USER'S MANUAL

ProX-1695

Dual Socket 370 Processor
Embedded Card
W/ VGA / Dual LAN

Prox-1695 M3

ProX-1695 Dual Socket 370 CPU Card
With VGA/Dual LAN

OPERATION MANUAL

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ACKNOWLEDGEMENTS

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CHAPTER 1

INTRODUCTION

This chapter gives you the information for Prox-1695. It also outlines the System specification.

Section includes:

- About This Manual
- System Specifications
- Safety precautions

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

1-1. ABOUT THIS MANUAL

Thank you for purchasing our Prox-1695 Socket 370 Embedded Card with VGA / LAN, which is fully PC / AT compatible. Prox-1695 provides faster processing speed, greater expandability and can handle more task 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 specification for this system. Final part of this chapter will indicate you 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 utility, LAN utility and Flash BIOS. It also describes the Watchdog timer configuration.

Chapter 4 Green PC Function

This chapter explains the Green PC functions concisely.

Chapter 5 Award BIOS Setup

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

Appendix A Expansion Bus

This Appendix introduces you the expansion bus for ISA Bus, and PCI 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 SPECIFICATION

- **CPU :**
  Intel® Celeron™ processors in 370-pin socket.
  300A/333/366/400/433/466/500/533/566/600/667/700/733 MHz.
  Dual Intel® Pentium® *III* processors in 370-pin socket.
  500E/550E/600E/650/700/750/800/850 MHz.
  Auto detect voltage regulator.

- **MEMORY :**
  Up to 768MB SDRAM
  Three 168-pin DIMMs socket on board.

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

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

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

- **KEYBOARD/MOUSE CONNECTOR :**
  Mini DIN connector for Keyboard or PS/2 Mouse by jumper selection.
  One 5-pin External keyboard connector.

- **UNIVERSAL SERIAL BUS :**
  Universal Serial Bus Connector on board, supports up to 2 USB ports.

- **BUS SUPPORT :**
  External ISA/PCI BUS; PICMG Spec.
  Internal PCI Bus for IDE, PPCI, & LAN.
  Internal AGP Bus for VGA.

- **DISPLAY :**
  Support SVGA for CRT, LVDS, & Panel Link.
  Support 32bits PCI Local Bus.
  VGA BIOS combines in 256KB flash ROM together with system BIOS.
  Support 15-pin connector 1600 x 1200 (64K color) resolutions on Monitor.
  Integrated 8MB of SGRAM for graphic/video frame memory.
  Panel Display can support PanelLink and LVDS.
  Support simultaneous display of CRT & LCD 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 :**
  Two IDE ports, Support up to four 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 :**
  Supports up to 144MB.

- **LAN INTERFACE :**
  Intel 82559 Fast Ethernet.
  Dual LAN, support for 10BaseT/100 BaseTx PCI Bus.
  Two RJ-45 Jack on board.

- **SERIAL PORT :**
  Two high speed 16550 Compatible UARTs with Send / Receive 16 Byte FIFOs. COM1 for RS232; COM2 for RS232/422/485.
  MIDI Compatible.
  Programmable Baud Rate Generator.

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

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

- **HARDWARE MONITORING FUNCTION :**
  Monitor Voltage, CPU Temperature and Cooling Fan.

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

- **BUS SPEED :**
  ISA Bus 8MHz
  PCI Bus 33MHz
  PPCI Bus 33MHz
  USB 12Mbit/sec

- **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 :**
  338.5mm x 122mm

- **BOARD NET WEIGHT :**
  0.35 Kg.

1-3. SAFETY PRECAUTIONS

Follow the messages below to avoid your systems from damage:

1. Avoid your system from static electricity on all occasions.

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

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

HARDWARE CONFIGURATION

CHAPTER

2

*** QUICK START ***

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

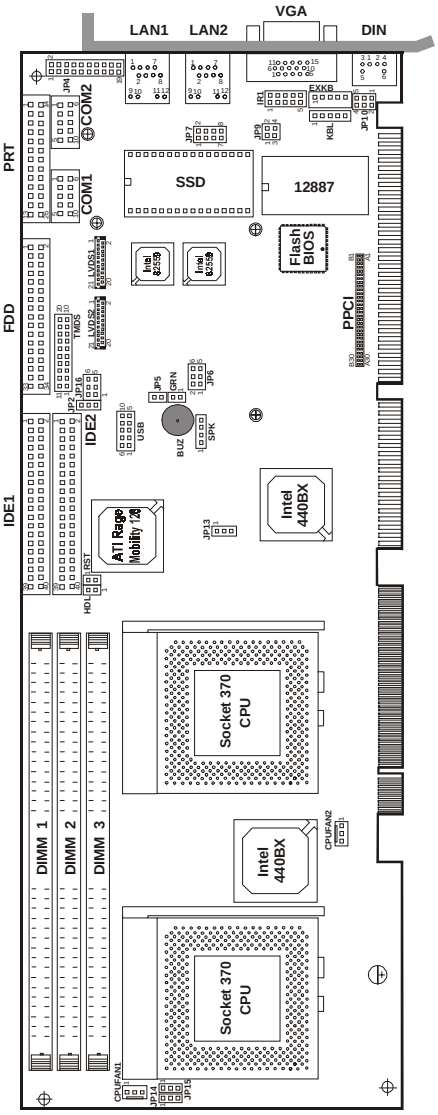
Section includes:

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

2-1. JUMPER & CONNECTOR QUICK REFERENCE TABLE

COM Port Connector	COM1, COM2
RS232/422/485 (COM2) Selection	JP4
Solid-State Disk Socket	SSD
SSD Memory Mapping Selection	JP7, JP9
Keyboard or PS/2 Mouse Connector	DIN
Keyboard or PS/2 Mouse Selection	JP10
External Keyboard Connector	EXKB
Reset Connector	RST
Hard Disk Drive LED Connector	HDL
CPU Fan Connector	CPUFAN1
	CPUFAN2
External Speaker Connector	SPK
VGA CRT Connector	VGA
Hard Disk Drive Connector	IDE1, IDE2
Floppy Disk Drive Connector	FDD
DFP Connector	TMDS
LVDS Connector	LVDS1, LVDS2
Printer Connector	PRT
Power LED & Keylock Connector	KBL
Green Function Connector	GRN
Universal Serial Bus Connector	USB
IrDA Connector	IR
Reset/NMI/Clear Watchdog	JP6
LAN Connector	LAN1, LAN2
Memory Installation	DIMM1, DIMM2
	DIMM3
PPCI Connector	PPCI
CPU Type Selection	JP14, JP15
Reserved Pin	JP2, JP5, JP13
	JP16

2-2. COMPONENT LOCATIONS



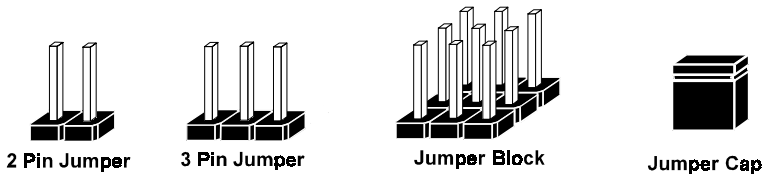
Prox-1695 Connector, Jumper and Component locations

2-3. HOW TO SET THE JUMPERS

You can configure your board by setting 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 "open" or "close" pins.

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

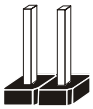
JUMPERS AND CAPS



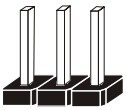
If a jumper has three pins (for examples, labelled PIN1, PIN2, and PIN3), You can connect PIN1 & PIN2 to create one setting and shorting. You can either connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figure below shows what the manual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

JUMPER DIAGRAMS

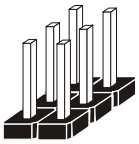
Jumper Cap looks like this



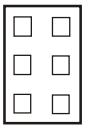
2 pin Jumper looks like this



3 pin Jumper looks like this

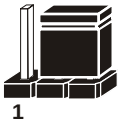


Jumper Block looks like this



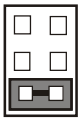
JUMPER SETTINGS

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

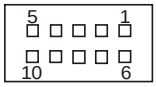


2-4. COM PORT CONNECTOR

Prox-1695 possesses two Communication Port namely the COM1 and COM2. The difference between the two is that COM1 is fixed for RS-232, while COM2 is selectable for RS-232/422/485.

COM1 : COM1 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



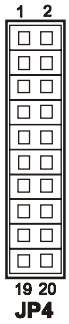
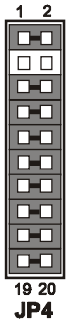
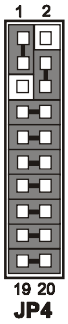
COM 1

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

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			

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

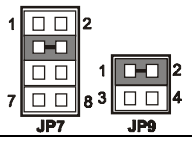
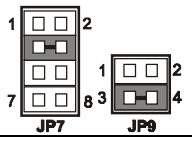
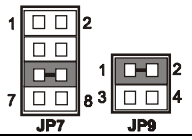
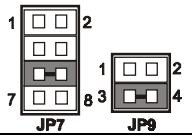
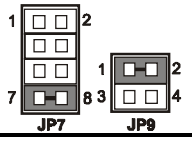
2-6. SOLID-STATE DISK SOCKET

SSD: 32pin 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

2-7. SSD MEMORY MAPPING SELECTION

JP7, JP9 : SSD Memory Mapping Selections
A 32-pin SSD socket supports Disk-on-Chip up to 144MB. This PnP Flash ROM SSD can be install as one of user's hard disk drive.
The SSD Memory Mapping Selections are as follows:

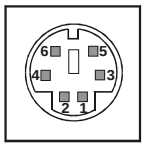
SSD Memory Map	JUMPER SETTING (pin closed) JP7	JP9	JUMPER ILLUSTRATION
D0000h-D1FFFh	3-4	1-2	
D4000h-D5FFFh	3-4	3-4	
D8000h-D9FFFh	5-6	1-2	
DC000h-DDFFFh	5-6	3-4	
E0000h-E1FFFh	7-8	1-2	

*** Manufactory default --- D0000h-D1FFFh

2-8. KEYBOARD OR PS/2 MOUSE CONNECTOR

DIN : PC/AT Keyboard or PS/2 Mouse Connector
DIN connector can support Keyboard, Y-cable, or PS/2 Mouse by jumper selection, user may select the right device to used on "Keyboard or PS/2 Mouse Selection". The pin assignments are as follows :

PIN	ASSIGNMENT	
	KEYBOARD	PS/2 MOUSE
1	KBDATA	MOUSE DATA
2	MSDATA	MS DATA
3	GND	GND
4	VCC	VCC
5	KBCLK	MSCLK
6	MSCLK	MSCLK



DIN

2-9. KEYBOARD OR PS/2 MOUSE SELECTION

JP10 : PC/AT 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) JP9	JUMPER ILLUSTRATION
AT KEYBOARD	3-5 4-6	 JP10
PS/2 MOUSE	1-3 2-4	 JP10

*** Manufactory default -- AT Keyboard

2-10. EXTERNAL KEYBOARD CONNECTOR

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

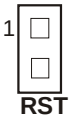
PIN	ASSIGNMENT
1	KBCLK
2	KBDATA
3	NC
4	GND
5	VCC

EXKB

2-11. RESET CONNECTOR

RST : Reset Connector.
The pin assignment is as follows :

PIN	ASSIGNMENT
1	RESET
2	GROUND



RST

2-12. HARD DISK DRIVE LED CONNECTOR

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

PIN	ASSIGNMENT
1	VCC
2	HDD Active Signal

HDL

2-13. CPU FAN CONNECTOR

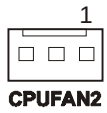
There are two CPU FAN connector found on this board.

CPUFAN1 : CPU Fan1 connector
The pin assignment is as follows:

PIN	ASSIGNMENT
1	GND
2	+12V
3	CPUFAN1

CPUFAN2 : CPU Fan2 connector
The pin assignment is as follows:

PIN	ASSIGNMENT
1	GND
2	+12V
3	CPUFAN2



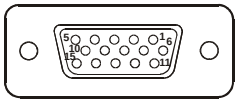
2-14. EXTERNAL SPEAKER CONNECTOR

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

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

2-15. VGA CRT CONNECTOR

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

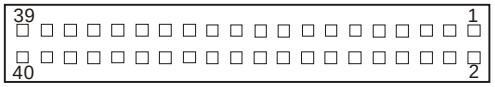


VGA

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

2-16. HARD DISK DRIVE CONNECTOR

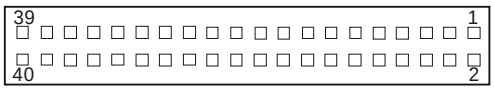
IDE1: Hard Disk Drive Connector
The Prox-1695 possesses two HDD connectors, IDE1 and IDE2. The pin assignments are as follows:



IDE1

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 LOW
9	IDED4	29	IDEDACK-
10	IDED11	30	GND
11	IDED3	31	IRQ14
12	IDED12	32	NC
13	IDED2	33	IDEA1
14	IDED13	34	NC
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

IDE2: Hard Disk Drive Connector
The pin assignments are as follows:

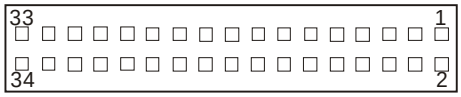


IDE2

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	IDERST	21	IDEREQ1
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 LOW
9	IDED4	29	IDEDACK-
10	IDED11	30	GND
11	IDED3	31	IRQ14
12	IDED12	32	NC
13	IDED2	33	IDEA1
14	IDED13	34	NC
15	IDED1	35	IDEA0
16	IDED14	36	IDEA2
17	IDED0	37	IDECS1S
18	IDED15	38	IDECS3S
19	GND	39	IDELEDS
20	N.C.	40	GND

2-17. 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 to attach the FDD on the board, and the other side is attaches two FDDs.
The pin assignments are as follows :

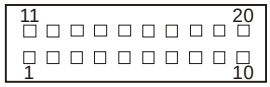


FDD

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	2	RWC-
3	GND	4	NC
5	GND	6	NC
7	GND	8	INDEX
9	GND	10	MOA-
11	GND	12	DSB
13	GND	14	DSA
15	GND	16	MOB
17	GND	18	DIR
19	GND	20	STEP
21	GND	22	WD
23	GND	24	WE
25	GND	26	TRK0
27	GND	28	WRPRT
29	NC	30	RDATA
31	GND	32	HEAD
33	NC	34	DSKCHG

2-18. DFP CONNECTOR

TMDS : DFP Connector
This comprise a 2 electrical layer components: a TMDS interface for low-voltage differential serial encoding of the digital display data and a DDC2B electrical interface that can be shared with the standard 15-pin DDC2B compliant VGA connector (if present).
The pin assignments are as follows :



TMDS

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	TX1+	11	TX2+
2	TX1-	12	TX2-
3	SHLD1	13	SHLD2
4	SHLDC	14	SHLD0
5	TXC+	15	TX0+
6	TXC-	16	TX0-
7	GND	17	NC
8	+5V	18	HPD
9	NC	19	DDC_DAT
10	NC	20	DDC_CLK

2-19. LVDS CONNECTOR

LVDS1 : LVDS Connector
The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	12	TXL1+
2	GND	13	TXL1-
3	TXL3+	14	GND
4	TXL3-	15	TXL0+
5	GND	16	TXL0-
6	TXCLKL+	17	GND
7	TXCLKL-	18	GND
8	GND	19	VCC
9	TXL2+	20	VCC
10	TXL2-	21	CHARGE
11	GND		

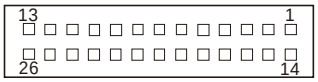
LVDS2 : LVDS Connector
The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	GND	12	TXU1+
2	GND	13	TXU1-
3	TXU3+	14	GND
4	TXU3-	15	TXU0+
5	GND	16	TXU0-
6	TXCLKU+	17	GND
7	TXCLKU-	18	GND
8	GND	19	VCC
9	TXU2+	20	VCC
10	TXU2-	21	CHARGE
11	GND		

🕮 24bit and below panel used LVDS1, 36/48bit panel used LVDS1 and LVDS2.

2-20. 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 :



PRT

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

2-21. POWER LED & KEYLOCK CONNECTOR

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

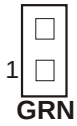
PIN	ASSIGNMENT
1	Power LED
2	NC
3	Ground
4	Keyboard INT
5	Ground

KBL

2-22. GREEN FUNCTION CONNECTOR

GRN: Green Function Connector
The pin assignments are as follows:

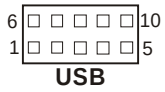
PIN	ASSIGNMENT
1	EXTSMI-
2	GND



2-23. UNIVERSAL SERIAL BUS CONNECTOR

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

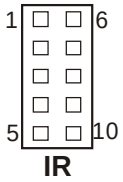
PIN	ASSIGNMENT
1	VCC
2	USBP∅–
3	USBP∅+
4	GND
5	GND
6	VCC
7	USBP1–
8	USBP1+
9	GND
10	GND



2-24. IRDA CONNECTOR

IR: IrDA (Infrared) Connector
The pin assignments are as follows:

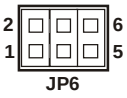
PIN	ASSIGNMENT
1	VCC
2	FIRRX
3	IRRX
4	GND
5	IRTX
6	NC
7	CIRRX
8	VCC
9	NC
10	NC



2-25. RESET / NMI / CLEAR WATCHDOG

JP6 (1-2) : For Reset
JP6 (3-4) : For NMI
JP6 (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



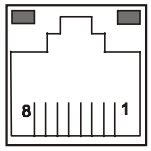
2-26. LAN CONNECTOR

There are two LAN port found in this card called the LAN1 and LAN2. User must remember to choose LAN1 port connector when only one port is intended for use.

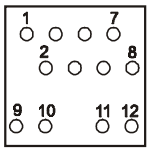
As you may notice, each individual port has two LAN led indicator. The green LED indicates power link, and the Yellow LED is used to detect data active transfer signal.

LAN1: 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
9	PULL HI
10	LED – Green
11	PULL HI
12	LED - Yellow



LAN1

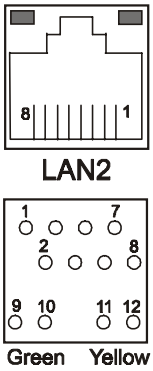


Green Yellow

- The LAN1 function of this CPU Card is designed based on PCI Bus Master, which means one of the PCI Bus Masters is occupied. The LAN Bus Master is same as 1st PCI Slot on the backplane. **When the LAN chipset is on-board, the 1st PCI slot on backplane would fail even if LAN function is disabled.**

LAN2: 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
9	PULL HI
10	LED – Green
11	PULL HI
12	LED - Yellow



2-27. MEMORY INSTALLATION

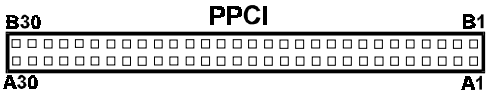
Prox-1695 Socket 370 Embedded Card support up to 768MB in 3 SDRAM banks.

DRAM BANK CONFIGURATION

DIMM 1	DIMM 2	DIMM3	TOTAL MEMORY
32M			32M
32M	32M		64M
32M	32M	32M	96M
32M	64M		96M
32M	64M	32M	128M
32M	64M	64M	160M
64M			64M
64M	32M		96M
64M	32M	32M	128M
64M	64M		128M
64M	64M	32M	160M
64M	64M	64M	192M
128M			128M
128M	32M		160M
128M	64M	32M	224M
128M	128M	64M	320M
128M	128M	128M	384M
256M			256M
256M	32M		288M
256M	64M	32M	352M
256M	128M	64M	448M
256M	256M	128M	640M
256M	256M	256M	768M

2-28. PPCI CONNECTOR

PPCI : PPCI Connector
You will find a PPCI connector in our Prox-1695. This connector is used to connect our SCSI daughter boards.
The pin assignments are as follows:

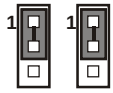
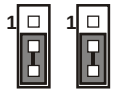


PIN	ASSIGNMENT	PIN	ASSIGNMENT
A1	GND	B1	GND
A2	AD0	B2	AD1
A3	AD2	B3	AD3
A4	AD4	B4	AD5
A5	AD6	B5	AD7
A6	AD8	B6	AD9
A7	AD10	B7	AD11
A8	VCC	B8	VCC
A9	AD12	B9	AD13
A10	AD14	B10	AD15
A11	AD16	B11	AD17
A12	AD18	B12	AD19
A13	AD20	B13	AD21
A14	AD22	B14	AD23
A15	VCC	B15	VCC
A16	AD24	B16	AD25
A17	AD26	B17	AD27
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

- The PPCI expansion connector of this Card is designed based on PCI Bus Master. That means when the PPCI expansion connector is used, the 4th PCI slot on the backplane is occupied.

2-29. CPU TYPE SELECTION

JP14, JP15 : Pentium® III & Celeron™ CPU Selection
The CPU type selections are shown as follows:

CPU TYPE	JUMPER SETTING (pin closed) JP14	JP15	JUMPER ILLUSTRATION
Pentium III	1-2	1-2	
Celeron™	2-3	2-3	

*** Manufacturing Default is set as Pentium III.

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.

Section includes:

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

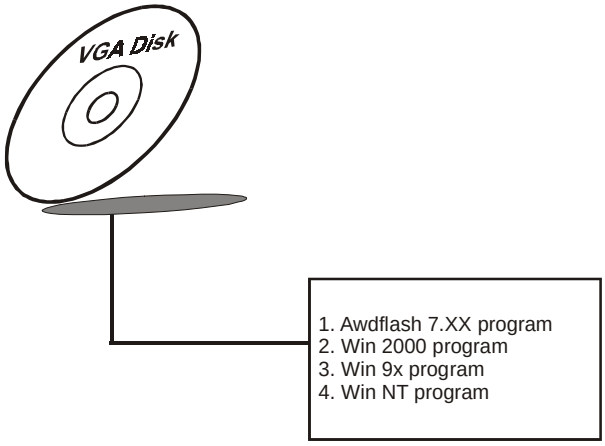
3-1. INTRODUCTION

Enclosed with our Prox-1695 package is our driver utility, which may comes in a form of a CD ROM disc or floppy diskettes. For CD ROM disc user, you will only need some of the files contained in the CD ROM disc, please kindly refer to the following chart:

File name (Assume that CD ROM drive is D:)	Purpose
D:\VGA\ATI\Rage128	ATI Mobility M3 For VGA driver installation
D:\Flash\Awdflash.exe	For BIOS update
D:\Lan\82559V38	For LAN Driver installation

3-2. VGA DRIVER UTILITY

The VGA interface embedded with our Prox-1695 can support CRT, PanelLink and LVDS. User can display CRT, panelLink, and LVDS at the same time under Win2000/9x/NT, but make sure you have set the right jumper setting in "PanelLink & LVDS Selection" as described in chapter two and you must also activate the "Multiple Monitors" function found inside the "Display property – Setting – Advanced". (Note: three screen shares the same channel).



For more details on Installation procedure, please refer to readme.txt or install.txt file found on VGA DRIVER UTILITY.

3-3. FLASH BIOS UPDATE

3-3-1. System BIOS Update:

Users of Prox-1695 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-1695 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 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 B9xxxxxx.bin
   C:\UTIL\AWDFLASH>AWDFLASH B9xxxxxx.bin
4. The screen will display the table below:

FLASH MEMORY WRITER v7.XX (C) Award Software 1999 All Rights Reserved
For i440BX-W977EF-2A69KP6KC-0 DATE: 01/07/2000 Flash Type - WINBOND 29C020/5V File Name to Program: B9xxxxxx.bin Checksum: XXXXX
Error Message : Do You Want To Save BIOS (Y/N)

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

FLASH MEMORY WRITER v7.XX (C) Award Software 1999 All Rights Reserved
For i440BX-W977EF-2A69KP6KC-0 DATE: 01/07/2000 Flash Type - WINBOND 29C020/5V File Name to Program: B9xxxxxx.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:

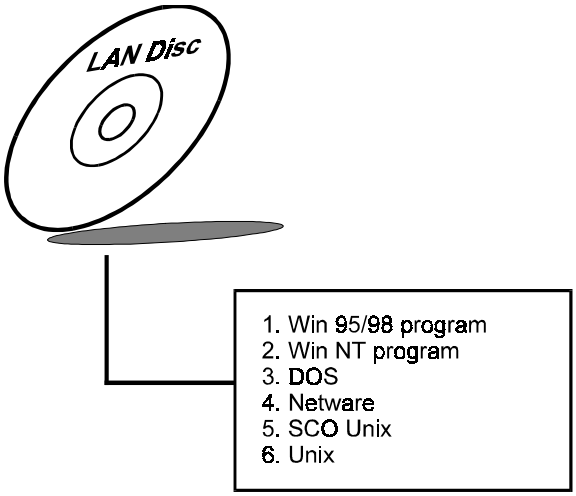
FLASH MEMORY WRITER v7.XX (C) Award Software 1999 All Rights Reserved
For i440BX-W977EF-2A69KP6KC-0 DATE: 01/07/2000 Flash Type - WINBOND 29C020/5V File Name to Program: B9xxxxxx.bin Checksum: XXXXX Reset System or Power off to accomplish update process!
F1: Reset F10: Exit

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

3-4. LAN DRIVER UTILITY

3-4-1. Introduction

Prox-1695 Embedded Card is enhanced with dual LAN function that can support various network adapters. Installation programs for LAN drivers are listed as follows:



For more details on Installation procedure, please refer to INFO 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 chapter 2. This is defined at I/O port **443H**. When you want to enable the watchdog timer, please write I/O port **443H**, and then the system will either reset itself or perform the NMI function. Likewise, when you want to disable the function, write I/O port **441H**, the system will run the command to stop the Watchdog function.

In Prox-1695 watchdog function, you must write your program so when it writes I/O port address 443 for enable watchdog and write I/O port address 441 for disable watchdog. The timer's intervals have a tolerance of 25% so you should program an instruction that will refresh the timer about every second.

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

Watchdog enable program:

```
MOV AX, 000FH(choose the values you need; start from 0)
MOV DX, 443H
OUT DX, AX
```

Watchdog disable program:

```
MOV AX, 000FH(this value can be ignored)
MOV DX, 441H
OUT DX, AX
```

The Watchdog Timer control table is as follows:

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

CHAPTER

4

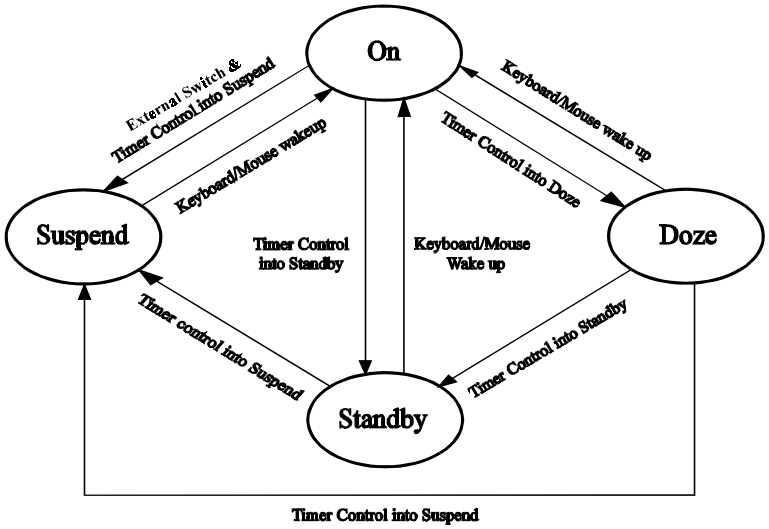
GREEN PC FUNCTION

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

Section includes:

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

4-1. POWER SAVING BLOCK DIAGRAM



4-2. CPU DOZE MODE

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

4-3. SYSTEM STANDBY MODE

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

4-4. SYSTEM SUSPEND MODE

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

AWARD BIOS SETUP

CHAPTER

5

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

Section includes:

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

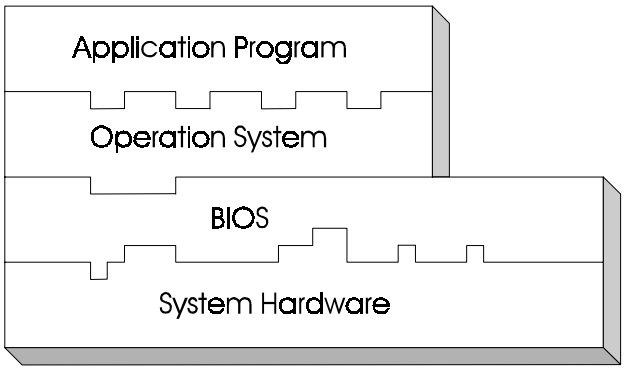
5-1. INTRODUCTION

This chapter will show you the function of the BIOS in managing the features of your system. The Prox-1695 Socket 370 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 the following message will appear on the lower screen:

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

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

ROM PCI / ISA BIOS (2A69KP6K)
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 each 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 the 〝STANDARD CMOS SETUP〞 and press < ENTER >, a screen will display as follows:

```
                    ROM PCI / ISA BIOS (2A69KP6K)
                      STANDARD CMOS SETUP
                      AWARD SOFTWARE, INC.

Date (mm:dd:yy)    : Tue, Aug 15 2000
Time (hh:mm:ss)    : 17 : 24 : 23

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

Drive A : 1.44M, 3.5 in.                  Base Memory:     640K
Drive B : None                          Extended Memory:  64512K
                                         Other Memory:     384K
Video   : EGA/VGA                       ----------------------
Halt On: All, But keyboard                Total Memory:   65536K

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

Standard CMOS setup screen

The 〝Standard CMOS Setup Menu〞 are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the <PgUp> or <PgDn> keys to select the value you want in each item.

Information on each category is 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:

The time format is <hour> <minute> <second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is entered as 13:00:00.

Primary Master/Slave:
Secondary Master/Slave:

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

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

If you select Type User, the related information will be asked to enter. Enter the information directly from the keyboard and press < Enter >. This information must be included 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 you select Type "Auto", BIOS will auto-detect the HDD & CD-ROM Drive at the POST stage and showing the IDE for HDD & CD-ROM Drive.

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.

HEADS:

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

PRECOMP:

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

LANDZ:

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

SIZE (CAPACITY):

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

DRIVE A AND DRIVE B:

This item identifies the type of floppy disk drive A or drive B that have been installed in the computer. The option are 360KB 5.25 in, 1.2M 5.25 in, 720KB 3.5 in, 1.44M 3.5 in, 2.88MB 3.5 in and None.

VIDEO:

This item selects the type of video adapter used for the primary system monitor. Although secondary monitors are supported, you don't have to select the type in Setup. The available options are ❶Mono, ❷VGA/EGA, ❸Color 40, and ❹Color 80.

HALT ON:

This item determines whether the computer will stop when error is detected during power up. The available options are ❶No errors, ❷All errors, ❸All, But Keyboard, ❹All, but Diskette, and ❺All, 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

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

ROM PCI/ISA BIOS (2A69KP6K)
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		
Security Option	: Setup	Esc : Quit	↑↓→← : Select Item
PCI/VGA Palette Snoop	: Disabled	F1 : Help	Pu/Pd/+/- : Modify
MPS Version Control For OS	: 1.1	F5 : Old Values	(Shift)F2 : Color
OS Select For DRAM > 64MB	: Non-OS2	F6 : Load BIOS Defaults	
Report No FDD For WIN 95	: Yes	F7 : Load Setup Defaults	

BIOS Features Setup

The "BIOS FEATURES SETUP" allow you to configure your system for basic operation. You can 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 window will appear on your screen detailing the various options available for each item. A brief introduction of each setting 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:

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

CPU L2 CACHE ECC CHECKING:

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

QUICK POWER ON SELF TEST:

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

BOOT SEQUENCE:

This category determines the sequence for which drive to look for first when system boots up. You may set the system to look first at drive A: and then at drive C: or vice versa.

SWAP FLOOPY DRIVE:

This item is effective only in systems wherein there are two floppy drives. Selecting Enabled assigns physical swapping of 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 directly to the hard disk drive.

BOOT UP NUMLOCK STATUS:

This item allows you to determine the default state of the numeric keypad. By default, the system boots up with NumLock 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 sytem 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.

TYPEMATIC RATE (CHARS/SEC):

When the typematic rate is enabled, this selection allows you to choose the rate at which the keys are accelerated. The available options are 6, 8, 10, 12, 15, 20, 24 and 30.

TYPEMATIC DELAY (MSEC):

When the typematic rate is enabled, this selection allows you to choose the delay between when the key was first depressed and when the acceleration begins. The available options are 250, 500, 750 and 1000 (msec).

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

MPS VERSION CONTROL FOR OS:

The BIOS supports versions 1.1 and 1.4 of the Intel® multiprocessor specification. Select the version supported by the operating system running on this computer.

OS SELECT FOR DRAM >64MB

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

REPORT NO FDD FOR WIN 95:

Whether report no FDD for Win 95 or not.

VIDEO BIOS SHADOW:

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

C8000-CBFFF SHADOW ~ DC000-DFFFF SHADOW:

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

5-5. CHIPSET FEATURES SETUP

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

ROM PCI/ISA BIOS (2A69KP6K)
CHIPSET FEATURES SETUP
AWARD SOFTWARE, INC.

Auto Configuration	: Enabled	Auto Detect DIMM/PCI Clk	: Enabled
EDO DRAM Speed Selection	: 60 ns	CPU Host Clock (CPU/PCI)	: Default
EDO CASx# MA Wait State	: 2	CPU Warning Temperature	: 70°C/158°F
EDO RASx# Wait State	: 2	Current System Temp.	: 38°C/100°F
SDRAM RAS-to-CAS Delay	: 3	Current CPU1 Temperature	: 0°C/32°F
SDRAM RAS Precharge Time	: 3	Current CPU2 Temperature	: 45°C/113°F
SDRAM CAS latency Time	: 3	Current CPUFAN1 Speed	: 0 RPM
SDRAM Precharge Control	: Disabled	Current CPUFAN2 Speed	: 5578 RPM
DRAM Data Integrity Mode	: Non-ECC	IN0 (V) : 1.29V IN1(V)	: 1.50 V
System BIOS Cacheable	: Disabled	IN2 (V) : 3.26V + 5 V	: 5.05 V
Video BIOS Cacheable	: Disabled	+12 V : 12.40V -12 V	:-11.54 V
Video RAM Cacheable	: Disabled	-5 V : - 4.89V	
8 Bit I/O Recovery Time	: 1		
16 Bit I/O Recovery Time	: 1	IO Channel Check NMI	: Disabled
Memory Hole At 15M-16M	: Disabled	Esc : Quit	↑↓→← : Select Item
Passive Release	: Enabled	F1 : Help	Pu/Pd/+/- : Modify
Delayed Transaction	: Disabled	F5 : Old Values	(Shift)F2 : Color
AGP Aperture Size (MB)	: 64	F6 : Load BIOS Defaults	
		F7 : Load Setup Defaults	

Chipset Features Setup

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

AUTO CONFIGURATION:

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

EDO DRAM SPEED SELECTION:

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

EDO CASx# MA WAIT STATE:

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

EDO RASx# WAIT STATE:

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

SDRAM RAS-to-CAS DELAY:

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

SDRAM RAS PRECHARGE TIME:

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

SDRAM CAS LATENCY TIME:

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

SDRAM PRECHARGE CONTROL:

When Enabled, all CPU cycles to SDRAM result in an All Banks Precharge Command on the SDRAM interface.

DRAM DATA INTEGRITY MODE:

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

SYSTEM BIOS CACHEABLE :

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

VIDEO BIOS CACHEABLE:

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

VIDEO RAM CACHEABLE:

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

8 Bit I/O RECOVERY TIME:

The recovery time is the length of time, measured in CPU clocks, which the system will delay after the completion of an input/output request. This delay takes place because the CPU is operating so much faster than the input / output bus that the CPU must be delayed to allow 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 is allowed during passive release. Otherwise, the arbiter only accepts another PCI master access to local DRAM.

DELAYED TRANSACTION:

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

AGP APERTURE SIZE:

Select the size of the Accelerated Graphics Port (AGP) aperture. 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. See www.agpforum.org for AGP information.

AUTO DETECT DIMM/PCI CLK:

To reduce the occurrence of electromagnetic interference (EMI), the BIOS detects the presence or absence of components in DIMM and PCI slots and turns off system clock generator pulses to empty slots.

CPU HOST CLOCK (CPU/PCI):

Select Default or select a timing combination for the CPU and the PCI bus. When set to Default, the BIOS uses the actual CPU and PCI bus clock values.

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/CPU2 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 (2A69KP6K) POWER MANAGEMENT SETUP AWARD SOFTWARE, INC.	
ACPI function : Disabled	** Reload Global Timer Events **
Power Management : User Define	IRQ (3-7, 9-15), NMI : Disabled
PM Control by APM : Yes	Primary IDE 0 : Disabled
Video Off Method : DPMS	Primary IDE 1 : Disabled
Video Off After : Standby	Secondary IDE 0 : Disabled
MODEM Use IRQ : NA	Secondary IDE 1 : Disabled
Doze Mode : Disable	Floppy Disk : Disabled
Standby Mode : Disable	Serial Port : Enabled
Suspend Mode : Disable	Parallel Port : Disabled
HDD Power Down : Disable	
Throttle Duty Cycle : 62.5%	
PCI/VGA Act-Monitor : Disabled	
PowerOn by Ring : Enabled	
IRQ 8 Break Suspend : Disabled	
	Esc : Quit ↑↓→← : Select Item
	F1 : Help Pu/Pd/+/- : Modify
	F5 : Old Values (Shift)F2 : Color
	F6 : Load BIOS Defaults
	F7 : Load Setup Defaults

Power Management Setup

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

ACPI FUNCTION:

This item allows you to enable / 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. The available options are Disable, Min. Power Saving, Max. Power Saving, and User Define.

PM CONTROL BY APM:

When set to "*Yes*", an Advanced Power Management device will be activated to enhance the Max. Power Saving mode and stop the CPU internal clock.

VIDEO OFF METHOD:

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

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

VIDEO OFF AFTER:

When enabled, this feature allows the VGA adapter to operate in a power saving mode. The available choices are as follows:

N/A	Monitor will remain on during power saving modes.
SUSPEND	Monitor blanked when the systems enters the Suspend mode.
STANDBY	Monitor blanked when the system enters Standby mode.
DOZE	Monitor blanked when the system enter any 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 device except the CPU will be shut off.

HDD POWER DOWN:

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

THROTTLE DUTY CYCLE:

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

PCI/VGA ACT-MONITOR:

When enabled, any video activity restarts the global timer for Standby mode.

POWERON BY RING:

When enabled, an incoming call on the modem awakens the system from a soft off state.

IRQ 8 BREAK SUSPEND:

This item allows you to enabled and disable the monitoring of IRQ8 so it doesn't awaken the system from Suspend mode.

RELOAD GLOBAL TIMER EVENTS:

When enabled, an event occurring on each device listed below restarts the global time for standby mode:

❶IRQ[3-7,9-15], NMI ❷Primary IDE 0 ❸Primary IDE 1
❹Secondary IDE 0 ❺Secondary IDE 2 ❻ Floppy Disk
❼Serial Port ❽Parallel Port

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 (2A69KP6K)
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. PCI, also Known as Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed of the CPU itself uses when communicating with its own special components. This section covers technical items, which is strongly recommended for experienced users only.

You can manually configure the PnP/PCI Device's IRQ. Highlight the selected item and pressing <F1> key, the all options for the desired selection will be displayed for choice.

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

USED MEM BASE ADDR:

Select a base address for the memory area used by any peripheral that requires high memory.

5-8. LOAD BIOS DEFAULTS

AUTO CONFIGURATION WITH BIOS DEFAULTS

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

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

To use the BIOS defaults, change the prompt to "Y" and press < Enter >, the CMOS is load automatically when you power on the Prox-1695.

5-9. LOAD SETUP DEFAULTS

AUTO CONFIGURATION WITH SETUP DEFAULTS

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

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

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

5-10. INTEGRATED PERIPHERALS

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

ROM PCI/ISA BIOS (2A69KP6K)
INTEGRATED PERIPHERALS
AWARD SOFTWARE, INC.

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

IDE HDD BLOCK MODE:

Block mode is also called block transfer, multiple commands, or multiple sector read or 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/SECONDARY MASTER/SLAVE PIO:

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Mode 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device.

IDE PRIMARY/SECONDARY MASTER/SLAVE UDMA:

Ultra DMA-33 implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, select Auto to enable BIOS support.

ON-CHIP PRIMARY/SECONDARY PCI IDE:

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

ONBOARD PCI SCSI CHIP:

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

USB KEYBOARD SUPPORT:

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

INIT DISPLAY FIRST:

This item allows you to decide to active whether PCI Slot or on-chip VGA first.

ONBOARD FDC CONTROLLER:

This should be enabled if your system has a floppy disk drive (FDD) installed on the system board and you wish to use it. Even when so equipped, if you add a higher performance controller, you will need to disable this feature.

ONBOARD SERIAL PORT 1/PORT 2:

This item allows you to determine access onboard serial port 1 or port 2 controller with which I/O address.

ONBOARD PARALLEL PORT:

Select a logical LPT port name and matching address for the physical parallel (printer) port.

PARALLEL PORT MODE:

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

5-11. PASSWORD SETTING

You may choose to select to set either supervisor or user password, or both of them. The differences 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 asked you to enter a password, and 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 ask 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 will 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 (2A69KP6K)
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:

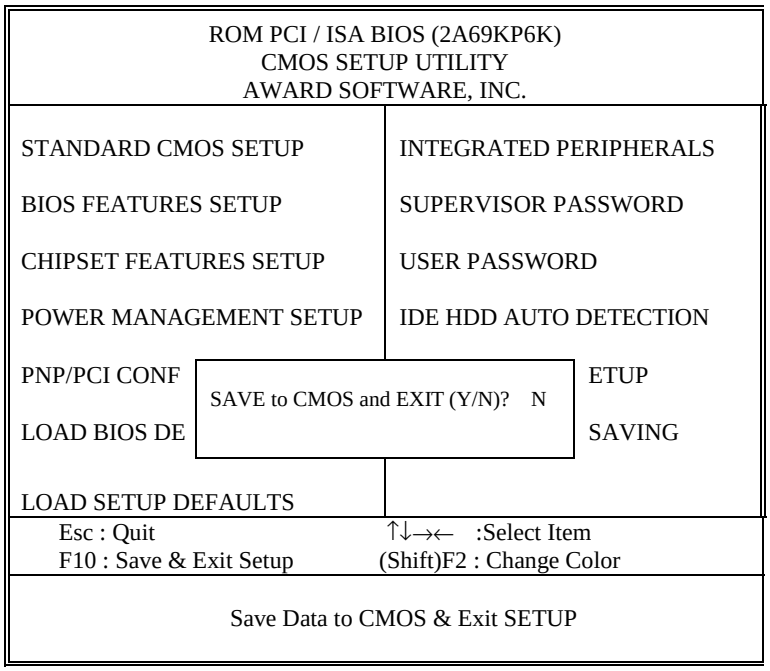
"SELECT PRIMARY MASTER OPTION (N=SKIP):N"

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.

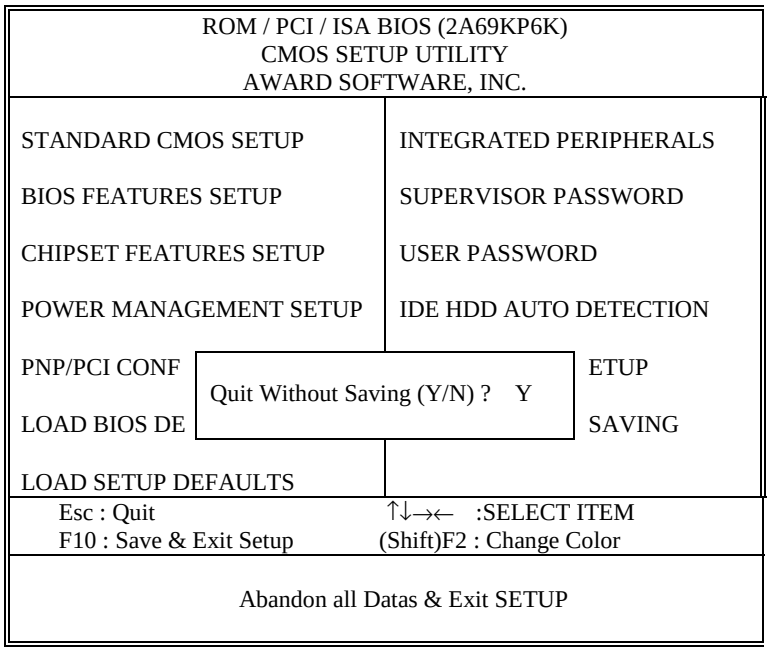
5-13. SAVE & EXIT SETUP

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



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

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



EXPANSION BUS

APPENDIX

A

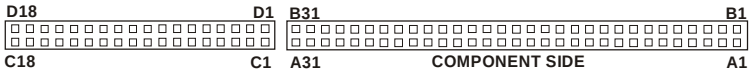
This appendix indicates the pin assignments.

Section includes:

- ISA BUS Pin Assignment
- PCI BUS Pin Assignment

ISA BUS PIN ASSIGNMENT

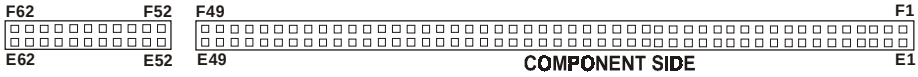
There are two edges connector (called “gold fingers“) on this CPU Card, on the right hand is the connector of ISA Bus, followed up by PCI BUS connector. The ISA-bus connector is divided into two sets: one consists of 62 pins; the other consists of 36 pins. The pin assignments are as follows:



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				

PCI BUS PIN ASSIGNMENT

Like ISA-BUS connector, the PCI-BUS edge connector is also divided into two sets: one consists of 98-pin; the other consists of 22-pin. The standard of PICMG 32-bit PCI-ISA connector contains 218 pins in total.
The pin assignments are as follows :



F		E		F		E	
PIN	ASSIGNMENT	PIN	ASSIGNMENT	PIN	ASSIGNMENT	PIN	ASSIGNMENT
F1	-12V	E1	TRST#	F31	+3.3V	E31	AD18
F2	TCK	E2	+12V	F32	AD17	E32	AD16
F3	GND	E3	TMS	F33	C/BE2#	E33	+3.3V
F4	TDO	E4	TDI	F34	GND	E34	FRAME#
F5	+5V	E5	+5V	F35	IRDY#	E35	GND
F6	+5V	E6	INTA#	F36	+3.3V	E36	TRDY#
F7	INTB#	E7	INTC#	F37	DEVSEL#	E37	GND
F8	INTD#	E8	+5V	F38	GND	E38	STOP#
F9	REQ3#	E9	CLKC	F39	LOCK#	E39	+3.3V
F10	REQ1#	E10	+5V(I/O)	F40	PERR#	E40	SDONE
F11	GNT3#	E11	CLKD	F41	+3.3V	E41	SB0#
F12	GND	E12	GND	F42	SERR#	E42	GND
F13	GND	E13	GND	F43	+3.3V	E43	PAR
F14	CLKA	E14	GNT1#	F44	C/BE1#	E44	AD15
F15	GND	E15	RST#	F45	AD14	E45	+3.3V
F16	CLKB	E16	+5V(I/O)	F46	GND	E46	AD13
F17	GND	E17	GNT0#	F47	AD12	E47	AD11
F18	REQ0#	E18	GND	F48	AD10	E48	GND
F19	+5V(I/O)	E19	REQ2#	F49	GND	E49	AD09
F20	AD31	E20	AD30	F52	AD08	E52	C/BE0#
F21	AD29	E21	+3.3V	F53	AD07	E53	+3.3V
F22	GND	E22	AD28	F54	+3.3V	E54	AD06
F23	AD27	E23	AD26	F55	AD05	E55	AD04
F24	AD25	E24	GND	F56	AD03	E56	GND
F25	+3.3V	E25	AD24	F57	GND	E57	AD02
F26	C/BE3#	E26	GNT2#	F58	AD01	E58	AD00
F27	AD23	E27	+3.3V	F59	+5V(I/O)	E59	+5V(I/O)
F28	GND	E28	AD22	F60	ACK64#	E60	REQ64#
F29	AD21	E29	AD20	F61	+5V	E61	+5V
F30	AD19	E30	GND	F62	+5V	E62	+5V

TECHNICAL SUMMARY

APPENDIX

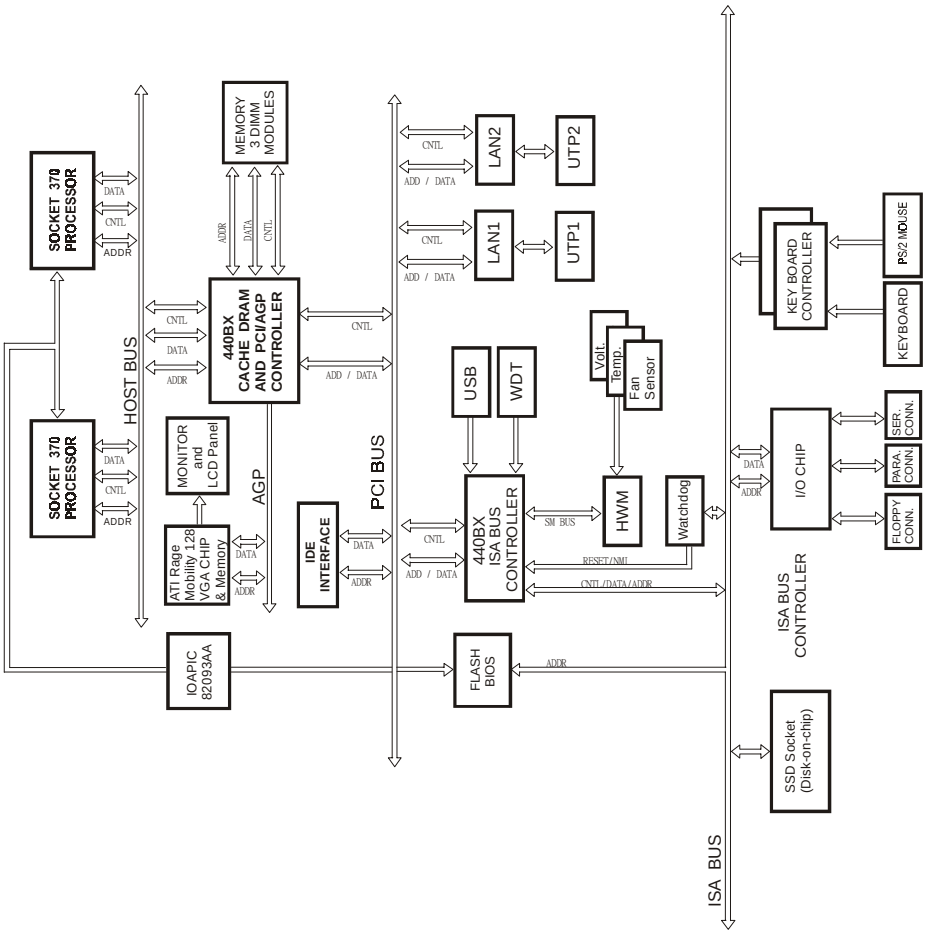
B

This section introduce 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
1	Keyboard
2	Cascade
3	Serial port 2
4	Serial port 1
5	Available
6	Floppy Disk adapter
7	Parallel port 1
8	RTC clock
9	Available
10	Available
11	Available
12	PS/2 Mouse
13	Math coprocessor
14	IDE1
15	IDE2

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
00F0000-00FFFFF	System BIOS ROM
0100000-FFFFFFF	System extension memory

I/O Map :

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

TROUBLE SHOOTING

APPENDIX

C

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

Section includes:

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

TROUBLE SHOOTING FOR ERROR MESSAGES

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

POST BEEP :

Currently there are two kinds of beep 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.

TROUBLE SHOOTING FOR POST CODES

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

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

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

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

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

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

C1 : Auto-detection of onboard DRAM & Cache.

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

08 : Test the first 256K DRAM.

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

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

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

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

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

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

0F : DMA channel 0 test.

10 : DMA channel 1 test.

11 : DMA page registers test.

14 : Test 8254 Timer 0 Counter2.

15 : Test 8259 interrupt mask bits for channel 1.

16 : Test 8259 interrupt mask bits for channel 2.

19 : Test 8259 functionality.

30 : Detect Base Memory & Extended Memory Size.

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

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

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

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

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

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

41 : Initialize floppy disk drive controller.

42 : Initialize Hard drive controller.

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

45 : Initialize math coprocessor.

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

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

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

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

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

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

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

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

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

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

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