

USER'S MANUAL

ProX-1560

**586/6x86 Half-sized
Embedded Card
With VGA / LAN**

Prox-1560 M7

***ProX-1560 P5/6x86 Half-sized
EMBEDDED CARD
WITH VGA / LAN***

OPERATION MANUAL

COPYRIGHT NOTICE

This operation manual is meant to assist both Embedded Computer manufacturer 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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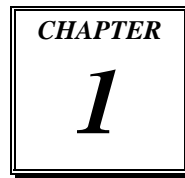
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INTRODUCTION



This chapter gives you the information for Prox-1560. 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-1560 Pentium Embedded Card with VGA/LAN, which is fully PC / AT compatible. The Prox-1560 provides faster processing speed, greater expandability and can handle more tasks than before. This manual is designed to assist you how to install and setup 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 specification of the system. Final page in this chapter will give you some ideas on how to avoid damaging your Embedded Card.

Chapter 2 Hardware Configuration

This chapter outlines the component locations and their functions. In the end of this chapter, you will know 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 driver utility, LAN driver utility 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 shows you how to set up the BIOS configurations.

Appendix A Expansion Bus

This Appendix introduces you the 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 some solutions.

1-2. SYSTEM SPECIFICATION

- **CPU :**
 - Intel, AMD, Cyrix.
 - 54C/55C, K5/K6/K6-2/K6-3, M1/M2.
 - 320/321 pin PGA socket.
 - 1.8V/1.9V/2.0V/2.1V/2.2V/2.3V/2.4V/2.5V/2.8V/2.9V/3.0V/3.1V/3.2V/3.3V/
3.4V/3.5V voltage regulator.

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

- **CACHE :**
 - L1 Cache: Capacity depended on CPU type
 - L2 Cache: On board 512KB

- **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 :**
 - One PC/AT type mini DIN connector
 - Support PC/AT Keyboard or PS/2 Mouse by jumper selection
 - One additional 5-pin external keyboard connector

- **BUS SUPPORT :**
 - External ISA BUS.
 - Internal PCI Bus for VGA, IDE, & LAN

- **LAN INTERFACE :**
 - Realtek RTL8139 Fast Ethernet.
 - 10/100 Base-T PCI Bus.
 - RJ-45 jack on board

● **DISPLAY :**

Support SVGA for CRT & LCD 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 2Mbytes of DRAM for 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, and EL modes.
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 $\pm 25\%$.

● **IDE INTERFACE :**

One IDE port, support Ultra DMA-33, support up to two Enhanced IDE devices.

● **FLOPPY DISK DRIVE INTERFACE :**

Supports up to two Floppy Disk Drives, 3.5" and 5.25" (360K / 720K / 1.2M / 1.44M / 2.88M).

● **SSD SOCKET :**

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

● **USB CONNECTOR :**

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

● **SERIAL PORT :**

Two high speed 16550 Compatible UARTs with Send / Receive 16 Byte FIFOs. COM1: RS-232; COM2: RS-232/422/485
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.
 - Turbo and green function mode.
 - 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 DIMENSION :**

185mm x 122mm

● **BOARD NET WEIGHT :**

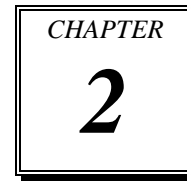
0.24 Kgs.

1-3. SAFETY PRECAUTIONS

Follow the messages below to protect your systems and yourself from damages:

1. Avoid your system from any static electricity on all occasions.
2. Prevent electric shock. Don't touch any components of this card when the card is on. Always disconnect power when the system is not in use.
3. Disconnect power when you change any hardware devices. For instance, if you connect a jumper or install any cards with computer on, a surge of power may damage the electronic components or the whole system.

HARDWARE CONFIGURATION



***** QUICK START *****

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

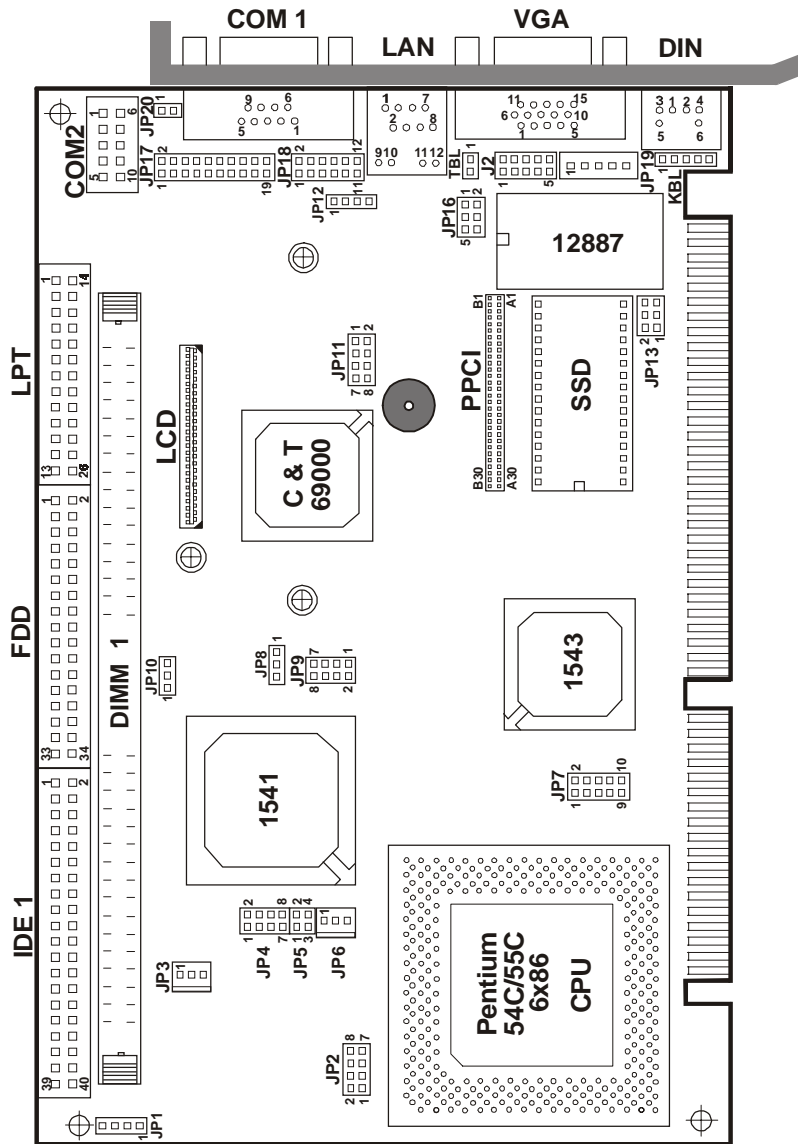
Section includes:

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

2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

CPU Voltage Selection	JP2, JP4, JP5
CPU Clock Selection	JP9
Bus Frequency Ratio Selection	JP7
COM1 Connector	COM1
COM2 Connector	COM2
RS232/422/485 (COM2) Selection	JP17
Keyboard or PS/2 Mouse Connector	DIN
Keyboard or PS/2 Mouse Selection	JP13
External Keyboard Connector	JP19
Reset Connector	JP20
CPU Fan Connector	JP3
System Fan Connector	JP6
Turbo LED Connector	TBL
Power LED & KeyLock Connector	KBL
Floppy Disk Drive Connector	FDD
Hard Disk Drive Connector	IDE1
Hard Disk Drive Led Connector	JP1
VGA CRT Connector	VGA
LCD Panel Connector	LCD
Universal Serial Bus Connector	J2
Reset/NMI/Clear Watchdog	JP16
Printer Connector	LPT
External Speaker Connector	JP12
Panel Voltage Selection	JP8
Panel Power Connector	JP10
Solid State Disk Socket	SSD
SSD Memory Mapping Selection	JP18
LAN Connector	LAN
Memory Installation	DIMM1
PPCI Connector	PPCI
Reserved pin	JP11

2-2. COMPONENT LOCATIONS



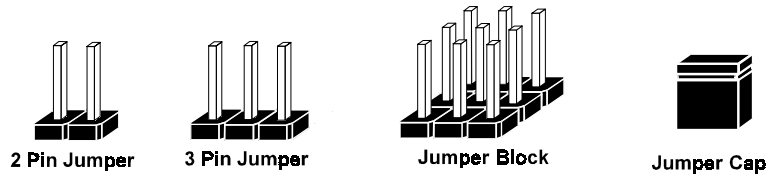
Prox-1560 Connector, Jumper and Component locations

2-3. HOW TO SET THE JUMPERS

You can configure your board by setting the jumpers. A jumper is consists of two or more metal pins with a plastic base mounted on the card, and a small plastic “cap” (with a metal contact inside) 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, which called the 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.

JUMPERS AND CAPS

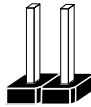


If a jumper has three pins, for example labelled PIN1, PIN2, and PIN3. You can connect PIN1 & PIN2 to create one setting and shorting. You can also connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figure below shows what the manual diagram looks like and what they represent.

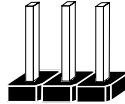
JUMPER DIAGRAMS



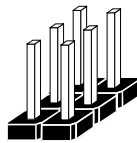
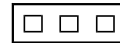
Jumper Cap
looks like this



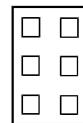
2 pin Jumper
looks like this



3 pin Jumper
looks like this



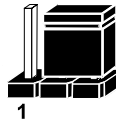
Jumper Block
looks like this



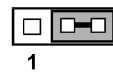
JUMPER SETTINGS



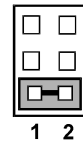
2 pin Jumper close(enabled)
looks like this



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



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



2-4. CPU TYPE & CPU CLOCK SELECTION

JP2, JP4, JP5 : CPU Voltage Selection

JP9 : CPU Clock Selection

JP7 : Bus Frequency Ratio Selection

The jumper settings are as follows:

2-4-1 Intel 150/166 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
Intel Pentium 150MHz	60MHz	1-2 5-6 7-8	Open	1-2 3-4	1-2 3-4	1-2 3-4 5-6 7-8	
Intel Pentium 166MHz	66MHz	1-2 5-6 7-8	Open	1-2 3-4	1-2 3-4	3-4 5-6 7-8	

2-4-2 Intel 200/MMX-166 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
Intel Pentium 200MHz	66MHz	1-2 5-6 7-8	Open	1-2 3-4	3-4	3-4 5-6 7-8	
Intel Pentium MMX 166MHz	66MHz	7-8	1-2 3-4	Open	1-2 3-4	3-4 5-6 7-8	

2-4-3 Intel MMX-200/233 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
Intel Pentium MMX 200MHz	66MHz	7-8	1-2 3-4	Open	3-4	3-4 5-6 7-8	
Intel Pentium MMX 233MHz	66MHz	7-8	1-2 3-4	Open	Open	3-4 5-6 7-8	

2-4-4 Intel Tillamook 166/266 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
Intel Tillamook 166MHz	66MHz	1-2	5-6 7-8	Open	1-2 3-4 9-10	3-4 5-6 7-8	
Intel Tillamook 266MHz	66MHz	1-2	5-6 7-8	Open	1-2 7-8 9-10	3-4 5-6 7-8	

2-4-5 Cyrix 6x86 MX-233/266 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
Cyrix 6x86 MX 233MHz	66MHz	1-2 7-8	1-2 3-4	Open	3-4	3-4 5-6 7-8	
Cyrix 6x86 MX 266MHz	66MHz	1-2 7-8	1-2 3-4	Open	1-2 3-4	3-4 7-8	

2-4-6 Cyrix 6x86 MX-300/M2-300 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
Cyrix 6x86 MX 300MHz	66MHz	1-2 7-8	1-2 3-4	Open	Open	3-4 5-6 7-8	
Cyrix 6x86 M2 300MHz	66MHz	1-2 7-8	1-2 3-4	Open	Open	3-4 5-6 7-8	

2-4-7 AMD K6-200/233 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
AMD K6 200MHz	66MHz	1-2 7-8	1-2 3-4	Open	3-4	3-4 5-6 7-8	
AMD K6 233MHz	66MHz	5-6 7-8	Open	1-2 3-4	Open	3-4 5-6 7-8	

2-4-8 AMD K6-2-266/300 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
AMD K6-2 266MHz	66MHz	5-6	1-2 3-4	Open	1-2 5-6	3-4 5-6 7-8	
AMD K6-2 300MHz	100MHz	5-6	1-2 3-4	Open	3-4	7-8	

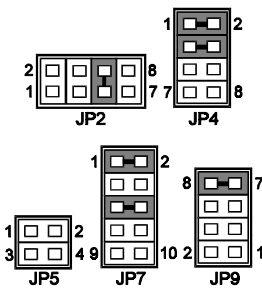
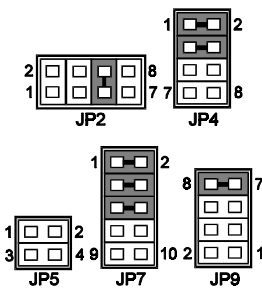
2-4-9 AMD K6-2-333/350 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
AMD K6-2 333MHz	95MHz	5-6	1-2 3-4	Open	Open	1-2 7-8	
AMD K6-2 350MHz	100MHz	5-6	1-2 3-4	Open	Open	7-8	

2-4-10 AMD K6-2-366/380 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
AMD K6-2 366MHz	66MHz	5-6	1-2 3-4	Open	5-6	3-4 5-6 7-8	
AMD K6-2 380MHz	95MHz	5-6	1-2 3-4	Open	1-2 5-6	1-2 7-8	

2-4-11 AMD K6-2-400/450 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
AMD K6-2 400MHz	100MHz	5-6	1-2 3-4	Open	1-2 5-6	7-8	
AMD K6-2 450MHz (2.2V)	100MHz	5-6	1-2 3-4	Open	1-2 3-4 5-6	7-8	

2-4-12 AMD K6-2-450/500 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
AMD K6-2 450MHz (2.4V)	100MHz	3-4 5-6	1-2 3-4	Open	1-2 3-4 5-6	7-8	
AMD K6-2 500MHz (2.4V)	100MHz	3-4 5-6	1-2 3-4	Open	3-4 5-6	7-8	

2-4-13 AMD K6-2-500/550 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
AMD K6-2 500MHz (2.2V)	100MHz	5-6	1-2 3-4	Open	3-4 5-6	7-8	
AMD K6-2 550MHz (2.3V)	100MHz	1-2 5-6	1-2 3-4	Open	5-6 7-8	7-8	

2-4-14 AMD K6-3-400/450 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
AMD K6-3 400MHz (2.4V)	100MHz	3-4 5-6	1-2 3-4	Open	1-2 5-6	7-8	
AMD K6-3 450MHz (2.4V)	100MHz	3-4 5-6	1-2 3-4	Open	1-2 3-4 5-6	7-8	

2-4-15 AMD K6-3-400/450 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
AMD K6-3 400MHz (2.2V)	100MHz	5-6	1-2 3-4	Open	1-2 3-4	7-8	
AMD K6-3 450MHz (2.2V)	100MHz	5-6	1-2 3-4	Open	1-2 3-4 5-6	7-8	

2-4-16 AMD K6-3-500 CPU type & clock Jumper Settings

CPU TYPE	CPU CLOCK	Jumper Settings (Pin closed)					Jumper Illustration
		JP2	JP4	JP5	JP7	JP9	
AMD K6-3 500MHz (2.4V)	100MHz	3-4 5-6	1-2 3-4	Open	3-4 5-6	7-8	

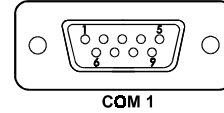
2-5. COM PORT CONNECTOR

There are two Communication port connectors found in Prox-1560, namely COM1 and COM2. COM1 is fixed as RS-232 while COM2 can be configured as RS-232/422/485 through jumper set in JP17.

COM1 : COM1 Connector, DB9 male connector

The COM1 Connector pin assignment is as follows:

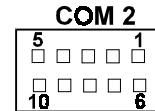
PIN	ASSIGNMENT
1	DCD
2	RX
3	TX
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI



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



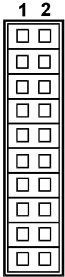
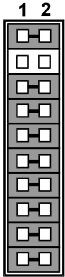
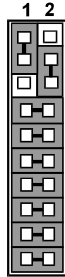
2-6. RS232/422/485 (COM2) SELECTION

JP17: 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>19 20 JP17</p>	 <p>19 20 JP17</p>	 <p>19 20 JP17</p>

*** Manufacturer's default -- RS232.

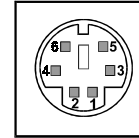
2-7. KEYBOARD OR PS/2 MOUSE CONNECTOR

DIN : Keyboard or PS/2 Mouse Connector

The DIN Connector can support keyboard, Y-cable, or PS/2 Mouse, user should select which device to use on "Keyboard or PS/2 Mouse Selection".

The pin assignments are as follows:

PIN	ASSIGNMENT	
	Keyboard	PS/2 Mouse
1	KBDATA	MSDATA
2	MSDATA	MSDATA
3	GND	GND
4	VCC	VCC
5	KBCLK	MSCLK
6	MSCLK	MSCLK



DIN

2-8. KEYBOARD OR PS/2 MOUSE SELECTION

JP13: Keyboard or PS/2 Mouse Selection

If User select to use Y-Cable, please set the jumper same as AT Keyboard.

The jumper settings are as follows:

DEVICE TYPE	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
PS/2 MOUSE	1-3 2-4	JP13
AT KEYBOARD	3-5 4-6	JP13

*** Manufactory default --- AT Keyboard

2-9. EXTERNAL KEYBOARD CONNECTOR

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

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



2-10. RESET CONNECTOR

JP20 : Reset Connector
The pin assignments is as follows:

PIN	ASSIGNMENT
1	RESET
2	GROUND



2-11. CPUFAN CONNECTOR

JP3 : CPU Fan Connector
The pin assignments is as follows:

PIN	ASSIGNMENT
1	GND
2	+12V
3	SENSOR

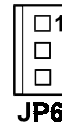


2-12. SYSTEM FAN CONNECTOR

JP6 : CPU Fan Connector

The pin assignments is as follows:

PIN	ASSIGNMENT
1	GND
2	+12V
3	SENSOR

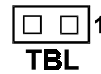


2-13. TURBO LED CONNECTOR

TBL: Turbo LED Connector

The pin assignment is as follows:

PIN	ASSIGNMENT
1	VCC
2	TURBO SIGNAL



2-14. POWER LED & KEYLOCK CONNECTOR

KBL: Power LED & Keylock Connector

The pin assignment is as follows:

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

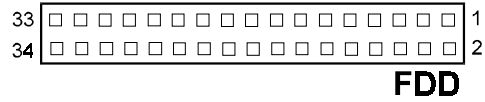


2-15. FLOPPY DISK DRIVE CONNECTOR

FDD : Floppy Disk Drive Connector

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

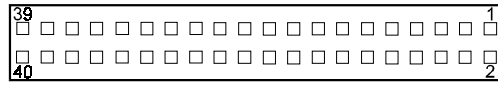
The pin assignments are as follows :



PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	2	RPM
3	GND	4	NC
5	GND	6	RATE0
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

2-16. HARD DISK DRIVE CONNECTOR

IDE1: Hard Disk Drive Connector
 The pin assignments are 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	NC	40	GND

2-17. HARD DISK DRIVE LED CONNECTOR

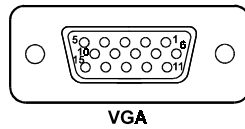
JP1: Hard Disk Drive LED Connector
The pin assignment is as follows:

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



2-18. VGA CRT CONNECTOR

VGA: VGA CRT Connector
The pin assignment is as follows:



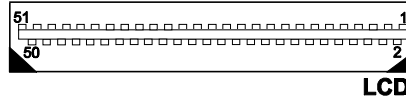
VGA

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

2-19. 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:

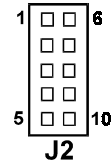


PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	P0	2	P16
3	P1	4	P17
5	P2	6	P18
7	P3	8	P19
9	P4	10	P20
11	P5	12	P21
13	P6	14	P22
15	P7	16	P23
17	LCD VDD	18	LCDVDD
19	P8	20	P24
21	P9	22	P25
23	P10	24	P26
25	P11	26	P27
27	P12	28	P28
29	P13	30	P29
31	P14	32	P30
33	P15	34	P31
35	P34	36	P32
37	P35	38	P33
39	M (ACDCLK)	40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

2-20. UNIVERSAL SERIAL BUS CONNECTOR

J2: Universal Serial Bus Connector
The pin assignments are as follows:

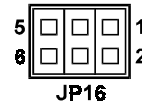
PIN	ASSIGNMENT
1	VCC
2	USBP0
3	USBP0+
4	GND
5	GND
6	VCC
7	USBP1-
8	USBP1+
9	GND
10	GND



2-21. RESET / NMI / CLEAR WATCHDOG

JP16 (1-2) : For Reset
JP16 (3-4) : For NMI
JP16 (5-6) : For Clear Watchdog
The pin assignments are as follows:

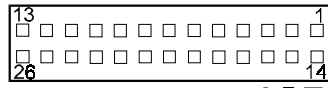
PIN	ASSIGNMENT
1	WDGRST
2	WDGRSTJ
3	WDGNMI
4	IOCHKJ
5	CLRWDG
6	GND



2-22. PRINTER CONNECTOR

LPT: Printer Connector

The pin assignments are as follows:



LPT

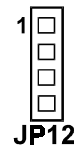
PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	STB	14	AUTFE
2	P0	15	ERROR
3	P1	16	INIT
4	P2	17	SLCTIN
5	P3	18	GND
6	P4	19	GND
7	P5	20	GND
8	P6	21	GND
9	P7	22	GND
10	ACK	23	GND
11	BUSY	24	GND
12	PE	25	GND
13	SLCT	26	NC

2-23. EXTERNAL SPEAKER CONNECTOR

JP12: External Speaker Connector

The pin assignments are as follows:



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



2-24. PANEL VOLTAGE SELECTION

JP8: Panel Voltage Selection

This jumper allows you to select the proper voltage to your LCD panel. The jumper settings are as follows:

Panel Voltage Selection	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
VCC 3.3V	2-3	 1 JP8
VCC 5V	1-2	 1 JP8

2-25. PANEL POWER CONNECTOR

JP10: Panel Power Connector

This connector supply proper power to LCD panel, the user should select first the proper voltage as described in JP8.

The pin assignments are as follows:

PIN	ASSIGNMENT
1	LCD VDD +12V
2	GND
3	LCD (+5V/3.3V)



2-26. SOLID STATE DISK SOCKET

SSD: 32-pin Solid State Disk Socket.

This connector supports up to 144MB Disk-on-chip. The pin assignments are as follows:

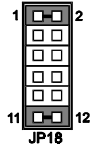
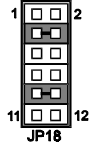
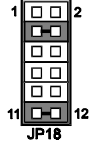
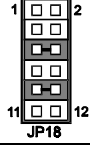
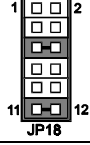
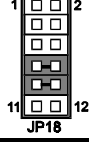


PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	NC	17	SD3
2	NC	18	SD4
3	NC	19	SD5
4	SA12	20	SD6
5	SA7	21	SD7
6	SA6	22	CE
7	SA5	23	SA10
8	SA4	24	OE
9	SA3	25	SA11
10	SA2	26	SA9
11	SA1	27	SA8
12	SA0	28	NC
13	SD0	29	NC
14	SD1	30	VCC
15	SD2	31	WE
16	GND	32	VCC

2-27. SSD MEMORY MAPPING SELECTION

JP18: SSD Memory Mapping Selection.

A 32-pin SSD socket supports DOC (Disk-on-chip) up to 144MB. This PnP flash ROM SSD can be installed as one of the user's hard disks. If set as Drive C, it can be used as a boot-up hard disk. The SSD Memory Mapping are as follows:

SSD Memory Map	JUMPER SETTING (pin closed)	JUMPER ILLUSTRATION
CC000h-CDFFFh	1-2 11-12	
D0000h-D1FFFh	3-4 9-10	
D4000h-D5FFFh	3-4 11-12	
D8000h-D9FFFh	5-6 9-10	
DC000h-DDFFFh	5-6 11-12	
E0000h-E1FFFh	7-8 9-10	

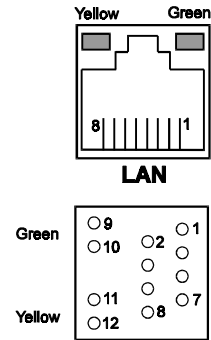
Note: No manufacturer's default setting is done on this SSD. User should set the jumper according to the following Memory Map.

2-28. LAN CONNECTOR

LAN: LAN Connector

You will find two LAN LED indicator on LAN connector, the green LED is used to detect the 100Mbps speed, while the yellow LED is used to detect “LINK” and “ACTIVE” 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 – Yellow



2-29. MEMORY INSTALLATION

The Prox-1560 P5/6x86 CPU Card has one piece of 168-pin DIMM socket on board, which may support up to 256MB DRAM

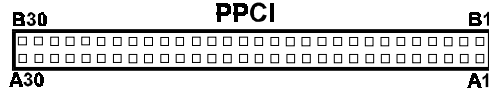
DRAM BANK CONFIGURATION:

SIMM1	TOTAL
32M	32M
64M	64M
128M	128M
256M	256M

2-30. PPCI CONNECTOR

You will find a PPCI connector in our Prox-1560. This connector is used to connect our SCSI daughter boards.

The pin assignments are as follows:



PIN	ASSIGNMENT	PIN	ASSIGNMENT
A1	GND	B1	GND
A2	AD0	B2	AD1
A3	AD2	B3	AD3
A4	AD4	B4	AD5
A5	AD6	B5	AD7
A6	AD8	B6	AD9
A7	AD10	B7	AD11
A8	VCC	B8	VCC
A9	AD12	B9	AD13
A10	AD14	B10	AD15
A11	AD16	B11	AD17
A12	AD18	B12	AD19
A13	AD20	B13	AD21
A14	AD22	B14	AD23
A15	VCC	B15	VCC
A16	AD24	B16	AD25
A17	AD26	B17	AD27
A18	AD28	B18	AD29
A19	AD30	B19	AD31
A20	SCSILED	B20	PAR
A21	PCICLKA	B21	IRDYJ
A22	ID SEL	B22	TRDYJ
A23	CBEJ0	B23	CBEJ1
A24	CBEJ2	B24	CEBJ3
A25	GNTJ0	B25	REQJ0
A26	SERRJ	B26	PERRJ
A27	INTDJ	B27	PCIRSTJ
A28	STOPJ	B28	LOCKJ
A29	DEVSELJ	B29	FRAMEJ
A30	GND	B30	GND

SOFTWARE UTILITIES

CHAPTER

3

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

Sections include:

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

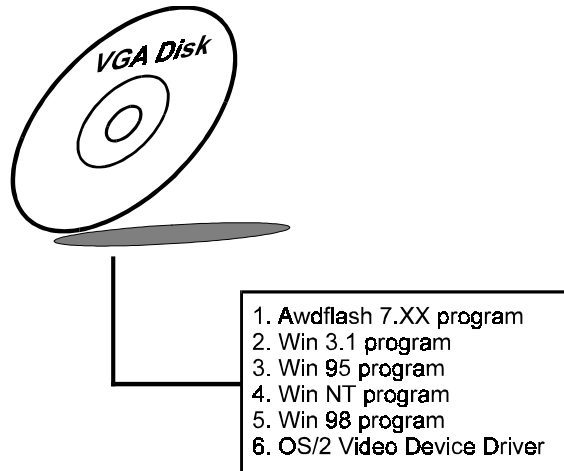
3-1. INTRODUCTION

Enclosed with our Prox-1560 package is our driver utility, 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\RTL8139	For LAN Driver installation

3-2. VGA DRIVER UTILITY

The VGA interface embedded with our Prox-1560 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.



3-2-2. 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 appears 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-1560 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-1560 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 file 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 F60xxxxx.bin
C:\UTIL\AWDFLASH>AWDFLASH F60xxxxx.bin
4. The screen will display the table below:

FLASH MEMORY WRITER v7.XX (C) Award Software 1999 All Rights Reserved	
For ALADDIN5-2A5KKP6DC-0	DATE: 12/12/1999
Flash Type: MXIC 29F002(N)T/5V	
File Name to Program: F60xxxxx.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 ALADDIN5-2A5KKP6DC-0 DATE: 12/12/1999 Flash Type: MXIC 29F002(N)T/5V File Name to Program: F60xxxxx.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:

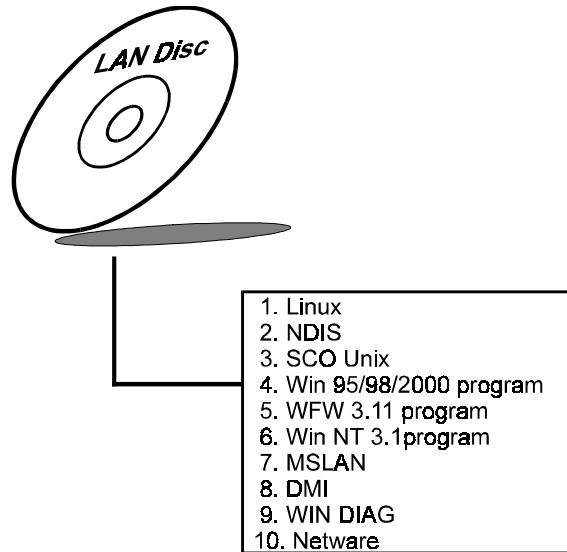
FLASH MEMORY WRITER v7.XX (C) Award Software 1999 All Rights Reserved
For ALADDIN5-2A5KKP6DC-0 DATE: 12/12/1999 Flash Type: MXIC 29F002(N)T/5V File Name to Program: F60xxxxx.bin Checksum: XXXXX Reset System or Power off to accomplish update process!
F1: Reset F10: Exit

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

3-4. LAN DRIVER UTILITY

3-4-1. Introduction

Prox-1560 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 Procedure on Microsoft Windows 95

Executing Windows 95, it will auto-detect your system configuration and find the adapter hardware.

1. Insert the LAN Driver disk into Drive A or CD ROM drive and specify the setup file pathname A:\.
2. Windows 95 will appear some messages to insert Windows 95 system disk to complete setup.
3. Windows 95 will finish the other installation procedure automatically, then restart the system.

3-4-3. Installing Procedure on Microsoft Windows NT

1. In the Main group to NT, select the “Control Panel” icon.
2. In the Control Panel window, choose the “Network” icon.
3. In the Network Settings dialog box, choose the “Add adapter” button.
The Add Network Adapter dialog box appears.
4. In the list of network cards, select “<Other> requires disk from manufacturer”, and then press <Enter> button.
5. Insert the LAN Driver disk in Drive A, and key-in A:\ (pathname) where the setup file OEMSETUP.INF is located, and then choose OK button.
6. The screen will appear “Select Line Speed” dialog box, which is provided by RTL8139.SYS driver. The default value is “auto” so that the line speed can be auto detected as 10Mb or 100Mb, while the RTL8139.SYS is loading.
7. The screen will appear “Input Ethernet ID” dialog box, which is provided by RTL8139.SYS driver. This option is only required when you have more than one RTL8139 PCI Fast Ethernet adapters on this computer. Select “SKIP” if only one adapter is installed on this computer.
8. “Bus Location” display in next screen. If your system contains more than one hardware bus, please select the Bus Type and Bus number on which your network adapter card in installed.
9. NT will then perform the binding process. If any additional network software options were installed, you may be prompted for specific information for these packages.
10. Re-boot your system to complete the installation process.

*** Note: Installing Multiple LAN Adapters:

Enter Windows NT and follow above setup procedure setp 2, in the “Network Setting” dialog box, choose the “Configure..” button. The “Input Ethernet ID” dialog box appears and input adapter’s Ethernet ID. Last step to select OK and close NETWORK SETUP. Select SKIP if only one adapter is installed on this computer.

For more details on Installation procedure. please refer to TXT directory found on LAN DRIVER UTILITY.

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 JP16 as described 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.

The Prox-1560 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)
MOVDX, 443H
OUTDX, AX
```

Watchdog disable program:

```
MOV AX, 000FH(this value can be ignored)
MOVDX, 441H
OUTDX, 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

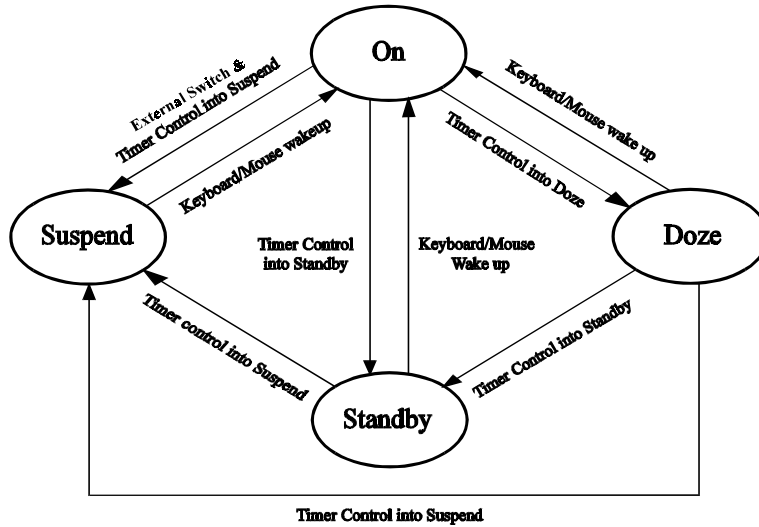
CHAPTER 4

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. At the timer 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.

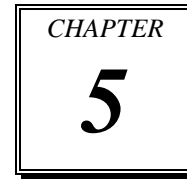
4-3. SYSTEM STANDBY MODE

1. At the timer 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 drive motor will spin off.
7. Any activity occurs, system will exit from Standby mode to On mode.

4-4. SYSTEM SUSPEND MODE

1. At the timer OUT, CPU clock slows down to 8MHz. If you use Intel Pentium or Cyrix (SMI) CPU, then CPU clock will stop.
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 drive motor will spin off.
7. Monitor activity according to the setting of Advanced Setup.
8. When system in Suspend mode, only Keyboard / Mouse / Alarm resume can wake up system.

AWARD BIOS SETUP



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/Setup Defaults
- Integrated Peripherals
- IDE HDD Auto Detection
- Save and Exit Setup

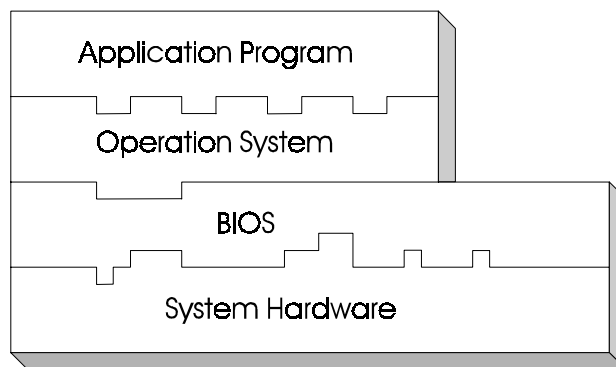
5-1. INTRODUCTION

This chapter will show you the function of a BIOS in managing the features of your system. The Prox-1560 P5/6x86 Embedded 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 following messages 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 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 (2A5KKP6D) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	PASSWORD SETTING
CHIPSET FEATURES SETUP	IDE HDD AUTO DETECTION
POWER MANAGEMENT SETUP	SAVE & EXIT SETUP
PNP/PCI CONFIGURATION	EXIT WITHOUT SAVING
LOAD BIOS DEFAULTS	
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 will appear 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

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

ROM PCI / ISA BIOS (2A5KKP6D)						
STANDARD CMOS SETUP						
AWARD SOFTWARE, INC.						
Date (mm:dd:yy)	:	Fri,	Nov	17	2000	
Time (hh:mm:ss)	:	15	:	33	:	57
		CYLS	HEADS	PRECOMP	LANDZONE	SECTORS
Drive C : Auto (0Mb)		0	0	0	0	0
Drive D : Auto (0Mb)		0	0	0	0	0
Drive A : 1.44M, 3.5 in.						
Drive B : None						
Video : EGA/VGA						
Halt On: All Errors						
					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.

Information on each items are as follows:

DATE:

The BIOS determines the day of the week from the other date information. This field is for information only.

Press the left or right arrow key to move to the desired field (date, month, year). Press the PgUp or PgDn key to increment the setting, or type the desired value into the field.

TIME:

The time format is based on the 24-hour military time clock. For example, 4:00pm is entered as 13:00:00.

PRIMARY MASTER/SLAVE:

The categories identify the types of hard disk drive C or drive D that had been installed in the computer. There are 45 predefined types and 2 user definable types are for Normal 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"

CYLS:

This refers to the number of cylinders found in the specified drive type.

HEADS:

This refers to 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.

LANDZONE:

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.

DRIVE A / DRIVE B:

This category identifies the type of floppy disk drive A or B that have been installed in the computer.

The options are 360K, 5.25in; 1.2M, 5.25in; 720K, 3.5in; 1.44M, 3.5in; 2.88M, 3.5in; and None.

VIDEO:

The category determines 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 options are Mono, EGA/VGA, CGA 40, and CGA 80.

HALT ON:

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

No errors	Whenever the BIOS detect 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 stop for all other errors, except keyboard error.
All, but diskette	The system boot will stop for all other errors, except keyboard error.
All, but disk/key	The system boot will stop for all other errors, except for keyboard error and/or disk error.

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

Choose the "BIOS FEATURES SETUP" in the main menu and the following screen will be shown:

ROM PCI/ISA BIOS (2A5KKP6D) 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
Quick Power On Self Test	: Disabled	D0000-D3FFF Shadow	: Disabled
Boot Sequence	: A,C, SCSI	D4000-D7FFF Shadow	: Disabled
Swap Floppy Drive	: Disabled	D8000-DBFFF Shadow	: Disabled
Boot Up Floppy Seek	: Enabled	DC000-DFFFF Shadow	: Disabled
Boot Up Numlock Status	: On	Cyrix 6x86/MII CPUID	: Disabled
Boot Up System Speed	: High		
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

This setup menu allows you to configure your system for basic operation. The user have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

To get help on each item, highlight the relevant item and press the F1 key. A Windows will appear on your screen detailing the various options available for each item.

A brief introduction of each setting in the BIOS FEATURES SETUP program is found on the next following pages.

VIRUS WARNING:

When enabled, the BIOS will supervise the boot sector and partition table of the hard disk drive for any attempt for modification. If an attempt is made, the BIOS will halt the system and an error message will appear. Afterwards, if necessary, you will be able to run an anti-virus program to locate and remove the problem before any damage is done.

CPU INTERNAL/EXTERNAL CACHE:

This two categories speed up memory access. However, it depends on CPU/chipset design.

QUICK POWER ON SELF TEST:

You can Enabled or Disabled this item to speed up Power On Self Test (POST) after you power up the computer. If it is set to Enabled, BIOS will shorten or skip some check items during POST.

BOOT SEQUENCE:

This category determines the sequence of which drive to search first for the disk operating system such as DOS.

SWAP FLOPPY DRIVE:

This item allows you to choose whether enable the swap floppy drive or not.

BOOT UP FLOPPY SEEK:

You may Enabled / Disabled 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.

BOOT UP SYSTEM SPEED:

Select High to configure your system in the turbo speed mode at boot up, or select Low to configure your system in normal speed mode. Whichever setting you choose you will still be able to use the turbo switch to toggle between the two modes during use.

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.

TYPOMATIC RATE SETTING:

Enabled 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 until you release the key.

TYPOMATIC 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.

TYPOMATIC 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 Disable, the system will boot and you can enter Setup freely.

PCI/VGA PALETTE SNOOP:

This entry enables or disables 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.

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 FEATURES SETUP

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

ROM PCI/ISA BIOS (2A5KKP6D) CHIPSET FEATURES SETUP AWARD SOFTWARE, INC.			
Auto Configuration	: Enabled	Current CPU1 Temperature	: 41°C/105°F
AT Bus Clock	: CLK2/4	Current CPUFAN1 Speed	: 8135 RPM
L2 TAG RAM Size	: 8	Current CPUFAN2 Speed	: 0 RPM
DRAM Timing	: Normal	Vcore : 2.25 V +3.3V	: 3.40 V
SDRAM CAS Latency	: 3	+5 V : 4.58 V +12 V	: 11.60 V
Pipelined Function	: Enabled	IO Channel Check NMI	: Disabled
Graphics Aperture Size	: 64 MB		
DRAM Data Integrity Mode	: Disabled		
Memory Hole At 15-16M	: Disabled		
Host Read DRAM Command Mode	: Bypass		
AGP Read Burst	: Enabled		
ISA Line Buffer	: Enabled		
Passive Release	: Enabled		
Delay Transaction	: Enabled		
Primary Frame Buffer	: All	Esc : Quit	↑↓→← : Select Item
VGA Frame Buffer	: Enabled	F1 : Help	Pu/Pd/+/- : Modify
Data Merge	: Disabled	F5 : Old Values	(Shift)F2 : Color
IO Recovery Period	: 1 us	F6 : Load BIOS Defaults	
CPU Warning Temperature	: Disabled	F7 : Load Setup Defaults	

Chipset Features Setup

The parameters in this setup menu 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:

This item allows you to select 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 enable.

AT BUS CLOCK:

This item allows you to set the speed of the AT bus in terms of a fraction of the CPU clock speed (PCLK2), or at the fixed speed of 7.16MHz.

DRAM TIMING:

The value in this field depends on performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

SDRAM CAS LATENCY:

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing. Do not reset this field from the default value specified.

PIPELINED FUNCTION:

When Enabled, the controller signals the CPU for a new memory address before all data transfer for the current cycles are complete, resulting in faster performance.

DRAM DATA INTEGRITY MODE:

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

MEMORY HOLE AT 15-16M:

The user can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

HOST READ DRAM COMMAND MODE:

This item allows you to select the type of Host Read DRAM Command Mode.

ISA LINE BUFFER:

This PCI to ISA Bridge has an 8-byte bi-directional line buffer for ISA or DMA bus master memory reads from or writes to the PCI bus. When enable, an ISA or DMA bus master can prefetch two double words to the line buffer for a read cycle.

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.

DELAY TRANSACTION:

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

PRIMARY FRAME BUFFER:

Select a size for the PCI frame buffer. The size of the buffer should not impinge on local memory.

VGA FRAME BUFFER:

When Enabled, a fixed VGA frame buffer, from A000h to BFFFh and CPU to PCI write buffer are implemented.

DATA MERGE:

This field controls that word-merge feature for frame buffer cycles. When Enabled, this controller checks the eight CPU Byte Enable signals to determine if data words read from the PCI bus by the CPU can be merged.

IO RECOVERY PERIOD:

The peripheral controller insert a minimum of 2 bus clock (BCLK) delays between back to back 8- or 16-bit ISA I/O cycles issued from the PCI master.

CPU WARNING TEMPERATURE:

Select the combination of lower and upper limits for the CPU temperature. If the CPU temperature extends beyond either limit, any warning mechanism programmed into your system will be activated.

CURRENT SYSTEM TEMP.:

This item displays the current system temperature, if your computer contains a monitoring system.

CURRENT CPU1 TEMPERATURE:

This item displays the current CPU temperature, if your computer contains a monitoring system.

CURRENT CPUFAN1/CPUFAN2 SPEED:

This item displays the current system speed of the CPU fans, if your computer contains a monitoring system.

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 (2A5KKP6D) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.		
Power Management	: User Define	
PM Control by APM	: Yes	
MODEM Use IRQ	: NA	
Video Off Option	: Susp, Stby→Off	
Video Off Method	: DPMS Support	
** PM Timers **		
HDD Power Down	: Disable	
Doze Mode	: Disable	
Standby Mode	: Disable	
Suspend Mode	: Disable	
** PM Events **		
Primary HDD	: Disabled	Esc : Quit ↑↓→← : Select Item
Floppy	: Disabled	F1 : Help Pu/Pd/+/- : Modify
COM ports	: Enabled	F5 : Old Values (Shift)F2 : Color
Keyboard	: Enabled	F6 : Load BIOS Defaults
LPT Ports	: Disabled	F7 : Load Setup Defaults

Power Management Setup

This setup menu allows you to configure your system to the most effectively save energy while operating in a manner consistent with your own style of computer use.

ACPI FUNCTION:

This category allows you to enable or disable the Advanced Configuration and Power Management (ACPI).

POWER MANAGEMENT:

This category allows you to select the type or degree of power saving and is directly related to Doze Mode, Standby Mode, Suspend Mode, and HDD Power Down. There are four selections for Power Management, namely: Disable, Min. Power Saving, Max. Power Saving, and User Defined.

POWER MANAGEMENT:

This category allows you to select the type or degree of power saving and is directly related to Doze Mode, Standby Mode, Suspend Mode, and HDD Power Down.

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 the timer is time out, the APM will not prompt the BIOS to put the system into any power saving mode.

MODEM USE IRQ:

This item determines the IRQ in which the modem can be used.

VIDEO OFF OPTION:

When enabled, this feature allows the VGA adapter to operate in a power saving mode.

Always On	Monitor will remain on during power saving modes.
Suspend → Off	Monitor blanked when the systems enters the Suspend mode.
Susp, Stby → Off	Monitor blanked when the system enters either Suspend or Standby modes.
All Modes → Off	Monitor blanked when the system enters any power saving mode.

VIDEO OFF METHOD:

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

V/H SYNC+Blank	This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
Blank Screen	This option only writes blanks to the video buffer.
DPMS	Select this option if your monitor supports the Display Power Management Signaling (DPMS) standard of the Video Electronics Standards to select video power management values.

HDD POWER DOWN:

This is one of the Green PC power saving function which is only user configurable when *User Define* Power Management has been selected. When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

DOZE MODE:

This is one of the Green PC power saving function which is only user configurable when *User Define* Power Management has been selected. 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:

This is one of the Green PC power saving function which is only user configurable when *User Define* Power Management has been selected. 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:

This is one of the Green PC power saving function which is only user configurable when *User Define* Power Management has been selected. When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

5-7. PNP/PCI CONFIGURATION

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

ROM PCI/ISA BIOS (2A5KKP6D) PNP/PCI CONFIGURATION AWARD SOFTWARE, INC.			
PNP OS Installed	: Yes	PCI IRQ Activated By	: Level
Resources Controlled by	: Manual	PCI IDE IRQ Map To	: ISA
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	: Legacy ISA		
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	: Legacy ISA		
IRQ-15 assigned to	: Legacy ISA		
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 describes configuring the PCI bus system. PCI, also known as Personal Computer Interconnect, is a system which allows I/O devices to operate at speed near the speed of the CPU itself uses when communicating with its own special components. It covers some very technical items which is strongly recommended only for experienced users.

PNP OS INSTALLED:

This item allows you to determine install PnP OS or not.

RESOURCE CONTROLLED BY:

The BIOS can automatically configure all of the boot and Plug and Play compatible devices. If you select Auto, all the interrupt request (IRQ) and DMA assignment fields disappear, as the BIOS automatically assign them.

RESET CONFIGURATION DATA:

Normally, you leave this field Disabled. Select Enabled to 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.

PCI IRQ ACTIVATED BY:

This sets the method by which the PCI bus recognizes that an IRQ service is being requested by a device. Under all circumstances, you should retain the default configuration unless advised otherwise by your system's manufacturer.

PCI IDE IRQ MAP TO:

This field lets you select PCI IDE IRQ mapping or PC AT (ISA) interrupts. If your system does not have one or two PCI IDE connectors on the system board, select values according to the type of IDE interface(s) installed in your system (PCI or ISA). Standard ISA interrupts for IDE channels are IRQ14 for primary and IRQ15 for secondary.

IRQ3/4/5/9/10/11/12/13/15:

When resources are controlled manually, assign each system interrupt as one of the following types, depending on the type of device using the interrupt. Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt (such as IRQ4 for serial port 1). PCI/ISA PnP Devices compliant with the Plug and Play standard, whether designed for PCI or ISA bus architecture.

DMA0/1/3/5/6/7 ASSIGNED TO:

When resources are controlled manually, assign each system DMA channel as one of the following types, depending on the type of device using the interrupt. Legacy ISA Devices compliant with the original PC AT bus specification, requiring a specific interrupt (such as IRQ4 for serial port 1). PCI/ISA PnP Devices compliant 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-1560.

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 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 (2A5KKP6D)			
INTEGRATED PERIPHERALS			
AWARD SOFTWARE, INC.			
On-Chip Primary IDE	: Enabled	Parallel Port Mode	: SPP
Master PIO	: Auto		
Slave PIO	: Auto		
Master Ultra DMA	: Auto		
Slave Ultra DMA	: Auto		
IDE HDD Block Mode	: Enabled		
On-Chip USB Controller	: Disabled		
Onboard FDC Controller	: Enabled	Esc : Quit	↑↓→← : Select Item
Onboard UART Port 1	: 3F8/IRQ4	F1 : Help	Pu/Pd/+/- : Modify
Onboard UART Port 2	: 2F8/IRQ3	F5 : Old Values (Shift)	F2 : Color
Onboard Parallel Port	: 378/IRQ7	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

INTEGRATED PERIPHERALS

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

ON-CHIP PRIMARY IDE:

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

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.

ON-CHIP USB CONTROLLER:

If your system contains a Universal Serial Bus (USB) controller, select enable.

ON-BOARD FDC CONTROLLER:

Select Enable if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install and-in FDC or the system has no floppy drive, select Disabled in this field.

ON-BOARD PARALLEL PORT:

This option allows you to determine access onboard parallel port controller with I/O address.

PARALLEL PORT MODE:

Select an operating mode for the onboard parallel (printer) port. Select Normal unless your hardware and software require one of the other modes offered in this field.

5-11. PASSWORD SETTINGS

You may choose to select to set either supervisor or user password, or both of them. The difference is that the supervisor password can enter and change options of the setup menus while user password can only enter setup menu but does not have any rights to change any settings.


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 < 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, then you may enter new password and re-type new password for confirmation.

 User should bear in mind that when a password is set, you will be asked to enter the password whenever you enter CMOS setup Menu. This can prevent an unauthorized person from changing any part of your system configuration.

You may 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.

Password Disabled!!!
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 (2A5KKP6D)							
STANDARD CMOS SETUP							
AWARD SOFTWARE, INC.							
		CYLS.	HEADS	PRECOMP	LANDZONE	SECTORS	MODE
Drive C	:(850Mb)	824	32	0	1647	63	LBA
Drive D	:(Mb)						
Select Drive D Option (N=Skip) : N							
Option	Size	Cyls	Heads	Precomp	Landzone	Sectors	Mode
1 (Y)	0	0	0	0	0	0	Normal
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.

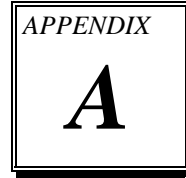
5-13. SAVE & EXIT SETUP

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

ROM PCI / ISA BIOS (2A5KKP6D) CMOS SETUP UTILITY AWARD SOFTWARE, INC.	
STANDARD CMOS SETUP	INTEGRATED PERIPHERALS
BIOS FEATURES SETUP	PASSWORD SETTING
CHIPSET FEATURES SETUP	IDE HDD AUTO DETECTION
POWER MANAGEMENT SETUP	SAVE & EXIT SETUP
PNP / PCI CONFIGU	SAVING
LOAD BIOS DEFAULT	SAVE to CMOS & EXIT (Y/N)? N
LOAD SETUP DEFAULTS	
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.

EXPANSION BUS



This appendix indicates you the pin assignments.

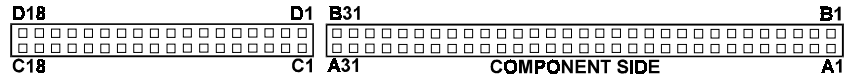
Section includes:

- ISA BUS Pin Assignment

ISA BUS PIN ASSIGNMENT

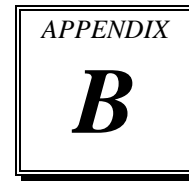
The ISA Bus for this card is called “ Gold Fingers ”. It is divided into two sets: One consist of 62 pins, while the other consists of 36 pins.

The pin assignments are 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

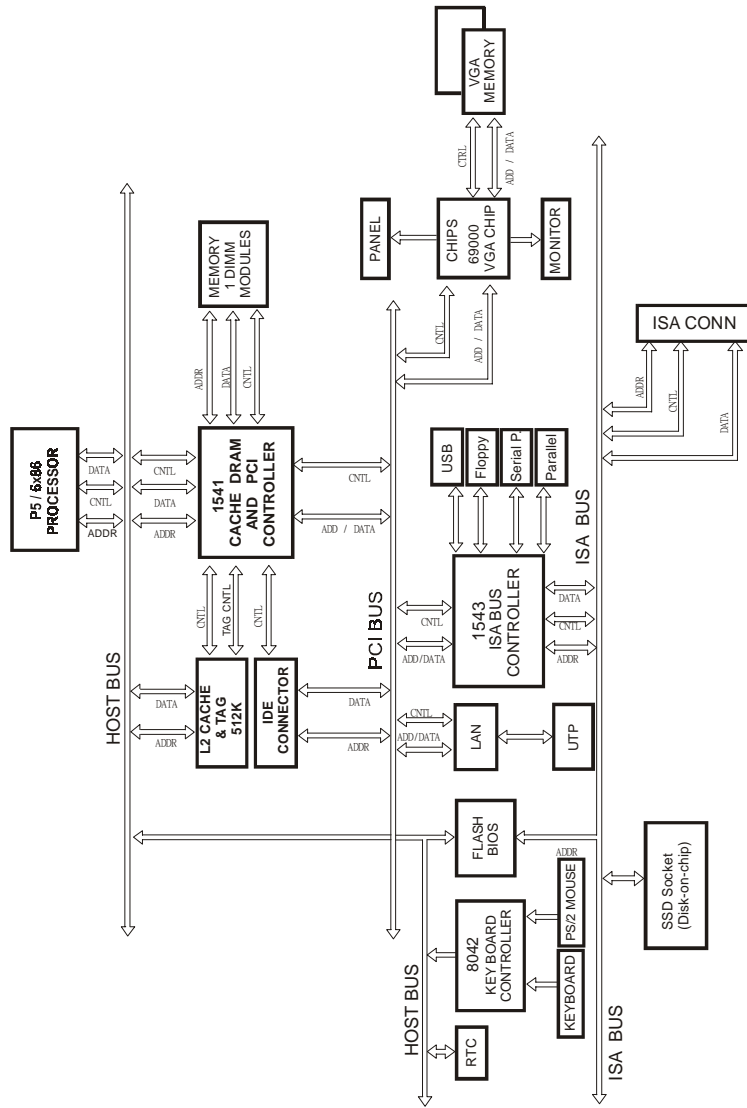


This section introduces you the maps concisely.

Section includes:

- 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	Hard Disk adapter
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

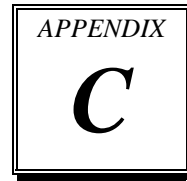
Memory Map :

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 ISA 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 error messages that may occur when you operate the system. It also gives you some tips on how to solve the problems.

Section includes:

- Troubleshooting for Error Messages
- Troubleshooting for POST Code

TROUBLESHOOTING FOR ERROR MESSAGE

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

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 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.

TROUBLESHOOTING 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.

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