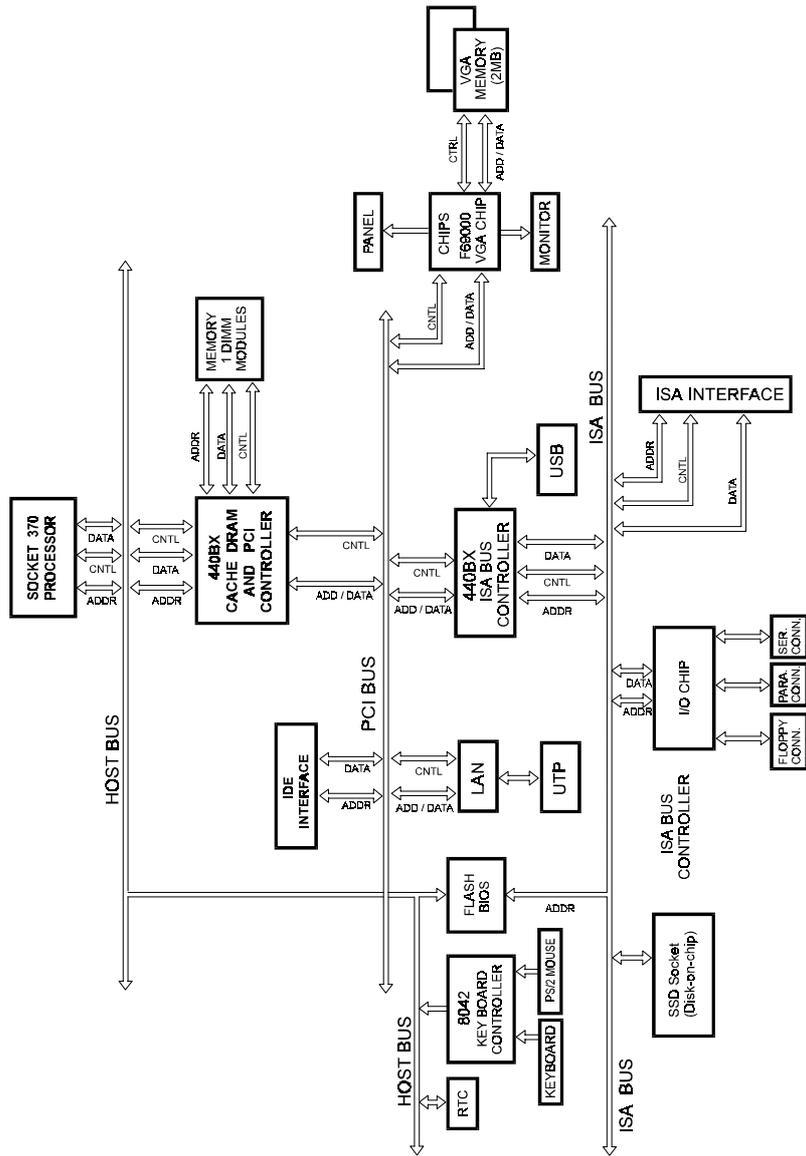


This section introduce you the maps concisely.

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
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
3	Available
4	Cascade for DMA controller 1
5	Available
6	Available
7	Available

I/O & MEMORY MAP

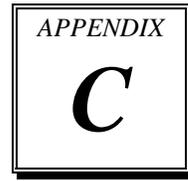
Memory Map :

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
00F0000-00FFFFFF	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 registers.
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



This section outlines the errors messages 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 inform 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 kind of beep codes 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 CMOS battery is no longer functional. The user should replace it.

CMOS CHECKSUM ERROR :

This error inform you that the CMOS is corrupted. When the battery runs weak, this situation might happen. Please check the battery and change a new one if 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, INSERT SYSTEM DISK AND PRESS ENTER :

No boot device was found. This could mean that either a boot drive was not detected or the drive does not contain proper system boot files. Insert a system disk into Drive A: and press < Enter >. If you assumed the system would boot from the hard drive, make sure the controller is inserted correctly and all cables are properly attached. Also make sure the disk is formatted as a boot device. Then reboot the system.

DISKETTE DRIVES OR TYPES MISMATCH ERROR - RUN SETUP :

Type of diskette drive installed in the system is different from the CMOS definition. Run Setup to reconfigure the drive type correctly.

ERROR ENCOUNTERED INITIALIZING HARD DRIVE :

Hard drive cannot be initialized. Be sure the adapter is installed correctly and all cables are correctly and firmly attached. Make sure to select the right hard drive type in Setup.

ERROR INITIALIZING HARD DISK CONTROLLER :

Cannot initialize controller. Make sure the cord is correctly and firmly installed in the bus. Make sure to select the right hard drive type in Setup. Also check whether all of the jumpers are set correctly in the hard drive.

FLOPPY DISK CONTROLLER ERROR OR NO CONTROLLER PRESENT :

Cannot find or initialize the floppy drive controller. Make sure the controller is installed properly and firmly. If there are no floppy drives installed, make sure 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 AT ... :

Indicates a memory address error at a specific location. You can use this location along with the memory map for your system to find and replace the bad memory chips.

MEMORY PARITY ERROR AT ... :

Indicates a memory parity error at a specific location. 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 SINCE LAST BOOT :

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

MEMORY VERIFYING ERROR AT ... :

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 NOT FOUND :

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

OFFENDING SEGMENT :

This message is used in conjunction with the I/O CHANNEL CHECK and RAM PARITY ERROR messages when the segment that has caused the problem has been isolated.

PRESS A KEY TO REBOOT :

This will be displayed at the bottom screen when an error occurs that requires you to reboot. Press any key and the system will reboot.

PRESS F1 TO DISABLE NMI, F2 TO REBOOT :

When BIOS detects a Non-maskable Interrupt condition during boot, this will allow you to disable the NMI and continue to boot, or you can reboot the system with the NMI enabled.

RAM PARITY ERROR - CHECKING FOR SEGMENT ... :

Indicates a parity error in Random Access Memory.

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.

BIOS ROM CHECKSUM ERROR- SYSTEM HALTED :

The checksum of ROM address F0000H-FFFFFFH is bad.

FLOPPY DISK(S) FAIL (80) :

Unable to reset floppy subsystem.

FLOPPY DISK(S) FAIL (40) :

Floppy type mismatch.

HARD DISK(S) FAIL (80) :

Hard Disk Drive reset failed.

HARD DISK(S) FAIL (40) :

Hard Disk Drive controller diagnostics failed.

HARD DISK(S) FAIL (20) :

Hard Disk Drive initialization error.

HARD DISK(S) FAIL (10) :

Unable to recalibrate fixed disk.

HARD DISK(S) FAIL (08) :

Sector Verify failed.

KEYBOARD ERROR OR NO KEYBOARD PRESENT :

Cannot initialize the keyboard. Make sure the keyboard is properly attached and no keys are being pressed during the boot.

MEMORY TEST FAIL :

BIOS reports the memory test fail if the onboard memory is tested error.

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-FFFFFF 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.